

Original contribution

Contribution of shame and attribution style in developing PTSD among Japanese University women with negative sexual experiences

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Summary

The roles of shame and attribution style in developing posttraumatic stress disorder (PTSD) were examined among 172 Japanese university women with negative sexual experiences (NSEs) using a structural equation model. “Shame” directly predicted PTSD, whereas “Internal Attribution” and “External Attribution” did not. The effect of Internal Attribution on PTSD was mediated by Shame. In a simultaneous analysis of multi-groups, only the relationship with the perpetrator showed a different contribution for shame in developing PTSD symptoms. In addition, the role of the shame and attribution style in developing PTSD symptoms in the Japanese culture was discussed.

Keywords: Negative sexual experience; attribution; shame; PTSD; Japanese culture.

Introduction

Sexual abuse has received attention not only for its immediate impacts on victims, but its influences on later mental health, such as Posttraumatic Stress Disorder (PTSD: Boney-McCoy & Finkelhor, 1995; Briggs & Joyce, 1997; Epstein et al, 1997; Johnson et al, 2001; Peleikis et al, 2004; Rowan et al, 1994; Ruggiero et al, 2000), depression (Johnson et al, 2001; Zlotnick et al, 2001), dissociation (Johnson et al, 2001), and self-destructive behavior (Noll et al, 2003; Peleikis et al, 2004). Numerous researchers have examined factors that may mediate or moderate the relationship between sexual abuse and later psychological maladjustment, including parenting (Weissmann & Silvern, 1994), maternal adjustment (Deblinger et al, 1999), revictimization (Noll

et al, 2003; Classen et al, 2001), and family functioning (Bal et al, 2004).

Although views on sexual victimization substantially vary by culture (Kennedy & Gorzalka, 2002; Mellott et al, 1997; Yamasaki & Tschanz, 2005), a victim-blaming attitude is ubiquitous across different cultures. These attitudes may be incorporated in the victims' mind and strengthen the shame feeling and the self-blaming attribution, which are both specific to sexual victimization. Thus, the contributions of the shame feeling and self-blaming attribution in developing later psychological maladjustment are crucial issues.

People attribute the cause of what has happened around them. Attribution is an individual appraisal of an event in terms of the causality. The attribution has attracted interests of researchers in psychology. There are studies reporting that self-blaming attribution may increase depressive symptoms and low self esteem (Celano, 1992; Morrow, 1991). In the realm of sexual victimization, Spaccarelli and Fuchs (1997) used Negative Appraisal of Sexual Abuse Scale (NASAS) to assess how the victims of sexual abuse evaluate the incidents. Among the NASAS, there were several items which address the self-blaming attribution such as “You did something bad or wrong”. They concluded that the victim's negative appraisal of the sexual abuse is related to the depression and anxiety.

Some researchers discussed shame feeling in psychology theory. Ferguson et al (1999) defined the shame

feeling as a “dejection-based emotion involving feelings of helplessness, incompetence and a desire to escape or avoid contact with others.” The object of concern of shame feeling is the entire self (Tangney et al, 1992). Furthermore, the shame feeling includes a sense of exposure of sensitive, intimate and vulnerable aspects of self. Therefore, shame is a painful psychological experience (Tangney et al, 1992).

Tangney et al (1992) also discussed shame in relation to internal attribution. Shame is constructed from affective and cognitive components. The latter component is represented by attribution. Typically, three dimensions are used to classify the attribution processes: internality vs. externality, stability vs. instability, globality vs. specificity. Tangney et al (1992) explained that shame can be viewed as an affective state, which stems from internal, global and stable attributions. Tangney et al (1992) also emphasized that in addition to the cognitive component of the shame-feeling, its affective component also contributes substantially to developing depression.

In Japan, some researchers argued about shame in relation to help-seeking patterns, such as hesitation in seeking mental health services after the natural disaster (Goto et al, 2002) and young women’s reluctance to consult physicians because of urinary incontinence (Hirai et al, 2002).

In the realm of sexual victimization, Feiring et al (1996) considered both the shame feeling and attribution in developing later psychological maladjustments of sexual abuse victims. They established a theoretical model in which attributions about child sexual abuse mediate the influence of abuse on subsequent feeling of shame, which in turn influences the adjustment level (Fig. 1). By examining children who experienced sexual abuse, Feiring et al showed that shame and abuse specific internal attribution exert negative effects on subsequent psychological adjustment and that abuse specific attribution for developing later PTSD is mediated by the shame feeling (Feiring et al, 1998, 2001, 2002a, b).

