Bullying, Present Romantic Relationship and Depression as Predictive Factors of Non-Suicidal Self-Injury in Adolescent Psychiatric Patients

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Abstract

Background: Non-suicidal self-injury (NSSI), as a major public health issue of high complexity, multifactorial causes and great socioeconomic and family impact, affects China now especially after COVID-19. The aim of this study was to explore the clinical and psychological characteristic in adolescent psychiatric patients with or without NSSI.

Methods: Adolescent psychiatric patients were recruited from psychiatric outpatient and inpatient unit in Guangdong mental Health Center between October and December 2020. NSSI was evaluated by the modified version of Adolescents Self-Harm Scale. Childhood trauma was assessed by the Childhood Trauma Questionnaire-Short Form (CTQ-SF). Peer bullying experience was evaluated by The Revised Olweus Bully/Victim Questionnaire (BVQ-R). Depression was assessed by the Montgomery–Asberg Depression Rating Scale (MADRS). Clinical data were collected from electronic medical record system.

Results: The sample included 157 adolescent psychiatric patients (72.6% female), aged 13-18 years ($M=15.39$, $SD=0.145$). NSSI group experienced more peer bullying ($t=4.08$, $P<0.001$), more likely to get into romantic relationship currently ($\chi^2=5.38$, $P=0.02$), more times of hospitalization ($t=0.36$, $P<0.001$), receiving more antipsychotic treatment ($t=3.58$, $P<0.001$), benzodiazepine treatment ($t=3.46$, $P<0.001$), and mood-stabilizer treatment ($\chi^2=8.53$, $P<0.001$). The significant predictor of NSSI for the last one year included being in romantic relationship currently ($OR=4.27$, 95% $CI=[1.53,11.93]$), outpatient ($OR=0.38$, 95% $CI=[0.16,0.88]$), BVQ-R total ($OR=1.10$, 95% $CI=[1.02,1.18]$) MADRS total ($OR=1.05$, 95% $CI=[1.01,1.09]$), and benzodiazepine PDD/DDD ($OR=5.79$, 95% $CI=[0.99,33.72]$).

Conclusions: Adolescent psychiatric patients with NSSI have significantly higher incidences of life event such as peer bullying, childhood trauma experience, and they were more likely to get into a romantic relationship. Meanwhile, patients with NSSI had significantly severe level of depression, being more on benzodiazepine and mood-stabilizer use. This provides a valuable basis for our clinical treatment of adolescent mental patients with NSSI.

1. Introduction

Non-suicidal self-injury (NSSI) refers to destruct the body deliberately and directly in the absence of suicidal intent [1]. It has the characteristics of repetition and the functionality of releasing negative emotions. It has attracted extensive attention from the fields of education, medicine and society in China.

A previous study indicated that the prevalence of NSSI was higher in samples from clinical settings than in community [2]. Among adolescent psychiatric patients, the estimated past 12 months prevalence rate of NSSI has been found around 50% compared to 17–18% in the community samples [3-5]. NSSI is also a significant risk factor for suicide attempts and suicidal ideation [6]. However, there is still a paucity of evidence for the exact factors and effective treatment interventions for NSSI [7]. It may be explained by many mediators, including self-criticism, cognitive dysregulation, low self-esteem and so on [8-10].

Childhood trauma as a negative life event that occurred in early life or exists continuously has been found associated with NSSI [10, 11]. Childhood trauma can be subdivided into five domains: physical abuse, emotional abuse, sexual abuse, emotional neglect, physical neglect [12]. Previous studies have shown different results between childhood trauma sub-domains and NSSI. Furthermore, the association between childhood trauma and NSSI has not been confirmed.

Adolescents with NSSI may be at higher risk of suffering peer bullying. Bullying is an intentional, repetitive aggressive behavior, with an imbalance of power between bullies and victims, aimed at causing harm to the victim [13]. A meta-analytic study [14] found that peer victimization was one of the major correlates of NSSI during adolescence, showing 2.1 odds of NSSI in victims compared with children who were not being bullied in the school. In line with this result, another meta-analytic study by Moore et al [15] found a strong evidence of association between being bullied and NSSI in adolescence. A previous study considered NSSI might be as a maladaptive coping mechanism to deal with negative emotions after being bullied. And the intrapersonal factors, such as self-compassion [16] and depression [17], have been found to moderate the relationship between being bullied and NSSI. Meanwhile, a prior study [18] has shown that psychological mechanisms such as impulsivity, reduced self-regulating abilities, and disruptive symptoms may be the underlying association between being bullied and NSSI. Other sociodemographic and clinical factors have been found associated with NSSI in adolescent psychiatric patients, including age, gender, sexual minority, and depression [19, 20].

