



School Bullying and Personality Traits from Elementary School to University

Tatiani Gkatsa¹

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Abstract

This retrospective study examines involvement in school bullying at all developmental stages, from elementary school to university, in relation to personality traits. Participants were 216 university students, 162 (75.0%) females and 54 (25.0%) males. The majority of the sample (88.9%) aged 18–24. Students completed the International Personality Items Pool (BFFM) and a self-report questionnaire about school bullying online. The results show that the involvement roles in personality trait A3 (don't insult) of the Agreeableness (A) scale differ significantly at all educational levels. However, trait E6 Extraversion (E) and the Conscientiousness (C) scale differ at the elementary school level, and trait N6 of the Neuroticism (N) scale varies at the middle school and N3 differs at the high school. All participants differ statistically significantly in A3, Conscientiousness scale at all educational levels. Those involved differ statistically significantly in the traits Neuroticism, C8, and C9 and in two traits of Openness (O). Throughout the course of schooling, victims showed a higher score on the Conscientiousness scale than the bullies/victims. The victims who became the bullies (victims/bullies) had a higher score on the Emotional Stability scale than the bullies who became victims (bullies/victims). About half of the participants said that the experience affected them positively and the other half negatively. Those who answered that it had a positive impact on them showed a statistically significant difference in characteristics E7 (talkativeness) and N10 (pleasant mood). The findings help inform a new perspective of anti-bullying intervention that targets personality traits in all the roles and their rotation.

Keywords School bullying · BFFM personality traits · Switching roles of involvement · Posttraumatic development

Introduction

School bullying is a serious and international problem throughout the school years. It threatens the sense of security and respect that are prerequisites for learning and smooth social interaction. The experience of being involved in bullying in school is associated with multidimensional effects on the developmental trajectory in childhood and adolescence (Imuta et al., 2022). In recent years, the international literature has examined the relationship between personality and school bullying (Mitsopoulou & Giovazolias, 2015; Strickhouser et al., 2017; Thornberg & Wänström, 2018). In particular, research supports the idea that personality characteristics are a predictor of involvement in the role of aggressor or victim (Mitsopoulou & Giovazolias, 2015). A number of studies discuss and document the short- and long-term

effects of school bullying into adulthood (Lee, 2021). It appears, however, that the experience of school bullying affects bio-psychosocial and personality development during critical stages from childhood (Nasti et al., 2023), adolescence to the onset of adulthood (Andreou et al., 2021; Idsoe et al., 2021; Mc Guckin et al., 2017; Walsh et al. al., 2018). The individual characteristics of the structural dimensions/scales of personality acquire a more stable and permanent form at the end of adolescence and in early adulthood under the influence and reflection of childhood and adolescent experiences (Arnett, 2006).

The research hypothesis to be investigated in the present study is whether the lived experience of school bullying with any role of active involvement, from elementary school to university, is associated with personality traits in young adulthood.

✉ Tatiani Gkatsa
tgkatsa@uoi.gr

¹ Department of Primary School, University of Ioannina, Ioannina, Greece

Literature Review

School Bullying

Scholars have had difficulty arriving at a commonly accepted definition. They ended up agreeing that by the term school bullying we mean a type of aggressive behavior characterized by the simultaneous presence of three criteria: the intentional infliction of harm, repetitiveness, the physical or psychological imbalance of power of the bully over the victim (Olweus, 1993; Smith & Brain, 2000). It manifests itself in various forms of physical, verbal, and psychological aggression (Farrington, 1993), direct or indirect (Rigby, 2003), overt or covert (Cross et al., 2009; Hemphill et al., 2012). Traditional bullying and the newer form, cyberbullying, take place in or out of school and affect the emotional and social well-being of students at school (Hemphill et al., 2012).

Most studies on school bullying tend to focus only on victims or only on bullies (Walsh et al., 2018). However, bullies and victims are not exclusive categories, as those involved in both roles at different times sometimes function as victims and sometimes as bullies. In fact, it is the manifestation of a changing behavior that occurs with a different role alternating between the bully and the victim at different times (Schwartz, 2000). For half a century, researchers have attributed individual characteristics and behaviors to victims, such as low self-esteem, pathological symptoms of internalizing behavioral difficulties, depression, anxiety, and social isolation (Skapinakis et al., 2011; Veenstra et al., 2005). Abusers are attributed with characteristics such as poor psychosocial functioning, aggression, hostility, impulsivity, lack of self-control, antisocial behavior, low empathy, lack of moral development, and personal responsibility (Teng et al., 2022; Walsh et al., 2018). However, much of bullying behavior is occasional rather than permanent (Elliot, 1993). Regarding the subcategory bully/victim (or provocative victims or aggressive victims), they have been characterized in the last decade as the most troubled group, the most socially ostracized, with difficulty in concentration and social acceptance, social anxiety, loneliness (Juvonen et al., 2003), lack of social skills, low self-esteem, depressive symptoms, and annoying, challenging, and rejected by their classmates (Veenstra et al., 2005). The peak of bully/victim behavior is found in early adolescence (Bettencourt et al., 2023; Cook et al., 2010) and for some other scholars in childhood (Bettencourt et al., 2023; Lebrun-Harris et al., 2019). However, it has been found to be a stable behavior over the course of a school year (Boulton & Smith, 1994). However, there are few studies that address the third category or explain their findings. Just thirty studies refer to the third category (Walsh et al., 2018). Modern literature practically argues that a better understanding of school

bullying and its treatment requires distinguishing roles into the four subcategories of bully, victim, bully/victim, and non-involved (Strohmeier et al., 2023).

