

Suicidal ideation among Japanese undergraduate students: Relationships with borderline personality trait, depressive mood, and childhood abuse experiences

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Abstract

Although previous studies repeatedly noted that childhood abuse experiences and borderline personality traits, and depressive mood would influence suicidal ideation, few studies have attempted to reveal the independent contributory role of each factor to suicidal ideation. A multi-wave questionnaire survey among approximately 500 Japanese college students. Using structural equation modeling, we found childhood abuse experiences assessed by the Child Abuse and Trauma Scale had statistically significant impact on suicidal ideation through borderline personality characteristics assessed by the Inventory of Personality Organization, and depressive mood assessed by the Self-rating Depression Scale as mediators. The effects of childhood abuse experiences on trait suicidal ideation (persistent suicidal ideation) may be mediated by borderline personality traits and depressive mood. Future public health efforts should address suicide in the framework of personality characteristics.

Keywords

Suicidal Ideation, Borderline Personality, Depressed Mood, Childhood Adversity

1. Introduction

Previous investigations have repeatedly noted that completed suicide is often preceded by attempted suicide and suicidal ideation^[1-4]. In the National Comorbidity Survey, 13.5% of community people reported lifetime suicidal ideation, and 4.6% a suicidal attempt. About 90% of unplanned and 60% of planned first suicidal attempts occurred within 1 year of the onset of suicidal ideation^[5]. Suicidal ideation is prevalent in a variety of populations and in particular younger people^[4]. We believe that studying suicidal ideation may provide important clues to understanding the much less frequent occurrence of completed suicide.

Among youths, borderline personality disorder has been reported as the most common personality disorder in suicide attempters^[6, 7, 8] as well as depression. Patients with borderline personality organization are characterized by diffuse identity, the use of primitive defenses, generally intact yet fragile reality testing, impairments in affect regulation and in sexual and aggressive expression, inconsistent internalized values, and poor quality of relationships with others.

The etiology of borderline personality organization is multifaceted, and may be through multiple developmental pathways to the adult condition. The precise role of early sexual and physical abuse in the pathway to adult personality pathology is not clear. However, the fact of early physical and sexual abuse in a subgroup of borderline

patients has become evident. The percentage of borderline personality disorder patients who have experienced physical and sexual abuse was reported as high as 90%^[9]. There is growing evidence that chronically self-destructive individuals with a history of childhood abuse also tend to have characteristics such as problems with aggression and impulsivity, and other behaviors consistent with borderline personality disorder^[10]. Coexistence of depression and borderline personality disorder has been widely reported^[11-14].

There is strong evidence that childhood physical and sexual abuse history increases the risk of both adolescent and adult self-harm and suicidal behaviours in community samples^[15-18]. The odds ratio for attempted suicide in adults with a past history of abuse has been found to be up to 25^[19]. The prevalence of childhood sexual abuse is as high as 2.5% among men and 13.5% in women^[17]. Thus, it is not surprising that the population attributable risk for child sexual abuse has been estimated to be 9-20% of suicide attempts^[17, 20]. Repeated suicidal behaviour has been particularly well documented in individuals who were exposed to childhood sexual abuse^[21, 22]. Childhood abuse experiences are also known as linked to adulthood onset of depression^[23-26].

The above discussion has raised a question whether the effects of such childhood adversities on adolescent and adult suicidal ideation are direct or mediated by borderline personality traits and depression. The present study seeks to evaluate the relationship between childhood abuse, borderline personality traits, depression, and suicidal ideation in a university student sample by a means of structural equation modeling

2. Methods

2.1. Participants

We invited undergraduate students of two universities in Kumamoto, Japan. This was a 9-wave weekly prospective study. The number of eligible students was 848 but not all the students attended each occasion and some (2% to 3% of the attending students) refrained from participating in the study. The data usable were obtained from 504 to 547 students in each occasion. About one fifth of the students were men. Different sets of questionnaires were distributed on each wave. Because of a relatively large amount of information we sought, different scales were set in the questionnaire on different waves. The wave when each scale was administered is noted when describing each scale below.

