BEREAVEMENT EXPERIENCE IN THE GENERAL POPULATION: INCIDENCE, CONSEQUENCES, AND COPING IN A NATIONAL SAMPLE OF JAPAN

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ABSTRACT
The present study was conducted to investigate the actual status of bereavement experience in the general population of Japan. Data were collected via questionnaires from a nationally representative sample of Japanese aged 12 years and older from the National Survey of Trends of Health and Welfare by the Department of Health and Welfare of Japan in 2000. The number of valid questionnaires was 32,022 (15,217 male, 16,597 female, and 208 unidentified). Among them, 1082 people (410 males and 672 females) answered that they had experienced the death of a person close to them within the last month. This means that approximately 5% of the general population had experienced bereavement within the month prior to the survey. The bereavement experience caused modest but substantial elevation in depressive symptoms. The middle-aged population most commonly experienced bereavement, and women were more likely to be affected seriously by bereavement. These results suggested that appropriate mental health strategies for bereaved people are important from a public mental health point of view.

INTRODUCTION
During the 20th century, world wars and other crises have spurred the development of research in bereavement. The focus of early studies began with “shell shock,” and then shifted to the grief process of those people who had lost their loved ones, had serious psychological problems, and needed professional help.
These studies were generally based upon clinical observations and aimed to find new forms of effective clinical intervention. More recently, the scientific study of bereavement has increasingly sought to clarify the risk factors of the maladaptive grief processes during the experience of bereavement (Stroeve, Hansson, Stroebe, & Schut, 2001). Most of these studies concerned the various kinds of people who lost an intimate; for example, people who lost a partner (Richardson & Balaswamy, 2001), children who lost a parent (Riches & Dawson, 2000), and parents who lost a child (Rubin & Malkinson, 2001). Some research also focused on specific kinds of bereavement as a traumatic stress, such as the unexpected loss brought about by a crime, an accident, or a disaster (McFarlane, 1995).

Death is not a rare event for most of us. Almost all of us will experience the deaths of intimate persons at some time in our lives. If one does not experience the death of his or her mother, it certainly means that his or her mother experienced the death of her child. If a husband does not experience the death of his wife, his wife has certainly experienced the death of her husband.

Therefore, almost all of us are members of risk groups for a bereavement experience as described above. Despite this fact, serious psychological problems after bereavement are not common among us. For instance, Stamm (1999) has mentioned that the estimated non-clinical population lifetime post-traumatic stress disorder (PTSD) prevalence rate is only 7.8%, whereas more than half of the general population is exposed to an event that would qualify as an extreme stress, according to the DSM-IV. These types of findings suggest the possibility that most people are able to cope with bereavement.

The incidence of bereavement experience has not been studied, despite the fact that almost everyone will lose a loved one. It is not yet known who will typically experience bereavement, under what circumstances, and when. The present study seeks to clarify the incidence of bereavement experience in the general population from the nationally representative data of Japan. A second goal of the study is to design a preventive measure to improve public mental health.

The data used in this study were collected to provide information about the circumstances of stressful events, stress responses, and coping and social support in the general population. Therefore, the relationships between the bereavement experience and stress responses, and between coping and social support, were analyzed to clarify the influence of bereavement experiences and intervening parameters.

Recently, Stroebe, Stroebe, and Schut (2001) have suggested that men are more vulnerable to bereavement than women after partner loss. Thus, the gender differences in stress responses, coping, and social support were specific concerns in the larger context of the incidence of bereavement in the general population.
METHOD

Data Collection and Study Sample

Data for this analysis were nationally representative, and came from the National Survey of Trends of Health and Welfare, conducted on June 1, 2000 by the Department of Health and Welfare of Japan (2001). The sample consisted of all households in the National Life Basic Survey of Japan, which was conducted by stratified random sampling design of 300 selected areas in Japan, with respondents aged 12 years and older.

The investigators visited the individual houses to deliver questionnaires to the subjects. They visited again to collect the questionnaires after completion. The total number of collected questionnaires was 32,729, and the number of valid questionnaires was 32,022 (15,217 male, 16,597 female, and 208 unidentified).

Among these samples, 1082 people (410 males and 672 females) answered that they had experienced the death of an intimate person within the last month; these subjects were designated as the bereaved group in the present study. The double-sized control group (820 males and 1344 females) necessary for detailed analysis of the correlates of bereavement experiences was selected by a stratified random sampling adjusted for age and gender from the remainder of the data.

