

ROLES IN BULLYING BEHAVIOR AND EYSENCK'S PERSONALITY DIMENSIONS IN ELEMENTARY SCHOOL CHILDREN

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Received: May 31, 2010

Accepted: January 12, 2011

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Objective - The aim of the present study was to assess if girls and boys who are classified as bullies, victims, bully/victims and neutral differ in Eysenck's personality dimensions.

Subjects and method - Three hundred and seventy-two children, age range 10 to 14 years (mean age 12.3 ± 1.6 years) completed a School Relationship Questionnaire (SRQ) and the Junior Eysenck Personality Questionnaire (EPQ Junior). To examine whether there are differences in the studied dimensions of personality with regard to their roles in bullying behavior and the gender of the respondents, we used one-way analysis of variance (ANOVA) with Tukey HSD Post Hoc analysis.

Results - Based on the results of the SRQ, 57% of children were classified as involved in bullying behavior, either as bullies (13%), victims (16%) or bullies/victims (28%), while 41% were neutral. Girls showed significantly higher levels of neuroticism ($F(1.325) = 9.983, p < 0.001$) and dissimulation tendency ($F(1.331) = 7.270, p < 0.05$) than boys, while boys showed significantly higher levels of psychoticism ($F(1.331) = 37.632, p < 0.001$). Bullies and bully/victims had higher levels of extraversion ($F(3.323) = 3.105, p < 0.05$) while victims and bully/victims were found to have higher levels of neuroticism ($F(3.325) = 20.390, p < 0.001$) compared to neutral. Significantly higher levels of psychoticism ($F(3.331) = 13.929, p < 0.001$) were found for bully/victims in relation to bullies, victims and neutrals. Victims had significantly higher levels of psychoticism in relation to neutral, and bullies in relation to victims and neutrals. Significantly higher levels of affinity towards dissimulation ($F(3.331) = 23.916, p < 0.001$) were found for neutrals in relation to bullies and bully/victims, and for victims in relation to bullies and bully/victims.

Conclusion - Differences in Eysenck's personality dimensions were found with regard to gender and role in bullying behavior. A higher level of psychoticism was found in boys, while girls had

a higher level of neuroticism and tendency to dissimulation. Bullies and bully/victims had a significantly higher level of psychoticism than victims, and victims had significantly higher levels of dissimulation tendencies in relation to bullies and bully/victims. Differences in the level of psychoticism and tendency to dissimulation are factors that distinguish between bullies and bully/victims in relation to victims and the neutral subjects. The results of this study show that Eysenck's personality dimensions could be an important variable in understanding bullying behavior.

Key words: Bullying behavior ■ Eysenck's personality dimension ■ Eysenck's theory of antisocial behavior

Introduction

Until the end of 1960's and early 1970's, the behavior described today as "bullying" was considered as an integral part of human development - a passing rite for those who got through it successfully and a sign of shame for those who were left scarred by the experience. It is surprising that the problem of violence among children was looked upon in this manner until 1972, when a Swedish doctor named Heinemann, recorded his observations about violence among a group of children on the school playground.

His observations encouraged teachers and researchers to start thinking about the unacceptability of such behavior. (1) According to Olweus (2) a pupil is abused or victimized when he is repeatedly and continuously exposed to negative actions by one or more other pupils. Although individual cases of serious violent behavior can be considered as bullying, the definition of 'bullying' emphasizes the continuity and repetition of negative actions. Negative actions imply that an individual injures or attempts to upset another individual on purpose. It is difficult for the pupil exposed to violence to defend himself and he is somewhat helpless in relation to the abuser.

There are four characteristic profiles that can vary when it comes to violence among children: bullies, victims, bully/victims and neutral or non participating children who are characterized as observers or defenders of the victims (3). Bullies have positive attitudes towards violence and a tendency towards aggression, impulsiveness and dominance in social interactions (4-6). Unlike bullies, victims are introverted individuals who often suffer from low self-esteem and anxiety (6). Individuals who are involved in bullying in school as victims and as bullies (bully/victims) are characterized as being anxious and provocative (8).