2.2. Measurements

2.2.1. Suicidal Traits

To assess the current suicidal ideation of the students, we used a single item reflecting suicidality in the Self-rating Depression Scale (SDS^[27]): “I feel that others would be better off if I were dead.” This was rated on a 4-point scale (0 = never suicidal, 3 = almost always suicidal). A correlation

of suicidal ideation scores between each pair of waves was highly significant ($r = .603$ to $.842$), thus suggesting trait-like nature of this item. The suicidality scores were positively skewed. Therefore, suicidal ideation scores were log-transformed and the mean of all the suicidal ideation scores over the nine waves was used as Suicidality Trait score

2.2.2. Depression

The SDS is a self-report measure of depressive symptoms consisting of items on a 4-point scale (0 = never, 3 = almost always). Because a three-factor structure of the scale was reported for a Japanese university student population^[28]—affective, cognitive, and somatic, in the present study we used only six ZSDS items that were categorized as affective. These include irritability, depressed affect, fatigue, crying spells, psychomotor agitation, and tachycardia. Mean values were substituted to a missing item only when one item (17% of the whole items) was missing. The internal consistency (adjusted Cronbach’s alpha) for depression scale at wave 1 to 9 was .81, .82, .88, .89, .90, .90, .89, .90, and .91, respectively in this study. The mean of all the depression scores over the nine waves was used as Depression score

2.2.3. Borderline Personality Traits

The Inventory of Personality Organization (IPO^[29]) is a self-report measure, which consists of 83 items on a 5-point scale (0 = never true, 4 = always true). This tool was developed based on the central dimension of Kernberg’s^[30] personality organization model: primitive psychological defenses, identity diffusion, and reality testing. These dimensions are measured by the three primary scales of the IPO: Primitive Defenses (16 items), Identity Diffusion (21 items), and Reality Testing (20 items). In addition, two more scales, Aggression (18 items) and Moral Values (8 items with 2 Primitive Defenses items and 1 Identity Diffusion item) were added. Sample items of Primitive Defense are “I am a “hero worshiper” even if I am later found wrong in my judgment”, “I feel that people I once thought highly of have disappointed me by not living up to what I expected of them”, and “I feel it has been a long time since anyone really taught or told me anything I did not already know”. Sample items of Identity Diffusion are “I feel I’m a different person at home as compared to how I am at work or at school”, “I feel that my taste and opinions are not really my own, but have been borrowed from other people”, and “Some of my friends would be surprised if they knew how differently I behave in different situations”. Sample items of Reality Testing are “When everything around me is unsettled and confused, I feel that way inside”, “I am not sure whether a voice I have heard, or something that I have seen, is my imagination or not”, and “When I’m nervous or confused, it seems like things in the outside world don’t make sense either”. Sample items of Aggression are “I have been told that I enjoy seeing other people suffer”, “I have lost good friends because when we disagreed about how to solve a problem, I couldn’t stand it and they ended the relationship”,

and “I have intentionally seriously harmed someone”. Sample items of Moral Values are “Everybody would steal if they were not afraid of being caught”, “What people have is divided so unfairly that I feel justified in taking things that aren’t mine if I can do so safely”, and “There are periods of time when my behavior agrees with what I’ve been taught is moral, and other times when I’ve acted in an immoral or amoral way”. The IPO was administered at Wave 7.

The psychometric properties of the original IPO have been reported [31, 32]. With the original author’s permission, we translated this inventory into Japanese. To verify the accuracy of the translation, the Japanese version was back-translated into English by a translator unfamiliar with the original document[33]. Mean values were substituted for missing items when at least 67 out of the 83 items (80% of the whole items) were answered. The internal consistency (adjusted Cronbach’s alpha) for Primitive Defenses, Identity Diffusion, Reality Testing, Aggression, and Moral Values was .69, .82, .87, .83, and .81, respectively in this study.