Personality Traits

The Big Five Factors Model (BFFM) is a widely accepted model that describes the organization of personality into five major dimensional factors, each with individual traits (Costa & McCrae, 1992). In particular, the Openness (O)/Intellect dimension describes the characteristics of intellect, liberalism, imagination, curiosity, artistic interest, and adventurousness (Goldberg, 1993). Conscientiousness (C)/or not describes one's tendency to have self-efficacy, organization, discipline, responsibility, and dedication to achieve one's goals. Extroversion (E) describes the tendency to be sociable and friendly, ambitious, assertive, energetic, and enthusiastic. Agreeableness (A)/or not describes a person's behavior to be supportive, cooperative, with trust, morality, modesty, empathy, kindness, and sympathy (Goldberg, 1993). Neuroticism (N)/or Emotional Stability describes the predisposition to anxiety, fear, failure avoidance, and generalized emotional instability (Goldberg, 1990).

School Bullying and Personality Traits

Until recently, in their attempt to understand the phenomenon and somehow systematize the personality behind the involvement roles, scholars have used a wide range of descriptors, adjectives, sometimes contradicting each other (Crick & Dodge, 1994). Indicatively, different characteristics are attributed to the abuser's personality, sometimes high self-esteem, a positive attitude to aggression which he likes to enforce, popularity with his satellite group (Bowers, 1973; Pollastri et al., 2010), and sometimes low self-esteem, fear, and insecurity (Olweus, 1993). Scholars disagree on whether abusers are characterized by a reduced ability to process social messages or a lack of social skills (de Sousa et al., 2021) or whether they have a high level of social skills and thus manipulate others (Arsenio & Lemerise, 2001; Crick & Dodge, 1994). In the same category of victims, docile/passive victims have been described differently from defiant victims or bullies/victims (Besag, 1989; Olweus, 1978). This suggests the need to systematize the personality traits of the roles involved in school bullying using the model of a personality theory such as the BFFM to facilitate the understanding of the essential aspects of the very serious problem of school bullying (Mitsopoulou & Giovazolias, 2015).

In recent years, several studies have examined the relationship between BFFM personality traits and bullying and victimization behavior. A meta-analysis study investigated bullying and victimization behavior at different ages on

both personality trait scales (BFFM). The results showed correlations between both types of bullying behavior and victimization on the dimensions of the Agreeableness, Conscientiousness, higher level of Neuroticism, and Extraversion dimensions. The subtraits of agreeableness, affective empathy, and cognitive empathy were negatively associated with bullying behavior (Mitsopoulou & Giovazolias, 2015). A study of 901 students aged 9–13 years largely agrees with the above meta-analysis findings, claiming that bullies showed a lower level of Agreeableness and Conscientiousness than the control group (Thornberg & Waenstroem, 2018). Similarly, a study of 500 students aged 13 to 18 years showed the correlation of involved bullies, victims, and non-involved, while the Agreeableness scale was associated with the same behaviors as well (Jegade et al., 2022). However, no studies were found that discuss BFFM personality traits in relation to the bully/victim (b/v) category or the switching and shifting between all active involvement roles.

In each school grade, the level of age development prescribes specific characteristics as abilities or weaknesses that lead to active role involvement in school bullying. At all ages and levels of education, bullying behavior is associated with some characteristic deficit that shapes the attitude towards other people (Mitsopoulou & Giovazolias, 2015). Repeated victimization occurs due to failure to disclose (van der Ploeg et al., 2022) and failure to defend oneself (Olweus, 2009). Apart from these, in primary school, in addition, victimization is linked to the fact that the theoretical and practical defense of their rights has not yet been achieved. Elementary school students cannot yet deal with aggression against them due to lack of communication and problem-solving skills (Olweus, 2009; Nansel et al., 2001). Also, a deficit of extroversion and talkativeness is found. Conscientious behavior is built from elementary school to childhood. It continues to exist in various guises in adolescence and becomes a distinguishing feature between bullying and victimization (Thornberg & Waenstroem, 2018; Jegede et al., 2022). In addition, in adolescence it seems that a distinct trend of increased neuroticism of the active participants, especially the victims and those involved with both roles, stabilizes (Mitsopoulou & Giovazolias, 2015; Sesar et al., 2011).

Retrospective Investigation of School Bullying/ Victimization Experience

Several studies have examined retrospective experiences of bullying and victimization to investigate the phenomenon over time and its relationship with different parameters and variables (Schäfer et al., 2004). Indicatively, there are studies that used the recollection of bullying experiences to examine psychopathic personality traits (Walsh et al., 2018), post-traumatic stress, post-traumatic growth (Andreou et al.,

2021; Mc Guckin et al., 2017), the associations of personality traits with cyberbullying (Parsonson, 2009), sibling bullying (Hoetger et al., 2015), and the psychological functions of victimization (Espelage et al., 2016). No studies were found that used this method of recalling retrospective experiences with all roles involved and their correlation with personality traits.