According to the interpersonal models for non-suicidal self-injury (NSSI)[21], NSSI behaviors are associated with an individual's present relationship. The present interpersonal relationships such as peer bullying and the family relationship have attracted a lot of research interest contributing to the field of NSSI. We are also interested if the romantic relationship in adolescence may also influence NSSI.

A lot of comprehensive models were created indicating the risk factors for NSSI are complex and multiple [22]. The specific aims of the current study were to explore the differences between adolescent mental patients with NSSI and without NSSI in terms of socio-demographics and clinical features, mainly focusing on the association between child trauma, being bully and romantic relationship currently with NSSI.

2. Methods

2.1 Procedures

Participants were recruited from the psychiatric outpatient and inpatient unit in Guangdong mental Health Center of Guangdong Provincial People's Hospital, Guangdong Province between October and December 2020. The sample included 157 adolescents (27.4% male), aged 13-18 years ($M=15.39$, $SD=1.81$). All respondents received a screening question "Have you ever injured yourself at least five times in a way that was deliberate but not intended as a means to take your life in the last year? Yes/No?"[23, 24]. Every participant and their legal guardians needed to sign up for the informed consent before completing the self-report form and receiving the Mini-International Neuropsychiatric Interview

(M.I.N.I.) [25]. Two interviewers conducted an interrater reliability exercise in terms of the assessment scales within 5 patients. And the result was excellent agreement (kappa values >0.8).

2.2 Assessments

Demographic characteristics known or thought to correlate with NSSI were collected by the self-report form. The current romantic relationship was collected by a question "Are you in a romantic relationship (or broke up) currently". Medication prescriptions and other clinical features were collected from the electronic medical record system.

The Mini-International Neuropsychiatric Interview (M.I.N.I.) is a structured diagnostic interview that assesses current and lifetime psychopathology using the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders. It has reliable psychometric properties for diagnosing in various settings. We use it for diagnostic interview in this study.

The frequency and severity of NSSI were evaluated by the modified version of the Adolescents Self-Harm Scale [26]. It was compiled by Zheng et al [27] based on The Functional Assessment of Self-Mutilation (FASM) [28] and modified by Feng et al. The modified version of the Adolescents Self-Harm Scale has 19 items about 18 ways of NSSI (such as cutting, scratching, hitting or banging, carving, and scraping). The last item is "Do you have another way not mentioned above". Each item followed frequency and severity. The frequency was coded into a five-point scale from 0 to 3 (0=never, 1=once for the last one year, 2=two to four times for the last one year, 3=least five times for the last one year). The severity was coded into a five-point scale from 0 to 4 (0=none, 1=mild, 2=moderate, 3=sever, 4=extremely severe). The total score of the above two represented the overall severity of each item. And a higher total score indicates a severe level of NSSI.

Childhood trauma experience was evaluated by the Childhood Trauma Questionnaire-Short Form (CTQ-SF). The original English version was compiled by Professor Bernstein and his colleagues. It was translated into Chinese by Fu et al [29]. The CTQ-SF [30] is a 28-item retrospective self-report questionnaire and divided into five subscales: emotional neglect (EN), physical neglect (PN), emotional abuse (EA), sexual abuse (SA), and physical abuse (PA). Five types of maltreatment were assessed by five items, and another 3 items were taken as validity evaluation. Each item uses a 5-level rating to represent the frequency from never to occurrence. A higher score indicates that the trauma is severer.

We chose the Revised Olweus Bully/ Victim Questionnaire (BVQ-R) to evaluate peer bullying. The original English version of the OBVQ was developed in 1983 by Olweus, and revised in 1996. It was translated into Chinese by Zhang et al [31]. The complete BVQ-R is a 42-item self-report questionnaire including five subscales. According to the purpose of the study only being victimized items were used. It asked about seven types of bullying, which included (1) calling mean names or teasing; (2) exclusion; (3) hitting, kicking, and pushing; (4) taking money or damaging belongings; (5) threatening; (6) making racial comments; and (7) cyberbullying. Each item uses a 5-point rating to represent the frequency (0=it hasn't happened, 1 = it happened only once or twice in total, 2 = it happened 2 to 3 times for one month, 3 = it

happened once a week, 4 = it happened several times a week). A higher score indicates that the child is being victimized more often.