2.2.4. Child Abuse History

The Child Abuse and Trauma Scale (CATS) is a self-report measure of the experiences of sexual abuse, neglect, and punishment (physical abuse) [34]. It consists of 38 items on a 5-point scale (0 = never, 4 = always). It has three subcategories: Sexual Abuse (6 items), Neglect (14 items), and Punishment (6 items). Mean values were substituted for missing items when at least 31 out of the 38 items (80% of the whole items) were answered. In the present study, the CATS was administered at Wave 2. The internal consistency (adjusted Cronbach’s alpha) for sexual abuse, neglect, and punishment was .68, .86, and .58, respectively in this study.

2.2.5. Procedure

A set of questionnaires were distributed and returned by a lecturer of the class. It was announced orally before distributing the questionnaire and written on the face sheet that students had a right to refrain from participating, and it would never result in any academic disadvantages.

Anonymity was confirmed, but due to necessity of matching questionnaires from different occasions for each student, students were requested to create a unique “nickname” and use it whenever they answered a questionnaire. This study project was approved by the Ethical Committee of the Kumamoto University Graduate School of Life Sciences (equivalent to the Institutional Review Board).

2.2.6. Statistical Analysis

Mean and SDs of all the variables used in this study including the Suicidality Trait score were calculated and correlations between them are also calculated. Then we examined the model by a structural equation modeling in which we speculated as follows:

- 1) Borderline Personality Trait, a latent construct, consists of five subscales of the IP—Primitive Defence, Identity Diffusion, Reality Testing, Aggression, and Moral Value
- 2) Childhood Abuse History, a latent construct, consists of three subscales of the CATS—Punishment, Neglect, and Sexual Abuse,
- 3) Childhood Abuse History influences Borderline Personality Traits, depression, and Suicidal Trait,
- 4) Borderline Personality Trait influences depression and Suicidal Trait, and
- 5) Depression influences Suicidal Trait.

χ^2/df , comparative fit index (CFI), and root mean square error of approximation (RMSEA) were used as goodness-of-fit indices. According to conventional criteria, $\chi^2/df < 3$, CFI $> .95$, and RMSEA < 0.08 indicate an acceptable fit and $\chi^2/df < 2$, CFI $> .97$, and RMSEA < 0.05 indicate a good fit [35, 36]. In order to improve the model’s fit with the data, modification indices were used and new covariance estimates were consecutively added. We paid most attention to the point that the suggested medication by modification indices makes theoretical or common sense [37] version 20.0 and Amos 20.0.

3. Results

Table 1. Intercorrelations of the variables used in this study.