However, we are unaware of studies that focus on the role of shame and attribution style in developing PTSD symptoms in Japan. The main purpose of this study is

to examine Tangney’s theoretical model which showed a causal relationship between internal attribution and shame, and to verify that Feiring et al’s (1996) model is also applicable for psychological process of Japanese people in regard to negative sexual experiences (NSEs).

The Japanese culture is characterized by the pervasiveness of shame feeling, which may be caused by the Japanese people’s sensitivity to the shame (Lebra, 1983). Additionally, the norm of Japanese society is well defined and norm violation is easily recognised because Japan is an ethnically less diversified culture (Lebra, 1983). Lebra (1983) discussed that this norm violation will provoke individual shame. In the case of sexual victimization, Yamasaki and Tschanz (2005) reported that Japanese college students have a higher percentage of victim-blaming attitudes than American college students. Result shown by Yamasaki and Tschanz (2005) may be explained by Lebra’s (1983) well defined norm in Japan. If the societal norms are well defined, people may be more sensitive to the “unusual”; including not only sexual victimization itself and its perpetrators but also its victims, which gives rise to the highly victim-blaming attitudes seen in Japan. Therefore the question must arise, how do the victims themselves experience the sexual victimization and view themselves in regard to these societal attitudes? Victims are also members of society. Individual victim’s beliefs are inevitably influenced by shared beliefs in the society. Victim-blaming attitude which used to be an external attribution must already have been incorporated into the victims’ mind as a norm before the NSEs. However, after the NSEs, it works as a self-blaming norm. Victims may rigorously attribute the event to themselves. Hence, Japanese victims may be more likely to blame themselves and recognize the incident as their violation of norms. We sketched the process of interaction between the societal norm and the internal attribution style of victims using Lebra’s (1983) argument and Yamasaki and Tschanz’s results. However, in the absence of any empirical study examining internal attribution and shame in Japanese culture, we hypothesized that accordant with the Feiring et al’s (1996) model, shame will be provoked by internal attribution.

Furthermore, we examined whether shame among Japanese victims of NSEs explains PTSD symptoms. According to Doi (1971), shame is an affective state where a person’s needs of dependency are not satisfied, although he or she wants to be satisfied, and the person fears being exposed to the public and is also afraid of being rejected. Thus, shame may be very distressful and

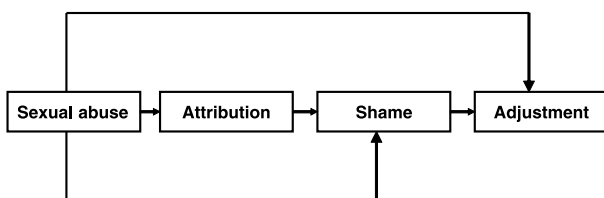


Fig. 1. Feiring et al’s (1992) diagram

uncontrollable for Japanese people, which leads to the formation of psychological symptoms (including PTSD).

Another area we examined is whether internal attribution directly predicts PTSD (independent from the shame feeling). Feiring et al's (1996) theoretical model does not have a direct pathway from internal attribution to PTSD (Fig. 1), but they demonstrated a direct pathway from internal attribution to PTSD in their research (Feiring et al, 2002a, b). We hypothesized that internal attribution may directly lead to PTSD, particularly if the internal attribution is global and stable.

In this study, Abuse Attribution Inventory (AAI: Feiring et al, 2001, 2002a, b) and Abuse Specific Shame Questionnaire (ASSQ: Feiring et al, 1998, 2001, 2002a, b) were used for assessing the attribution and shame of the women with NSEs after being modified into a suitable form under the Japanese culture.

In addition to the contribution of shame and attribution style on PTSD symptoms, we examined different contribution patterns of shame and attribution to PTSD symptomatology across subgroups based on the severity, frequency of the victimization, and the relationship to the perpetrator.

We also examined the influence of severity and frequency of the sexual victimization, and the relationship with the perpetrator on the shame feeling and attribution style. We hypothesize that the severity and frequency of victimization, and relationship with the perpetrators predict the level of internal attribution and shame. Because norm violations are related to shame feeling, victims with a greater severity, a closer relationship to the perpetrator, and a higher frequency may be more likely to be recognized as "damaged goods" (Spaccarelli, 1994), and may feel more ashamed. Thus, the negative attitudes of other people may cause the victims to blame themselves more.