Additionally, we evaluated the clinical symptoms. First, The Montgomery–Asberg Depression Rating Scale (MADRS)[32] was chosen to measure the severity of depressive episodes. Each item has a severity scale from 0 to 6, with higher scores reflecting more severe symptoms. Second, we selected the Brief Psychiatric Rating Scale (BPRS) [33] to assess psychiatric symptoms such as depression, anxiety, hallucinations, and unusual behavior and thought. It is a seven-item Likert scale from 1 to 7. Lastly, the Young Mania Rating Scale (YMRS)[34] was selected to evaluate manic symptoms. It is an eleven-item multiple-choice diagnostic questionnaire. Item ratings are sum to produce a total score between 0-60.

2.3 Statistical analysis

In this study, the differences in potential covariates (such as age, gender) between the two groups were evaluated by chi-square test or t-test. Considered clinically relevant or that showed a univariate relationship with outcome were entered into the binary logistic regression model. Pearson's correlation was used to determine the associations of the NSSI overall severity with CT dimensions and the severity of being bullied. All analyses were conducted with SPSS software, version 20.0. P-value of <0.05 was considered.

3. Results

Table 1 shows the socio-demographic, clinical, and psychological characteristics of our sample. 103 (65.6%) patients came from outpatient. Concerning diagnosis, the most frequent diagnoses among the sample group were Mood [Affective] Disorders (73.9%). Neurotic, stress-related, and somatoform disorders account for 15.3%. Behavioral and emotional disorders with onset usually occurring in childhood and adolescence were the third place (6.4%). 1.9% of patients were diagnosed with nonorganic sleep disorders. And 2.5% of patients have reported no diagnosis.

As shown in table 1, the two groups did not differ on age, gender, resident, nationality characteristics. However, there are some significant differences in romantic relationship($\chi^2=5.38$, $P=0.02$),hospitalization times($t=0.36$, $P<0.001$), antipsychotic PDD/DDD($t=3.58$, $P<0.001$), benzodiazepine PDD/DDD($t=3.46$, $P=0.001$), and treatment of mood-stabilizer ($\chi^2 =8.53$, $P<0.001$).There were significant differences between the two groups in terms of MARDS Total($t=3.67$, $P=0.001$).

Table 1 also shows psychosocial variables. The mean score of CTQ-SF in NSSI group was 52 (SD=12.72), while another was 44.26 (SD=11.47).NSSI group experienced more childhood trauma than patients without NSSI group ($t=3.99$, $P=0.001$).AS for subscales, there are all significant differences except SA which is inconsistent with other studies. The mean score of BVQ-R in NSSI was 6.94 (SD=6.79), while another was 3.32 (SD=4.00).NSSI group suffered more peer bully than patients without the NSSI group ($t=4.07$, $P=0.001$).

Table 2 shows sociodemographic, clinical and psychological risk factors of developing into NSSI (two binary logistic regression analysis). Considering clinically relevant or that showed a univariate relationship with outcome were entered into multivariate two binary logistic regression model. Stepwise logistic regression analysis of NSSI for last one year including age, gender, in romantic relationship currently, outpatient, first episode age, hospitalization times, antipsychotic PDD/DDD, benzodiazepine PDD/DDD, antidepressant PDD/DDD, on mood-stabilizer treatment, MARDS total, BVQ-R total, and CTQ-SF dimensions as predictors. At last, the significant predictors including in romantic relationship currently (OR =4.27, 95% CI = [1.53,11.93]), outpatient (OR =0.38, 95% CI = [0.16,0.88]), BVQ-R total (OR =1.10, 95% CI = [1.02,1.18]), MARDS total(OR = 1.05, 95% CI = [1.01,1.09]), benzodiazepine PDD/DDD (OR = 5.79, 95% CI = [0.99,33.72]),on mood-stabilizer (OR =2.49, 95% CI = [1.08,5.75]) were output. It explained 37.1% of the variance in the regression model.

