

Internalising problems and borderline personality features as mediators of the link between traumatic experiences and antisocial behaviours in delinquent adolescents

Zachowania internalizacyjne i cechy osobowości typu borderline jako mediatory zależności między doświadczeniami traumatycznymi a zachowaniami antyspołecznymi u młodzieży przestępczej

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Abstract

Introduction: The context of the current research involves relationships between traumatic or adverse childhood experiences, mental health variables and behavioural problems in delinquent adolescents. In the study we introduce the dimension of heterogeneity of antisocial behaviour to provide more insight into the role of internalising problems and borderline personality features as stemming from traumatic experiences and leading to aggression and rule-breaking behaviour in adolescents. **Aim:** Analysis of the mediating role of internalising problems and borderline personality features in the link between trauma experience and two forms of antisocial behaviour – aggression and rule-breaking behaviour. **Methods:** Eighty-eight adolescents (77.3% males, $M_{age} = 14.69$, $SD = 1.51$) assigned to the behaviour modification programme completed the Youth Self-Report (YSR 11/18), the Childhood Experiences Questionnaire (CEQ, adapted by Gervinskaite-Paulaitiene and Barkauskiene from the Adverse Childhood Experiences Questionnaire and the Adverse Childhood Experiences Score Calculator), and the Borderline Personality Features Scale for Children-11 (BPFSC-11). Statistical analyses included two multiple mediation models with two parallel mediators. **Results:** The study revealed that the link between traumatic experiences and aggression was mediated by borderline personality features, while internalising symptoms mediated the association of adverse childhood experiences and rule-breaking behaviour. **Conclusions:** Understanding the mediating role of internalising problems and borderline personality features in the link between childhood trauma and aggression as well as rule-breaking behaviour adds important knowledge to the understanding of the way leading towards antisocial behaviour, and could be used in the development of specified intervention programmes.

Keywords: adolescents, trauma, antisocial behaviour, internalising problems, borderline personality features

Streszczenie

Wstęp: W kontekście aktualnych badań opisywana jest zależność między traumatycznymi lub negatywnymi doświadczeniami z dzieciństwa, aspektami zdrowia psychicznego i problemami behawioralnymi u młodzieży przestępczej. W naszym badaniu wprowadzamy wymiar heterogeniczności zachowań antyspołecznych, aby uzyskać lepszy wgląd w rolę zachowań internalizacyjnych i cech osobowości typu borderline jako czynników wynikających z traumatycznych przeżyć i prowadzących do zachowań agresywnych i łamania norm u nastolatków. **Cel:** Analiza mediacyjnej roli zachowań internalizacyjnych i cech osobowości typu borderline w zależności między doświadczeniami traumatycznymi a dwiema formami zachowania antyspołecznego – agresji i łamania norm. **Metoda:** Osiemdziesięciu ośmiu uczestników w wieku nastoletnim (77,3% płci męskiej; $M_{wiek} = 14,69$; $SD = 1,51$) zakwalifikowanych do programu modyfikacji zachowania wypełniło kwestionariusz samooceny Youth Self-Report (YSR 11/18), kwestionariusz doświadczeń w dzieciństwie Childhood Experiences Questionnaire (CEQ, zaadaptowany przez Gervinskaite-Paulaitiene i Barkauskiene na podstawie kwestionariusza Adverse Childhood Experiences Questionnaire i skali Adverse Childhood Experiences Score Calculator) oraz kwestionariusz Borderline Personality Features Scale for Children-11 (BPFSC-11). W analizach statystycznych wykorzystano dwa modele mediacji wielokrotnej z dwoma mediatorami równoległymi. **Wyniki:** Badanie wykazało, że na zależność pomiędzy doświadczeniami traumatycznymi a agresją wpływają cechy osobowości typu borderline, natomiast objawy internalizacyjne oddziałują na związek między negatywnymi doświadczeniami z dzieciństwa a łamaniem norm. **Wnioski:** Poznanie

mediacyjnej roli zachowań internalizacyjnych i cech osobowości typu borderline w zależności pomiędzy doświadczeniami traumatycznymi a agresją i łamaniem norm przyczynia się do zrozumienia czynników prowadzących do zachowań antyspołecznych, co może być wykorzystywane przy opracowywaniu odpowiednich programów interwencyjnych.