Measures

Measures used in the present analysis were: stressful life events during the past month, health and psychological conditions, coping strategies, and providers (if any) of social support. One such stressful experience was the death of a loved one. This stressor was adopted as an independent variable in the present analysis. The category of health and psychological conditions included subjective physical health complaints, behavioral disturbances, and depressive symptoms.

As the measure of depressive symptoms, the 20-item Japanese version of the Center for Epidemiologic Studies Depression Scale (CES-D) was used. Subjects whose total CES-D score was more than 30 were classified as the depressive group according to the suggested cut-off point for the screening by Japanese CES-D scale (Furukawa, Hirai, Kitamura, & Takahashi, 1997). In addition, two subscales—depressed inactivity and depressed feeling—were adopted by factor analyses of CES-D in the further analyses. Their reliability coefficients were .8679 and .8109, respectively.

The coping strategies and social support for stressful events were evaluated with “yes” or “no” questions. Scores of coping strategies were calculated by summing two to seven items which were classified into four strategies: problem-focused, support-seeking, distraction, and avoidance coping. Generally, avoidance is loss-oriented coping, and the other three are restoration-oriented strategies (Stroebe & Schut, 1999). There were no available data concerning individual
income or the social class of the respondents in the survey. Instead, the relationship between the average per capita income of the prefecture where the subjects lived and the experience of bereavement was analyzed.

RESULTS

Bereavement Experience in General Population

The percentages of the subject population experiencing bereavement during the month prior to the survey were 3.63% for males and 5.19% for females ($\chi^2(1) = 31.54, p < .001$). Figure 1 shows both the number of people who reported experiencing bereavement during the past month and the total number of respondents by gender and by age group, divided into 10-year segments. It is clear that the numbers of bereaved females were greater than those of bereaved males in most of the age groups.

It is interesting that the percentage of bereaved was much greater in females (7.49%) than males (4.08%) in the 50-59 age group. Gender difference was significant in the 40-49, 50-59, and 60-69 age groups ($\chi^2(1) = 4.862, p < .05$;
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$\chi^2(1) = 20.792, p < .001; \chi^2(1) = 3.766, p < .05$, respectively, but no significant difference was found among the younger and the elder age groups. The summed percent of bereaved people in these three groups (ages 40-49, 50-59, and 60-69) was 59.5\% for men and 61.0\% for women. Taken together, these findings indicate that members of the middle-age population, especially middle-aged women, are more likely to lose a loved one.

The number of bereaved people who scored higher than the cut-off point on Japanese CES-D was 58 out of 711 (8.2\%). This percentage was approximately double, and significantly greater ($\chi^2(1) = 53.16, p < .001$) than, that among non-bereaved people (559 out of 17,763; 3.7\%). The relative risk of bereavement to depressive symptoms was 2.644 (95\% reliable range was 1.990 – 3.511) by gender-adjusted Mantel-Haenszel method.

Although there are no data on individual economic status in the present survey, no difference was found in the bereavement experiences among people who lived in high- versus low-income areas of Japan. However, the influence of socio-economic factors upon the incidence of bereavement should be investigated in future study.

**Detailed Comparison between the Bereaved and the Control Samples**

Detailed analyses of bereavement were conducted concerning depressive symptoms, stress responses, coping strategies, and social supports in the bereaved as compared with the control sample by stratified random sampling adjusted for age and gender.

Table 1 shows the mean scores and standard deviations of the CES-D total score, the two subscales of depressive symptoms, and the score of stress responses in the bereaved and control samples by gender. In general, the bereaved group showed modest but substantial elevation for all scores, as compared with the control group. A two-way ANOVA for the total CES-D score revealed significant effect of bereavement [$F(1, 2091) = 86.97, p < .001$], but no gender effect was found.

As to the subscales of depressive symptoms, a three-way ANOVA revealed significant effects of bereavement [$F(1, 3242) = 106.04, p < .001$]; types of depressive symptoms [$F(1, 3242) = 326.21, p < .001$]; and a significant interaction of depressive symptoms with bereavement [$F(1, 3242) = 7.08, p < .01$]. The bereaved group showed higher scores in both depressive inactivity and depressive feeling. In both bereaved and control groups, the score of inactivity was greater than that of feeling, and this difference was more pronounced in the control group.

