ORIGINAL ARTICLE



Male intimate partner violence (IPV) victims in Japan: Associations of types of harm, sociodemographic characteristics, and depression trait

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Abstract

Aim: The purpose of this study was to examine factors affecting depression trait among male intimate partner violence (IPV) victims in Japan utilizing a multiple linear regression analysis.

Methods: A web-based questionnaire survey was conducted. Male IPV victims living in Japan were recruited to answer the questionnaire on the website on February 25–26, 2021. A total of 16,414 subjects were enrolled, of whom 1466 respondents were included in the study. Other than IPV exposure, information about sociodemographic characteristics, past traumatic experiences and psychiatric history was collected. The Domestic Violence Screening Inventory (DVSI), a 20-item questionnaire regarding IPV exposure, and the Patient Health Questionnaire-9 (PHQ-9) were used to determine the intensity and the type of IPV harm and to screen for depression, respectively.

Results: The victims were more frequently subject to psychological abuse than to physical violence. Based on PHQ-9 scores, 10.7% of respondents exhibited moderate to severe depression. In the DVSI score, 79.2% of respondents required "observation and support." The lowest level of academic attainment (junior high school), positive psychiatric history, foregoing divorce to avoid adverse childhood experiences of their offspring, childhood exposure to domestic violence, younger age, having no children, and experience of school bullying were shown to be significantly associated with depression trait.

Conclusion: Male IPV harm has a multilayered complexity. The sociodemographic characteristics and experiences of victims' own have a greater impact on depression trait than direct violent harm, suggesting that the violence-focused support might be inadequate for male victims. Comprehensive supports are urgently needed.

KEYWORDS

depression, gender inequality, intimate partner violence, male victims, psychological abuse

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INTRODUCTION

Intimate partner violence (IPV) is an emerging social problem associated with serious public health issues. 1-4 IPV is defined as "a pattern of assaultive and coercive behaviors, including physical, sexual, and psychological attacks as well as economic coercion, that adults or adolescents use against their intimate partners."2,5,6 As for the effect of health harm by IPV, victims might have physical injuries or psychological problems, such as sleep difficulties, anxiety, alterations of eating behavior, depression, and suicide attempts.⁷⁻¹⁰ In general, IPV against females is more common than that against males, and previous research dealing with IPV has mainly focused on females as victims and males as perpetrators. 3,6,11,12 IPV against males has received less attention in the academic literature, 6,13 probably due to gender-role stereotypes and gender biases 14-16 leading to the widespread social perception that females cannot be abusers and males cannot be victims of abuse. 17 In fact, females' abuse/violence against males is often excused and justified as selfdefense, 15 reflecting a form of gender inequality, that is, female superiority and male inferiority. Institutions of criminal justice typically downplay the seriousness of female violence. 12,17 Likewise, male victims tend to underreport incidents of intimate partner violence^{11,18} and are less willing to seek out social supports^{11,14,19} due to fear of being ridiculed, socially isolated, and humiliated. 11

However, the number of reports of male IPV victims has recently been increasing every year, possibly due to a growing awareness of its existence. Studies in Western countries have indicated that males are more likely to be victims of psychological abuse than physical violence. Among the studies in Asian countries, an investigation conducted in India reported that men who experienced physical violence and/or psychological and sexual abuse were more likely to have lower incomes, lower educational levels, a childhood in a nuclear family setting, and a harmful alcohol consumption habit. A Jordanian study found that compared to women, men were more frequently the target of psychological abuse and emotional neglect (i.e., insults, verbal attacks, financial coercion, threatening behavior, labelling, and coercive control). 23.24

IPV victimization is known to result in depressive symptoms. In 2011, Carmo et al.²⁰ noted an association between male victims and psychiatric disorders, including depression. A systematic review conducted by Devries et al.²⁵ indicated an association between IPV victimization and depressive symptoms among male victims. More recently, investigations focusing on male IPV victims have become more common,²⁶ but the possible relationships among specific demographic characteristics, concrete violent victimization, and depressive symptoms have not been clarified in this population. There has also been no study of mental disorders, such as depression, associated with IPV victimization in Japanese men.

We used a multiple linear regression analysis in the present study to examine factors that may affect depression trait in Japanese male IPV victims. Clarifying the psychological harm (e.g., depressive symptoms) as well as physical harm to male Japanese victims is a crucial step toward providing them with necessary supports.

