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Relationship of parental bonding to child abuse and dissociation in eating disorders in Japan

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Parental bonding patterns were studied in 52 female Japanese eating disorder outpatients with and without histories of sexual or physical abuse and with dissociation. Instruments included the Parental Bonding Instrument (PBI), the Dissociative Experiences Scale (DES) and the Dissociative Disorders Interview Schedule (DDIS). Those with physical abuse history, but not sexual abuse history, had significantly different parental bonding scores and higher DES scores compared with subjects without physical abuse. DES scores and PBI scores were not correlated. Although the PBI was useful in discriminating between those with and those without abuse histories, it did not detect differences in degree of dissociation. Lack of association of sexual abuse to PBI and DES scores may have been due to mild abuse.

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Key words: parental bonding; dissociation; child abuse; eating disorder; Japan

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Although a handful of studies (1–7) have reported on the relationship of parental bonding patterns in eating disorders as measured by the Parental Bonding Instrument (PBI) (8), none have looked for differences between those with and without histories of child abuse. A number of studies have shown that eating disorders have an association with childhood abuse (9–12), and it seems likely that a history of childhood abuse would be reflected by the pattern of bonding with parents. The PBI may be a suitable instrument for this because it specifically focuses on two axes of bonding: care and protection.

The only study that mentioned childhood abuse in their use of the PBI looked at PBI scores in an inpatient borderline group (13), 87% who had histories of sexual abuse. This study found significantly lower care (especially low paternal care) and more overprotection from both parents compared with normal population data. To date, no study has compared the PBI scores of those with abuse histories with those without in any diagnostic sample.

Studies that have looked at childhood abuse histories and dissociation in eating disorders have found higher levels of dissociation in the group with abuse histories (14, 31), and there has been a significant literature on the association of eating disorders with dissociation (15–22). These studies suggest that trauma-induced dissociation may be a significant factor in symptom development in a subgroup of eating disorders. Up to now, no studies have looked at the relationship of PBI scores with dissociation.

The anecdotal stereotype of the overbearing mother and the ineffectual father in anorexia (1) as well as the formulation of the families of eating disordered as being rigid, overenmeshed and overprotective (23) have been studied with the PBI (1–7). The results of these studies have found varying patterns of significant differences on the care and protection scales for each parent compared with controls (2–7), though notably some (2, 3, 6, 7) found evidence of paternal overprotectiveness tending to go against the picture of the ineffectual father.

This study sought to investigate the relationship of parental bonding patterns as measured by the PBI with abuse histories and dissociation and was a pilot attempt to determine the usefulness of the PBI in the assessment of parental bonding of those with abuse histories and/or dissociation. Considering the high rate of abuse and dissociation in eating disorders, failure to take these variables into account in studies of parental bonding in eating disorders may be one cause of some of the variability in the results. Characterizing the relationship patients with abuse histories and/or significant dissociative symptoms

have with their parents may help with treatment planning.

Material and methods

Subjects

Fifty-two Japanese women diagnosed with eating disorders by DSM-III-R criteria (24) (mean age 24 years, range 17–33) attending an outpatient eating disorder group were studied. Participation was voluntary and no remuneration was given. Forty-four of the patients had anorexia nervosa and bulimia nervosa, 4 had bulimia nervosa, 2 had anorexia and 2 had eating disorder not otherwise specified. None of the patients had evidence of delusions or thought disorder, active mood disorder, organic mental disorder or mental retardation on clinical exam. The patients averaged 13.6 years of schooling.

Instruments

The PBI (8) is a 25-item self-rating questionnaire that asks the subject to describe their parents' attitudes and behaviors towards them up to the age of 16. Two subscales, "care" and "protection", are scored for the relationship with each parent. The care scale measures warmth, empathy and emotional support. The protection scale measures overprotection, control and intrusiveness. The subject rates each parent on a Likert-type scale, each item scoring 0–3 (very like – moderately like – moderately unlike – very unlike). Care items are reflected by such statements as "was affectionate to me", and protection items are reflected by such statements as "tended to baby me".

Although the responses rely on the subjects' own recollections, the validity of the instrument has been supported by studies that show that subjects' ratings correlate strongly with ratings of their parents themselves, siblings, and impartial raters (2, 8, 25). Age, sex, and social class have minimal effect on scores (Y). Also, by administering the PBI to depressed patients and repeating this when they remitted, it has been shown that the care and protection scores were stable over time (25, 26).

The PBI was previously validated in a Japanese population by giving it to 300 high school seniors and their parents (27). Factor analysis yielded results that were similar to those reported in the original PBI validation studies (8). This study also translated the PBI into Japanese, back-translated it and found minimal differences.

The Dissociative Experiences Scale (DES) is a 28-item visual-analog self-reporting scale that is a screening instrument for dissociative disorders (28). DES scores over 30 are felt to reflect a high likelihood of post-traumatic stress or multiple personality disorder (MPD) (29).