Bullying and victimization behaviors lead to psychological distress, depression, anxiety (Espelage et al., 2016), internalizing and externalizing behavioral difficulties (Morgan et al., 2023; Schaefer et al., 2004), and a decline in mental well-being in the short term and later in adulthood (Green et al., 2018). Severe and prolonged victimization leads to post-traumatic symptoms and post-traumatic stress as a result of the traumatic experience (Idsoe et al., 2012; Plexousakis et al., 2019). Thus, it is established that there is an interaction between victimization and individual personality traits during development at different ages (Idsoe et al., 2021). Optimistically, the perspective of the most up-to-date research is that depending on the severity and extent of victimization, the outcome depends on whether it is post-traumatic stress (PTSD) or post-traumatic growth (PTG) (Andreou et al., 2021). Subsequently, for the positive outcome of post-traumatic growth, it is recommended to address the trauma with interventions aimed at developing social skills (Silva et al., 2016), empathy (Noorden et al., 2015), and emotion regulation (Cho, 2018).

The gap that the present study attempts to fill is to unify the Big Five Factor Model with the general and individual personality characteristics of all those involved in the active roles in school bullying experience in school. It also takes a close look at all the active roles of involvement in the developmental process and, in the light of subjective assessment, evaluates the impact of the experience of involvement on personality development in young adulthood.

The present study begins with the research hypothesis “Is involvement in bullying at school with all active roles, at all levels of education from elementary school to university, related to personality traits?” Next, the research goal is to investigate in a sample of university students through experience recollection whether involvement in bullying, victimization, and role reversal at school, from elementary school to university, is associated with specific traits and broader dimensions of personality.

In particular, five individual research questions are asked. What correlations might emerge between the broader dimensions, personality traits, and bully, victim, bully/victim categories at each level of education? If the categories bully, victim, and bully/victim are considered as a single category of active participants at all levels of education, do they show a correlation with the broader personality dimensions and characteristics? Do the categories of bully, victim, and bully/victim show a statistically significant difference compared to

the category of those non-involved in the broader personality dimensions and characteristics? Does role reversal and role shifting between bully and victim correlate with broader dimensions and personality traits? How do participants with all roles think the experience of involvement has affected their personality?

Method

Measures

In order to measure participation in school bullying in the three active roles of bully, victim, bully/victim, and non-involved, selected questions from the Greek version of the revised Olweus Bully/Victim Questionnaire (1996) were used. At the beginning of the questionnaire, the definition of bullying was given: “School bullying is any form of aggressive behavior that is carried out unprovoked, causes harm, is characterized by an imbalance of power and is repeated weekly, monthly or at least two or three times a month” (Olweus, 1993; Solberg & Olweus, 2003). The questions were then asked, “Have you been involved in incidents of bullying at school?” If yes, at university? In what role? How often; In what form? At high school; In what role? How often; In what form? In middle school? In what role? How often; In what form? In elementary school; In which role? How often; In what form? Role-taking, categorized as pure victim, pure bully, and bully/victim (by bully/victim, we mean someone who is a bully or victim in different circumstances), and frequency were operationalized according to the predictions of Solberg and Olweus (2003).

To measure personality, students completed the International Personality Items Pool 50-item questionnaire (IPIP-50 item, Goldberg, 1999). The IPIP 50-item questionnaire (Goldberg, 1999) was pre-tested and validated for the Greek population (Ypofanti et al., 2015). It measures the five personality factors and was distributed via Google Forms. Each factor was rated using 10 items on a 5-point Likert scale from 1 to 5 (very inaccurate to very accurate), which is widely used in the international research community. A higher score indicates a stronger tendency. The IPIP 50-item questionnaire was adapted for the needs of the research and showed high reliability on all scales (Gkatsa, 2022). In adapting the instrument (IPIP 50 item), some language changes were made to the translation into Greek (Bakola et al., as shown in ipip.ori.org) to adapt it to the needs of the study (Gkatsa, 2022).

Also, questions were given about the socio-economic level, educational level, and occupation of the parents and father and mother separately. The processing of these data can be found in the following article (Gkatsa, 2023).

Participants and Procedure

The research sample consisted of 216 undergraduate students, who study mainly in the second and third year of studies, during the academic year 2020–2021, at a public Greek university. For reasons of convenience, the sample came from the Pedagogical Department of Primary Education and from the Department of Computer Engineering. A total of 216 university students participated in the study; 54 (25.0%) of the participants were male and 162 (75.0%) were female. The majority of the sample (88.9%) was 18–24 years old. Students completed an online, self-report questionnaire via Google Forms. Participation was voluntary.

In adapting the instrument (IPIP 50 item), some language changes were made to the version translated into Greek (Bakola et al., as shown in ipip.ori.org) to fit the needs of the study (Gkatsa, 2022).

Detailed adaptation process: First, the questionnaire was translated twice and then given to a native English speaker for back-translation. A discussion followed about the final form of the questions. The final form of the questions was transferred electronically into Google Forms. Each factor is scored on ten items/aspects. The 5-point Likert rating scale from 1 to 5 was used (strongly disagree–strongly agree). The questionnaire was given to a sample of twenty students for pilot application. No difficulties were encountered in rendering the meanings, so no changes were made. Then, a comparative check of the three forms of the questionnaire, i.e., (1) original in English, (2) translated into Greek (Bakola et al., as shown in ipip.ori.org), accepted by www.ipip.org, and (3) revised format, was implemented to adapt to the research objectives and our research sample. Major changes were included for the psychological normalization of the concepts (A6, A9, A1, N10, and O9) and six modifications of expressions (Gkatsa, 2022).