PARTICIPANTS AND METHODS

Study participants

The data collection of this study was conducted using a web-based questionnaire. Cross Marketing Inc. (an Internet survey corporation, Tokyo)²⁷ collected the data by distributing a survey regarding the domestic life with a spouse or intimate partner. Approximately 4.73 million people were registered as part of the company's research panel. The corporation created a questionnaire web page, which also provided the necessary informed consent information based on our research design. For this survey, male IPV victims in Japan were recruited to answer the website questionnaire on February 25-26, 2021. After the exclusion of respondents with missing answers, the original participant pool of 16,414 respondents was narrowed to 1466 for the final analysis (Appendix 1). The questionnaire included questions designed to obtain sociodemographic information and to evaluate the types of IPV exposure as well as depression trait. A statement was given at the beginning of the questionnaire noting that the respondents could stop answering and exit the questionnaire at any time. We also checked with the associated computer server and found that there was no evidence of multiple responses by the same person, in the same region, or on the same device.

Measurements

Sociodemographic characteristics, past traumatic experiences, and psychiatric history

Information regarding the respondents' sociodemographic characteristics, past traumatic experiences, and psychiatric history was surveyed with the questionnaire method. The question items are listed in Table 1.

Domestic Violence Screening Inventory

The Domestic Violence Screening Inventory (DVSI) is designed to assess the intensity and frequency of physical and verbal abuse within intimate partnerships in Japan. It was developed based on the Conflict Tactics Scale (CTS),²⁸ which is used worldwide to measure physical violence and verbal abuse. The DVSI is written in Japanese and was standardized by Ishii et al.²⁹; it has 15 items and has been used to screen for female victims of IPV.²⁹

In the present study, the respondents were instructed to respond to each item based on an eight-point Likert scale ranging from 0 = never to 6 = I have received abuse/violence from a partner more than 20 times in the past year, and to mark 7 for I have not received abuse/violence from a partner recently, but received it more than one year ago, for the digitalization of victimization of IPV. Detailed information of each anchor point has been described elsewhere.²⁹ In accordance with the design of the DVSI scale, we rated the scores between 0 and

TABLE 1 Sociodemographic characteristics, past traumatic experiences, and psychiatric history (*n* = 1466).

Variables	n (%)
Sociodemographic characteristics	
Age (years)	
≤18	0 (0.0)
18-19	1 (0.1)
20-24	0 (0.0)
25-29	3 (0.2)
30-34	12 (0.8)
35-39	36 (2.5)
40-44	78 (5.3)
45-49	175 (11.9)
50-54	218 (14.9)
55-59	247 (16.8)
60-64	221 (15.1)
65-69	207 (14.1)
70-74	183 (12.5)
75-79	59 (4.0)
80-85	26 (1.8)
≥86	0 (0.0)
Employment	
Regular employment	560 (38.2)
Contract employment	100 (6.8)
Public servant	94 (6.4)
Board of company	75 (5.1)
Teacher	27 (1.8)
Medical employment	31 (2.1)
Legal profession	1 (0.1)
Agriculture, forestry, fisheries	6 (0.4)
Self-employment	159 (10.8)
Part-time employment	71 (4.8)
Student	1 (0.1)
Househusband	10 (0.7)
Unemployed	331 (22.6)
Household income	Foreign exchange rate
	1 USD = 108 JPY
	64,861 ± 49,159 USD (mean ± SD)
Marital status	
Married	1445 (98.6)
Lived together, not married	11 (0.7)

TABLE 1 (Continued)

Variables	n (%)
Died	0 (0.0)
Divorced	10 (0.7)
Experience of divorce(s)	
Yes	126 (8.6)
No	1340 (91.4)
Employment status of your partner	
Employed	658 (44.9)
Unemployed	808 (55.1)
Child	
Yes (have children)	1255 (85.6)
No (no child)	211 (14.4)
Academic attainment	
Junior high school	20 (1.4)
High school	340 (23.2)
College or technical school	142 (9.7)
Undergraduate	847 (57.7)
Graduate	117 (8.0)
Drinking habit	
Yes	995 (67.8)
No	471 (32.2)
Foregoing divorce to avoid ACEs in the	heir offspring (n = 1255)
Yes	428 (34.1)
No	827 (65.9)
Past traumatic experiences	
Childhood exposure to DV	
Yes	141 (9.6)
No	1325 (90.4)
Experience of school bullying	
Yes	297 (20.2)
No	1169 (79.8)
Psychiatric history	
Past/present psychiatric history	
Yes	189 (12.9)
No	1277 (87.1)
Experience of taking psychiatric medi	icine (sleeping pills, tranquilizer)
Yes	277 (18.9)
No	1189 (81.1)

 $\label{eq:Abbreviations: ACEs, adverse childhood experiences; DV, domestic violence. \\$

6 at face value, that is, 0–6, whereas the score of 7 was rated as 0.5. The total score was calculated as the sum of all item scores.²⁹ Cronbach's g for this scale was 0.74.