The theoretical model used in this study was; firstly, internal attribution predicts shame which will lead to PTSD, secondly, internal attribution predicts PTSD directly, thirdly, the intensity of causal relationships above are dependent on the severity and frequency of the NSEs and relationship to the perpetrators, lastly, shame and internal attribution are influenced by the severity and frequency of the NSEs and relationship to the perpetrators.

The purposes of this study are as follows:

1. To conduct exploratory factor analysis of the Abuse Attribution Inventory (AAI: Feiring et al, 2001, 2002a, b) and Abuse Specific Shame questionnaire (ASSQ: Feiring et al, 1998, 2001, 2002a, b) in order to select appropriate items for further statistical ana-

lysis using the data from a variety of NSEs experienced by female university students;

2. To explore whether variables such as the severity and frequency of the NSE, and the relationship to the perpetrator influence the shame feeling and attribution styles;
3. To explain how the shame feeling and the attribution style contribute to the severity of PTSD using the structural equation model; and
4. To analyze whether the contribution of the attribution style and shame to the severity of PTSD are consistent across subgroups with different NSEs characteristics by simultaneous multi-group analysis.

Methods

Participants and procedure

The questionnaire about sexual victimization was distributed to female students at five Japanese universities. At four universities, the questionnaires were distributed and collected by the staff during a class, but at the other university, the questionnaires were returned by the participants using a self-addressed stamped envelope. The questionnaires were anonymously completed and the participants were reassured that their information would remain confidential. This study was approved by the Ethics Committee of Kumamoto University Graduate School of Medical Sciences.

Although 799 questionnaires were distributed, only 532 (66.6%) were returned. Participants who reported experiencing a NSE were asked to complete the AAI, ASSQ, and the Impact of Event Scale-Revised (IES-R: Weiss et al, 1997). Participants who had experienced more than one NSE were instructed to answer the questionnaires about the event they perceived as most distressful. One-hundred-and-seventy-two participants completed the AAI, ASSQ, and the IES-R (Fig. 2). The responses of the completed questionnaires did not vary by subgroup in terms of the severity (physical touch vs. no physical touch), frequency (once vs. repeated), and the perpetrators (stranger-perpetrator vs. no stranger-perpetrator) of NSEs (Chi-squared (1) = 0.59, $p = 0.29$, Chi-squared (1) = 0.54, $p = 0.30$, Chi-squared (1) = 1.23, $p = 0.18$, respectively).

Measurement

Negative sexual experience (NSE): Participants were asked whether they had experienced any of the following 13 types of NSE:

- The person talked sexually to me even though I did not like it.
- The person showed me sexual magazines or pictures even though I did not like it.
- The person took a picture of me or peeped.
- I was sexually touched even though I did not want to be.
- I was kissed or hugged even though I did not want to be.
- My genitals were touched even though I did not want to be.
- The person exhibited her or his genitals.
- The person performed a sexual act in front of me.

- I was made to touch the person's genitals.
- I was made to perform sex-simulation behavior.
- I was almost raped.
- I was raped.
- Other experiences (the participants were requested to specify).

If a participant responded affirmatively, then she was asked for further details about the NSE: how many times she was victimized by the same person, the age at which victimization began, and her relationship to the perpetrator.

Attribution style: We used the AAI, which is a 24 item interview of abuse specific attribution style, as a questionnaire to determine the attribution style. The first item, which is an open-ended question, asks the participants to give the reason why she thought the event had taken place. The remaining 23 items contain sentences that probe both the internal and external attributions of the event. Examples for internal attribution include, "because I wasn't careful enough on those days," "because I am not a good person," and "because of something I did." Examples for external attribution include, "it was his or her fault that this happened to me," and "he or she was to blame for what happened."

Shame: Four questions of the ASSQ tap feelings of shame related to the NSEs the participant experienced. These sentences are:

- I feel ashamed because I think that people can tell from looking at me what happened.
- I want to go away by myself and hide.
- I am ashamed because I feel I am the only one in my school whom this has happened to.
- What happened to me makes me feel dirty.

Originally, each question of the AAI and ASSQ was rated on a three-point scale. However, our study used a six-point scale to obtain a greater statistical power. The score ranges between 0

and 5. A higher score represents a higher level of attribution and shame.

With the original author's permission, the senior author translated the AAI and ASSQ into Japanese. Then to verify that the wording of the Japanese version is consistent with the original version, a person, who was unaware of the original wording, back-translated the Japanese AAI and ASSQ into English.