For the pilot application, the questionnaire was distributed to students, a random sample of 5% of the total sample. The questionnaire was completed twice by 15 people, with a time difference (t_1 , t_2) of 10 days between the first and second completion of the questionnaire. Exactly the same answers were given by the same respondents both times (t_1 , t_2). After the successful pilot test, the questionnaire was considered sufficient to be made available for the wider survey.

Data Analysis

To assess the reliability of the personality dimensions, Cronbach’s alpha (α) reliability index was estimated and found to be 0.828 for Extraversion, 0.810 for Agreeableness, 0.814 for Conscientiousness, 0.842 for Emotional Stability/Neuroticism, and 0.755 for Openness/Intellect. All values of the above indicators point to the reliability of the measurements of the specific dimensions.

In order to investigate whether there are statistically significant differences in the questions of the IPIP questionnaire between the different categories as defined in the retrospective bullying questionnaire, different statistical methods were used. To examine the questions related to the role participants had in the incident of bullying in high school, middle school, and elementary school, respectively, as well as the role they had regardless of educational level and developmental path, the non-parametric ANOVA test, Kruskal–Wallis, was used as the condition of normality was not met in all sample groups. Normality was tested with the Shapiro–Wilk test. In addition to testing the IPIP questions, *t*-tests and Mann–Whitney tests were used for the questions “Have you ever been involved in an incident of bullying at school?” and “How has the school bullying incident affected your personality?” The Mann–Whitney test was used specifically for the question “How has the incident of school bullying affected your personality?” as the conditions for conducting the *t*-test were not met. Means and standard deviations were used to describe the ratings of the five personality dimensions. The analysis was conducted using SPSS v26.0 software and the significance level was set at 0.05 in all cases.

Results

Personality Traits and Bully, Victim, and Bully/Victim Roles at Each Level of Education

Elementary School From Table 1, it can be seen that there is a statistically significant difference in the mean value of the characteristics A3 - Acceptance “A3: I don’t insult people,” E6 - Extraversion “E6: Have a lot to say,” C6 - Conscientiousness “C6: I rarely forget to put things back in their proper place,” and “Average Conscientiousness” among the various roles played by the students involved in incidents of bullying in elementary school. Specifically, for the characteristic “A3: I don’t insult people,” there was a statistically significant difference in the average value between the bullies and the victims ($p < 0.05$) and between victims and those who were both bullies and victims

at two different points in time ($p < 0.05$). In each case, victims scored higher on average value (4.53). There is also a difference between the bullies (4.43) and the victims (3.08) for the characteristic “E6: Have a lot to say.” Finally, for the characteristics “C6: I rarely forget to put things back in their proper place” and “Average Conscientiousness,” a difference is found between the victims and those who were both bully and victim at two different time points ($p < 0.05$). In each case, victims scored higher on average value (3.42 and 3.68 respectively) (Table 1).

Middle School In Table 2, we see that there is a statistically significant difference between sentences A3 (I do not offend anyone) and N6 (I hardly get upset) in the middle school and the role the students played in the bullying incident. In particular, for A3, there is a statistically significant difference in the mean scores (3.830 and 4.570) between those who were both bullies and victims in different circumstances and those who were only victims, with the mean scores of those who were only victims being higher (p -value = 0.003). For N6 neuroticism, there is a statistically significant difference in mean scores (4.330 and 2.590) between those who were only bullies and those who were only victims, with a higher mean score for the bullies (p -value = 0.040) (Table 2).

High School According to Table 3, we find that there is a statistically significant difference in the mean value of the characteristics “A3: I don’t insult people” and “N3: I don’t worry about things” between the various roles taken by students involved in incidents of bullying in elementary school. For the characteristics “A3: I don’t insult people” and “N3: I don’t worry about things,” a difference can be observed between victims and those who were both bullies and victims at different times ($p < 0.05$). For characteristic A3, victims scored a higher mean value (4.5), while for characteristic N3, bullies/victims scored a higher mean value (2.29) (Table 3).

University At the university, after reviewing the individual characteristics in the five scales of the IPIP and the corresponding mean scores, there were no statistically significant results in relation to the variable indicating the participants’ role in the bullying incident.

Table 1 Bully, victim, and bully/victim and their correlation with personality characteristics, in elementary school: Differences in individual traits of scales Agreeableness(A), Extraversion(E) and Conscientiousness(C)

	Bully		Victim		Both as a bully and as a victim in different circumstances		<i>p</i> -value
	Mean	SD	Mean	SD	Mean	SD	
A3: I don’t insult people	3.29	1.11	4.53	0.75	4.10	0.83	0.001
E6: Have a lot to say	4.43	1.13	3.08	1.34	3.67	1.24	0.012
C6: I rarely forget to put things back in their proper place	3.00	1.15	3.42	1.17	2.52	1.57	0.042
Average Conscientiousness	3.36	0.92	3.68	0.65	3.17	0.82	0.019

Bold entries indicate the significant differences found in the groups

Table 2 Bully, victim, and bully/victim and their correlation with personality characteristics, in middle school: Differences in individual traits of scales Agreeableness(A) and Neuroticism(N)

	Bully		Victim		Both as a bully and as a victim in different circumstances		<i>p</i> -value
	Mean	SD	Mean	SD	Mean	SD	
A3 : I don't insult people	3.33	1.53	4.57	0.72	3.83	0.84	0.001
N6 : I get upset hardly	4.33	0.58	2.59	1.01	2.75	1.42	0.046

Bold entries indicate the significant differences found in the groups

Bully, Victim, and Bully/Victim Roles Across All Education Levels and Personality Traits

Among the total 216 participants, irrespective of educational level, there are 2 bullies (0.9%), 101 victims (46.8%), and 35 bullies-victims (16.2%), while there were also 78 people (36.1%) who did not play an active role in incidents of school bullying.