The 20-item questionnaire about the type(s) of IPV exposure (Appendix 2)

A nosological classification of types of the harm in Japanese male victims was proposed. We created a 20-item questionnaire with an eight-point Likert scale regarding the harm experienced by the respondents, as shown in Appendix 2.³⁰ Based on a court precedent review of IPV cases in Japan, IPV types that were acknowledged by the Japanese public were divided into six categories, namely physical violence, psychological abuse, economic abuse, social abuse, sexual abuse, and neglect (Figure 1).³⁰ Neglect was evaluated as not providing care for the family. The score calculation was performed as was done with the DVSI: that is, a Likert scale with the scores of 0, 0.5, 1, 2, 3, 4, 5, and 6. Cronbach's α for this scale was 0.75.

Patient Health Questionnaire Japanese version

The Patient Health Questionnaire Japanese version (PHQ-9)^{31,32} is a self-administered tool for screening. It examines the severity of depression during the prior 2 weeks and is described elsewhere. It has an inquiry of 10- item, the respondents were directed to respond to each item, based on a four-point Likert scale ranging from 0 = not at all to 3 = extremely. The total score ranged from 0 to 27. The cut-off points of \geq 5 and \geq 10 were used for assessment of depression trait and diagnosis of depression, respectively.³³ Cronbach's α for this scale was 0.91.

Help-seeking behavior of the victims

The respondents were asked two questions: "Have you talked to anyone about the abuse/violence you have experienced?" and "If you answered 'yes' to this question, to whom did you talk? If you answered 'no', please provide the reason why you did not talk to anyone."

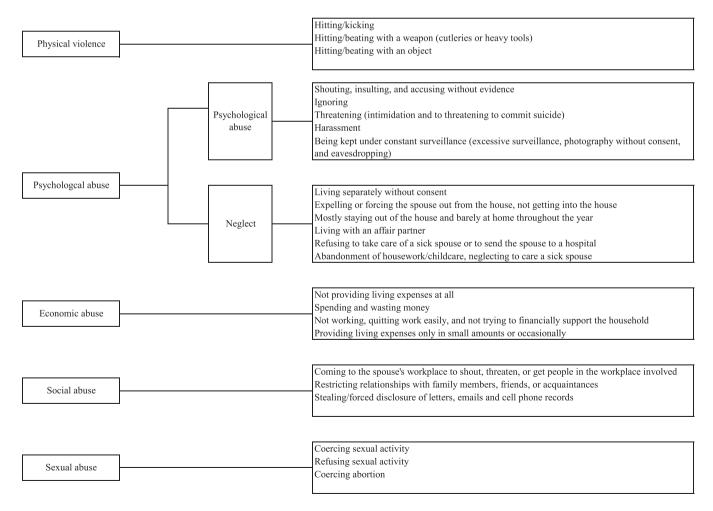


FIGURE 1 Intimate partner violence forms in Japanese male victims. Source: Morishita et al. (2022).



Statistical analyses

The data are expressed as *p*-values and percentages. We calculated Cramér's coefficient of association to evaluate associations among the nominal variables. Spearman's rank correlation coefficient was obtained to explore associations among the quantitative variables. Significance was assumed for *p*-values < 0.05. The levels of significance were <0.05 (*), <0.01 (**), and <0.001 (***). All statistical analyses were performed using IBM SPSS Ver. 26 for Windows (Chicago, IL).

Covariates

Several sociodemographic characteristics have been found to be associated with depression. 34-36 In the present study, independent variables were selected from the viewpoint of previous domestic and international literature 20,34,36 and medical perspectives. 37 We performed two logistic regression analyses with the propensity score method to adjust the effect of confounding factors, 38,39 and we removed variables not related to the outcome and duplicated variables in order to construct the correct model. 40 We used two covariates as the following logistic regression analyses.

Logistic regression analyses

Logistic regression analyses were used to calculate the adjusted odds ratio with a 95% confidence interval (CI) for risks of depression trait related to items other than IPV harm, that is, sociodemographic characteristics, past traumatic experiences, and psychiatric history, and/or items of IPV harm (items from the DVSI and the 20-item questionnaire on the types of IPV exposure). Logistic regression analyses were conducted using the forced entry method.⁴¹ Because a World Health Organization (WHO) survey documented differences in the prevalence of IPV by age among women worldwide, 42 we divided the respondents into two age groups (18-49 years and 50-85 years). We applied variables other than IPV harm based on the Cramér's coefficient of association results. The variables included age, employment status of partner, having children (yes or no), academic history, childhood exposure to domestic violence (DV), experience of school bullying, past/present psychiatric history, and forgoing divorce to avoid adverse childhood experiences (ACEs) in their offspring. These independent variables other than IPV harm were combined into a single variable. We also applied variables of IPV harm, including "My partner did or said something to spite me," "My partner neither did housework nor raised a family," and "My partner wasted our daily living expenses and bought needless things." These independent variables of IPV harm were combined into a single variable.