As for stress responses, a three-way ANOVA showed significant effects of gender [$F(1, 3242) = 24.96, p < .001$]; bereavement [$F(1, 3242) = 122.16, p < .001$]; and types of stress responses [$F(1, 3242) = 328.94, p < .001$]; and
significant interaction of stress responses with gender, and stress responses with bereavement \( F(1, 3242) = 10.86, p < .001 \) and \( F(1, 3242) = 22.37, p < .001 \), respectively. That is, the bereaved group showed higher scores in both behavioral disturbances and physical complaints in both males and females. Scores of behavioral disturbance for both bereaved and control groups were greater than those for physical complaints, and this difference was especially pronounced in the bereaved group. Additionally, females showed higher behavioral disturbances scores than physical complaints scores as compared with males.

Table 2 shows the means and standard deviations of scores of coping strategies in the bereaved and the control groups by gender. The three-way ANOVA showed significant effects of gender, bereavement, coping strategies, interaction of strategies by gender, and interaction of strategies by bereavement \( F(1, 3242) = 25.35, p < .001; F(1, 3242) = 141.49, p < .001; F(1, 3242) = 355.48, p < .001; F(1, 3242) = 20.14, p < .001, \) and \( F(1, 3242) = 5.31, p < .05 \), respectively. The bereaved group showed higher scores on all coping strategies, especially support-seeking and avoidance-coping. It is interesting that the scores of coping strategies were greater for males except in the area of support-seeking, whereas control females also showed greater scores for support-seeking than for the other coping strategies, as compared with males.

Table 3 shows the percent of providers of social support in the bereaved and control groups by gender. The bereaved groups show greater prevalence of all kinds of providers \( \chi^2(1) = 14.99, p < .001; \chi^2(1) = 27.89, p < .001; \chi^2(1) = 20.64, p < .001; \chi^2(1) = 11.05, p < .001 \), respectively. The most common provider was a family member, and the second was friends for all groups. It is noteworthy that bereaved males show greater endorsement of medical doctors than do the controls \( \chi^2(1) = 26.13, p < .001 \), while no significant difference exists for females.

<table>
<thead>
<tr>
<th>Scores</th>
<th>Bereaved (n = 410)</th>
<th>Control (n = 820)</th>
<th>Bereaved (n = 672)</th>
<th>Control (n = 1,344)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CES-D</td>
<td>14.85 (0.48)</td>
<td>11.31 (0.35)</td>
<td>15.42 (0.39)</td>
<td>11.85 (0.28)</td>
</tr>
<tr>
<td>Depressive inactivity</td>
<td>7.55 (0.32)</td>
<td>5.42 (0.24)</td>
<td>8.01 (0.26)</td>
<td>5.97 (0.18)</td>
</tr>
<tr>
<td>Depressive feeling</td>
<td>5.48 (0.26)</td>
<td>3.17 (0.19)</td>
<td>5.87 (0.21)</td>
<td>3.49 (0.15)</td>
</tr>
<tr>
<td>Physical complaints</td>
<td>2.63 (2.27)</td>
<td>1.95 (1.87)</td>
<td>3.17 (2.32)</td>
<td>2.55 (2.13)</td>
</tr>
<tr>
<td>Behavioral disturbances</td>
<td>3.96 (2.95)</td>
<td>2.80 (2.61)</td>
<td>4.15 (3.02)</td>
<td>3.07 (2.68)</td>
</tr>
</tbody>
</table>

Table 1. Mean and Standard Deviation of Total CES-D Score (0-60), Two Depressive Symptoms (0-10), and Scores in Two Kinds of Stress Responses (0-10) in the Bereaved and Control Groups by Gender
DISCUSSION

The results of this study show that approximately 5% of the general Japanese population surveyed experienced bereavement within the month prior to completing the survey, and that their relative risk for depressive symptoms was 2.644. This is neither a small proportion nor a small effect. Bereavement is a relatively common phenomenon, and should be considered an important area of study with respect to improving public mental health.