We used data obtained from a modified self-report version of the Dissociative Disorders Interview Schedule (DDIS) (30) to ascertain histories of sexual and physical abuse. The DDIS is a 131-item structured interview that makes DSM-III-R diagnoses of all the dissociative disorders, somatization disorder, major depression and borderline personality. It also inquires about a history of substance abuse, child physical and sexual abuse, trance states, schizophrenic symptoms and secondary features of (MPD). The DDIS has an overall interrater reliability of 0.68 for the diagnosis of MPD, with a specificity of 100% and a sensitivity of 90%. There is no overall score, results are compared with norms established for MPD in North America. The self-report format was used because Japanese subjects often do not respond directly about sensitive issues in interviews. Detailed analyses of the results of the DDIS given to a Japanese eating disorder cohort are presented in a separate report (31).

The severity scale of the Bulimic Inventory Test (BITE) (32) was used to measure the severity of bulimic behaviors. Other demographic and patient history data were collected from clinical databases. All the instruments used in this study were in Japanese.

Procedure

Subjects signed informed consent and were given the questionnaires to take home for completion. Primary treating clinicials both handed out, as well as collected completed questionnaires. Patients were informed that this was a study looking at various psychologic and childhood experiences, and that the results of the study would in no way affect their treatment. Confidentiality was ensured.

Data analysis

Scores were analyzed by correlation testing, *t*-testing of means, or chi-square testing as described in Results. An *n* for an item reported less than the total *n* for that group studied reflected a failure of that subject to record an answer for that item or an "unsure" response.

Results

PBI scores were compared for those patients who reported sexual abuse or physical abuse with those who did not report a history of that category of abuse (Table 1). Maternal care and both paternal care and protection scores were significantly lower for those subjects who reported physical abuse, but

Table 1. Comparison of PBI scores to histories of childhood abuse in Japanese eating disorder subjects (means are PBI score means)

	A: No physical abuse		B: Physical abuse		C: No sexual abuse		D: Sexual abuse	
PBI subscale	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)
Maternal care	27	18.2 (7.6)	15	12.7 (5.9)	15	17.3 (8.3)	18	15.0 (6.0)
	A *vs* B (t=2.5, df=40, P<0.05)				C *vs* D (NS)			
Maternal protection	27	18.0 (8.3)	15	22.5 (8.1)	15	18.3 (8.4)	19	19.1 (8.2)
	A *vs* B (NS)				C *vs* D (NS)			
Paternal care	25	18.2 (10.1)	15	8.7 (7.3)	14	15.6 (12.8)	18	14.1 (9.4)
	A *vs* B (t=−3.1, df=38, P<0.01)				C *vs* D (NS)			
Paternal protection	24	12.1 (7.3)	15	21.5 (8.8)	14	13.9 (6.0)	17	16.8 (10.6)
	A *vs* B (t=3.6, df=37, P<0.001)				C *vs* D (NS)			

not for those with sexual abuse histories. Maternal protection scores did not differ significantly in either group. Because a number of subjects replied "unsure" or did not respond to questions about abuse the n in Table 1 add up to less than the total n of 52.

There were no significant correlations (Fisher's r to z) found between DES scores and PBI scores on any subscale. There were also no significant differences when we looked at the PBI subscale mean scores in those subjects who scored over 30 on the DES ($n = 7$) versus those scoring below 30 on the DES ($n = 37$), and this may have been due in part to a small n. The largest visible difference in means and the only PBI subscale whose mean score had a trend similar to that seen with any of the abuse comparisons was that of paternal care (DES < 30 mean PBI score of 15.4, SD = 10.2, versus DES > 30 mean PBI score of 10.0, SD = 10.4), those scoring over 30 on the DES having lower care similar to that seen in those with physical abuse histories.

Eating disorder severity as assessed by BITE was compared with PBI subscale scores as well as to DES scores and no significant correlations (Fisher's r to z) were found.

Although physical abuse history was associated with those subjects who scored over 30 on the DES (4 of 13 with and 0 of 27 without physical abuse histories, $\chi^2 = 19.4$, df = 2, $P < 0.001$), presence of sexual abuse history had no significant relation to DES scores. The average DES score of those with histories of physical abuse was 22.8 *vs* 7.3 for those without physical abuse histories and this was significantly different ($t = 4.03$, df = 35, $P < 0.001$).

Of the 51 subjects who completed the DDIS, 7 subjects filled the three required criteria for the DSM-III-R diagnosis of multiple personality and one subject filled the additional two NIMH criteria for multiple personality. The implications of these findings are presented elsewhere (31).

The eating disorder patients with histories of either sexual and/or physical abuse did not differ in number of separations experienced as a child compared with those with no abuse history, and both groups depended mostly on their mothers for care. The group with histories of sexual and/or physical abuse, however, did experience more changes of residence as a child, 18 of 24 for the abused group, 11 of 24 for the nonabused group ($\chi^2 = 4.27$, df = 1, $P < 0.05$).

Discussion

This is the first report to our knowledge that has compared parental bonding patterns using the PBI in those with and those without histories of child abuse in a diagnostic sample, and is the first to use the PBI in a psychiatric population in Japan.

The main positive finding of this study is that patterns of parental bonding significantly differed between the eating-disordered patients with histories of child physical abuse compared with those without such histories. Maternal care and paternal care were significantly lower and paternal protection was significantly greater in those with histories of physical abuse but not sexual abuse. Maternal protection scores did not differ for any category of abuse.