PTSD: The original Impact of Event Scale (Horowitz et al, 1979) consisted of seven Intrusion and eight Avoidance items. However, the Impact of Event Scale-Revised (IES-R: Weiss & Marmar, 1997) is comprised of 22 items because seven items (six items tapping hyper-arousal and one flashback-like re-experience) are added to the IES-R. Each item is rated on a five-point scale. The score ranges between 0 and 4. A higher score signifies a greater intensity of the PTSD symptoms. Asukai et al (1999a, b) translated the IES-R into Japanese. The validity and reliability of the Japanese IES-R has been verified (1999a, b).

Statistical analyses

Exploratory factor analyses with a PROMAX rotation, which is an oblique rotation of the AAI and ASSQ, were conducted to examine the scales' factor structure. The scree test was used to determine number of factors (Cattell, 1966). Thus, we developed a subscale for each measurement using items which had a factor loading greater than 0.4.

To explain the role of the shame and attribution style on current PTSD symptoms, we conducted a structural equation analyses which allowed not only the direct contribution of shame and attribution style to PTSD to be examined, but allowed the existence of a pathway from the attribution style to the shame feeling to be examined. Moreover, simultaneous analyses of subgroups enabled us to understand the different con-

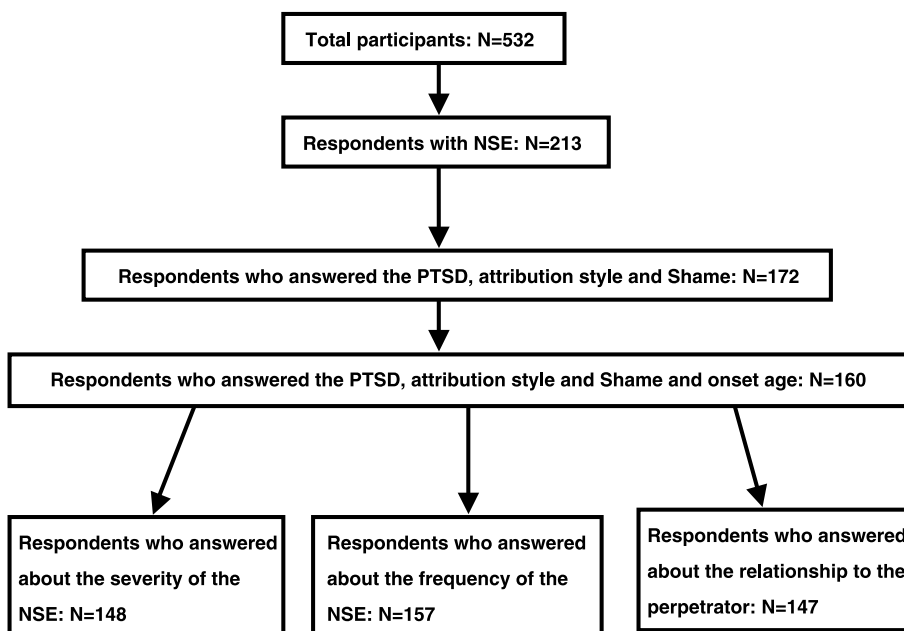


Fig. 2. Process of sample selection

tribution pattern of shame and attribution to PTSD symptomatology across subgroups based on the severity, frequency of the victimization and the relationship to the perpetrator. The responses obtained from the 172 participants who completed the surveys were subjected to structural equation modelling. Maximum Likelihood method was used for estimation because of its robustness as estimation method. In this model, five observed variables “PTSD”, “Shame”, “External Attribution”, “Internal Attribution”, and “Onset Age” were assumed. Missing data were deleted from the analyses. Among 172 respondents who completed IES-R, AAI, and ASSQ, 160 respondents who wrote onset age were used for structural equation analysis (Fig. 2). To identify the goodness of fit of the model to the data, we used the goodness of fitness index (GFI), the adjusted goodness of fitness index (AGFI), and the root mean square error of approximation (RMSEA) (Arbuckle & Wothke, 1995). Furthermore, simultaneous analyses of subgroups, which were divided by severity (non-contact NSE vs. contact NSE), frequency (once vs. repeated), and the relationship to the perpetrators (stranger vs. non-stranger), were examined. To avoid attrition when conducting simultaneous analysis between two different severity groups, participants who completed the question about the severity were included in the analysis, even though questions about the frequency and relationship to the perpetrator were not necessarily completed, as in the case of a simultaneous analyses between two groups classified according to the frequency and the relationship to the perpetrator. One-hundred-and-forty-eight respondents answered the question about the severity, 157 responded about the frequency, and 147 provided information about the perpetrator (Fig. 2).