4. Discussion

The main findings of the current study were that adolescent mental patients with NSSI had significantly higher incidence of life events such as peer bullying and childhood trauma experience. They were more likely to get into a romantic relationship. Meanwhile, patients with NSSI had a significantly severe level of depression, being on more benzodiazepine and mood-stabilizer treatment. Peer bullying, depression, and romantic relationship were unique predictors of current NSSI.

Previous studies have also shown that overall childhood maltreatment (CT) was associated with non-suicidal self-injury [35, 36]. CT may lead to intrapersonal vulnerability factors (eg. high aversive emotions, high aversive cognitions, poor distress tolerance) and interpersonal vulnerability factors (eg. poor communication skills, poor social problem-solving) [37]. However, there were some contrary results between childhood trauma subdomains with NSSI. Childhood maltreatment and its subtypes were associated with non-suicidal self-injury, excepting childhood emotional neglect [36]. Childhood maltreatment, especially sexual abuse, was associated with non-suicidal self-injury in another study [38]. In the current study, we found that patients with NSSI experienced more child trauma experience with exception of SA. Different sample sizes and control of confounding factors may account for the inconsistent results. Besides, Chinese adolescents sometimes may not be willing to talk about issues concerning sex. Contrary to our hypothesis, childhood trauma experience did not significantly predict current NSSI. The previous study has shown adolescents with childhood trauma also experience more peer bullying [39].

Previous studies have shown that being bullied increased the likelihood of NSSI concurrently [40, 41]. In line with the model proposed by Nock, relational dynamics (such as peer bullying) are relevant factors contributing to adolescent NSSI [42]. This model also is confirmed by the studies that poly victimization was associated with a high risk of maladjustment behavior [43].

In this study, the univariate analysis indicated that patients with NSSI experienced severer depression, and logistic regression analyses indicated that depression was a significant predictor of NSSI. It was

consistent with the previous study which showed adolescents' victimization and higher levels of depression were associated concurrently with NSSI [40]. Depressive symptoms were the mediating role between deliberate self-harm and school bullying [1, 2].

This study also showed that patients with NSSI were admitted to the hospital more repetitively, receiving more benzodiazepine and mood-stabilizer treatment. They were likely to identify a higher tendency of impulsive behaviors, even have not met the criterion of bipolar disorder, which may account for the treatment strategies. Thus, the clinical characters above reminded us to focus more on whether they can benefit from the side effects of receiving this treatment.

This result showed being in a romantic relationship currently was a significant predictor of NSSI. On the one hand, adolescents with NSSI might lack adequate support from parents or friends, so they were enthusiastic about developing a romantic relationship. On the other hand, they featured with insecure attachment [44] may induce NSSI.

4.1 Strengths and limitations

First, all participants filled out the case report form and received the face-to-face interview, which tremendously improved the reliability of the data resource. Second, we considered multiple predictors at once for NSSI development, which could be more comprehensive to the behaviors. Third, our results came from the clinical population, which could provide clinical implications for clinical practice.

Due to the cross-sectional design, the results reflected associations rather than causality of risk factors, which could only be resolved by longitudinal studies. All subjects were from one mental health institution, and the current results may not be applicable to other mental health institutions.

5. Conclusions

Overall, we discovered that adolescent mental patients with NSSI experienced more childhood trauma and peer bullying, more likely to get into a romantic relationship, and had a significantly severe level of depression, being on more benzodiazepine and mood-stabilizer treatment. We should improve the self-injured behavior by alleviating the depressive symptoms. Meanwhile, these social events such as peer bullying, childhood trauma, the romantic relationship could be a breakthrough of psychological intervention. Furthermore, NSSI overall severity was associated with the level of all types of childhood trauma and peer bully, which indicated we should pay more attention to self-injury risk management for this type of patient.

Declarations

Authors' contributions

All authors contributed to this work. All authors read and approved the final manuscript. Hou CL was responsible for research design and quality control, as well as the revision and finalization of the manuscript. Zhang JJ was responsible for the implementation of the project, data entry and the writing of the draft of the paper. Zhang H, Liu YD, Huang ZH were responsible of the sample inclusion and clinical evaluation. Wang F and Yang JJ were responsible of the psychological evaluation. Wang SB was responsible of the statistical analysis. Jia FJ was responsible for supervision and multi department liaison.