The pattern that emerges is that of an affectionless mother and an affectionless/constraining father in those with histories of physical abuse. The bonding patterns measured on the PBI seemed to be useful in delineating differences between those with and those without physical abuse histories in this cohort. Patterns seen in the family relationships of eating-disordered patients may also reflect a reaction to the patient's illness rather than the cause, and it is possible that the pattern of parental bonding is a reaction to changes in the patient because of the abuse rather than a primary relationship style.

One of the reasons why the presence or absence of sexual abuse histories did not have a significant relationship with parental bonding as did physical abuse histories and why physical, but not sexual abuse is related to DES scores over 30 may be that the severity of sexual abuse reported by our subjects did not have the same traumatic impact as that for physical abuse. High dissociation scores have been associated with sexual abuse histories in western studies (29), and it may be that the sexual abuse experienced by the Japanese subjects was milder. This would be consistent with our clinical impres-

sions. Reporting more mild forms of sexual encounters as abuse could potentially dilute any relationship with dissociation or PBI scores.

Although the interpretation of the word abuse may have different cultural connotations, our clinical experience is that although sexual abuse seems to occur more frequently in Japan than is acknowledged publicly here, both the frequency and severity of the abuse when it occurs seems to be lower on average than that reported in western studies. We are now examining data on this issue.

The low incidence of child abuse officially reported in Japan (about 6.6 per 100,000 for children under the age of 12) has been explained by the strong family bond and the high value put on children in Japan (33), though there may be other cultural factors. For example, it is common for Japanese mothers to give up their careers to focus almost exclusively on the upbringing and education of their children. An extreme example of the degree to which the mother-child bond can become fused in Japan is illustrated by the murder-suicide in Japan called *oyako-shinju* (34). This is usually committed by a mother on her young children, and is explained that the mother, under severe family and social stress, finds suicide as the only solution. She cannot imagine her children as being able to live on without her after her death and psychologically considers them to be a part of herself rather than as separate individuals. Although this is considered a tragedy, Japanese society in general is sympathetic to the mother in this situation.

The greater degree of paternal overprotectiveness associated with those with physical abuse histories indicates that, at least for the subgroup with histories of physical abuse, the stereotype of the ineffectual father in eating disorders is inapplicable and indicates that the father-patient relationship is important for therapy in these patients. It should be noted here as well that abuse history may play an important role in the development of eating disorder symptoms in some patients (14). Because of the differences seen in PBI scores between those with and without abuse histories seen in this study, it seems prudent to take a history of abuse into account when interpreting PBI scores in eating disorders, as this had not been done in prior studies (1–7).

The increased frequency of moves experienced by those with histories of sexual and/or physical abuse may reflect more disruption in these families, though we did not examine further details in this study.

The degree of dissociation measured by the DES and PBI scores had no statistically significant correlation. Though a possible trend was seen with high DES scores and low paternal care, this needs to be studied in a larger sample. Because high dissociation is thought to reflect a high likelihood of trauma as a child (29), we hypothesized that parental bonding patterns as measured by the PBI would correlate with DES scores. This was not the case. It could have been that, while this was true for some subjects, group heterogeneity may have diluted this out. Alternatively, it may be that the PBI is not sensitive to the bonding patterns that may be associated with high levels of dissociation.

Although it is possible that relationships with parents do not have an effect on and/or are not affected by dissociation, this does not intuitively seem to be the case and requires further study.

The limitations of this study include a relatively small sample size, cultural and translation considerations in the interpretation of the questions and problems inherent in the PBI itself. The PBI relies on the subjects' own retrospective recollections rather than actual documentation of parental bonding patterns. As mentioned above, however, the PBI has been validated in a Japanese sample (27), and studies have shown that subjects' ratings correlate well with those of significant others (2, 8, 25). Although the PBI is limited by the rigid nature of the questions and its limited scope of inquiry, it is more objective than clinical interpretations, though they have the advantage of a fuller and deeper description (1). Additionally, although the self-report format of the DDIS was a modification, it is unclear whether this was a limitation or, within the cultural context used, may have actually strengthened the reliability of the data due to the privacy afforded.

It seems reasonable to assume that, because parental bonding values were less optimal for those with abuse histories, the quality of the attachment to the parents is poorer in these cases. This may be one way in which the failure to experience security in one's relationships leads to the development of what Bowlby termed anxious attachment (35). Anxious attachment, as opposed to the more pejorative term, overdependence, may predispose to adult psychopathology and may be a useful concept in the interpersonal treatment of these patients (36).

The results of this study reinforce the importance of bringing child abuse to attention in Japan. The actual incidence of child abuse in Japan does not seem to be reflected by the official statistics, public awareness is minimal, and neither medical nor mental health workers are adequately trained in this area. Consideration of the quality of parental bonding has important implications for therapy, and possibly for social change in Japan. For example, long work-related absences from the home for the father may affect paternal care. Future studies conducted in a variety of cultures that address the issues presented in this article can contribute greatly to our understanding of parental relationships and psychopathology.

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