Research on the development of coping indexes for main caregivers providing long-term care to seniors

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Abstract: The purpose of this study was to develop an index for the measurement of “Coping” using a sample size of 1,085 caregivers providing long-term care to elderly family members, and to clarify the relationship between mental health and the coping strategies used by these family caregivers. The index developed is a model based on the “long-term care stress coping index,” which comprises two factors as subordinate concepts: “Coping through independent resolution” and “Coping through resolution involving assistance from others.” With regard to this model, we studied the goodness of fit on data from an oblique model comprised of these two factors and clarified the construct validity. We also analyzed the relationship between long-term care stress coping scores and mental health scores. As a result, the goodness of fit on data from a factor model for the long-term care stress coping index reached a statistically acceptable level, indicating that the index is valid. The scores for mental health were higher for persons who used “Coping through independent resolution” more frequently and were lower for persons who used “Coping through resolution involving assistance from others” more frequently.

Keywords: Coping, GHQ, Family caregivers, Seniors requiring care

I Introduction

The act of providing long-term care is stressful, regardless of whom the care is being provided to. In some cases, the person providing care is subject to greater stress, both physically and mentally, than the person receiving the care; as a result, it is not uncommon to see caregivers suffering from illnesses. There are several stress theories explain-
ing this phenomenon, including Hill's ABCX Model\(^1\) and the psychological stress cognitive theory\(^2\text{~}^4\), which focuses on the research of Lazarus et al.\(^5\). In existing prior research targeting family caregivers based on the stress cognitive theory, analysis has been carried out on the order of factors\(^6\text{~}^7\), for example, “Is the caregiver aware of the stress of caregiving?” and “If the caregiver is subject to stress, what types of coping behaviors are required?” Based on the stress cognitive theory proposed by Lazarus et al., models incorporating stressors, stress awareness, and stress reactions have been constructed to deal with topics right from the process of feeling stress in caregivers to the reactions to that stress. Hypotheses have been put forward regarding stress awareness in judgments of whether potential stressors represent harm, threat, or a challenge to the individual in question and regarding the definition of stress reactions through cognitive evaluation processes in which the caregiver selects “coping behaviors” to deal with these stressors.

At present, however, the relationship between these stress reactions and the mental health of caregivers has not been sufficiently investigated. According to Folkman et al.\(^8\), such coping is defined as a cognitive and behavioral effort to overcome, resist, and reduce internal and external demands and the conflicts between these demands. A basic conceptual framework for coping was also proposed by Baum et al.\(^9\), suggesting that the subordinate concepts are problem- and emotional-focused forms of coping. Problem-focused forms of coping are said to be closely related to the belief that the person has the capacity to directly change the stressful environment and the ability to alter the conditions. Emotional-focused forms of coping, on the other hand, are said to operate effectively in cases where it is difficult to change the conditions at hand, but where the person has the ability to control or minimize the emotional effects brought about by the stressors.

In recent years, however, Stanton et al.\(^10\) have shown that among existing coping indexes, some items are confounded with stress reactions (anxiety, depression, tension, etc.), particularly those items that are viewed as being emotion-focused. This suggests that there is a risk of drawing the conclusion that emotion-focused forms of coping are inappropriate, based on the similarities with items set for both types of coping.

Given the above situation, we can assume that clarifying the moderating and regulatory effects\(^11\) of coping on the stress reactions of family caregivers in relation to long-term care for seniors will contribute to the availability of materials for making effective judgments when specialists in the fields of medicine, insurance, and social welfare provide clinical support to these caregivers. Specifically, it will be possible to investigate the kinds of methods of providing support to caregivers that are most appropriate based on the status of the coping reactions demonstrated by the caregivers in question.

In order to achieve this goal, it would be desirable to develop an evaluation method for easily grasping the ways in which caregivers cope. The goal of the current research is threefold: (1) to develop an index for measuring caregivers’ coping in the face of stress, (2) to describe a factor model related to stress coping in the provision of long-term care, and (3) to clarify the relationship between these issues and the mental health of caregivers.