Results

Among these female students, 213 reported having experienced at least one NSE.

According to Uji et al (2007), among all participants, seven women were raped. One was raped by her father and two were raped by strangers. The most prevalent NSE was physical touch (100/532, 18.8%) and 47 participants answered that it was the most distressful NSE. In the majority of those cases (35/47, 74.5%), the perpetrator was a stranger. The second most common NSE was the exhibition of the perpetrator’s genitals (77/532, 14.5%). 35 women answered that this was the most distressful NSE. In 33 of those cases (94.3%), the perpetrator was a stranger. Among the most distressful NSEs, eight women reported being victimized by a relative and 26 women reported being victimized by a person that she knew very well, such as a schoolteacher or a classmate. Participants who reported being victimized by a schoolteacher, father, or brother, were more likely to be victimized repeatedly (Uji et al, 2007). More about the prevalence and detailed characteristics about the NSEs will be reported elsewhere (Uji et al, 2007).

The onset age

The age when the participant first experienced a NSE (onset age) ranged from 3 to 22 years, and the mean age at onset was 15.23 (*SD* = 3.76).

Factor structure of the AAI

Table 1 shows the mean score and *SD* of each item. All items were subjected to exploratory factor analysis, which

Table 1. Factor structures of the AAI

Item number	Mean score (<i>SD</i>)	Factor 1	Factor 2
22 I am not a careful person	2.10 (1.56)	0.65	-0.08
20 I am not a good person	0.45 (0.84)	0.62	0.14
18 I was not careful enough on those days	2.46 (1.58)	0.62	-0.09
4 I was to blame	0.69 (1.10)	0.60	-0.25
7 I was not smart enough	1.45 (1.52)	0.57	-0.17
5 This happened to me because of the way I look	1.10 (1.30)	0.57	0.00
23 This happened to me because the way I acted around him/her	1.05 (1.31)	0.52	0.08
14 This happened to me because of something I did	0.94 (1.22)	0.48	0.16
15 I looked good on the days that it happened	0.90 (1.16)	0.48	0.22
12 I was a bad person and needed to be punished	0.24 (0.64)	0.45	-0.05
3 This happened to me because of the way I dressed	1.42 (1.47)	0.43	0.06
11 I was not physically strong enough	2.08 (1.64)	0.42	0.19
17 It was her/his fault	3.37 (1.69)	-0.13	0.73
8 I was not to blame	3.40 (1.75)	-0.41	0.60
10 He/she was to blame for what happened	3.94 (1.39)	-0.20	0.55
21 He/she was bigger and stronger	2.09 (1.68)	0.024	0.53
19 My mother didn’t know what was happening	0.89 (1.35)	0.30	0.50
6 He/she is a bad person	3.07 (1.50)	0.04	0.49
16 My mother wasn’t there	1.07 (1.45)	0.21	0.49
% of variance explained		21.7	14.0

Item sentences are abbreviated.

indicated that two factors accounted for 35.7% of the variance of the AAI. Items which showed high factor loadings for the first factor, included, “I am not a careful person,” “I am not a good person,” and “I was not careful enough on those days.” We interpreted these as “Internal Attribution.” Items which showed high factor loadings for the second factor, included, “It was his or her fault,” “I was not to blame,” and “He or she was to blame for what happened.” We interpreted these as “External Attribution.” The correlation between the two factors was 0.09, suggesting that these two factors are virtually independent on each other. Therefore, we concluded that an exploratory factor analyses yielded two independent subscales, internal and external attributions. The sums of the scores of the items, which had a factor loading greater than 0.4, were used as the AAI subscales. The subscale of the internal AAI consisted of 12 items and the subscale scores of the external AAI consisted of 7 items. Cronbach’s alphas of the Internal and External Attributions were 0.82 and 0.75, respectively.

Factor structure of the ASSQ

Table 2 shows the mean score and SD of each item of the ASSQ. All the items were subjected to exploratory factor analysis, which indicated that a single factor accounted for 64.7% of the variance of the ASSQ. All items had substantial factor loadings above 0.5. The sum of the scores of the four items was used as the ASSQ score. The Cronbach’s alpha was 0.81.

Table 2. Factor loading of each item in shame questionnaire

Item number	Mean score (SD)	Main factor
3 I am the only one in my school who this happened to	1.01 (1.24)	0.89
2 I want to go away by myself and hide	1.37 (1.52)	0.79
4 Makes me feel dirty	1.03 (1.43)	0.65
1 People can tell from looking at me what happened	1.43 (1.51)	0.59
% of variance explained		64.7

Item sentences are abbreviated.