Słowa kluczowe: młodzież, trauma, zachowania antyspołeczne, zachowania internalizacyjne, cechy osobowości typu borderline

Traumatic or adverse childhood experiences (ACE) have been consistently linked to antisocial behaviours and juvenile delinquency (Kerig and Becker, 2010). A number of researchers have sought to better understand the specificity of this association (Widom, 2014), with a particular interest in mental health problems as mediators (Kerig and Modrowski, 2018). A few aspects of this line of empirical inquiry are important to note for further investigations.

First, antisocial behaviour of adolescents has been proven to be a non-unitary construct (Burt, 2012; Steiner et al., 2011; Widom, 2014). Research within developmental psychopathology has established meaningful distinctions between physically aggressive (e.g. fighting, hitting, bullying) and non-aggressive rule-breaking (e.g. lying, stealing, vandalism) antisocial behaviours (Burt, 2012). Next to this, Steiner et al. (2011), building upon the neuroscientific perspective, validated the above described antisocial behaviours as two forms of aggression which run on different neuro-architectures. The first type is called “hot” or reactive aggression (i.e. acts of reactive, affective, defensive and impulsive aggression), and the other is defined as “cold” or proactive aggression (i.e. acts of proactive, instrumental and planned aggression). Moreover, Steiner et al. (2011) linked the proposed model with the widely used diagnostic system developed by Achenbach (Achenbach and Rescorla, 2001) in such a way that “hot” aggression was reflected by the dimension of aggression, and rule-breaking behaviour was a proxy for “cold” aggression. A comparison of non-delinquent and delinquent adolescents showed that a general population sample was very distinct on the “hot” and “cold” aggression dimensions, but despite the fact that both forms of aggression correlated significantly in a group of delinquent adolescents, the authors recommend to investigate these aggression forms in groups of offenders separately (Steiner et al., 2011).

Second, in the light of high rates of trauma exposure among justice-involved youth, studies have focused specifically on the development of a range of mental health problems in this population (Dierkhising et al., 2013). Early traumatisation negatively influences the development of emotion regulation (Dvir et al., 2014) which is at the core of various mental health problems as well as an essential component of mediating processes in the pathways toward offending behaviour (Kerig and Becker, 2010). Affective dysregulation is particularly prominent in internalising problems and personality disorders (Dvir et al., 2014). These forms of mental health problems were proven as mediators of the link between various traumatic

experiences and antisocial behaviours (Bender et al., 2011; Kerig and Modrowski, 2018; Kerig et al., 2016). Even though studies and systematic reviews of research on the association between maltreatment and delinquency indicate the existence of a rather stable and continuing – albeit rather complex – relation between the two, they also underline that the complexity of this link should be addressed further (Malvaso et al., 2018). One of the aspects of this complexity is well-established heterogeneity of antisocial behaviours (Burt, 2012; Widom, 2014), and the other is that of affect dysregulation as the primary aftermath of trauma exposure which is widely acknowledged in developmental psychopathology and mental health research (Dvir et al., 2014), but also considered to be one of the central features of juvenile delinquency (Bennett et al., 2016). In addition, research so far has given less attention to internalising problems and borderline personality features (BPF) as simultaneous mediators of trauma sequelae in aggressive and non-aggressive forms of antisocial behaviours.

CURRENT STUDY

In the present study we bring in the dimension of heterogeneity of antisocial behaviour to provide more insight into the role of internalising problems and borderline personality features as stemming from traumatic experiences to antisocial behaviour. The aim of this study was to investigate whether internalising problems and BPF mediated the relationship between traumatic childhood experiences and aggressive and rule-breaking behaviours.