Multiple linear regression analysis

A multiple linear regression analysis by a path model of IBM SPSS Amos Version 27 (Chicago IL) was conducted to find factors affecting depression trait. The dependent variable was the total score on the PHQ-9 and the independent variables were the two covariates that were combined into a single variable by the results of each of the logistic regression analyses ("other than IPV harm" and "IPV harm").

RESULTS

Sociodemographic characteristics, past traumatic experiences, and psychiatric history (Table 1)

The respondents comprised of a wide range of generations (ages 18–85 years). Of the respondents, 77.4% were in education, employment or training and 22.6% were unemployed. Furthermore, 98.6% of them were married, and 55.1% of their partners were housewives. Some respondents had experience of traumatic events, such as school bullying (20.2%) and childhood exposure to DV (9.6%).

Measurements of depression trait severity, the intensity of IPV harm by type of intervention required, and frequency of IPV harm by type (Table 2)

Table 2 summarizes the following findings. According to the PHQ-9 scores, 19.8% of the respondents had mild depression (scores 5–9), and 10.7% exhibited moderate to severe depression (scores ≥10). In the DVSI, 79.2% of the respondents required observation or support (the lowest level of support), and 5.4% required early (near-emergent) intervention. We analyzed the association between the total scores for PHQ9 and DVSI, which correspond to depression severity and IPV severity, respectively. There was no significant association (Pearson correlation coefficient of 0.264). Regarding the frequency of IPV harm by type, the two answers ("My partner neither did housework nor raised a family" and "My partner wasted our daily living expenses and bought needless things") that were most commonly given were "Never," followed by "More than one year ago."

Cramér's coefficient of association between depression trait and sociodemographic characteristics, past traumatic experiences, and psychiatric history (Table 3)

Our analyses with Cramér's coefficient of association suggested weak correlations between depression trait and sociodemographic characteristics of other than IPV harm (highlighted in bold font in Table 3).



TABLE 2 Measurements of depression trait severity, the intensity of IPV harm by type of intervention required, and frequency of IPV harm by type (n = 1466).

• •				
Depression trait severity	′			
PHQ-9 score (mean 3.9, SD 3.5) n (%)				
0-4	None-minimal	1018 (69.4)		
5-9	Mild	291 (19.8)		
10-14	Moderate	88 (6.0)		
15-19	Moderately severe	38 (2.6)		
20-27	Severe	31 (2.1)		
The intensity of IPV har	m by type of intervention required			
DVSI score (mean 4.7,	SD 4.5)	n (%)		
0-7.5	Observation or support	1162 (79.2)		
7.6-14.9	Intervention	210 (14.3)		
15 (cut-off point)	Continuous support	15 (1.0)		
16-29.5	Early intervention (almost emergent)	68 (4.6)		
30 or more	Emergency evacuation	11 (0.8)		
Frequency of IPV harm	by type			
Scores of variables extracted from the 20-item n (%) questionnaire regarding harm due to IPV				
My partner neither did	housework nor raised a family.			
0	Never	1354 (92.4)		
0.5	>1 year ago	44 (3.0)		
1	Once	7 (0.5)		
2	Twice	10 (0.7)		
3	3-5 times	14 (1.0)		
4	6-10 times	11 (0.7)		
5	11-20 times	5 (0.3)		
6	>20 times	21 (1.4)		
My partner wasted our	daily living expenses and bought	needless things		
0	Never	1100 (75.0)		
0.5	>1 year ago	124 (8.5)		
1	Once	28 (1.9)		
2	Twice	38 (2.6)		
3	3-5 times	62 (4.2)		
4	6-10 times	42 (2.9)		
5	11-20 times	11 (0.8)		
6	>20 times	61 (4.2)		

Abbreviations: IPV, intimate partner violence.

Spearman's correlation among depressive severity and items of IPV harm (Appendix 3)

Spearman's correlation matrix is shown in Appendix 3.

TABLE 3 Cramér's coefficient of association between depression trait and sociodemographic characteristics, past traumatic experiences, and psychiatric history.

Variables	Cramér (V)	p-value
Sociodemographic characteristics		
Age	0.16	0.000***
Employment	0.15	0.002**
Household income	0.31	0.314
Marital status	0.12	0.000***
Experience of divorce	0.07	0.011**
Employment status of partner	0.10	0.000***
Child (having children)	0.06	0.022*
Academic history	0.12	0.000***
Alcohol consumption habit	0.02	0.391
Foregoing divorce to avoid ACEs in their offspring	0.22	0.000***
Past traumatic experiences		
Childhood exposure to DV	0.14	0.000***
Experience of school bullying	0.16	0.000***
Psychiatric history		
Past/present psychiatric history	0.21	0.000***
Experience of taking psychiatric medicine (sleeping pills, tranquilizers)	0.20	0.000***

Note: The bold indicates the statistical significance.

Abbreviations: ACEs, adverse childhood experiences; DV, domestic violence

*p < 0.05; **p < 0.01; ***p < 0.001.

