Effects of child abuse history on borderline personality traits, negative life events, and depression: A study among a university student population in Japan

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ABSTRACT

To simultaneously examine the impact of childhood abuse history on borderline personality traits, negative life events, and depression, undergraduate students ($N = 243$) were studied by questionnaire surveys with one week intervals. Neglect and emotional abuse as well as sexual maltreatment predicted borderline personality traits and baseline depression. Baseline depression as well as the impact of negative life events occurring the week prior predicted depression a week later. However, after considering the baseline depression level, child abuse history failed to predict the follow-up depression level. Borderline personality traits did not moderate these findings. Childhood emotional and sexual abuse history may influence depression and borderline personality traits.

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1. Introduction

The clinical entity of borderline personality has been much debated. Since the inclusion of the concept of borderline personality disorder in DSM-III, links between borderline personality disorder and depression have often been reported (e.g., McGlashan, 1987). A large follow-up study on patients with DSM-III-R Borderline Personality Disorder has shown that comorbidity of Major Depressive Disorder is as high as 87%, but that it decreases over time (Zanarini et al., 2004).

The association between borderline personality disorder and childhood abuse, particularly sexual abuse, has been reported from clinical perspectives (Gunderson and Sabo, 1993). In a clinical population, the rate of childhood trauma has been reported to be higher in borderline patients than in control patients (Grilo et al., 1999; Helgeland and Torgersen, 2004; Sansone et al., 2005; Zanarini et al., 1997). In addition, this is the case in a community population (Johnson et al., 2001). Trauma history has included neglect (Helgeland and Torgersen, 2004; Zanarini et al., 1997), sexual abuse (Zanarini et al., 1997), physical abuse (Zanarini et al., 1997), and emotional (verbal) abuse (Johnson et al., 2001; Zanarini et al., 1997). Despite the abundance of reports on the association of childhood trauma history with clinical cases of borderline personality disorder, less has been reported on the association of childhood trauma history with borderline traits of personality among non-clinical populations. The categorical criteria of borderline personality disorder diagnosis have been critically debated without a widely accepted consensus. Thus, it may be prudent to study the association of childhood abuse history with dimensions of borderline personality traits rather than the category of borderline personality disorder diagnosis.

Moreover, childhood abuse history has also been reported as a risk factor for depression. The types of child abuse related to adult depression include physical abuse (Bonomi et al., 2008; Coid et al., 2003; Kitamura et al., 2000a,b; Koopman et al., 2007; Stuewig and McCloskey, 2005; Teicher et al., 2006), emotional (verbal) abuse (Hankin, 2006; Teicher et al., 2006; Yamamoto et al., 1999), and sexual abuse (Bonomi et al., 2008; Hankin, 2006; Koopman et al., 2007; Luterek et al., 2004; McCauley et al., 1997; Steel et al., 2004; Teicher et al., 2006; Whiffen et al., 2000).

Despite the associations of childhood abuse history with borderline personality disorder and adult depression, these three variables have rarely been studied in the same population. Due to the long time lag between childhood abuse experiences and adult onset of depression, a variety of psychosocial mediators have recently been postulated. These include coping strategies (Steel et al., 2004), cognitive distortion (Browne and Winkelman, 2007; Hankin, 2006; Gibb and Abela, 2008), low self-esteem (Finzi-Dottan and Karu, 2006), shame-proneness (Stuewig and McCloskey, 2005), interpersonal rejection sensitivity (Luterek et al., 2004; Maciejewski and Mazure, 2006), adult attachment styles (Browne and Winkelman, 2007; Hankin, 2006) as well as other types of interpersonal problems (Whiffen et al., 2000), poor family environment (Bradley et al., 2005), and immature defense mechanisms (Finzi-Dottan and Karu, 2006).

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Another possible mediator of the links between these three variables is negative (stressful) life events. Although it is well known that the occurrence of negative (stressful) life events precedes depression, studies have indicated that such events, particularly interpersonal events, are more likely to occur in people with personality difficulties (Breslau et al., 1995; Champion et al., 1995; Daley et al., 1997, 1998; Davila et al., 1995; Pothoff et al., 1995; Saudino et al., 1997). Thus, we postulate that people with a childhood abuse history as well as those with borderline personality traits are more likely to experience greater negative life events.