II Methods

1. Survey subjects

The subjects were 1,143 individuals who, as of April 1, 2002, were the main caregivers for any of the 5,189 seniors living in City A, Prefecture S, certified as “Category 1 insured persons” after having received certification of eligibility for long-term care. All of the subjects agreed in advance to participate in the study.
2. Methods

1) Survey methods

The survey was conducted by City Office public health nurses and Care managers that received survey commissions from municipalities under the long-term care insurance system. Meetings were held so that the persons responsible for implementing the survey in City A could explain the purpose, details, and methods of the survey to the Care manager. Following these explanations, the surveyors distributed the survey forms individually to the main caregivers, and then recovered the survey forms after obtaining written agreements regarding the caregivers' cooperation in the survey. The survey forms were sealed to ensure confidentiality and were then sent via postal mail to City A. The survey items asked questions pertaining to the following: gender and age of the senior requiring care and care required level, gender and age of the caregiver and the relationship of the caregiver to the senior requiring care, the period during which care was provided, stress coping related to caregiving, and mental health.

2) Method of developing evaluation indexes for long-term care stress coping

"Long-term care stress coping" was defined as strategies for coping with problems faced in the context of providing long-term care. "Problem-focused coping" comprised a total of eight items (hereinafter referred to as the "long-term care stress coping index"), with four items each for "Coping through independent resolution" and "Coping through resolution involving assistance from others." Responses had to be provided on a three-point scale (0: Never; 1: Sometimes; and 2: Often).

In our investigation of coping, we used two definitions as a reference. The first is by Cox and Ferguson (1991), who defined coping as cognitions and behaviors which, following a stressful transaction and defined independently of outcome, have the primary function, consciously decide, of dealing with the emotion caused by the transaction and developing a sense of personal control. This is achieved by those cognitions and behaviors combining into strategies which perform a mixture of functions: problem solving, reappraisal and avoidance. The second definition, which was by Lazarus and Folkman (1984), defined coping as cognitive and behavioral efforts to master, reduce, or tolerate the internal and/or external demands that are created by successful transaction.

In order to create an evaluation index related to long-term care stress coping, that is, coping strategies for problems that are expected to arise in long-term care scenarios, we first conducted an item pool to existing literature showing the results of a factor analyses. Second, we categorized those items into "problem centered" and "emotion centered" while referring to Lazarus et al.'s research on coping indexes. Third, we developed items for a final survey while referring to prior research in which question items were selected based on confirmatory factor analysis.

3) Indexes for mental health

Mental health was measured using the British 12-item General Health Questionnaire (GHQ-12). Responses were obtained using a four-point Likert scale and converted into scores using the GHQ scoring method (with four graded responses scored as 0-0-1-1 in ascending order, for a maximum of 12 points).

4) Analysis methods

In the statistical analysis, we investigated the construct validity from the perspective of the factor model for the long-term care stress coping index by assuming an oblique model comprising of "Coping through independent resolution" and "Coping through resolution involving assistance from others" and studying the goodness of fit on the data. Next, we examined construct validity in terms of the relationship with external standards by creating a factor relationship model using "Coping through independent resolution" and "Coping
through resolution involving assistance from others" as the independent variable and mental health as the dependent variable, by examining the goodness of fit with the model's data as well as the relationships between the variables.

In this study, we assumed that the GHQ-12 was a single-factor model. To estimate the goodness of fit of the model, we used the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Squares Error of Approximation (RMSEA). To estimate the parameters, we used the WLSMV (weighted least-squares parameter estimates using a diagonal weight matrix with robust standard errors and a mean- and variance-adjusted chi-square test statistic), taking into account that the scores represent binary variables.

The statistical analysis software used was M-plus Version 2.01. With regard to the significance of the standardized coefficient (path coefficient) for the factor model, we referred to the value of the non-standardized coefficient divided by the standard deviation (hereinafter, the t-value) and defined items showing an absolute value of 1.96 or more (5% significant level) as being statistically significant.

In the statistical analysis, we analyzed the data for 1,085 individuals; the data had no missing values in the responses to the GHQ-12. We used the following variables: gender, age, and required level of long-term care by the senior requiring care; gender and age of the main caregiver; relationship with the senior requiring care; the period of time over which care was provided; and the stress coping responses in relation to long-term care.

3. Ethical concerns

This research, which is a part of "Research operations related to improving the quality of long-term care insurance services," was conducted by City A on a commission from the Ministry of Health, Labor and Welfare. Authorization was obtained with regard to the publication of the research results from an Ethics Committee established within City A. The authors of this research were also designated by the mayor of City A as members of the research committee.