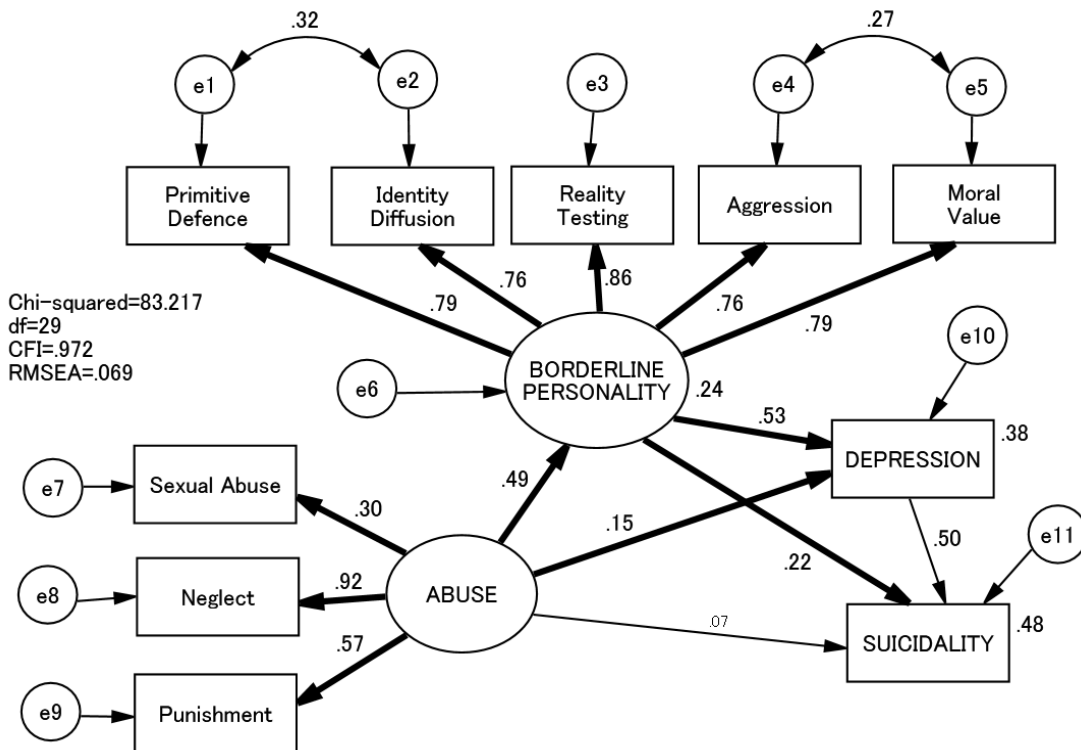
	1	2	3	4	5	6	7	8	9	10	11	12
1. Suicidal ideation (log transformed)	---											
2. Age	.00	---										
3. Gender (1, men, 2, women)	.02	-.20***	---									
4. Depressive mood	.67***	-.07	.21***	---								
5. Primitive Defenses	.50***	-.05	-.02	.44***	---							
6. Identity Diffusion	.29***	-.09	.14**	.41***	.46***	---						
7. Reality Testing	.45***	-.13**	-.05	.50***	.54***	.53***	---					
8. Aggression	.37***	-.08	-.01	.40***	.50***	.48***	.62***	---				
9. Moral Values	.37***	-.08	-.04	.35***	.45***	.38***	.59***	.64***	---			
10. Sexual Abuse	.21***	-.05	-.10*	.18***	.23***	-.00	.22***	.17***	.20***	---		
11. Neglect	.36***	.05	.10*	.39***	.31***	.27***	.35***	.32***	.30***	.27***	---	
12. Punishment	.16**	.08	-.01	.17**	.19***	.12*	.29***	.22***	.17**	.17**	.53***	---
Mean	0.15	19.0	1.8	4.6	7.3	24.2	18.8	10.3	11.1	0.3	10.1	7.5
SD	0.31	1.3	0.4	3.5	3.0	7.2	7.0	4.5	4.5	1.2	8.4	3.7
skewness	2.3	5.6	-1.4	1.2	1.1	0.3	1.3	1.7	1.4	6.7	1.2	0.5

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

Except for age and gender, all the variables were significantly correlated with Suicidal Trait scores (Table 1). As expected, all the IPO subscale scores were correlated with each other. The three CATS subscale scores were also correlated with each other. All the three subscales of the CATS were almost all correlated with all the IPO subscale scores. They were also correlated with depression scores.

The original model fitted the data: 4.48 of chi-squared/df, 0.094 of RMSEA, and 0.944 of CFI. Because these fit indices do not seem satisfactory, we improved the model by adding covariances consecutively by a means of modification index. Covariances were added between

Primitive Defense and Identity Diffusion, and between Aggression and Moral Value. These pairs of variables showed substantive correlations in bivariate analyses and fit the theoretical sense. The final model showed that while Childhood Abuse History predicted Borderline Personality Traits directly, it lost significant association with Suicidal Trait (Fig. 1). Both Borderline Personality Traits and Depression predicted Suicidal Traits whereas Borderline Personality Traits predicted Depression. The final model found a reasonable fit to the data with 2.87 of chi-squared/df, 0.069 of RMSEA, and 0.972 of CFI.



Significant paths are in bold.

Fig. 1. Modified Path Model

4. Discussion

In the current study, a correlation coefficient for suicidal ideation between each pair of waves was highly significant. This may mean that suicidal ideation has aspects of trait phenomena which can be referred to as Suicidality Trait. While suicidality may develop in the context of a time-limited psychiatric disorder, or as part of a situation-dependent process [38], predisposing factors for suicidal ideation lie in the structure of trait phenomena such as personality [39].