The AAI, ASSQ, the severity and frequency of the NSE, the perpetrator, and the age when a NSE was initially experienced

t-Test between the different severity groups (non-physical contact vs. physical contact), different frequency groups (once vs. repeated), and different relationship to the perpetrator groups (stranger vs. known) were used to compare the scores of the internal and external sub-categories of the AAI. The mean Internal Attribution, External Attribution, and ASSQ scores did not differ across the different subgroups according to the *t*-test.

Structural equation model

A path diagram, which hypothesizes the contribution of the attribution and shame on PTSD symptoms, was developed (Fig. 3). Five variables are assumed. “Shame” is represented by the total score of the ASSQ, “Internal

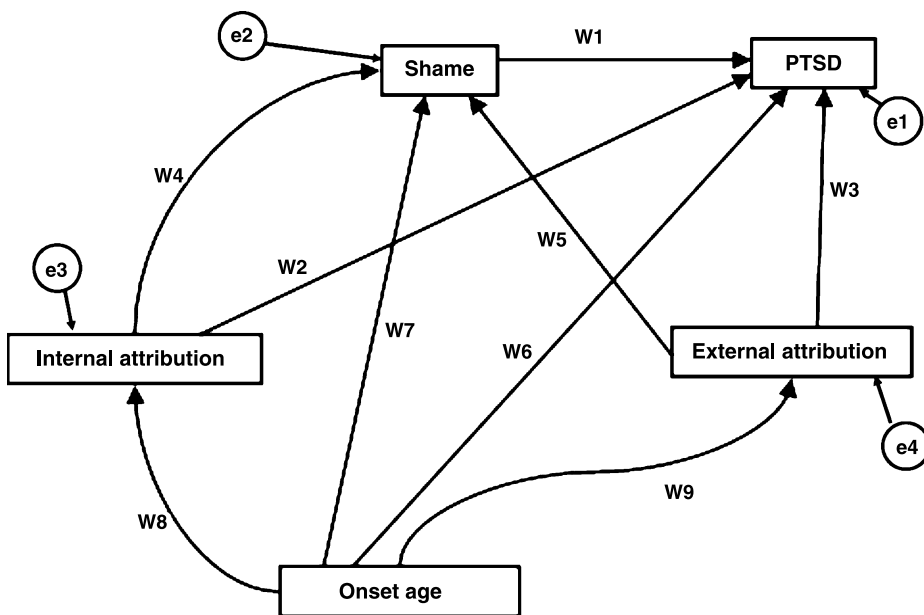


Fig. 3. Path diagram that hypothesizes the contribution of AAI (internal), AAI (external), and ASSQ on PTSD

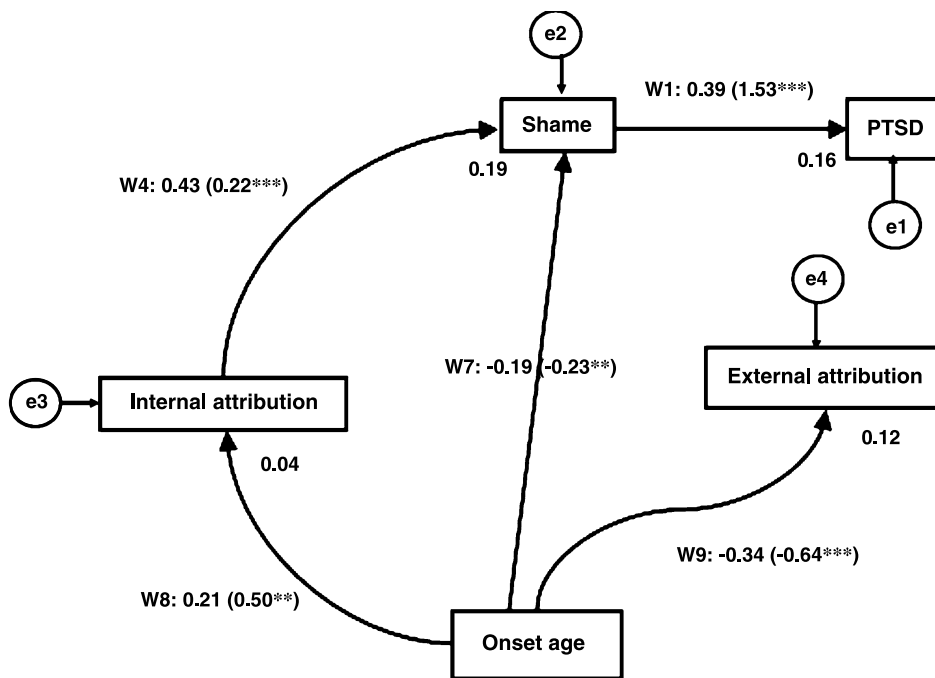


Fig. 4. Model that shows the best-fit. Numerical values are standardized regression weight or covariance (non-standardized regression weight) of parameters. ** $p < 0.01$, *** $p < 0.00$