The Long-term Care Insurance Section of the City A's Office acted as the secretariat in the case of surveys related to the research operations, explaining the intent and purpose of the research to the persons being surveyed as well as their families. The survey forms and were distributed by the Care managers who conducted the survey from the secretariat. The enclosed documents included a written request clearly explaining that the resulting data would be statistically processed and that the survey results would be used in the future as materials to contribute to the creation of policies for long-term care in City A. A consent form was also enclosed so that the subjects could indicate their consent to participate in the survey based on these explanations.

Survey forms were collected only from those subjects who agreed to assist with the survey. Forms were collected individually by postal mail. The data used in this paper were collected along with the consent forms. The consent forms are currently stored and managed at the Long-term Care Insurance Section of the City A Office. The data sent to the author for analysis has been statistically processed, and contains no information whatsoever that would enable the identification of any of the individuals involved.

III Results

1. Sample characteristics

The gender distribution of the 1,085 main caregivers was as follows (Table 1): 246 of the caregivers were male (22.7%) and 839 were female (77.3%). The average age of the subjects was 60.5 years (SD = 11.6). The average period over which care was provided was 48.2 months (SD = 51.6). The most common relationship between the caregiver and the senior requiring care was that of daughter-in-law and father-in-law (338 persons;
31.1%), followed by wife and husband (330 persons; 30.4%), and daughter and father (263 persons; 24.2%).

2. Distribution of responses on the long-term care stress coping index

The item that received the most “Often” responses was “Actively used social welfare (human) services” (30.5%). This was followed by “Creatively used long-term care goods” (20.5%), “Actively used methods for a change of scenery” (18.1%), and “Thought of more efficient methods for providing care” (14.7%). The item that received the most “Never” responses was “Left the care entirely up to others” (82.9%), followed by “Thought about placing the care receiver in a long-term care facility” (62.4%), and “Used a long-term care facility or hospital on a temporary basis” (43.5%) (Table 2).

As shown in Table 3, the distribution of responses on the British GHQ-12 was 4.04, with a standard deviation of 3.32. Based on the scores noted above, judging the presence of depressive symptoms using a cut-off point of 2/3, the ratio of subjects with scores of 3 points or more was 57.0% (618 subjects). As a result, items indicating a depressive tendency accounted for about 60% of the total.

3. Compatibility of the long-term care stress coping index

Goodness of fit with the data for the oblique model comprising “Coping through independent resolution” and “Coping through resolution involving assistance from others” was as follows: CFI = 0.927, TLI = 0.932, and RMSEA = 0.107. All the path coefficients were statistically significant.

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**Table 1** Sample characteristics (n=1,085)

<table>
<thead>
<tr>
<th>Caregiver</th>
<th>Senior requiring care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Male</td>
<td>246 (22.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>827 (74.5%)</td>
</tr>
<tr>
<td>Average Age</td>
<td>60.5 (SD 11.6)</td>
</tr>
<tr>
<td>Average Care Period</td>
<td>48.2 (SD 51.6)</td>
</tr>
<tr>
<td>Relationship to Care receiver</td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>330 (30.4%)</td>
</tr>
<tr>
<td>Son</td>
<td>122 (11.2%)</td>
</tr>
<tr>
<td>Daughter in Law</td>
<td>338 (31.1%)</td>
</tr>
<tr>
<td>Daughter</td>
<td>263 (24.2%)</td>
</tr>
<tr>
<td>Daughter's husband</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Granddaughter</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Grandson</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>30 (2.8%)</td>
</tr>
</tbody>
</table>

**Table 2** Distribution of responses for long-term care stress coping Index (n=1,085)

<table>
<thead>
<tr>
<th>Question items</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xc1 Creatively used long-term care goods</td>
<td>284(26.2)</td>
<td>579(53.4)</td>
<td>222(20.5)</td>
</tr>
<tr>
<td>Xc2 Used a long-term care facility or hospital on a temporary basis</td>
<td>472(43.5)</td>
<td>457(42.1)</td>
<td>156(14.4)</td>
</tr>
<tr>
<td>Xc3 Actively used methods for a change of scenery</td>
<td>295(27.2)</td>
<td>594(54.7)</td>
<td>196(18.1)</td>
</tr>
<tr>
<td>Xc4 Thought of more efficient methods for providing care</td>
<td>344(31.7)</td>
<td>581(53.6)</td>
<td>160(14.7)</td>
</tr>
<tr>
<td>Xc5 Actively used social welfare (human) services</td>
<td>274(25.3)</td>
<td>481(44.3)</td>
<td>330(30.4)</td>
</tr>
<tr>
<td>Xc6 Thought about placing the care receiver in a long-term care facility</td>
<td>677(62.4)</td>
<td>306(28.2)</td>
<td>102(9.4)</td>
</tr>
<tr>
<td>Xc7 Left the care entirely up to others</td>
<td>899(82.9)</td>
<td>160(14.7)</td>
<td>26(2.4)</td>
</tr>
<tr>
<td>Xc8 Gathered information useful for long-term care</td>
<td>328(30.2)</td>
<td>599(55.2)</td>
<td>158(14.6)</td>
</tr>
</tbody>
</table>