After creating a variable to control the role of those involved, regardless of the educational level they were in when they participated in the bullying incident, it can be seen (Table 4) that there is a statistically significant difference between characteristics A3 (I don't insult people), C9 (I follow a schedule), C10 (I am exacting in my work), and Average Conscientiousness and the role the students played in the incident. Specifically, in relation to A3, there is a statistically significant difference in the mean scores (4.030 and 4.550) between those who were both bullies and victims in different circumstances and those who were victims only, with the mean scores of those who were victims only being greater (p -value = <0.001). For C9, C10, and Average Conscientiousness, there is also a statistically significant difference in mean scores (2.970, 3.570, and 3.630; and 4.130, 3.300, and 3.690) between individuals who were both bullies and victims in different circumstances and individuals who were only victims, with a larger mean score for those who were only victims (p -value = 0.037, 0.011, and 0.027) (Table 4).

Bully, Victim, Bully/Victim, and Uninvolved Roles in Relation to Personality Traits

Table 5 shows that there is a statistically significant difference between whether the bully has been involved in a bullying incident and characteristics C8 (I don't shirk my duties),

C9 (I follow a schedule), N3 (I don't worry about things), N4 (I rarely feel blue), N5 (I am hardly disturbed), N6 (I get upset hardly), N7 (I change my mood little), N8 (I do not have frequent mood swings), N9 (I get irritated hardly), N10 (I rarely feel blue), O4 (I am interested in abstract ideas), O9 (I spend time reflecting on things), and Average Neuroticism. Specifically, for characteristics C8 and C9, a higher mean score is elicited from those who have not been involved in a bullying incident, with corresponding mean scores (4.244 and 3.841, 3.718 and 3.428, respectively) and corresponding p -values of 0.004 and 0.050. Those who have not been involved in a bullying incident present a higher mean score for characteristics N3–N10 and Average Emotional Stability with corresponding mean values of 2.051 and 1.804, 2.974 and 2.268, 3.256 and 2.899, 3.077 and 2.594, 2.923 and 2.275, 3.064 and 2.254, 3.295 and 2.703, 3.231 and 2.420, and 2.900 and 2.410, and the corresponding p -values of 0.045, <0.001, 0.018, 0.004, <0.001, <0.001, 0.001, <0.001, and <0.001. Finally, regarding characteristics O4 and O9, those who have been involved in a bullying incident have a higher mean with average scores of 3.667 and 3.385, and 4.290 and 3.808 and the corresponding p -values of 0.046 and <0.001 (Table 5).

Role Reversal and Bully-Victim Shift in Relation to Personality Traits in the Course of Schooling

Over the course of the participants' school years, it was found that in elementary school there were 101 pure victims (46.8%), 2 pure bullies (0.9%), 14 bully-victims (6.5%), 4 individuals who became victims even though they were previously bullies (1.9%), 14 individuals who became bullies even though they were previously victims (6.5%), and 3 people who went from being victims to bullies and then back to being

Table 3 Bully, victim, and bully/victim and their correlation with personality characteristics, in high school: Differences in individual traits of scales Agreeableness(A) and Neuroticism(N)

	Bully		Victim		Both as a bully and as a victim in different circumstances		<i>p</i> -value
	Mean	SD	Mean	SD	Mean	SD	
A3: I don't insult people	5.00	0.00	4.50	0.72	3.71	0.76	0.022
N3 : I don't worry about things	1.00	0.00	1.61	0.00	2.29	0.00	0.020

Bold entries indicate the significant differences found in the groups

Table 4 Bully-victim-bully/victim (regardless of education level) for all personality traits: Differences in the whole scale C and in individual traits of scales Conscientiousness(C) and Agreeableness(A)

	Bully		Victim		Bully/victim		<i>p</i> -value
	Mean	SD	Mean	SD	Mean	SD	
A3 : I don't insult people	3.0	1.41	4.55	0.71	4.03	0.89	<0.001
C9 : I follow a schedule	4.0	1.41	3.57	1.16	2.97	1.22	0.037
C10 : I am exacting in my work	4.5	0.71	4.13	0.77	3.63	0.91	0.011
Average Conscientiousness	3.9	0.99	3.69	0.63	3.30	0.78	0.027

Bold entries indicate the significant differences found in the groups

victims (1.4%), while there were also 78 people (36.1%) who were not involved in incidents of bullying at school.

A statistically significant difference was found in the mean score of the characteristics “C1: I am always prepared,” “C9: I follow a schedule,” “C10: I am exacting in my work,” “N8: I do not have frequent mood swings,” “N10: I rarely feel blue,” “Average Conscientiousness,” and “Average Neuroticism” between the different categories of participation roles in school bullying over the school years. For characteristics C1, C9, and C10, a statistically significant difference was found in the mean score of those who changed roles from victims to bullies (2.43, 2.43, and 3.29 respectively) and those who were victims only (3.28, 3.57, and 4.13 respectively). Regarding characteristics N8, N10, and Average Neuroticism, there is a statistically significant difference in mean score between those who went from being a bully to being a victim (1.5, 1.64, 0.82) and those who went from being a victim to being a bully (4.0, 4.0, 3.83). In each case, victims who became bullies scored a higher mean value (Table 6).