Although, there has been strong evidence that personality traits or adverse early life experiences including childhood physical and sexual abuse increase the risk of both adolescent and adult self-harm and suicidal behaviors [15-18], it has been unclear whether childhood adversities are

directly associated with suicidal ideation or personality organization mediate, either partially or completely, such relationship under the influence of depression. Reviewing the empirical literature on the relationship between childhood sexual abuse and self-injurious behavior, Klonsky and Moyer [40] have suggested that childhood sexual abuse contributes to the self-injurious behavior through mediating variables such as depression, anxiety and self-derogation, each of which is known to relate to both childhood sexual abuse and self-injurious behavior. Our results are in line with Klonsky & Moyer's [40] findings. Given the nature of the web of correlations (Table 2), it is not at all surprising that the measurement of borderline personality eliminated the association between childhood abuse experiences and adult suicidal ideation.

The borderline measures yielded zero order correlations

with suicidal trait between $.29 < r < .50$ (5 scales), while the childhood indicators yielded zero order correlations with it between $.16 < r < .36$ (3 scales). Under such statistical conditions, the childhood abuse experiences cannot enter the structural equation as significant. These suggest that more proximal processes were better predictors than more distal processes. The effects of childhood abuse effects may be only effective when mediated by borderline personality.

Trait suicidal ideation, which is distinct from time-limited suicidal ideation is concomitant with depression but may require tailored interventions to combat. It is recommended that future public health efforts to address suicide should consider the role of personality characteristics. As suggested by the present study, borderline personality trait is one of such candidates. Yet, the categorical diagnosis of Borderline Personality Disorder may be too restricted in order to be used as a means to understand personality of people who attempted or are like to attempt suicide. It also requires long time to reach a diagnosis. In contrast a self-report such ones as used in this study may provide easy but reliable instruments to perform this task.

Limitations of this study should be considered. In this study, borderline personality disorder (BPD) characteristics were assessed as a continuum rather than a diagnosis. In a review of the literature, Tanney^[41] posits that it is the presence of the symptoms or characteristics of BPD that are predictive of suicidal ideation, and not whether an individual meets diagnostic criteria.

Because mechanisms of defense are unconscious components what is seen and experienced as an individual's personality to its nature, in-depth interview is preferable. Such interview approaches have the advantage of greater theoretical validity in the measurement of intrapsychic processes; however, such approach is limited by the high degree of clinical training required of raters so as to ensure optimal objectivity and reliability, as well as a greater commitment of time and labor. These difficulties are largely eliminated by the use of self-report scale such as IPO; however, validity is more likely to be compromised by this methodology.

Childhood trauma was assessed solely relying on self-report only. This is therefore subject to recall bias^[42-46]. However, there are some studies supporting the validity of such retrospective assessment of childhood abuse experiences. For example, in a sample of patients with a borderline personality disorder before and after 27 months of intensive treatment, the mean number of reported sexual, physical, and emotional trauma events did not change following treatment^[47]. This suggests stability of the recall of childhood abuse history. Self-report of childhood sexual abuse has been verified by objective evidence such as the confession of the perpetrator^[48]. Data from court-substantiated cases of child abuse and neglect that were prospectively followed-up for about 20 years indicated that although those who were physically abused substantially underreported it, the current self-report had

good discriminant validity^[49]. It has also been reported that sexual abuse history is underreported, and the accuracy of sexual abuse history is higher among women than men^[50]. Nevertheless, those studies have come from the Western countries. Little has been studied about instruments to measure past experiences of child abuse in the Japanese culture. We used the translated version of the CATS but we should be very cautious about its credibility except for face validity. A large scale epidemiological study is necessary to confirm the validity of the scale.