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Table 3 Response distribution for the GHQ-12 (n=1,085)

<table>
<thead>
<tr>
<th>Question items</th>
<th>Response 1</th>
<th>Response 2</th>
<th>Response 3</th>
<th>Response 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xg1 able to concentrate</td>
<td>71 (6.5)</td>
<td>700 (64.5)</td>
<td>272 (25.1)</td>
<td>42 (3.9)</td>
</tr>
<tr>
<td>Xg2 lost sleep due to worrying</td>
<td>131 (12.1)</td>
<td>467 (43.0)</td>
<td>345 (31.8)</td>
<td>142 (13.1)</td>
</tr>
<tr>
<td>Xg3 play a useful role</td>
<td>104 (9.6)</td>
<td>660 (60.8)</td>
<td>266 (24.5)</td>
<td>55 (5.1)</td>
</tr>
<tr>
<td>Xg4 capable of making decisions</td>
<td>79 (7.3)</td>
<td>787 (72.5)</td>
<td>202 (18.6)</td>
<td>17 (1.6)</td>
</tr>
<tr>
<td>Xg5 constantly under strain</td>
<td>60 (5.5)</td>
<td>404 (37.2)</td>
<td>456 (42.0)</td>
<td>165 (15.3)</td>
</tr>
<tr>
<td>Xg6 can’t overcome difficulties</td>
<td>163 (15.0)</td>
<td>586 (54.0)</td>
<td>259 (23.9)</td>
<td>77 (7.1)</td>
</tr>
<tr>
<td>Xg7 feel reasonable happy</td>
<td>123 (11.3)</td>
<td>739 (68.1)</td>
<td>206 (19.0)</td>
<td>17 (1.6)</td>
</tr>
<tr>
<td>Xg8 enjoy normal activities</td>
<td>107 (9.9)</td>
<td>461 (42.5)</td>
<td>397 (36.6)</td>
<td>120 (11.0)</td>
</tr>
<tr>
<td>Xg9 face up to problems</td>
<td>196 (18.1)</td>
<td>559 (51.5)</td>
<td>251 (23.1)</td>
<td>79 (7.3)</td>
</tr>
<tr>
<td>Xg10 unhappy and depressed</td>
<td>392 (36.1)</td>
<td>538 (49.6)</td>
<td>122 (11.2)</td>
<td>33 (3.1)</td>
</tr>
<tr>
<td>Xg11 losing confidence in yourself</td>
<td>49 (4.5)</td>
<td>330 (30.4)</td>
<td>626 (57.7)</td>
<td>80 (7.4)</td>
</tr>
<tr>
<td>Xg12 thinking of yourself as worthless</td>
<td>536 (49.4)</td>
<td>392 (36.1)</td>
<td>122 (11.2)</td>
<td>35 (3.3)</td>
</tr>
</tbody>
</table>

No. of Respondents (%)

* Item 1: “Response 1: Was able to more than usual”; “Response 2: No change”; “Response 3: Was less able to than usual”; “Response 4: Was completely unable to”.
* Items 4, 7, 11: “Response 1: Was able to”; “Response 2: No change”; “Response 3: Was unable to”; “Response 4: Was completely unable to”.

Figure 1 Factor structure for long-term care stress coping index
(standardized solution; n = 1,085, CFI = 0.927, TLI = 0.932, RMSEA = 0.107, Cronbach's = 0.72)

4. Relationship between long-term care stress coping and mental health

The goodness of fit with the factor model data (using care-related stress coping as the independent variable and mental health as the dependent variable) was as follows: CFI = 0.946, TLI = 0.964, and RMSEA = 0.064. The path coefficient for mental health in “Coping through independent resolution” was -0.171 and the path coefficient for mental health in “Coping through resolutions involving assistance from others” was 0.331. Both these path coefficients were statistically significant. The contribution rate of the independent variable to the dependent variable (mental health) was 7.4%. It became clear that “Coping through independent resolution” contributed toward maintaining and promoting mental health, while “Coping through resolution involving assistance from others” contributed toward reducing mental health.
IV Discussion

The goal of the current research was to develop an index for measuring caregivers’ coping in the face of stress, to clarify a factor model related to stress coping in the provision of long-term care and to clarify the relationship between these issues and the mental health of caregivers.