How Did the School Bullying Incident Affect Your Personality?

In terms of the overall impact that involvement in school bullying had, it was found that there is a statistically significant

difference between those involved (with the three active roles, regardless of educational level) and the personality characteristics E7 (Talk to a lot of different people at parties), N10 (I rarely feel blue), and Average Extraversion. For all three characteristics, a higher mean score is obtained by those who declare that being involved in school bullying has positively influenced them with corresponding mean values of 3.096, 2.577, and 3.258 and corresponding *p*-values of 0.007, 0.031, and 0.025 (Table 7).

Discussion

The present study aims to investigate the dimensions and individual characteristics of students' personality in relation to all active roles of participation in school bullying and the development of the roles in which they participated from elementary school to university. The study is based on the subjects' subjective assessment and recollection of their bullying experiences at school.

The research data from the study describe how from elementary school to university the roles of involvement in school bullying are not fixed; they are not the same, and they change as an active process as children and young people develop. As students move into a different role, different personality traits in thinking, feeling, and behavior are

Table 5 Correlation between bully-victim-bully/victim (regardless of education level) and uninvolved roles in relation to personality traits: Differences in the whole scale Emotional Stability/Neuroticism(N) and in individual traits of scales Emotional Stability/Neuroticism (N), Conscientiousness(C) and Openness(O)

	Yes (I participated)		No (I did not participate)		<i>p</i> -value
	Mean	SD	Mean	SD	
C8 : I don't shirk my duties	3.84	1.14	4.24	.85	0.004
C9 : I follow a schedule	3.43	1.20	3.72	.93	0.050
N3: I don't worry about things	1.80	.84	2.05	.91	0.045
N4 : I seldom feel blue	2.27	1.06	2.97	1.11	<0.001
N5 : I am hardly disturbed	2.89	1.04	3.26	1.09	0.018
N6 : I get upset hardly	2.59	1.16	3.07	1.16	0.004
N7 : I change my mood little	2.27	1.18	2.92	1.21	<0.001
N8 : I do not have frequent mood swings	2.25	1.22	3.06	1.24	<0.001
N9 : I get irritated hardly	2.70	1.25	3.29	1.26	0.001
N10 : I rarely feel blue	2.42	1.13	3.23	1.15	<0.001
O4 : I am interested in abstract ideas	3.67	1.03	3.38	.93	0.046
O9 : I spend time reflecting on things	4.29	0.73	3.80	.97	<0.001
Average Emotional Stability (N)	2.41	.69	2.90	.72	<0.001

Bold entries indicate the significant differences found in the groups

Table 6 Role and role switching in relation to personality traits: Roles, personality traits in schooling

	Victim		Bully		Victim → bully		Bully → victim		Bully/victim		Victim → bully → victim		<i>p</i> -value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
C1 : I am always prepared	3.28	0.97	3.50	0.71	4.00	0.82	2.43	0.85	3.43	0.94	2.67	0.58	0.014
C9 : I follow a schedule	3.57	1.16	4.00	1.41	3.75	0.96	2.43	1.28	3.43	1.02	2.33	1.15	0.021
C10 : I am exacting in my work	4.13	0.77	4.50	0.71	4.25	0.96	3.29	0.91	3.79	0.89	3.67	0.58	0.020
N8 : I do not have frequent mood swings	2.25	1.21	2.50	0.71	4.00	0.82	1.50	0.65	2.36	1.28	3.00	1.73	0.019
N10 : I rarely feel blue	2.43	1.12	3.00	0.00	4.00	0.82	1.64	0.74	2.50	1.09	3.00	1.73	0.011
Average Conscientiousness	2.05	1.23	3.17	0.05	3.88	0.94	1.20	0.68	2.21	1.21	2.84	1.78	0.004
Average Neuroticism	1.67	1.29	3.10	0.18	3.83	0.98	0.82	0.62	1.92	1.27	2.77	1.97	0.003

Bold entries indicate the significant differences found in the groups

prevalent. Almost everyone involved goes through all the roles. According to our findings, the role of the aggressor is clearly differentiated, as there is no pure aggressor who only shows this behavior, but has also gone through the role of the victim. It seems that the roles of those involved shift, change, and influence personality traits as they develop. A reinforcing argument for this is the finding that children at a certain stage of childhood development are involved in school bullying with stable roles (Salmivalli, 1998). This stability shows that the involvement roles at this stage of childhood are in absolute agreement with the personality characteristics (Čolović et al., 2015; Salmivalli, 1998).

Personality Traits and Bully, Victim, and Bully/Victim at Each Level of Education

Specifically, characteristic A3 (don't insult) plays a central role, as it represents the essential difference between victims and aggressors and aggressors/victims, at all levels of education. Characteristic A3 indicates the decision made and the attitude to refrain from aggressive behavior (Huseynov & Ozdenizci Kose, 2022).

In elementary school, the involvement roles differ in trait A3, in the trait of Extroversion E6 (Have a lot to say), in the entire Conscientiousness scale, and characteristic C6 (I rarely

forget to put things back in their proper place). In characteristic E6, victims (mean value 3.08) had the lowest score than bullies (4.43). As another study confirms, low extroversion is indeed one of the most recognized reasons for victimization (Kodžopeljić et al., 2014). For trait E6, victims' difficulties with extroversion are found to focus on difficulties with personal expression and communication with others. International literature indicates that extroversion in childhood and pre-adolescents is associated with emotional intelligence and socio-emotional abilities (Nasti et al., 2023).