Although a descriptive approach to borderline personality has been applied in empirical studies, Kernberg's (1970, 1975) psycho-analytic theory that a personality structure consists of three layers, neurotic, borderline, and psychotic, has been widely accepted in psychotherapeutic settings. Thus, borderline personality organization can be characterized by (1) non-specific manifestation of ego weakness, such as lack of anxiety tolerance, lack of impulse control, and lack of developed sublimatory channels; (2) a shift towards primary-process thinking; (3) specific defensive operations, such as splitting, primitive idealization, early forms of projection and projective identification, denial, and omnipotence and devaluation; and (4) pathology of internalized object relationships. These concepts have been used in case studies. Kernberg and colleagues have developed a self-report measure of personality organization. Their instrument, the Inventory of Personality Organization (IPO: Clarkin et al., 2001), assesses three domains: primitive psychological defenses, reality testing, and identity diffusion (Lenzenweger et al., 2001). The authors have added two supplementary scales, aggression and moral value.

Few researchers have studied the topic of the association between early life experiences, personality structure, and depression using Kernberg's theory of borderline personality structure. Herein is a preliminary report on this issue using graduate students in Japan.

2. Methods

2.1. Participants

Students from two universities in Kumamoto were solicited to participate in the questionnaire surveys. These students completed a survey every week for nine weeks. The weekly surveys are hereafter referred to as Waves. Each wave involved a different set of questionnaires, including the Inventory of Personality Organization (IPO; Clarkin et al., 2001) (Wave 7, $n = 456$) and the Child Abuse and Trauma Scale (CATS; Sanders and Becker-Lausen, 1995) (Wave 2, $n = 397$). During each Wave, depressed mood and the impact of life events that occurred in the previous week were also measured. The number of students who missed a class varied for each Wave, but the total number of students who reported a usable data set for all of the variables used for the preset analyses was 243, which included 45 men and 198 women. The mean (S.D.) age was 19.0 (1.4) years old with the range between 18 and 35. The men (mean = 19.8, S.D. = 2.8) were slightly, but significantly ($t = 2.4$, $P < 0.05$), older than the women (mean = 18.8, S.D. = 0.7).

2.2. Measurements

2.2.1. Early life experiences

The CATS (Sanders and Becker-Lausen, 1995) is a self-report measure of the experiences of sexual abuse, neglect, and punishment (physical abuse). It consists of 38 items on a 5-point scale (0 = never, 4 = always). In the present population, we performed exploratory factor analysis with Promax rotation. The number of items was determined via the scree test and interpretability of the data (Supplementary table on the web). After confirming the factor structure of the Japanese version of the CATS, we calculated the subscale scores by adding the scores of items belonging to each factor. The Japanese version of the CATS consists of five subscales: (1) Neglect and Emotional Abuse (14 items), (2) Punishment and Scolding (10 items), (3) Sexual Maltreatment, (6 items), (4) Authoritarianism (5 items), and (5) Marital Disharmony (3 items). The mean values were substituted for missing items when at least 31 of the 38 items were answered.

2.2.2. Borderline personality organization

The IPO (Clarkin et al., 2001) is a self-report measure based on the central dimension of Kernberg's (1970, 1975) personality organization model. It consists of 83 items on a 5-point scale from "never true = 1" to "always true = 5." Kernberg's dimensions are measured by the three primary scales of the IPO: Primitive Defenses (16 items), Identity Diffusion (21 items), and Reality Testing (20 items). Clarkin et al.