METHOD

Participants

The participants were 88 adolescents aged 10–18 years (68 males, 20 females, $M_{age} = 14.69$, $SD = 1.51$) assigned to the least restraining type of behaviour modification programme for delinquent adolescents in Lithuania. The programme is community-based and consists of social, pedagogical, psychological, informational or other assistance provided to children whose behaviour harms and endangers others, who chronically skip school or run away from home. Due to their age or nature of their offences these adolescents cannot yet be subject to administrative or legal liability. A total of 193 invitations to participate in the study were sent to the parents or caregivers of the adolescents who were assigned to the behaviour modification programme.

Procedure

Written informed consent was obtained from the adolescents' parents or legal guardians, and oral informed assent was obtained from the adolescents before the study. All the respondents participated on a voluntary basis. The study's participants were assured that all provided information will be treated confidentially and processed anonymously. The adolescents were recruited through specialists in schools, children's homes and community day centres. The questionnaires were administered by the researchers individually or in small groups (2–4 participants). Ethical approval was obtained from the Vilnius University Research Ethics Committee (2017-02-15 No. 11).

Measures

Youth Self-Report (YSR 11/18; Achenbach and Rescorla, 2001) standardised Lithuanian version (Žukauskienė et al., 2012) was used to measure rule-breaking (Cronbach $\alpha = 0.817$), aggressive behaviours (Cronbach $\alpha = 0.821$) and internalising problems (Cronbach $\alpha = 0.909$) in the study's adolescents. The YSR contains 112 items that assess emotional and behavioural problems over the previous 6 months, and responses are rated on a three-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). **Childhood Experiences Questionnaire** (CEQ, adapted by Gervinskaite-Paulaitiene and Barkauskiene from the Adverse Childhood Experiences Questionnaire (Dube et al., 2001) and the Adverse Childhood Experiences Score Calculator (Anda, 2007) was used to evaluate the adolescents' adverse childhood experiences. CEQ consist of 10 questions about the experience of emotional abuse and neglect, physical abuse and neglect, and sexual abuse. The adolescents were asked to specify whether they had experienced different kinds of abuse. Higher scores represent more adverse childhood experiences. The total score was used in the current study (KR20 = 0.811).

	<i>M</i>	<i>SD</i>	Range	
Adverse childhood experiences	1.34	2.03	0.00	9.00
Internalising problems	14.45	10.47	0.00	39.00
Borderline personality features	29.21	8.38	13.00	49.00
Aggressive behaviour	11.10	6.10	0.00	28.00
Rule-breaking behaviour	9.33	5.36	0.00	27.00

Tab. 1. Descriptive statistics of adverse childhood experiences, internalising problems, borderline personality features, aggressive and rule-breaking behaviour

Borderline Personality Features Scale for Children-11 (BPFSC-11) (Sharp et al., 2014) was used to evaluate borderline personality features in adolescents. It consists of 11 items that assess how adolescents feel about themselves and other people. Responses are rated on a five-point scale ranging from 1 = not true at all to 5 = always true. The total score was used in the current study (Cronbach $\alpha = 0.832$).

Statistical analysis

To evaluate associations between all variables, Pearson correlations were used. For mediational analysis, two multiple mediation models with two parallel mediators were evaluated. To assess the statistical significance of indirect effects, the bias-corrected and accelerated (BCa) bootstrapping procedure was used (10,000 draws) (Hayes, 2013). An indirect effect which bias-corrected and accelerated 95% lower and upper confidence intervals (95% BCaCI) did not include 0 was considered statistically significant (Hayes, 2013). All analyses were conducted using IBM SPSS, and mediation analyses were conducted using Process v.2.16.3 (Model 4) (Hayes, 2013).