In this study clinical depression was not studied. We used only self-report of depressive affective symptoms as an index of depression. Thus, we should be cautious when interpreting the data in the clinical framework. Nevertheless, Tomoda, Mori, Kimura, Takahashi, and Kitamura^[51] reported that 21% of the first year Japanese university students based on information gathered by an structural diagnostic interview had experience an episode of Major Depression during a one-year period. Therefore, while using a self-report instrument for depression detection, many students are very likely to suffer from clinical depression should we use a structured interview for psychiatric diagnosis.

Another drawback of this study is use of different scales at different time points over the course of eight weeks. This was done because we planned to distribute to students too large amount of questionnaires to fill in without difficulty concentrating. Each scale used in the questionnaires is to measure traits rather than state. Most of the scales showed good test-retest reliabilities in previous studies. Nevertheless the design of this study has weakness that the result may be biased by different timing of assessment.

5. Conclusion

This study suggests that the links between childhood abuse experiences and suicidal traits is mediated by borderline personality traits and depression. It also is encouraging future studies to develop effective prevention means of suicide through supporting people with borderline trait as well as those who are depressed.

References

- [1] Borges, G., Angst, J., Nock, M., Ruscio, A., & Kessler, R. (2008). Risk factors for the incidence and persistence of suicide-related outcomes: A 10-year follow-up study using the National Comorbidity Surveys. *Journal of Affective Disorders*, 105, 25-33.
- [2] Fawcett, J. A., Scheftner, W. A., Fogg, L. F., Clark, D. C., Young, M. A., Hedeker, D., & Gibbons, R. (1990). Time-related predictors of suicide in major affective disorder. *American Journal of Psychiatry*, 147, 1189-1194.
- [3] Owens, D., Wood, C., Greenwood, D. C., Hughes, T., & Dennis, M. (2005). Mortality and suicide after non-fatal self-poisoning: 16-year outcome study. *British Journal of Psychiatry*, 187, 470-475.