Ethics approval and consent to participate

The study protocol was approved by the Clinical Research Ethics Committee of Guangdong Provincial People's Hospital. Every participant and their legal guardians understood the research protocol and agreed to sign up the informed consent.

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Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Consent for publication

All the authors agreed the publication of the present article.

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Tables

Table 1 Sociodemographic, clinical and psychological characteristics of NSSI group and Non-NSSI group (patients without NSSI)

	Overall(n=157)		NSSI(n=80)		Non-NSSI(n=77)		Statistics		
	N	%	N	%	N	%	χ^2_a	df	P
Male	43	27.4	17	21.3	26	33.8	3.09	1	0.07
Han Chinese	152	96.8	78	97.5	74	96.1	0.24	1	0.61
Urban	134	85.4	70	87.5	64	83.1	0.60	1	0.43
In romantic relationship currently	30	19.1	21	26.3	9	11.7	5.38	1	0.02
Divorced (Parents)	32	20.4	18	22.5	14	18.2	0.45	1	0.50
Outpatient	103	65.6	42	52.5	61	79.2	12.41	1	<0.001
First-episode Patients	95	60.5	42	52.5	53	68.8	4.37	1	0.03
Self-Injury History	104	66.2	70	87.5	34	44.2	32.96	1	<0.001
Peer Bullying	77	49.0	48	60.0	29	37.7	7.83	1	0.005
On Mood-stabilizer	50	31.8	34	42.5	16	20.8	8.53	1	<0.001
Diagnosis(ICD-10 Code)							8.58		0.53
F30-F39	116	73.9	66	82.5	50	64.9			
F40-F48	24	15.3	9	11.3	15	19.5			
F90-F98	10	6.4	2	2.5	8	10.4			
F51	3	1.9	2	2.5	1	1.3			
No diagnosis reported	4	2.5	1	1.3	3	3.9			
M.I.N.I.									
Major Depressive Disorder (Current)	93	59.2	57	71.3	36	46.8	9.75	1	0.002
Major Depressive Disorder (Recurrent)	44	28.0	22	27.5	22	28.6	0.22	1	0.88
Dysthymia (Current)	10	6.4	4	5.0	6	7.8	0.51	1	0.47

Suicidality (Current)	95	60.5	60	75.0	36	45.5	14.33	1	<0.001
Manic Episode (Current)	9	5.7	6	7.5	3	3.9	0.94	1	0.33
Manic Episode (Recurrent)	43	27.4	23	28.8	20	26.0	0.15	1	0.69
Panic Disorder (Current)	18	11.5	9	11.3	9	11.7	0.007	1	0.93
Panic Disorder (Lifetime)	7	4.5	4	5.0	3	3.9	0.11	1	0.73
Agoraphobia (Current)	5	3.2	2	2.5	3	3.9	0.24	1	0.61
Social Phobia (Current)	26	16.6	15	18.8	11	14.3	0.56	1	0.45
Obsessive- Compulsive Disorder (Current)	16	10.2	10	12.5	6	7.8	0.95	1	0.33
Posttraumatic Stress Disorder (Current)	11	7.0	8	10.0	3	3.9	2.24	1	0.13
Alcohol Dependence (Current)	0	0	-	-	-	-	-	-	-
Substance Dependence (Current)	0	0	-	-	-	-	-	-	-
Psychotic Disorder (Lifetime)	11	7.0	7	8.8	4	5.2	0.76	1	0.38
Psychotic Disorder (Current)	4	2.5	4	5.0	0	0	2.19	1	0.13
Anorexia Nervosa (Current)	1	0.6	0	0	1	1.3	0	1	0.98
Bulimia Nervosa (Current)	3	1.9	2	2.5	1	1.3	0	1	1
Generalized Anxiety Disorder (Current)	39	24.8	20	25.0	19	24.7	0.002	1	0.96
Antisocial Personality	4	2.5	3	3.8	1	1.3	0.95	1	0.33