First, with regard to the indexes for measuring stress coping among caregivers, the research results demonstrated by Stanton et al.\textsuperscript{10} showed that among existing coping indexes, some items are confounded with stress reactions (anxiety, depression, tension, etc.), particularly those items that are viewed as being emotion-focused. Therefore, we directed our attention to problem-focused coping. Furthermore, unlike previous evaluation methods, we adopted a method in which coping is defined as “strategies for coping with problems faced in the context of providing long-term care” and in which problem-focused coping comprises the two subordinate concepts of “Coping through independent resolution” and “Coping through resolution involving assistance from others.” Taking into account the fact that in previous coping indexes, factor model studies were insufficient, we investigated the construct validity of the index model from the perspective of internal structures, using constitutive equation modeling.

In past research, the standpoint of the researchers can be classified into two approaches: one places an emphasis on the stable aspects of coping and the other emphasizes the variable aspects resulting from interactions between persons and circumstances. In order to resolve this problem, we proposed a format that uses common items that apply to, both, dispositional coping (which refers to the trend toward the general use of regular/day-to-day coping strategies in recent years) and situational coping (which targets specific stressful events at specific times), and changes only the di-

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Figure 2  Relationship between long-term care stress coping and mental health
(Standardized solution; \( n = 1,085 \), CFI = 0.946, TLI = 0.964, RMSEA = 0.064)
rection and reaction items. For this reason, in the current research, rather than adopting this type of highly general-purpose evaluation method, we attempted to develop a coping measurement method related to the unique characteristics of long-term care, with a particular focus on situational coping.

The results of the analysis based on the above conditions were as follows: goodness of fit with the data for the oblique model comprising “Coping through independent resolution” and “Coping through resolution involving assistance from others” was as follows: $\text{CFI} = 0.927$, $\text{TLI} = 0.932$, and $\text{RMSEA} = 0.107$. All the path coefficients were statistically significant. In past research, Midorikawa and Kawamura have reported on coping strategies used by caregivers. Midorikawa conducted a main component analysis of the structures related to coping by family members providing long-term care to seniors living at home. The coping factors identified in this study were categorized into three types: “Problem-focused,” “Proximity/awareness,” and “Avoidance/emotion.” Kawamura reported on four factors that constitute coping strategies in the case of long-term care at home: “Improvements in circumstances,” “Introspection,” “Optimistic thinking,” and “Change of scenery.” He points out that “Improvements in circumstances” corresponds to “Problem-focused coping” and that the remaining three factors can be interpreted as subordinate concepts in “Emotion-focused coping.”

The view adopted in the current research is similar to the “problem-focused” approach described above. It could be stated, however, that the detailed measurements based on these two subordinate concepts is a unique feature of the index construct in the current research and that this index is easier to use. It could also be said that the ability to test construct validity is a significant accomplishment of the current research. In the current research, in order to investigate the construct validity of the long-term care stress coping index, we used mental health as an external standard and analyzed the relationship between these elements. The results of this analysis were as follows: the path coefficient for mental health in “Coping through independent resolution” was $-0.171$ and the path coefficient for mental health in “Coping through resolution involving assistance from others” was $0.331$. Both of these path coefficients were statistically significant and the contribution rate on the dependent variable was $7.4\%$ in both cases. As indicated by these results, the fact that the factor relationship itself fits the data can be interpreted as supporting the direct effects of coping on mental health. Among the coping strategies investigated here, however, it became clear that “Coping through independent resolution” contributed to maintaining and promoting mental health, while “Coping through resolution involving assistance from others” contributed to reducing mental health.

This means that caregivers with a strong tendency toward coping through independent resolution are in a situation that would promote mental health, but that caregivers who cope by seeking assistance from others have a strong tendency to move in the other direction. We believe that this is important information when studying methods of providing support to caregivers. The contribution rate of coping to mental health obtained from this research was low ($7.4\%$). We assume that one reason for this was due to the large distribution in the ages of caregivers, the period of care, and the care required level.