- [4] Shaffer, D., Gould, M. S., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., & Flory, M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry*, *53*, 339-348.
- [5] Kessler, R. C., Borges, G., & Walters, E. E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Archives of General Psychiatry*, *56*, 617-626.
- [6] Ennis, J., Barnes, R. A., Kennedy, S., & Trachtenberg, D. D. (1989). Depression in self-harm patients. *British Journal of Psychiatry*, *154*, 41-47.
- [7] Suominen, K., Henriksson, M., Suokas, J., Isometsä, E., Ostamo, A., & Lönnqvist, J. (1996). Mental disorders and Comorbidity in attempted suicide. *Acta Psychiatrica Scandinavica*, *94*, 234-240.
- [8] Yen, S., Shea, M. T., Snislow, C. A., Grilo, C. M., Skodol, A. E., Gunderson, J. G., McGlashan, T. H., Zanarini, M. C., & Morely, L. C. (2004). Borderline personality disorder criteria associated with prospectively observed suicidal behavior. *American Journal of Psychiatry*, *161*, 1296-1298.
- [9] Zanarini, M. C., Williams, A. A., Lewis, R. E., Reich, R. B., Vera, S. C., Marino, M. F., ... Frankenburg, F. R. (1997). Reported pathological childhood experiences associated with the development of borderline personality disorder. *American Journal of Psychiatry*, *154* (8), 1101-1106.
- [10] Stanley, B., Gameroff, M. J., Michalsen, V., and Mann, J.J. (2001). Are suicide attempters who self-mutilate a unique population? *American Journal of Psychiatry*, *158*, 427-432.
- [11] Gunderson, J. G., & Elliott, G. R. (1985). The interface between borderline personality disorder and affective disorder. *American Journal of Psychiatry*, *142*, 277-288.
- [12] McGirr, A., Alda, M., Seguin, M., Cabot, S., Lesage, A., & Turecki, G. (2009). Familial aggregation of suicide explained by cluster b traits: A three-group family study of suicide controlling for major depressive disorder. *American Journal of Psychiatry*, *166*, 1124-1134.
- [13] McGlashan, T. H. (1987). Borderline personality disorder and unipolar affective disorder: Long-term effects of comorbidity. *Journal of Nervous and Mental Disease*, *175*, 467-473.
- [14] Zanarini, M. C., Frankenburg, F. R., Hennen, J., Reich, D. B., & Silk, K. R. (2004). Axis I comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. *American Journal of Psychiatry*, *161*, 2108-2114.
- [15] Bensley, L. S., Van Eenwyk, J., Spieker, S. J., & Schoder, J. (1999). Self-reported abuse history and adolescent problem behaviors. I. Antisocial and suicidal behaviors. *Journal of Adolescent Health*, *24*, 63-172.
- [16] Davidson, J. R. T., Huges, D. C., George, L. K., & Blazer, D. G. (1996). The association of sexual assault and attempted suicide within the community. *Archives of General Psychiatry*, *53*, 550-555.
- [17] Molnar, B. E., Buka, S. L., & Kessler, R. C. (2001). Childhood sexual abuse and subsequent psychopathology: Results from the National Comorbidity Survey. *American Journal of Public Health*, *91*, 753-760.
- [18] Silverman, A. B., Reinherz, H. Z., & Giaconia, R. M. (1996). The long-term sequelae of child and adolescent abuse: a longitudinal community study. *Child Abuse and Neglect*, *20*, 709-723.
- [19] Santa Mina, E. E., & Gallop, R. M. (1998). Childhood physical and sexual abuse and adult self-harm and suicidal behaviour: A literature review. *Canadian Journal of Psychiatry*, *43*, 793-800.
- [20] Brown, J., Cohen, P., Johnson, J. G., & Smailes, E. M. (1999). Childhood abuse and neglect: Specificity of effects on adolescent and young adult depression and suicidality. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38*, 1490-1496.
- [21] Brown, G. R., & Anderson, B. (1991). Psychiatric morbidity in adult inpatients with childhood histories of sexual and physical abuse. *American Journal of Psychiatry*, *148*, 55-61.
- [22] Ystgaard, M., Hestetun, I., Loeb, M., Schjelderup, G., & Mehlum, L. (2004). Does there exist a specific relationship between childhood sexual abuse and repeated suicidal behaviour. *Child Abuse and Neglect*, *28*, 863-875.
- [23] Kender, K. S., Bulik, C. M., Silberg, J., Hettema, J. M., Myers, J., & Prescott, C. A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women. *Archives of General Psychiatry*, *57*, 953-959.
- [24] Kendler, K. S., & Gardner, C. O. (2011). A longitudinal etiologic model for symptoms of anxiety and depression in women. *Psychological Medicine*, *41*, 2035-2045.
- [25] Lee, S., Guo, W. J., Tsang, A., He, Y. L., Huang, Y. Q., Zhang, M. Y., Liu, Z. R., Shen, Y. C., & Kessler, R. C. (2011). The prevalence of family childhood adversities and their association with first onset of DSM-IV disorders in metropolitan China. *Psychological Medicine*, *41*, 85-96.
- [26] Scott, K. M., McLaughlin, K. A., Smith, D. A. R., & Ellis, P. M. (2012). Childhood maltreatment and DSM-IV adult mental disorders: comparison of prospective and retrospective findings. *British Journal of Psychiatry*, *200*, 469-475.
- [27] Zung, W. W. K. (1965). A self-rating depression scale. *Archives of General Psychiatry*, *12*, 63-70.
- [28] Kitamura, T., & Suzuki, T. (1993a). A validation study of Parental Bonding Instrument in Japanese population. *Japanese Journal of Psychiatry and Neurology*, *47*, 29-36.
- [29] Clarkin, J., Foelsch, P. A., & Kernberg, O. F. (2001). *The Inventory of Personality Organization (IPO)*. Personality Disorder Institute, Department of Psychiatry, New York, NY: Weill College of Medicine of Cornell University.
- [30] Kernberg, O. F. (1975). *Borderline Conditions and Pathological Narcissism*. New York: Jason Aronson.
- [31] Lenzenweger, M. F., Clarkin, J. F., Kernberg, O. F., & Foelsch, P. A. (2001). The Inventory of Personality Organization: Psychometric properties, factor composition, and criterion relations with affect aggressive dyscontrol, psychosis proneness, and self-domains in a nonclinical sample. *Psychological Assessment*, *13*, 577-591.
- [32] Critchfield, K. L., Levy, K. N., & Clarkin, J. F. (2004). The relationship between impulsivity, aggression, and impulsive-aggression in borderline personality disorder. An empirical analysis of self-report measures. *Journal of Personality Disorders*, *18*, 555-570.