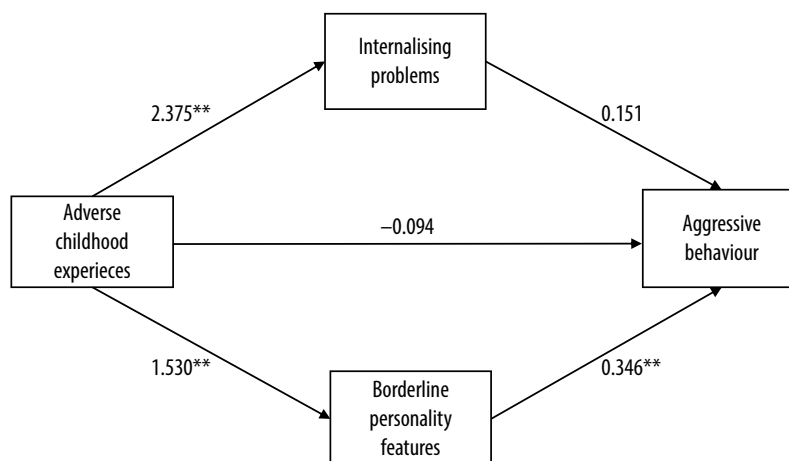


Fig. 1. Multiple mediation model of the association between adverse childhood experiences and aggressive behaviour via internalising problems and borderline personality features. Path coefficients are unstandardised, covariate – gender

		1.	2.	3.	4.	5.
1.	Adverse childhood experiences	-				
2.	Internalising problems	0.588***				
3.	Borderline personality features	0.526***	0.733***			
4.	Aggressive behaviour	0.383***	0.612***	0.649***		
5.	Rule-breaking behaviour	0.321**	0.569***	0.482***	0.691***	-

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Tab. 2. Correlations between adverse childhood experiences, internalising problems, borderline personality features, aggressive and rule-breaking behaviour

RESULTS

Tab. 1 presents descriptive statistics (means, standard deviations and range) of the variables for the adolescents included in the study. More adverse childhood experiences were significantly related to more internalising problems, borderline personality features, and to aggressive and rule-breaking behaviour (Tab. 2). Moreover, internalising problems, BPF, aggressive and rule-breaking behaviour were all positively related to one another in a significant manner.

Mediational analyses

We tested two mediation models (Figs. 1, 2) with gender as a covariate in order to control for a possible influence of unequal gender distribution in the sample. First, the total effect of adverse childhood experiences on aggressive behaviour was significant ($b = 0.794, p = 0.021, R^2 = 0.201$). When internalising and borderline personality features were evaluated as parallel mediators in the mediation model (Fig. 1), the direct effect of ACE on aggressive behaviour was insignificant ($b = -0.094, p = 0.770$).

In this model the total indirect effect was significant – 0.888, BCaCI [0.456; 1.443]. The specific indirect effect of ACE through internalising problems on aggressive behaviour was not significant – 0.359, BCaCI [-0.050; 0.832]. Another specific indirect effect of ACE through BPF on aggressive behaviour was significant – 0.529, BCaCI [0.240; 0.933]. What this shows is that BPF mediate the relationship between ACE and aggressive behaviour, but internalising problems do not. For this model $R^2 = 0.470$. Secondly, the total effect of ACE on rule-breaking behaviour was not significant ($b = 0.550, p = 0.075, R^2 = 0.150$). When internalising and BPF were included in the mediational model and evaluated as parallel mediators, the direct effect of ACE on rule-breaking behaviour was also not significant ($b = -0.130, p = 0.679$). In this model the total indirect effect was significant – 0.680, BCaCI [0.371; 1.104]. The specific indirect effect of ACE through internalising problems on rule-breaking behaviour was significant – 0.507, BCaCI [0.162; 0.959]. Another specific indirect effect of ACE through BPF on aggressive behaviour was not significant – 0.173, BCaCI [-0.065; 0.505]. What this shows is that internalising problems mediate the relationship between ACE and rule-breaking behaviour, but BPF do not. For this model $R^2 = 0.330$.