(2001) added two additional scales, which are Aggression (18 items) and Moral Values (8 items with 2 Primitive Defense items and 1 Identity Diffusion item). The psychometric properties of the original IPO have been reported (Critchfield et al., 2004). With the original author's permission, the IPO was translated into Japanese (TK). To verify the accuracy of the Japanese translation, the Japanese version was then back translated into English by a translator unfamiliar with the original document. Igarashi et al. (2009) have conducted a psychometric study and reported five factor structures of the Japanese version of the IPO, which consists of the same subscales of the original IPO, but with fewer items for each subscale. These subscales are Primitive Defenses (4 items), Identity Diffusion (9 items), Reality Testing (11 items), Aggression (6 items), and Moral Value (7 items).

2.2.3. Depression

The Self-rating Depression Scale (SDS-Z; Zung, 1965) is a widely employed self-report of depression, and consists of 20 items rated on a 4-point scale from a little of the time (0) to most of the time (3). The Japanese version of the SDS-Z (Fukuda and Kobayashi, 1973) is available. In the present study, six items, which showed high factor loadings, were extracted from the SDS-Z on the first factor in a large scale ($N = 28,588$) factor analytic study of the instrument in Japanese university students (Kitamura et al., 2004). These items reflect irritability, depressed affect, fatigue, crying spells, psychomotor agitation, and tachycardia.

2.2.4. Negative life events

A single item was used to inquire about the worst thing experienced in the previous week. Each participant was asked to rate this experience from 0 (no adverse effect) to 100 (the worst imaginable effect).

2.3. Statistical analysis

We initially calculated the mean and S.D. of each variable used in this study, and then the correlation coefficients between any pair of variables were determined. Next we constructed a path model using structural equation modelling, which posited that (1) the five subscales of the IPO are derived from the latent construct of Borderline Personality; (2) all the subscales of the CATS predict the latent construct of Borderline Personality, Wave 7 depression (when the IPO was distributed), Wave 8 depression, and the impact of negative life events occurring during the week between the two Waves; (3) Borderline Personality and Wave 7 depression predict both Wave 8 depression and the impact of negative life events occurring for the week in between the two Waves; (4) the impact of negative life events occurring for the week between the two Waves predicts Wave 8 depression; (5) all the CATS subscales share a covariance; and (6) the error variables of the IPO and Wave 7 depression share a covariance. These assumptions are from our hypotheses that (1) childhood abuse history underlies the development of borderline personality traits, depression, and negative life events; (2) borderline personality traits, along with the occurrence of negative life events, lead to depression; and (3) borderline personality traits and depression observed simultaneously may influence one another or share a covariance. It is noteworthy that AMOS does not permit a covariance between two endogenous variables; thus, we posited covariances between the *error variables* of the IPO and Wave 7 depression. We presumed that variables other than childhood abuse history also shape both borderline personality traits and depression, and that these error variables may share covariance to a certain degree.

The fit of the model with the data was examined in terms of chi-squared (CMIN), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). According to conventional criteria, a good fit would be indicated by CMIN/df<2, GFI>0.95, AGFI>0.90, CFI>0.97, and RMSEA<0.05, while CMIN/df<3, GFI>0.90, AGFI>0.85, CFI>0.95, and RMSEA<0.08 demonstrate an acceptable fit (Schermelleh-Engel et al., 2003).

Because it was feasible to hypothesize that Borderline Personality would moderate rather than mediate the effects of childhood abuse experiences on depression as well as the effects of negative life events on depression, we divided the students into two groups based on the results of cluster analysis (SPSS QUICK CLUSTER) with the number of clusters set at two. Using these two groups of students, we performed a multisample simultaneous structural equation analysis. This path model was exactly the same as Fig. 1, except for the borderline personality trait and the paths going or leaving it were absent.

All statistical analyses were conducted using the Statistical Package for Social Science (SPSS) version 14.0 and Amos 6.0.

This project was approved by the Ethical Committee of Kumamoto University Graduate School of Medical Sciences.

3. Results

As expected, all the CATS subscale scores, except for the pairs between Sexual Maltreatment and Authoritarianism and between Sexual Maltreatment and Marital Disharmony, were significantly correlated with each other. Additionally, all the IPO subscale scores were significantly correlated. Except for the pairs between Identity Diffusion and Sexual Maltreatment and between Identity Diffusion and Authoritarianism, all the IPO subscale scores were significantly