There are a very few studies that have investigated the personality traits of different roles in peer violence. Eysenck (9) defines personality traits as an observed consistency of behavior in different situations. His theory presupposes the existence of three major dimensions of personality (9): psychoticism (P), extraversion (E) and neuroticism (N). The Lie scale (L-scale), which is an integral part of Eysenck's personality questionnaire, is sometimes interpreted as a factor of social conformity (10). Implementation of these Eysenck's personality theory traits on antisocial behavior led to Eysenck's theory of criminality or theory of antisocial behavior (11). Eysenck (11) believes that psychological factors are of central importance in explaining antisocial behavior. According to his theory, individuals who are at risk of developing antisocial behavior, achieve average scores on the psychoticism scale. Individuals with the greatest risk of antisocial behavior are those who score highly on the extraversion and neuroticism scales and who score about average on the lie scale (12). Eysenck (11) only attributes a higher level of extraversion to younger offenders, while to some other types of offenders (social inadequacy) he attributes a higher level of introversion. The highest predictive value for antisocial

behavior is attributed to the Psychoticism scale. Eysenck (11) regards aggressiveness itself as a personality trait that includes extraversion, neuroticism and psychoticism. According to Eysenck (11), individuals that are prone to antisocial behavior, characterized by aggressiveness, achieve higher scores on all the scales, with dimensions measured by an EPQ - questionnaire (extraversion, neuroticism and psychoticism).

Studies that dealt with an examination of Eysenck's personality dimensions and their role in violent behavior up to now, have established a correlation between victimization and introversion as well as a connection between abuse and psychoticism (13). Children that were categorized as bullies also scored highly on the extraversion, psychoticism and neuroticism scales, compared to children who were not involved in peer violence (14).

The aim of this study was to assess Eysenck's personality dimensions in boys and girls, considering their role in peer violence (victims, bullies, bully/victims and neutral participants).

Subjects and method

The study was conducted on fifth and eighth grade elementary school pupils from the municipality of Siroki Brijeg during November 2009. According to the data obtained from the Ministry of Education of West Herzegovina Canton, the total number of pupils in the municipality of Siroki Brijeg in the school year 2009/2010 totaled 457 fifth grade pupils and 421 eighth grade pupils spread out in four elementary schools. Two elementary schools are located in the city and the other two schools in the rural area of the municipality. By random selection (by drawing pieces of paper with the name of the school) two schools were selected to participate in the study - one school located in a city and another one located in a rural area. All the

fifth and eighth grade pupils from the two schools above participated in the study – II Elementary school of Siroki Brijeg (256 pupils) and Kocerin Elementary School (116 pupils). In total, there were 372 participants - 192 females (51.6%) and 180 males (48.4%) with the age range being 10 to 14 years (average age = 12.30 years, standard deviation = 1.64).

The exposure to violence among children was examined using the School Relationship Questionnaire (SRQ) which was based on a "Bullying & Friendship Patterns" interview for children modified into a questionnaire for self-estimation of peer violence. The modification included a reduction in the number of questions as well as a more appropriate question formulation for adolescents (15). Standardized questions were used in the survey which question participants about their relationships with other pupils. The questions were very similar to those in Olweus's (16) Bullying Questionnaire, however, the reason for selecting the SRQ questionnaire is the possibility of categorizing participants regarding their role in peer violence and considering the form of aggression that the child was exposed to.

The implementation of the questionnaire in this study was approved by the authors of the questionnaire. For the purposes of this study, the questionnaire was translated into Croatian in accordance with the recommended standards for the translation of psychological instruments. The questionnaire was translated from English into Croatian and then afterwards a translation was done again from Croatian into English. The reverse translation showed up some minor mistakes so the necessary adjustments were made to the Croatian version of the questionnaire. The questionnaire consisted of two parts. In the first part, participants estimated exposure to violent behavior by other pupils (e.g., Have you been hit or beaten?) and in the se-

cond part they estimated their own aggressive behavior towards other pupils (e.g, Have you ever scared or threatened someone?). The questionnaire was also divided regarding the form of violent behavior to which the child was exposed and forms of violent behavior towards other students - "Exposure to direct aggressive behavior," "Exposure to verbal and relational aggression", "Direct aggressive behavior directed toward others" and "Verbal and relational aggression directed toward others. "