The second finding was that the middle-aged population was most likely to experience bereavement. Considering that the greatest number of deaths occurs among the 80-89-year-old age group in Japan and presuming a generation gap of approximately 30 years, this finding seems reasonable. It appears that the most common experience of bereavement in the general population may be the death of a parent, i.e., the life-cycle transition (Scheafer & Moss, 2001).
However, the finding that women experience bereavement much more than do men is not explained by this consideration of the normative life-cycle transition. Naturally, the number of biological parents should be two for both women and men, and the same should be the case for the parents-in-law. Therefore, an additional explanation will be necessary to address this gender difference. One possibility is that women suffer the loss of intimates more frequently because they generate more intimate connections than do men. This is not a peculiar speculation, because women are typically believed to be more empathic and social than men (Eisenberg et al., 1988). Therefore, it is possible that women have more intimate relationships than men, and so are more likely to consider their relationship to the deceased person intimate. However, this speculation is not sufficiently consistent with the finding that no statistically significant gender difference for bereavement experiences was found among the younger and elder subject groups.

An alternative possibility is that women are more likely to maintain closer relationships with their parents and parents-in-law (Frank, Avery, & Laman, 1988). Intergenerational co-residence among adults is the norm in Japan, unlike in most Western populations. In spite of the fact that the rate of co-residence has declined, women who live with parent(s) or parent(s)-in-law are not rare in Japan. Also, Japanese daughters and daughters-in-law play the central role of caregiving to elderly parents (Yamamoto & Wallhagen, 1998), and Japanese women more frequently care for older parents-in-law than do women in other countries (Grundy, 2000).

Considering these circumstances of Japanese women, it is plausible that middle-aged Japanese women are more likely to develop and maintain close relationships with their parent(s) and parent(s)-in-law. Therefore, the finding that women experience bereavement more frequently than men during middle age could be at least partially explained by their close relationships with parents and in-laws, especially in Japan. In the United States, it was found that men have low relational expectations of each other as compared with women, and that their disappointment is minimal when a father-in-law is distant or removed (Serovich & Price, 1994). It is interesting that these gender differences of bereavement experienced in middle age can be found in the United States as well as in Japan.

Additionally, detailed analysis clearly supported the finding that women became more depressed and affected during the bereavement experience than men. This was consistent with other findings that women show more grief and somatic problems after the death of a parent than do men (Moss, Resch, & Moss, 1997), and that women experience higher levels of grief than men upon the death of a child (Sidmore, 2000). Sidmore (2000) also found that women showed significantly higher levels of rumination, depersonalization, guilt, somatization, anger/hostility, loss of control, and despair on the Grief Experience Inventory than did men.
However, there is controversy regarding gender difference and bereavement. Stroebe, Stroebe, and Schut (2001) have suggested that men would be more vulnerable to bereavement than women. Others also argue that the widower suffers relatively greater health consequences than does the widow (Siegel & Kuykendall, 1990). Unfortunately, there was no detailed information about the decedents in the present survey, hence no conclusions regarding gender effects of the loss of partner can be made. However, it should be concluded that the bereavement experience, including partner loss, had greater adverse effects for women than for men using the appropriate age-matched control.

The issue of whether men or women suffer more seems to relate to gender differences in coping strategies and social supports. The present study reveals that the bereaved people used all kinds of coping strategies more frequently than did the control sample, and that distractive coping or induced positive affect may be effective in coping with bereavement (Folkman, 2001). The most frequent coping strategies reported were support-seeking for women, and avoidance and distraction for men. This was consistent with previous findings (Fitzpatrick, Spiro, Kressin, Greene, & Bosse, 2001).

Bereavement—the loss of a beloved person—also means that the bereaved person has lost a social support. Therefore, it is quite natural that another social support often played an important role in helping the bereaved (Hobfoll, Dunahoo, & Monnier, 1995; Okabayashi, Sugisawa, Yatomi, Nakatani, Takahashi, Fukaya, & Shibata, 1997; Stroebe, Stroebe, Abakoumkin, & Schut, 1996). As for the provider of the support, it is noteworthy that women were supported by their friends more frequently than were men, while men more often sought support from medical doctors. This suggests that some men could not utilize social support from close friends, and instead sought professional support.

The findings in the present study show that, in general, the middle-aged population most commonly experiences bereavement, often due to the death of a parent or parent-in-law. Since women are affected more seriously than men by bereavement, the consideration of mental health strategies for the middle-aged population, and especially for women, is important from a view of public mental health, considering that depressive symptoms are accelerated by the bereavement experience. It is recommended that the middle-aged population build close relationships with their family members and friends, because the presence of pre-existing social support plays an essential role during bereavement.

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REFERENCES


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