Attribution” is the total score of Internal Attribution, and “External Attribution” is the total score of External Attribution. Two pathways from the each attribution to PTSD are assumed: direct contributions of Internal and External Attribution to PTSD (W2 and W3) and indirect contributions of Internal and External Attribution to PTSD, which are mediated by shame (W4 → W1 and W5 → W1). In addition, we hypothesized that the age when the NSE initially occurred influences PTSD (W6), Shame (W7), Internal Attribution (W8), and External Attribution (W9). Five observed variables and 14 parameters were assumed in this model. GFI, AGFI and RMSEA of this model were 0.99, 0.70, and 0.173, respectively.

At the next step, we assumed the parameters which were not significant ($p > 0.05$) were 0. In this model, direct contribution of AAI (internal) and AAI (external) to PTSD were canceled. Ten parameters were estimated. GFI, AGFI and RMSEA of this model were 0.98, 0.95, and 0.054, respectively. Estimate of squared multiple correlations for PTSD, Shame, Internal Attribution and External Attribution were 0.16, 0.19, 0.04, and 0.12, respectively. Non standardized error estimates were as follows: e1 was 269.6, e2 was 17.4, e3 was 78.4, and e4 was 42.4, respectively (Fig. 4). Hence, PTSD is directly predicted only by Shame (standardised causal coefficient = 0.39). Internal Attribution did not directly predict PTSD, but it does predict Shame (standardized causal

coefficient = 0.43), which in turn predicts PTSD. Thus, Internal Attribution indirectly explains PTSD because Internal Attribution is mediated by Shame. The “Onset Age” significantly influences Shame, Internal Attribution, and External Attribution (standardized causal coefficients were -0.19 , 0.21 , and -0.34 , respectively).

Simultaneous equation analysis of different subgroups

To examine the influence of the severity, frequency and the perpetrator of NSEs on the parameters (W1, W4, W7, W8, and W9), critical ratios were obtained. A critical ratio with a magnitude of 1.96 or more indicates a significant difference (<0.05) in the parameters between each pair of subgroups. For a given parameter, the critical ratio did not significantly vary across the corresponding subgroups.

Next, simultaneous analyses of the different subgroups were used to determine the best-fit model. We added new restraints, which made some parameters the same across pairs of groups. The model, which predicts that every parameter is the same across the corresponding groups, showed the best fit in both the simultaneous analyses of the different-severity groups and the different-frequency groups (GFI = 0.97, AGFI = 0.94, and RMSEA = 0.00 in a simultaneous analysis of the different-severity groups, and GFI = 0.97, AGFI = 0.93, and

RMSEA = 0.00 in a simultaneous analysis of the different-frequency groups). However, the model, which did not restrain the causal coefficient from Shame to PTSD, had the best fit in the simultaneous analysis of the different-perpetrator groups (GFI = 0.96, AGFI = 0.87, and RMSEA = 0.06). Hence, the contribution of Shame is higher if the victim knows the perpetrator well.

Discussion

The contribution of shame and attribution style in developing PTSD

As expected, internal attribution predicted shame. As noted in the Introduction, there are climates in which people readily feel shame and norm violation in Japanese culture. We did not have empirical study with which to verify the relationship between shame and internal attribution. However, consistent with the Feiring et al's (1996) model, we showed the causal relationship between internal attribution and shame among the victims with NSEs. With regard to the attribution style that targets the entire self, if victims recognize themselves as "damaged goods", proposed by Spaccarelli (1994), it is easily imagined that they are suffering from the shame-feeling.