In particular, the high or low level of emotional intelligence is a predictor of prosocial behavior (Kokkinos et al., 2014; Nasti et al., 2023) in children and adolescents. In addition, higher scores (3.68 and 3.42, respectively) were found for the Conscientiousness scale and the C6 characteristic for victims (3.68 and 3.42 respectively) than for bullies/victims (3.17 and 2.52, respectively). The results suggest that victims have greater self-efficacy, organization, discipline, and commitment to their goals compared to the second group. However, the same trend is strongly supported by other studies, such as the meta-analysis study by Mitsopoulou and Giovazolias (2015), who confirm that bullying and victimization behaviors are related to the dimensions Conscientiousness, Extraversion, and Neuroticism. Similarly, a study at the same age of 13–18 years confirms that bullies scored lower than victims on the Agreeableness and Conscientiousness scales (Thornberg & Wänström, 2018), but without providing more detailed information on the individual roles and characteristics.

In middle school, the roles of involvement differ statistically significantly in terms of the A3 trait (I don't insult people) and N6 (I get upset hardly). Victims presented a higher A3 score (4.57) than the bullies/victims A3 score (3.83). This finding captures a different trend, namely a higher trait A3 score for victims compared to bullies/victims and not to bullies. The process of child development and the transition to adolescence provide better opportunities for coping; possibly the earlier experience of victimization leads to the choice of bullying behavior and for this reason the choice of non-aggressive behavior is not as effective (A-I don't insult

Table 7 Mode of influence of involvement on personality: Positive effect on the whole scale of Extraversion(E) and on the individual traits Talkativeness(E7) & Good Emotional Mood(N10)

	Positive (effect)		Negative (effect)		<i>p</i> -value
	Mean	SD	Mean	SD	
E7 : Talk to a lot of different people at parties	3.10	1.33	2.36	1.28	0.007
Emotional Stability10 : I rarely feel blue	2.58	1.18	2.07	1.09	0.031
Average Extraversion	3.26	0.71	2.92	0.74	0.025

Bold entries indicate the significant differences found in the groups

people) (Cook et al., 2010; Olweus, 1978, cited in Besag, 1989, p.20). On the emotional stability N6 trait, victims had a lower score (2.59) than bullies (4.33), indicating increased emotional vulnerability in victims compared to bullies, possibly due to lower levels of control and emotional management skills (Lomas et al., 2012).

In high school, the involvement roles differ statistically significantly with respect to trait A3 (I don't insult) and N3 (I don't worry about things). For trait A3, victims had a higher score (4.50) than bullies/victims (3.71), just as in the previous educational level. For characteristic N3, the bullies/victims had a higher score (2.29) than the victims (1.61). The fact that the bullies/victims are not anxious could be related to a more established attitude or even to attention-deficit disorder (ADHD), which contributes to this attitude as it dampens the conscious reflection on behavior, as well as the control and regulation of this behavior (Čolović et al., 2015; Toblin et al., 2005).

Bully, Victim, and Bully/Victim Across All Education Levels and Personality Traits

Irrespective of the educational level, victims differ significantly from bullies/victims on trait A3 (I don't insult), the average of the Conscientiousness scale, C9 (I follow a schedule), and C10 (I am exacting in my work). The results are fully consistent with the above correlations of the traits at each level. As far as relational roles are concerned, victims differ from bullies/victims in their choice in A3 (I don't insult) and in being more conscientious in their commitments and more dedicated to their goals by following an organized program. Similar results from other studies confirm higher scores for victims on the Agreeableness and Conscientiousness scale in general (Mitsopoulou & Giovazolias, 2015; Thornberg & Wänström, 2018), without providing information on the bully/victim subcategory and on individual correlation characteristics.

Bully, Victim, Bully/Victim, and Uninvolved Personality Traits

Those who are involved in all roles at all levels of education differ statistically significantly from the non-involved average on the Neuroticism scale in the individual traits N3, N4, N5, N6, N7, N8, N9, and N10 and in C8 (I don't shirk my duties), C9 (I follow a schedule), and on the Openness scale. Those who are not involved have greater emotional stability, fulfill their obligations, and follow a schedule. International literature confirms that all three role groups involved in school bullying present a deficit compared to those not involved, with the deficit in prosocial behavior highlighted as an important unifying factor (Schwartz, 2000). The results of a similar study with the

same age sample of 8 to 18 years old are consistent with the above findings. Their findings suggest that involved bullies and victims differ from non-involved ones on the dimensions of Neuroticism and Agreeableness (Jegede et al., 2022).

At all levels of education, victims differed significantly in all roles with higher scores than bullies/victims on the C scale and characteristics C9 and C10. The result shows that victims seem to be more disciplined, organized, goal-oriented, and self-efficient compared to bullies/victims. Other studies agree with the same view and attribute greater sensitivity and self-efficacy to the personality of victims than to that of bullies (Connolly & O'Moore, 2003; Jegede et al., 2022; Menesisini et al., 2010).