The answers were assessed on a scale of 1 to 3, depending on the extent to which the respondent had been involved in a bullying situation in the last 3 months ("not at all / seldom" = 1, "often" = 2 or "very often" = 3). Respondents who self assessed themselves with 2 or 3 (often or very often) in the "Exposure to direct aggressive behavior" part of the questionnaire, were categorized as "direct victims". Respondents who self assessed themselves with 2 or 3 (often and very often) in the "Direct aggression directed towards others" part of the questionnaire were categorized as "direct bullies". Classification of "direct victim" and "direct bully" (answering 2 or 3, often or very often in both categories in "Exposure to direct aggression" and "Direct aggression directed towards others") resulted in the categorization of bully/victims. All other respondents were categorized as neutral. The same principle was also applied in the classification of "relational victims," "relational bullies," "relational victims/bullies" and "neutral". In previous studies (15) in which this instrument was used, the authors did not mention reliability. In the confirmatory factor analysis that was conducted for all 18 items of the School Relationship Questionnaire, in order to verify the factor structure of the questionnaire by analyzing the main components with Varimax rotation, 3 factors were extracted - "Direct and verbal/relational aggression

directed towards others", " Exposure to verbal/relational aggression " and "Exposure to direct aggressive behavior." In our study, the alpha coefficients obtained for each subscale show an acceptable reliability type of inner consistency which ranges from 0.67 to 0.74. The alpha coefficient for the whole scale is $\alpha = 0.83$.

Eysenck's personality questionnaire for children (EPQ Junior, Junior Eysenck Personality Questionnaire) (16) is the best known questionnaire for examining the basic dimensions of personality in children from the age of seven to fifteen years. It is a standardized psychological instrument in the Croatian language (17). Junior EPQ contains 81 items which are divided into 4 subscales: extroversion - introversion (E) which contains 24 items, neuroticism - emotional stability (N) contains 20 items, psychoticism (P) which contains 17 items and the tendency to dissimulation or lie scale (L) which consists of 20 items. The maximum total score in the Junior EPQ is equal to the number of items in each subscale.

Reliability coefficients on the tested boys and girls aged 12-14 years from Croatia for subscales P, E, N and L range from 0.45 to 0.89 (18). The reliability of scales in this study was examined using coefficients of internal consistency. Reliability coefficients range from 0.58 for the Psychoticism scale to 0.73 for the Neuroticism scale.

Data analysis

The data is presented in the form of percentages, frequencies and arithmetic means with standard deviation. Distribution of the results is normal. In order to examine whether there are differences in the studied personality dimensions in regards to the roles in bullying behavior and the respondent's gender, we used a one-way analysis of variance (ANOVA) together with the Turkey HSD Post Hoc analysis. The statistical analysis was

conducted using Statistic 7.0 (StatSoft, Inc., Tulsa, OK, USA).

Results

According to the previously described criteria, from the total number of questioned children, 57% respondents were identified as being involved in bullying behavior. 13% of respondents were identified as bullies, 16% as victims, 28% as bully/victims and 41% as neutral.

The results of the variance analysis, as well as the arithmetic mean and standard deviation for each dimension of personality with regards to the role in violent behavior are shown in Table 1. The main significant effects of the role in violent behavior were obtained for all personality dimensions. The results of the Post-hoc analysis are shown in Table 1. Bullies and bully/victims showed a statistically significantly higher level of extraversion in comparison to neutral respondents. Significantly higher levels of neuroticism were established in victims and bully/victims in comparison to neutral respondents. Furthermore, we found significantly higher levels of psychoticism in bully/victims in relation to bullies, victims and neutrals. The victims had significantly higher levels of psychoticism in relation to neutral; and bullies in relation to victims and neutrals. A significantly higher level of tendency towards dissimulation was found in neutrals in relation to bullies and bully/victims, and for victims in relation to bullies and bully/victims.

The main significant effects of gender were obtained for neuroticism, psychoticism and lie scales. The results of the Post-hoc analysis are shown in Table 1. Girls had significantly higher levels of neuroticism and tendency towards dissimulation in relation to the boys. Significantly higher levels of psychoticism were found in boys in relation to girls.

In the studied personality dimensions - extroversion, neuroticism, psychoticism and lie scale, no significant interaction was established between gender and role.

Discussion

According to the results of this study, the highest number of pupils participate in peer violence as bully/victims, followed by victims and then bullies. The significant main effects of the role in violent behavior were obtained for all personality dimensions, while the effects of gender were established for neuroticism, psychoticism and lie scale.