It is noteworthy that Internal Attribution did not directly explain PTSD. However, Internal Attribution indirectly explains PTSD because it is mediated by Shame. This finding is consistent with Feiring et al's (1996) theoretical model. Numerous researchers have argued that internal attribution has a negative effect on later psychological adjustment (Feiring et al, 2002a, b; Celano, 1992; Morrow, 1991; Spaccarelli & Fuchs, 1997). On the other hand, other researchers (Janoff-Bulman, 1979; Lamb, 1986) have argued that the role of internal attribution reinforces the sense of self-control. It may be that the internal attribution has a negative effect when it is stable and global, but has a positive effect when the internal attribution is specific and less stable. The nature of the factor Internal Attribution in our study may represent the less stable and specific type of attribution. However, we believe that Internal Attribution contains both specific and global elements, as well as stable and less stable elements, regardless of the proportion of these two types of internal attributions. In the exploratory factor analysis, items that had high factor loadings on the first factor included both internal global attribution items such as "I am not a good person" and internal specific attribution items such as "this happened to me because of something I did." The exploratory factor analysis

could not distinguish between these two types of internal attributions. Furthermore, the Internal Attribution includes both stable attributions such as "I am not a good person" and less stable attributions such as "I was not careful in those days." It is possible that the significant contribution of the global and stable type of internal attributions to PTSD is masked by specific and less stable type of internal attributions. Thus, it is unclear whether the purely global type of internal attribution style directly leads to PTSD.

Because Internal Attribution prompts Shame, Internal Attribution can be related to PTSD. Although the cognitive component of shame itself does not directly impact whether PTSD is developed, the victim cannot control her affective state when the shame is provoked by its cognitive component, which is represented by the internal attribution.

According to the structural equation model, the onset age significantly influences both the AAI (internal) score and AAI (external) score. The older the victim, the more the victim attributed the NSE to herself and the less she attributed the experience to others. This may be because a younger child has a limited autonomy over her environment (Finkelhor, 1995) and as she becomes older she has a greater sense of control or self-efficacy over her environment.

The factor influencing shame, internal attribution, external attribution

In this study, we examined which variables contribute to shame. It is noteworthy that the severity of the NSE, the frequency and the relationship to the perpetrator did not have significant effect on shame. Feiring et al (1996) explained that the level of the shame might be influenced by other contexts such as whether the perpetrator was the biological father, whether the victim accepted a bribe, and whether the sexual abuse was discovered and the victim was exposed to the community. Other possible factors include a negative reaction of the person whom the victim discloses, the victim's personality, attitudes towards sexual victimization in the community, and the victim's beliefs about sexual victimization.

In this study, the type of NSEs varied, but most were less severe. However, the level of Shame, Internal Attribution and PTSD did not differ among the different severity groups. Most previous studies have focused on severe sexual victimization, but this study shows that sexual victimization, regardless of the severity, impacts later psychological maladjustment.

Simultaneous analyses of multi-groups

In the simultaneous analyses, we found that the relationship to the perpetrator affects the causality between shame and later PTSD. If the victim knew the perpetrator well, the contribution of shame to PTSD was higher than when the perpetrator was a stranger. When the victim knows the perpetrator, the shame feeling may be deeper and more private. Thus, the respondents may have reacted to different dimensions of shame, depending on the relationship to the perpetrator. However, it is impossible for ASSQ to discern different dimensions of shame because exploratory factor analysis of ASSQ yielded only one factor.

This study has several limitations, which should be considered. First, due to the relatively small of participants with NSEs, we classified the victims into only two subgroups according to the severity of abuse, relationship to the perpetrator and the frequency.

Second, in this study, Feiring et al's (1998, 2001, 2002a, b) model was tested on participants older than 17 years old, although the original study interviewed child participants.

Third, due to the retrospective nature of the study, it is questionable whether the ASSQ and the AAI scores represent the level of shame and attribution just after a NSE. Thus, our conclusion that younger children are less likely to attribute to themselves may not be appropriate. In other words, the victims may have retrospectively determined that it was the perpetrators' fault now that they are university students. Indeed, it is probable that the respondents who experienced the event before adolescence did not interpret their experience as "sexual victimization" when the NSE occurred and only classified it as such after reaching adolescence.

Finally, cross-cultural differences make it impossible to discuss the role of the shame feeling in developing PTSD. Although our study is consistent with Feiring et al's (2005) study and both indicate that shame contributes to PTSD, we cannot conclude that the shame feeling plays the same role in developing PTSD in American sexually abused children and Japanese women who have NSEs, because each study adopted different methodologies.

To summarize, our study clearly demonstrates that PTSD symptoms, which are derived from milder types of NSEs, are induced by the shame feeling caused by the internal attribution of the event. We have shown that the explaining power of the shame on PTSD depends on the relationship of the victim with the perpetrator. Furthermore, the positive and negative aspects of internal attribution are addressed.

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