Role reversal and bully-victim shift in relation to personality traits. In addition, students who shifted from victims to bullies (v/b) over the school years differed significantly from students who shifted from bullies to victims (b/v) in terms of emotional stability, agreeableness, and happier mood. There may be a complex process here that requires thorough investigation. Literature seems to be consistent on the greater emotional stability of victims compared to bullies (Jegede et al., 2022; Lee, 2021). However, we do not have further information on the subclasses of v/b and b/v roles. The emotional stability of victims who become bullies could be related to better coping and recovery from the traumatic experience, which are followed by the change and recovery of strategies and methods, and involve more aggressive behavior as an attempt to gain basic and necessary assertiveness. This seems to be an individual developmental step in the course of post-traumatic development (Calhoun et al., 2000; Zoellner & Maercker, 2006). On the other hand, bullies/victims are characterized by the least emotional stability, as they are relegated from the position of the strong to the derogatory, vulnerable position of the victim, causing justified anxiety, fear, and sadness. At this point, the view that bullies/victims have a comorbidity of internalized and externalized problems, low social skills, and low self-esteem is confirmed (Cook et al., 2010).

The Effect of Involvement in School (All Roles Involved) on Personality

About half of those involved stated that the experience of being involved had a positive effect on their personality; the other half said it had a negative effect. Those who answered that it had a positive impact on them showed a statistically significant difference in terms of the characteristics E7 (I talk to lot of different people at parties) and N10 (I feel blue). Half of the involved students rated their participation experience as something that helped them improve themselves on the trait Talkativeness on the Extroversion scale and on the trait Agreeableness on the Emotional Stability

scale. It seems that the experience of victimization was an opportunity for individual development (Calhoun et al., 2000) in terms of talkativeness and mood, because in the research data of the present study, victims were found to have lower scores than bullies in elementary school. This finding could strengthen the argument that the traumatic experience of victimization causes post-traumatic symptoms and post-traumatic stress disorder (Carlisle & Rofes, 2007; Mikkelsen & Einarsen, 2002; Newman et al., 2005), which are associated with or bring about the possibility of post-traumatic development (Andreou et al., 2021; Calhoun et al., 2000). While we have only come across two studies that have investigated post-traumatic growth in those affected by school bullying (Andreou et al., 2021; Ratcliff et al., 2017), the findings of the present study seem to be consistent with them. The affected children and adolescents not only grow physically, but also as survivors of the trauma; they become mentally stronger and strengthen their personality through positive qualities/traits (Zoellner & Maercker, 2006), such as talkativeness and a pleasant disposition. This may be because the victimization triggers the survival response that leads to growth or because the experience itself is a product of learning through which new coping strategies for dealing with threatening events are acquired (Park & Folkman, 1997). It seems that for half of them, struggling through the crisis of involvement in school, bullying led to growth or even post-traumatic growth (Calhoun et al., 2000). The other half reported that the experience of involvement had a negative impact on their personality. This potentially makes it clearer that difficult and traumatic experiences of involvement in school bullying will have negative effects on personality for all involvement roles (Schwartz, 2000) if the course of mental processes of negotiation and individual development are not followed. At this point, the need for support and intervention arises to use the traumatic experience as a challenge for post-traumatic development and positive changes in personality (Jayawickreme et al., 2021). In addition, a new type of intervention program is proposed that focuses on subgroups of the B/V group (bullies become victims (B/V), victims become bullies (V/B), and victims become bullies and victims again (V/B/V)).

Therefore, according to our findings, it could be proposed to design prevention and treatment programs aimed at each level of education, so that at each age the individual personality characteristics, which were statistically significant in the present study, are sought to be developed. According to the aforementioned, in primary education a holistic intervention program is proposed for everyone and especially targeted at bullies, which, taking into account the findings on the characteristics (A3, C-scale), aims to change the attitude towards violence and teasing and develop respect for

others. Accordingly, for the victims, based on the finding (E6), the intervention should aim at improving talkativeness ability. For secondary education and especially for the category of bully/victims, an intervention is proposed with the aim of changing the attitude towards violence, conscientiousness, and emotional stability. At the same level for the victims/bully, it is judged that self-healing has occurred through the development of the ability to defend themselves. It could, however, through an intervention program aim to stabilize the positive results and recommend follow-up and stabilization through reflection, awareness of the path from trauma to return, and informative information on human and individual rights.

Conclusion

The study investigated the relationship of personality traits to all roles of active involvement in school bullying, from elementary school to university. The results highlighted the association of personality traits with all active roles of involvement in school bullying, taking into account the process of role change at all educational levels and the emergence of subcategories between those involved from bully to the victim (B/V), from victim to bully (V/B), and from victim to bully and then back to the victim (V/B/V). Half of the students finally estimate that their involvement experience had a positive impact on their personality. This positive assessment can contribute to the discussion of post-traumatic growth.

The usefulness of the study's research data lies in its applicability. Linking personality traits to all roles of bully, victim, bully/victim, and victim/bully during progression from primary school to university may be useful in designing prevention programs aimed at developing specific traits personality at each stage of development, which prevents participation in bullying (Strohmeier et al., 2023; Thornberg & Wänström, 2018). However, there are two caveats to the study. The first concern is that the accuracy of self-report over long periods of time tends to call into question the reliability of correlations. The second concern is that the ontological framework for studying "any role in school bullying" seems quite broad and therefore difficult to accurately relate across individuals as a common type of experience. The third concern is that the study's small sample size limits the study's ability to draw meaningful conclusions. Future studies could focus on school bullying prevention and therapeutic interventions that target specific personality traits related to prosocial behavior and socioemotional abilities.

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Declarations

Competing Interest The author declares no competing interests.

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