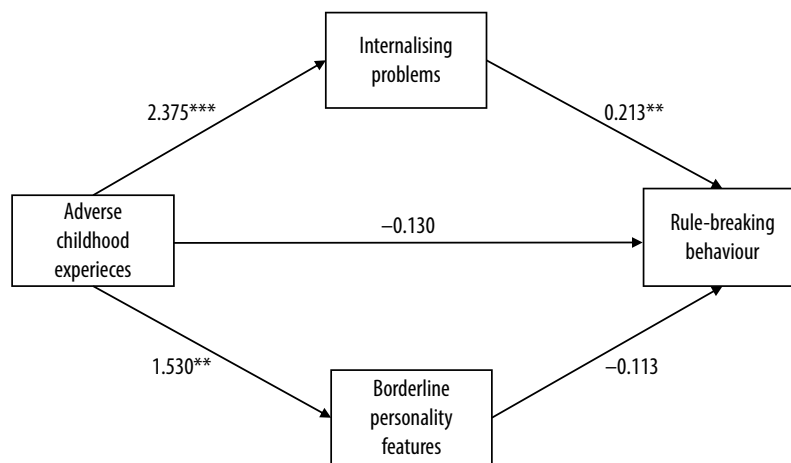


Fig. 2. Multiple mediation model of the association between adverse childhood experiences and rule-breaking behaviour via internalising problems and borderline personality features. Path coefficients are unstandardised, covariate – gender

DISCUSSION

The current study aimed to better understand the relationship between traumatic experiences and distinct forms of antisocial behaviours via the mediating effects of internalising problems and BPF. The link between traumatic experiences and aggression was mediated by BPF, while internalising symptoms mediated the association of ACE and rule-breaking behaviour. Even though these results are in line with previous data showing that mental health problems bridge traumatic experiences and delinquency (Bender et al., 2011; Bielas et al., 2016; Kerig and Modrowski, 2018), our findings add an important dimension of heterogeneity of antisocial behaviour underlying this link.

First, our results showed that BPF mediated the relationship between adversity and aggression. This finding is in line with recent studies demonstrating the mediating role of BPF for delinquent behaviours in polyvictimised or abused youth (Chaplo et al., 2017; Kerig and Modrowski, 2018). Moreover, it coincides with data from developmental research showing that BPF predicts relational aggression (Banny et al., 2014), and maltreated children have higher levels of BPF precursors already in childhood (Rogosch and Cicchetti, 2005). Other studies conceptualise aggression as an outcome of borderline pathology (Gardner et al., 2012), with emotion dysregulation as the underlying mechanism. Aggression in this case may serve the function of managing intense negative emotions evoked by perceived threats to valued relationships as well as a strategy to manipulate and control relationship partners (Látalová and Praško, 2010), or as inability to cope with negative emotions (Mancke et al., 2015; Scott et al., 2017).

Another finding reveals rule-breaking behaviour to be associated with traumatisation through internalising symptoms. The explanation of this result may be linked to several models of delinquent behaviours during adolescence. The model of delinquency as acting out holds that emotional disturbance both predates and predicts changes in adolescents' delinquency (Overbeek et al., 2005). According to this model, adolescents with experiences of adversity develop relatively high levels of emotional disturbance which will eventually be acted out in the form of delinquent behaviour (Kofler et al., 2011; Overbeek et al., 2005). The general strain theory views maltreatment as a form of strain leading to negative emotions (depression, anger, frustration), with antisocial behaviour used to cope with them (Bender et al., 2011). Finally, according to some studies (Bielas et al., 2016), internalising disorders such as posttraumatic stress, anxiety disorders, depressive disorders, and suicidality share a common mechanism of irritability or emotion dysregulation which play a prominent role in the prediction of externalizing disorders in detained adolescents.

The results of the present study provide some implications for clinical practice. First, different pathways in distinct mediation models may suggest the need for specified treatments.

Adolescents with a pronounced rule-breaking behaviour may benefit not only from interventions aimed at behaviour modification but also from treatments for internalising problems. For adolescents with predominantly reactive aggression particular attention should be given to problems emerging in the personality domain.

Certain limitations should be considered when interpreting this study's findings and their implications. First, the findings are based on a small sample of adolescents, and the possibility of generalization of the results should be tested with larger samples of justice-involved youth. Second, the sample was gender-biased, and self-report measures were used. Third, the cross-sectional design of the study does not allow drawing inferences about pathways in terms of development.

CONCLUSIONS

The revealed mediating role of internalising problems and BPF in the link of early trauma to reactive aggression and rule-breaking behaviour adds important knowledge to the understanding of the path leading towards behavioural problems in delinquent adolescents, and could be used in the development of intervention programmes dedicated to them.

Conflict of interest

Authors declare no conflict of interest.

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