Logistic regression analyses (Table 4a) (Table 4b) (Figure 2)

Of the sociodemographic characteristics listed in Table 4a, three were shown to be significantly associated with depression trait: the lowest level of academic attainment, that is, junior high school (academic attainment; odds ratio [OR]: 3.07, 95% confidence interval [CI]: 1.06–8.83, p = 0.037); age 18–49 years (OR: 1.88, 95% CI: 1.41–2.52, p < 0.001); and not having children (OR: 1.740, 95% CI: 1.230–2.462, p = 0.002). In the categories "past traumatic experiences" and "psychiatric history," all variables were shown to be significantly associated with depression trait. Past/present psychiatry history (OR: 3.02, 95% CI: 2.16–4.23, p < 0.001) had the most significant association, followed by "foregoing divorce to avoid ACEs in their offspring" (OR: 2.70, 95% CI: 2.07–3.53, p < 0.001) and "childhood exposure to DV" (OR: 1.89, 95% CI: 1.28–2.77, p < 0.01).

Having children was negatively correlated with depression trait. "Employment status of partner," which was shown to be significant in the analysis with Cramér's correlation of association, showed no significance. Table 4b summarizes the results about the type of IPV harm. The analyses of the harm by types on the DVSI and the 20-item

TABLE 4a Logistic regression: Depression trait, sociodemographic characteristics, past traumatic experiences, and psychiatric history.

	B SE <i>p-</i> value			Adjusted	95% CI for EXP(B)	
		odds ratio	Lower	Upper		
Sociodemographic characteristics						
Age 18-49 years	0.636	0.148	0.000***	1.889	1.414	2.523
Employment status of partner (employed)	0.181	0.126	0.150	0.835	0.653	1.068
Having children (none)	0.554	0.177	0.002**	1.740	1.230	2.462
Academic attainment						
Junior high school	1.122	0.539	0.037*	3.071	1.068	8.833
High school	0.330	0.249	0.186	1.391	0.853	2.267
Cotech or college	0.383	0.284	0.177	1.467	0.841	2.559
Undergraduate	-0.083	0.232	0.720	0.920	0.584	1.450
Foregoing divorce to avoid ACEs in their offspring	0.994	0.136	0.000***	2.703	2.070	3.531
Past traumatic experiences						
Childhood exposure to DV	0.636	0.196	0.001**	1.899	1.285	2.775
Experience of school bullying	0.471	0.147	0.001**	1.602	1.201	2.137
Psychiatric history						
Past/present psychiatric history	1.107	0.171	0.000***	3.026	2.162	4.236

Note: The dependent variable was positive or negative of depression. Negative coded 0. Positive coded 1. Nagelkerke R^2 ; 0.187. The bold indicates the statistical significance.

Abbreviations: ACEs, adverse childhood experiences; CI, confidence interval; DV, domestic violence.

questionnaire identified three variables by using Spearman's correlation (Appendix 3). Among the specific manifestations of the harm, "My partner neither did housework nor raised a family" (frequency of abuse: twice) had the most significant association with depression trait (OR: 8.00, 95% CI: 1.59-40.29, p=0.012), followed by "My partner wasted our daily living expenses and bought needless things" (once; OR: 4.54, 95% CI: 2.05-10.05, p<0.001) and "My partner did or said something to spite me" (>20 times; OR: 3.13, 95% CI: 1.92-5.10, p<0.001). The frequency of neglect showed a bimodal distribution (Figure 2).

Multiple linear regression analysis (Figure 3)

The results of the multiple linear regression analysis showed that the model was significant (F = 197.25; p < 0.001; $R^2 = 0.21$; adjusted $R^2 = 0.21$) and that "other than IPV harm" ($\beta = 0.35$, p < 0.001) and "IPV harm" ($\beta = 0.21$, p < 0.001) had significant impacts on depression trait (β : standardized partial regression coefficient) (Figure 3). No multicollinearity was found.

Help-seeking behavior of the victims (Table 5)

Forty-two respondents (2.9%) answered "yes" to the question of "Have you talked to anyone about the abuse/violence you have

experienced?" as help-seeking behavior of the victims. Of those, 27 men talked to family members (64.3%) and 16 men talked to friends/ colleagues (38.1%). Most victims, namely 1,424 (97.1%) men, did not talk to anyone about their exposure to IPV. The reasons for not doing so were "I thought the abuse or violence against me was not severe enough to need consultation with someone" (76.3%), "The abuse or violence against me was my fault" (21.3%), "I thought it was not honorable to consult anyone" (11.4%), "I should simply put up with the abuse or violence" (11.9%), "I am too ashamed to talk to anyone about the abuse or violence against me" (6.1%) and "I do not want people to know about the abuse or violence against me" (5.4%).