Disorder (Lifetime)	M	SD	mean	SD	mean	SD	t/F ^b	df	P
Age(years)	15.39	1.81	15.45	1.75	15.34	1.88	0.38	155	0.69
Education(years)	9.61	1.76	9.63	1.81	9.60	1.73	0.09	155	0.92
First-episode Age(years)	13.82	2.54	13.68	2.49	13.97	2.60	-0.72	155	0.47
Hospitalization Times	0.59	0.79	0.80	0.89	0.36	0.60	3.60	139	<0.001
CTQ-SF Total	48.20	12.69	52.00	12.72	44.26	11.47	3.99	155	<0.001
CTQ-SF EA	10.55	4.45	11.89	4.84	9.16	3.51	4.05	144	<0.001
CTQ-SF PA	7.25	3.39	7.86	3.84	6.62	2.72	2.33	142	0.02
CTQ-SF SA	6.24	2.84	6.38	2.74	6.10	2.95	0.59	153	0.55
CTQ-SF EN	14.98	4.57	16.04	4.20	13.88	4.70	3.02	155	0.003
CTQ-SF PN	9.18	2.99	9.84	3.14	8.49	2.68	2.87	155	0.005
BVQ-R Total	5.17	5.87	6.94	6.79	3.32	4.00	4.07	128	<0.001
MARDS Total	17.74	10.15	20.55	9.62	14.82	9.91	3.67	155	<0.001
Antipsychotic PDD/DDD	0.33	0.60	0.49	0.73	0.16	0.36	3.58	155	<0.001
FAG PDD/DDD	0	0	0	0	0	0.01	-1	76	0.32
SAG PDD/DDD	0.33	0.60	0.49	0.73	0.16	0.36	3.64	116	<0.001
Antidepressant PDD/DDD	0.91	1.09	1.02	1.14	0.79	1.03	1.28	155	0.20
Benzodiazepine PDD/DDD	0.12	0.24	0.19	0.28	0.06	0.17	3.46	155	<0.001

Bold values: $P < 0.05$; BVQ-R: The Revised Olweus Bully/ Victim Questionnaire; CTQ-SF: Childhood Trauma Questionnaire-Short Form; DDD: Defined Daily Dose; EA: emotional abuse; EN: emotional neglect; F30-F39: Mood[affective] disorders; F40-F48: Neurotic, stress-related and somatoform disorders; F51: Nonorganic sleep disorders; F90-F98: Behavioral and emotional disorders with onset usually occurring in childhood and adolescence; MARDS: Montgomery–Asberg Depression Rating Scale; M.I.N.I.: The Mini-International Neuropsychiatric Interview; PA: physical abuse; PDD: Prescribed Daily Dose; PN: physical neglect; SA: sexual abuse;

a Pearson chi-square tests;

^b independent-samples t-test or one-way analysis of variance.

Table 2 Sociodemographic, clinical and psychological risk factors of developing into NSSI (two binary logistic regression analysis)

	B	S.E.	P	OR	95%C.I.
In romantic relationship currently	1.45	0.52	0.005	4.27	1.53-11.93
Outpatient	-0.96	0.43	0.026	0.38	0.16-0.88
BVQ-R Total	0.09	0.03	0.011	1.10	1.02-1.18
MARDS Total	0.05	0.02	0.008	1.05	1.01-1.09
Benzodiazepine PDD/DDD	1.75	0.89	0.051	5.79	0.99-33.72
On Mood Stabilizer	0.91	0.42	0.032	2.49	1.08-5.75

Bold values: $P < 0.05$; BVQ-R: The Revised Olweus Bully/ Victim Questionnaire; 95%C.I.: 95% confidence interval; DDD: Defined Daily Dose; MADRS: Montgomery-Asberg depression rating scale; OR: Odds ratio; PDD: Prescribed Daily Dose. Likelihood ratio:166.36, $R^2 = 0.371$.

Table 3 Pearson's correlations between NSSI overall severity and psychological traits, depression among NSSI group (n=80)

Factors	NSSI overall severity
CTQ-SF total	0.455**
Emotional abuse	0.448**
Physical abuse	0.331**
Sexual abuse	0.244**
Emotional neglect	0.259**
Physical neglect	0.231*
BVQ-R total	0.492**
MARDS total	0.243**

BVQ-R: The Revised Olweus Bully/ Victim Questionnaire; CTQ-SF:

Childhood Trauma Questionnaire-Short Form; MADRS: Montgomery–

Asberg Depression Rating Scale

▣ $p < 0.05$;

▣▣ $p < 0.01$.