In this study, we found that the frequency of peer bullying is higher in comparison to results gained in Denmark (19) and Great Britain (20), whilst the results of a study conducted in Australia (21), are in accordance with the results obtained in this study. The differences in the established prevalence could be caused by methodological differences in the research conducted, such as the period in which the research was conducted, the reference period to which the children referred to and the differences in instruments used to assess bullying behavior. Research results relating to the prevalence of bullying behavior on the different roles of the participants indicate a greater frequency of bully/victims in relation to previous studies, as well as a lower prevalence of bullies and victims (22). The established frequency of peer violence and the greater representation of bullies and bully/victims in violent behavior indicate that peer violence presents a frequent form of violent behavior among children (21, 22).

When it comes to personality dimensions in boys and girls, in this study, we found higher levels of psychoticism in boys, while girls had higher levels of neuroticism and a tendency towards dissimulation. Differences in the same direction were obtained in boys

Table 1 Eysenck's personality dimensions by bully-victims status type and gender

Personality dimensions	Bully-victims status			Z/B (x±SD)	Ž-Z/B-V (x±SD)	Ukupno/ Total (x±SD)	Source of variation	F (df); p	Post Hoc (Tukey test)
	N/N (x±SD)	Ž/V (x±SD)	Z/V (x±SD)						
Ekstraversion							Gender	F(1,323)=3,188; p=0,075	-
Girls n=170	15,8±3,4	16,2±3,0	18,0±3,5	17,4±3,6	16,5±3,5		Bully-victims status	F(3,323)=3,105; p=0,026	Z, ŽZ>N; p<0,05
Boys n=161	17,2±3,2	18,0±3,0	18,0±2,5	17,6±3,7	17,5±3,2		Gender x Bully-victims status	F(3,323)=0,912 p=0,435	-
Ukupno/Total n=331	16,3±3,4	16,8±3,0	18,0±2,8	17,5±3,6	17,0±3,4		Gender	F(1,325)=9,983; p=0,001	D/G> D/B; p<0,001
Neuroticism							Bully-victims status	F(3,325)=20,390; p=0,000	Ž/V, ŽZ/V>N/N; p<0,001
Girls n=171	8,5±4,3	12,0±3,7	11,6±3,2	12,8±4,6	10,5±4,6		Gender x Bully-victims status	F(3,325)=1,715; p=0,163	Ž/V, ŽZ/V>N/N; p<0,001
Boys n=162	8,3±3,2	10,1±3,1	8,5±3,6	12,0±3,7	9,9±3,8		Gender	F(1,331)=37,632; p=0,000	D/G> D/B; p<0,05
Total n=333	8,4±3,9	11,2±3,6	9,5±3,8	12,3±4,1	10,2±4,2		Bully-victims status	F(3,331)=13,929; p=0,000	ŽZ/BV>Z/B, Ž/V, N/N; Ž/V>N/N; Z/B>Z/V, N/N; p<0,001
Psychoticism							Gender	F(3,331)=4,587 p=0,577	-
Girls n=178	1,8±1,5	2,0±1,9	2,9±2,8	3,7±3,4	2,4±2,4		Bully-victims status	F(1,331)=7,270 p=0,007	D/G> D/B; p<0,001
Boys n=161	3,3±2,6	4,6±3,3	4,8±3,2	5,9±3,1	4,7±3,2		Gender x Bully-victims status	F(3,331)=23,916; p=0,000	ŽV>ZB, Ž-Z/B-V, N/N > Z/B, Ž-Z/ B-V; p<0,001
Total n=339	2,3±2,1	3,0±2,8	4,2±3,2	5,0±3,4	3,5±3,0		Gender	F(3,331)=2,181; p=0,090	-
Lie scale							Bully-victims status		
Girls n=178	15,3±4,2	12,7±5,1	9,1±5,8	9,2±4,7	12,9±5,3		Bully-victims status		
Boys n=161	11,5±5,4	12,5±4,5	8,0±5,4	7,7±4,8	9,6±5,4		Gender x Bully -victims status		
Total n=339	14,0±5,0	12,6±4,8	8,3±5,4	8,4±4,8	11,3±5,6				

N=Neutral; V=Victims; B=Bullies; B-V=Bully-Victims; G=Girls; B=Boys

and girls tested in Croatia (18, 23), Great Britain (16) and in some other countries (24).