DISCUSSION

We collected and analyzed web-based questionnaire responses from male IPV victims in Japan to investigate factors impacting IPV-associated depression trait. A logistic regression analysis was conducted separately for "IPV harm" and "other than IPV harm" (sociodemographic characteristics, past traumatic experiences, and psychiatric history). The results showed that the following five variables other than IPV harm were significantly correlated with mild depression (i.e., a positive score of 5–9 points on the PHQ-9 depression screening scale [range 0–27]³²): academic attainment (junior high school graduate), past/present psychiatric history,

^{*}p < 0.05; **p < 0.01; ***p < 0.001.

TABLE 4b Logistic regression: Depression trait and IPV harm by types.

				95% CI for EXP(B)		
	В	S.E.	p-value	Adjusted odds ratio	Lower	Upper
Neglect						
My partner neither o	lid housework nor	raised a family				
>1 year ago	0.070	0.338	0.836	1.073	0.553	2.082
Once	-0.018	0.810	0.983	0.983	0.201	4.806
Twice	2.080	0.825	0.012*	8.006	1.590	40.298
3-5 times	0.366	0.566	0.518	1.442	0.476	4.371
6-10 times	0.903	0.673	0.180	2.467	0.659	9.232
11-20 times	0.615	0.976	0.529	1.850	0.273	12.531
>20 times	1.540	0.553	0.005**	4.665	1.580	13.779
Economic abuse						
My partner wasted o	our daily living expe	enses and bought	needless things			
>1 year ago	0.148	0.215	0.491	1.160	0.761	1.769
Once	1.514	0.405	0.000***	4.546	2.055	10.054
Twice	0.711	0.363	0.050	2.035	0.999	4.147
3-5 times	0.563	0.282	0.046*	1.755	1.010	3.051
6-10 times	0.952	0.343	0.006**	2.590	1.323	5.071
11-20 times	0.052	0.692	0.941	1.053	0.271	4.086
>20 times	0.997	0.293	0.001**	2.711	1.525	4.819
Psychological abuse						
My partner did or sa	id something to sp	ite me				
>1 year ago	0.554	0.146	0.000***	1.741	1.308	2.318
Once	-0.530	0.359	0.140	0.589	0.291	1.190
Twice	0.274	0.301	0.363	1.315	0.729	2.372
3-5 times	0.504	0.215	0.019*	1.655	1.087	2.522
6-10 times	0.941	0.341	0.006**	2.563	1.314	4.997
11-20 times	0.474	0.447	0.289	1.607	0.669	3.860
>20 times	1.141	0.249	0.000***	3.130	1.920	5.103

Note: The dependent variable was positive or negative of depression. Negative coded 0. Positive coded 1. Nagelkerke R^2 ; 0.113. Abbreviation: CI, confidence interval; IPV, intimate partner violence.

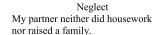
foregoing divorce to avoid ACEs of offspring, age 18–49 years, and having no children. Regarding past traumatic events, both childhood exposure to domestic violence and having experienced bullying at school were significantly correlated with depression trait.

Among "IPV harm," neglect, economic abuse, and psychological abuse were significantly correlated with depression trait. To examine the separate contributions of "IPV harm" and "other than IPV harm" data to depression trait, we conducted a multiple regression analysis using them as independent variables, and we observed that "other than IPV harm" had a greater impact on depression trait than "IPV harm". These results are consistent with

those of previous studies although those studies focused mainly on female victims. 14,43

To our surprise, items "other than IPV harm" had a greater contribution to depression trait than experiences of IPV harm themselves among the present male IPV victims. Notably, the lowest level of academic attainment, being a junior high school graduate, was the strongest factor in mild depression, with an OR of 3.07 (95% CI: 1.06–8.83). Depression might be attributable to issues of self-esteem and self-actualization, 44 which may also be associated with lower academic attainment. Our analyses also revealed that traumatic events, including childhood exposure to DV and being bullied at

p < 0.05; p < 0.01; p < 0.00.



Economic abuse
My partner wasted our daily living
expenses and bought needless things.

Psychological abuse My partner did or said something to spite me.

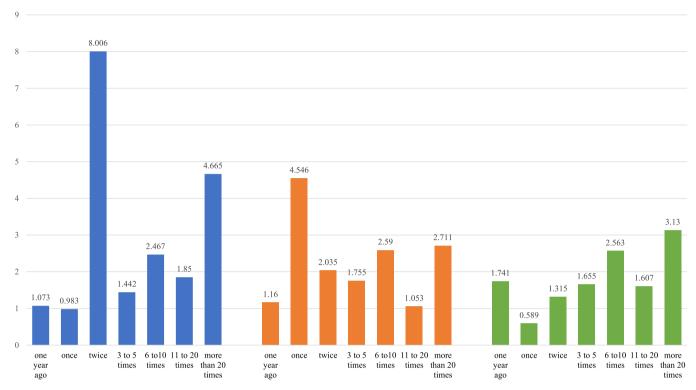


FIGURE 2 The odds ratios for depression trait according to intimate partner violence frequency. The value of odds ratios for depression trait according to frequencies of neglect was bimodally distributed.