- [33] Igarashi, H., Kikuchi, H., Kano, R., Mitoma, H., Shono, M., Hasui, C., & Kitamura, T. (2009). The Inventory of Personality Organisation: its psychometric properties among student and clinical populations in Japan. *Annals of General Psychiatry, 8*, 9.
- [34] Sanders, B., & Becker-Lausen, E. (1995). The measurement of psychological maltreatment: Early data on the child abuse and trauma scale. *Child Abuse & Neglect, 19*, 315-323.
- [35] Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.
- [36] Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online, 8* (2), 23-74.
- [37] Arbuckle, J. L., & Wothke, W. (1995-1999). *Amos 4.0 User's Guide*. Chicago: SmallWaters.
- [38] van Heeringen, K. The suicidal process and related concepts. In: van Heeringen, K., ed. *Understanding suicidal behavior: the suicidal process approach to research, treatment and prevention*. New York: Wiley, 2001.
- [39] Brezo, J., Paris, J., & Turecki, G. (2006). Personality traits as correlates of suicidal ideation, suicide attempts, and suicide completions: a systematic review. *Acta Psychiatrica Scandinavica, 113*, 180-206.
- [40] Klonsky, E. D., & Moyer, A. (2008). Childhood sexual abuse and non-suicidal self-injury: meta-analysis. *British Journal of Psychiatry, 192*, 166-170.
- [41] Tanney, B. L. (2000). Psychiatric diagnoses and suicidal acts. In R. W. Maris, A. L. Berman & M. M. Silverman (Eds.), *Comprehensive textbook of suicidology*, New York: Guilford Press.
- [42] Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin, 113*, 82-98.
- [43] Fogarty, S. J., & Hemsley, D. R. (1983). Depression and the accessibility of memories: A longitudinal study. *British Journal of Psychiatry, 142*, 232-237.
- [44] Glickman, L., Hubbard, M., Liveright, T., & Valciukas, J. A. (1990). Fall-off in reporting life events: Effects of life change, desirability, and anticipation. *Behavioral Medicine, 16*, 31-38.
- [45] Hepp, U., Gamma, A., Milos, G., Eich, D., Ajdacic-Gross, V., Rössler, W., Angst, J., & Schnyder, U. (2006). Inconsistency in reporting potentially traumatic events. *British Journal of Psychiatry, 188*, 278-283.
- [46] Jenkins, C. D., Hurst, M. W., & Rose, R. M. (1979). Life changes: do people really remember? *Archives of General Psychiatry, 36*, 379-384.
- [47] Kremers, I. P., Van Giezen, A. E., Van der Does, A. J. W., Van Dyck, R., & Spinhoven, Ph. (2007). Memory of childhood trauma before and after long-term psychological treatment of borderline personality disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 38*, 1-10.
- [48] Herman, J. L., & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology, 4*, 1-14.
- [49] Widom, C. S., & Shepard, R. L. (1996). Accuracy of adult recollections of childhood victimization: Part 1. Childhood physical abuse. *Psychological Assessment, 8*, 412-421.
- [50] Widom, C. S., & Shepard, R. L. (1997). Accuracy of adult recollections of childhood victimization: Part 2. Childhood sexual abuse. *Psychological Assessment, 9*, 34-46.
- [51] Tomoda, A., Mori, K., Kimura, M., Takahashi, T., & Kitamura, T. (2000). One-year incidence and prevalence of depression among first-year university students in Japan: A preliminary study. *Psychiatry and Clinical Neurosciences, 54*, 583-588.