The higher level of psychoticism in boys can be explained by the fact that the dimension of psychoticism includes aggressive and hostile behavior that are more typical for boys than for girls (18, 25). Differences between girls and boys in the tested personality dimensions can be explained by the model of social roles (26). Different social roles are imposed on boys and girls that in turn define their behavior.

Although their behavior was defined by the different expectations set by their environment, their adoption of these traits is characterized by internal processes from the early stages of development. Some researchers (27) are also prone to attribute personality differences between boys and girls to biological factors.

Respondents categorized as bullies in this study possessed above-average levels of extraversion and psychoticism and an average level of neuroticism, which confirms the settings of Eysenck's theory of antisocial behavior, according to which the results of P, E and N are the predictors of antisocial behavior (12). This is in accordance with the findings of the study by Connolly and O'Moore (14), and partially with the results by Slee and Rigby (13) that determined an association between the role of the bully in peer violence and high levels of psychoticism. Higher levels of neuroticism and psychoticism were also established in pupils with serious behavior problems (28).

In this study, the differences obtained in personality dimensions, taking into consideration the role of participants in violent behavior, are consistent with Eysenck's theory of antisocial behavior (12). According to Eysenck (12), the most important factor in the development of antisocial behavior is psychoticism. However, extraversion and neuroticism also contribute to the deve-

lopment of antisocial behavior. This theory also emphasizes the role of the confirmatory L scale. Average scores on the L scale are associated with the risk of antisocial behavior. Therefore, individuals with above average levels of psychoticism have the greatest risk for risky behavior, as well as those with average levels of neuroticism, extraversion and a tendency towards dissimulation. Our respondents had a below-average level of tendency towards dissimulation, which may indicate that peer violence is a milder form of antisocial behavior on the basis of which it is very likely that individuals at risk of developing serious forms of antisocial behavior can be identified. No association between average levels of dissimulation and the role of the bully in peer violence was established either by Mynard and Joseph (20).

In our study, bullies and bully/victims had above-average levels of extraversion, neuroticism and psychoticism and below-average levels of dissimulation. Association between the role of bully/victims and personality, to our knowledge, has so far only been tested in Mynard and Joseph's research (20). In their study it was established that children who were categorized as bully/victims had higher levels of neuroticism and psychoticism in relation to neutral children in peer violence. However, the results of this study also show an increased level of extraversion in bullies and bully/victims. The results obtained in this study also showed that bully/victims are characterized by a personality which partly overlaps with the characteristics of bullies, and partially with the characteristics of victims (29).

Unlike the abusers and bully/victims, respondents categorized as victims had higher levels of neuroticism and a tendency towards dissimulation, as well as an average level of extraversion, whilst the level of psychoticism was lower than average. Bullies and bully/victims had significantly higher levels of psycho-

ticism than the victims, but at the same time the victims had significantly higher levels of dissimulation in relation to bullies and bully/victims. It seems that these differences in particular in the level of psychoticism and tendency towards dissimulation are the factors that create a distinction between bullies and bully/victims in relation to victims and neutral respondents. The results of previous studies (30, 31) also confirmed the correlation between higher levels of psychoticism and disorders such as antisocial personality disorder and conduct disorder. Eysenck (31, 32) believes that the psychoticism trait is a polygenetic trait of temperament.

A person who has the psychoticism trait, which is characterized by association with "small effect" genes and who also has high levels of extraversion and neuroticism, may develop patterns of antisocial and aggressive behavior. Increased emotional excitement, which characterizes persons with higher levels of tendency toward dissimulation, when present in individuals with higher levels of psychoticism and extraversion, provides an emotional charge and uninhibited behavior in conflict situations.

The role of extraversion in the development of antisocial behavior, according to Eysenck (11), is associated with susceptibility towards conditioning. In fact, higher levels of extraversion characterized by lower levels of arousal, decrease susceptibility to conditioning and therefore make it more difficult to establish a conditioned response. When the levels of extraversion are low, increased levels of cortical arousal increase susceptibility to conditioning. This tendency in children can be present in interaction with parenting styles and the quality of communication, but also in social interaction. Parents who attempt to socialize an extravert child appropriately will have more difficulty than parents who have a child with lower levels of extraversion. Parents that have a child

with higher levels of extraversion, should have better skills and have greater support from their environment in order to be more successful in socializing their own child (28). Some studies (33) indicate that low levels of extraversion may also have a negative impact if socialization experiences are inappropriate or negative. In these cases, a child with low levels of extraversion may be quicker to grasp inappropriate adaptation when this kind of adaptation is supported by the child's parents, his social environment, or both, as opposed to children with higher levels of extraversion.