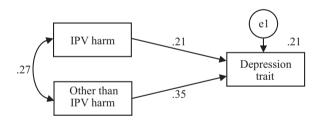


FIGURE 3 Multiple linear regression analysis: Association among depression trait, intimate partner violence (IPV) harm, and other than IPV harm. The dependent variable: Depression trait (total score of PHQ-9). The independent variables: IPV harm, adjusted for responses to "My partner neither did housework nor raised a family," "My partner wasted our living expenses and bought needless things," and "My partner did or said something to spite me"; Other than IPV, adjusted for age, employment status of partner, having children, academic history, foregoing divorce to avoid adverse childhood experiences (ACEs) of their offspring, childhood exposure to domestic violence (DV), experience of school bullying, and past/present psychiatric history.

school, were significantly correlated with depression trait. These events have been reported to attenuate personal resilience against depression, which may have influenced the present results. Therefore, ethical education to eliminate IPV and bullying in schools plus appropriate support at other levels (e.g., social services, medical

care, and public support institutions) could be crucial society-wide interventions. $^{\mathbf{46}}$

Among "IPV harm," the present respondents' data indicated that neglect was most significantly correlated with depression trait, followed by economic abuse and psychological abuse. Unexpectedly, the odds ratios for depression trait varied inversely with the frequency of abuse; the highest correlation was found for a relatively low level of frequency of neglect (twice, OR 8.00) and economic abuse (once, OR 4.54). This suggests that these types of abuse impact male victims of IPV enough to induce depression trait, even if they occur just once or twice. The association of neglect with depression trait may be attributed to the traditional Japanese gender roles stipulating that the husband should work outside the home and the wife should do housework and childcare. 47 Due to this structural gender discrimination of gender-based roles as well as those of masculinity and femininity, men may be more likely to have stress from a partner of the opposite gender who does not perform her role.¹⁴ In this study, more than half (55.1%) of the respondents' spouses were housewives. According to the study by Cook,14 partners' unemployment or having a part-time job with low income increase the likelihood of IPV victimization. In the situation of economic abuse, even though male victims work outside and earn money, they were exploited by their spouses, which may distress them. Nonetheless, the gender-based roles in Japanese society may

TABLE 5 Questionnaire on help-seeking behavior of the victims.

Have you talked to anyone about the abuse/violence you have experienced? (n = 1466)	n (%)
Yes	42 (2.9)
No	1424 (97.1)
Yes: To whom did you talk? (n = 42)	n (%)
Family members	27 (64.3)
Friends/colleagues	16 (38.1)
Medical employment	12 (28.6)
Administrative organisation	7 (16.7)
Police agency	3 (7.1)
Social networking services	1 (2.4)
No: The reason why you did not talk to anyone. (n = 1424)	n (%)
I thought the abuse or violence against me was not severe enough to need consultation with someone	1086 (76.3)
The abuse or violence against me was my fault	303 (21.3)
I should simply put up with the abuse or violence against me	169 (11.9)
I thought it was not honorable to consult anyone	162 (11.4)
I do not know who to talk to/where to turn to	111 (7.8)
I am too ashamed to talk to anyone about the abuse or violence against me	87 (6.1)
I do not want people to know about the abuse or violence against me	77 (5.4)

Note: The data include duplicate responses.

bolster this distress and more integrated gender equality policies should be taken in the country.

Former traumatic events, including childhood exposure to domestic violence (OR: 1.89, 95% CI: 1.28–2.77) and experience of school bullying (OR: 1.60, 95% CI: 1.20–2.13), had quite significant impacts on the later development of depression trait. These experiences could be risk factors for depression, leading to long-term health effects in adulthood. The risks for depression due to trauma and IPV victimization in females have been extensively studied, whereas the prevalence of depression among male IPV victims has not been fully elucidated. However, a self-administered questionnaire in Portugal revealed that the prevalence of psychiatric disorders, including depression, stress disorders, and psychosomatic disorders, among male IPV victims was 4.7%. The prevalence of depression in the general population of Japan is 2.2% (12 months), and the 10.7% prevalence in the present respondents is much higher than that of the general population.

Regarding the help-seeking behavior of the victims, 97.1% of the respondents did not consult anyone about their IPV victimization. One possible explanation of this result is that the respondents might be avoiding shame and are practicing excessive emotional self-control, which leads to an avoidance of help-seeking behavior, in

accord with the traditional Japanese culture that upholds the virtue of patience. ¹⁸ This cultural perspective may also make the victims less aware of the abuse or violence they have suffered.