It is important to emphasize that the population of children with antisocial behavior is not temperamentally a homogeneous group (11). The variability of the results of scales E and N among children and adolescents with antisocial behavior can be expected (34). Apart from this, Eysenck's hypothesis on antisocial behavior is not solely based on the fact that antisocial behavior is a direct result of temperament predisposition reflected in the dimensions of psychoticism, extraversion and neuroticism. Eysenck believes that there are some other factors in their interaction with temperament, which include both general intelligence and environmental factors (11) and which affect the personality and style of behavior. For example, the general factor of intelligence provides protection from the negative aspects of psychoticism and increases the probability of the facilitative effects of positive aspects of these personality dimensions (e.g., creativity) (35).

Eysenck's theory offers useful guidance in the prevention of antisocial behavior. Original tendencies that are manifested as antisocial behavior can be detected in childhood, and it is possible to modify the experience of high-risk individuals in the process of socialization so that they do not develop into offenders. It is necessary to detect risk groups as soon as possible, that is children

with higher scores on scales of psychoticism, extraversion, neuroticism and the scale of tendency towards dissimulation, in order to prevent delinquent behavior. Longitudinal studies are needed to monitor children at risk.

Future research should also focus on testing the sensitivity of the instruments used in this study for assessment of peer violence. Finally, we definitely must reflect on the ethical problems of this research. In studies such as this one, researchers ask respondents for information about abuse, without however offering any concrete help or assistance to the respondent. Therefore, in future research about bullying, data collection methods that provide greater anonymity of the respondents should be used. Professionals could prepare the respondents for their participation in research such as this in the form of organized workshops. Brochures and various educational and informative materials could also be an additional way of educating people about peer violence. School staff should also be given training so they are prepared for possible situations where children may request their help or ask questions in cases of different forms of bullying.

Study limitations

It is necessary to point out the methodological limitations of the study that could have affected the results obtained. The data requested in the School Relationship Questionnaire are personal and require the participants to recall unpleasant experiences from their past, which can evoke feelings of shame, guilt and sadness. The participants may be uncomfortable disclosing such experiences and the potential reactions of other participants in the research (rejection and pity). Therefore, it is possible that some participants in the study were not honest, and gave answers that did not correspond to actual experiences.

Furthermore, in the different parts of the questionnaire, where questions varied according to the severity of the abuse, the respondents were asked to estimate the frequency of their exposure to a particular form of abuse. However, this method of assessment does not provide a clear distinction between subjects who were often subjected to less serious forms of bullying and those who were sometimes subjected to severe forms of bullying. Respondents with quite different experiences of violence could have been categorized as bullies, victims and bully/victims.

Some other shortfalls attributed to research of this type are retrospective recollections that may affect the child's perception of events and relationships in childhood (36). For example, at the time of answering the questions, some respondents may have forgotten or they did not recall some events that happened to them in the past. More negative statements about their own experiences of violence in some respondents could also be attributed to their current psychological problems (depression, for example). Various psychological difficulties can result in a distorted perception in the behavior of other participants involved in peer violence. However, in studies of this type, which are anonymous, and which include self-assessment, it is impossible to obtain data from multiple sources in order to confirm the validity and reliability of the respondent's answers.

Conclusions

The differences in Eysenck's personality dimensions were established in regards to gender and the role of peer violence. Higher levels of psychoticism were established in boys, while in girls a higher level of neuroticism and affinity toward dissimulation was found. Bullies and bully/victims had significantly higher levels of psychoticism than

victims, and victims had significantly higher levels of tendency towards dissimulation in relation to bullies and bully/victims. The differences in the level of psychoticism and tendency towards dissimulation are factors that create a distinction between bullies and bully/victims in relation to victims and ne-

utral respondents. The results of this study show that Eysenck's personality dimensions can be important variables in understanding bullying.

Conflict of Interest: The authors declare that they have no conflict of interest. This study was not sponsored by any external organization.

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