Previous studies have indicated that male victims are facing invisible abuse/violence, that is, neglect, economic abuse and psychological abuse,³ and controlling abuse/violence,⁵⁰ that is, social abuse. In this study, male victims were also suffered from invisible abuse rather than controlling abuse/violence. Hirigoyen stated that repeated psychological abuse might attack the identity and defeat all individuality of a person, which is a real process of moral destruction that can lead to mental illness or suicide.⁵¹ Although psychological abuse has a strong impact on the mind and is associated with mental illness, perpetrators might be less conscious of the behaviors, and society as well.

Victims of psychological abuse may need help resolving its cumulative harm to prevent it from destroying their lives. In 2012, Coker et al. reported that in-person and/or peer counseling (advocate interventions) could reduce depression. There are few available interventions for male victims in Japan. For instance, there are fewer than five shelters and fewer than 10 helplines for males in Japan (under the jurisdiction of each prefecture; data not shown), whereas there are more than 100 shelters for females in Japan and at least one helpline provided by each of Japan's 47 prefectures. As such, men have a significant disadvantage compared to women when victimized by abuse and violence. The social support for male victims is extremely limited compared to that for female victims, in part because of the existence of discrimination against men due to gender inequality. Gender discrimination against male victims should thus be eliminated, and improved support specifically for male victims is warranted.

This study is the first survey focusing on an exploration of risk factors for depression trait in male IPV victims in an Asian population. The respondents were >18 years old and were randomly selected from all over Japan. We included 1466 respondents living in different regions out of 4.73 million registrants. The age range of the participants was 18–85 years and 79.2% were aged 50 years or older. The age distribution of the study participants differed from the general population. This might suggest that there was age disproportion between male IPV victims and the general population, that is, middle aged Japanese men might tend to fall victim to IPV. To elucidate this issue, further studies are warranted.

The rate of unemployment in the respondents with IPV victimization in this study was relatively higher than that of general population.⁵³ This suggested the possible association between unemployment and being IPV victims, who need social supports.

The Internet was used for the data collection, and this method is more anonymous than mail-in surveys; it also allows for ease of participation despite the questionnaire's focus on personal/private matters. To address the "survey fraud" issue of Internet-based questionnaire surveys, ⁵⁴ we confirmed that there was no evidence of multiple responses by the same person, from the same immediate region, or on the same device. However, the vast majority of the

respondents were eliminated from the study due to missing data, and it is possible that this may have affected the results.

Study limitations

This study did have some limitations. The age distribution of the study participants differed from the general population, that is, 79.2% of the participants were aged 50 years or older. Since the items of "My partner neither did housework nor raised a family," "My partner wasted our daily living expenses and bought needless things" and "My partner did or said something to spite me" were subjective, it was possible that the participants' responses were affected by their mental state and that some of the participants made positive responses to the items as a result of depression trait. The items including low education, age, childlessness, past traumatic experiences, and psychiatric history are generally associated with depression trait and may not be limited to male IPV victims. Detailed data on the time of onset and duration of depressive symptoms and the causes of IPV were not obtained in this study; causal relationships cannot be established and remain for future investigations. Because there was no professional diagnosis, it cannot be confirmed that respondents who were positively screened actually had depression. Regarding long-term injury from IPV, it is known that victims can develop posttraumatic stress disorder (PTSD), but the comorbidities of PTSD in such victims were not investigated. Additionally, we examined the severity of the harm within a single year, but there were many excluded registrants (those who did not complete the survey) who reported IPV harm occurring more than 1 year prior. Finally, it is also possible that victims with severe harm due to IPV could not report their experience in the early phase (i.e., within 1 year) due to PTSD symptoms, such as intrusive re-experiences of trauma and flashbacks.

Further research is needed to examine this issue and include past sufferers of IPV abuse.

CONCLUSION

Male IPV harm in Japan has multi-layered complexity. The victims are more likely to face invisible abuse than the visible marks of physical violence. The sociodemographic characteristics and the experiences of victims' own lives have a greater impact on depression trait screening categories than the direct IPV harm, suggesting that male IPV victims may need more special attention paid to prior psychological abuse and/or issues stemming from childhood. Comprehensive support that is appropriate for male IPV victims is urgently needed.

AUTHOR CONTRIBUTIONS

Junko Morishita wrote the first draft. Junko Morishita, Rika Kato, and Shiro Suda contributed to data interpretation. Junko Morishita,

Manabu Yasuda, and Shiro Suda provided the outlines and conception. Junko Morishita and Shiro Suda wrote the paper, and Shiro Suda supervised and finalized the manuscript and approved the final article.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, S.S., upon reasonable request.

ETHICS APPROVAL STATEMENT

All participants gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by Jichi Medical University Clinical Research Ethics Committee (Approved No. 19 - 196).

PATIENT CONSENT STATEMENT

N/A.

CLINICAL TRIAL REGISTRATION

N/A.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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