In the current research, we considered “Coping through resolution involving assistance from others” as problem-focused coping, but the fact that this type of coping has functions that work in the same direction as “emotional coping” in past research suggests that it is important to conduct more detailed studies in the future regarding the subordinate concepts related to coping. Based on
the above results, we can assume that in order for family caregivers to provide continued care to seniors, it would be desirable to actively offer information related to caregiving and to provide practical information on direct caregiving as well as the methods of using social welfare tools. At the same time, it would be desirable to enhance the opportunities for caregivers to enjoy a change of scenery as a break from ongoing caregiving activities.

Past research that investigated the relationship between stress and mental health did not necessarily adopt the same view of the regulatory effects of coping. About half of these studies do not recognize the buffer effects of "problem-focused" and "emotion-focused" coping; the other half, while not recognizing the regulatory effects, support the moderating effects.

The mental health of the main caregivers can be closely related to a number of different variables, including age and physical health of the caregiver, common level of care need in the person requiring care, and the use of long-term care services. In this research, we studied the relationships among these variables. As a result, we found that there was a weak relationship between the age of the caregiver or the senior requiring care and the care required level (Table 4). The relationship between mental health and a range of variables has been pointed out in numerous research papers, and for the most part, similar results were derived from the current study, based on the outcome of the analyses.

The goal of this research, however, was to further eliminate these complex factors to the greatest extent possible and study the goodness of fit on data for models using care-related coping as an independent variable in order to investigate the simplest cause and effect relationships. Taken from another perspective, this is a test of whether it is possible to hypothesize a cause and effect relationship between two factors, which is something that has not been sufficiently investigated in the past. Based on the premise that this can be explained, it will be possible to create a series of cause and effect models for factors such as Source of stress, Recognition of stress, Coping, and Stress reactions. Our intent was to determine whether coping is an indirect effect factor, a moderating effect factor, or a regulatory effect factor in long-term care scenarios. As a result, we determined that it would be necessary to conduct further studies on whether coping is a moderating or regulatory effect factor.

The results of this analysis showed a positive correlation between 'coping through resolution involving assistance from others' and 'GHQ.' In this regard, one issue for the future will be to analyze

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**Table 4** Relationship between sample characteristics and each index score

<table>
<thead>
<tr>
<th>Caregiver Senior requiring care</th>
<th>Age</th>
<th>Average care period</th>
<th>GHQ-12 score</th>
<th>Coping score</th>
<th>Age</th>
<th>Care required level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Correlation Coefficient</td>
<td>P-Value</td>
<td>Correlation Coefficient</td>
<td>P-Value</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Caregiver Age</td>
<td>1</td>
<td>0.06</td>
<td>0.04*</td>
<td>-0.06</td>
<td>0.07</td>
<td>0.04</td>
</tr>
<tr>
<td>Average care period</td>
<td>1</td>
<td>-</td>
<td>-0.02</td>
<td>0.54</td>
<td>0.04</td>
<td>0.14</td>
</tr>
<tr>
<td>GHQ-12 score</td>
<td></td>
<td></td>
<td>0.08</td>
<td>0.01*</td>
<td></td>
<td>0.09</td>
</tr>
<tr>
<td>Coping score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04</td>
</tr>
<tr>
<td>Senior requiring care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Care required level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

* P<.05, ** P<.01
the cause-and-effect relationships, including the possibility that caregivers who receive high scores for 'coping through resolution involving assistance from others' may not be successful at coping.

We believe that this knowledge will be useful when Care managers propose care plans focused on achieving a better quality of life not only for the seniors requiring care about also for caregivers because this approach can be used when proposing methods that will reduce the burden on the caregivers. This is because until now with regard to long-term care for seniors, support by specialists in insurance, medicine, and social welfare for the most part has placed an emphasis on providing the family with knowledge of caregiving or actual caregiving methods. However, the trends in coping used by the caregivers themselves, as demonstrated in the current research, indicate that it is necessary not only to provide support by simply teaching knowledge and skills regarding caregiving but also to provide support based on a variety of coping strategies, including minimizing, avoiding, enduring, or accepting the problems faced by caregivers in specific situations.

We can therefore assume that when caregiving support specialists and other professionals involved in caregiving study or evaluate the services provided to caregivers, closely examining the coping behavior patterns demonstrated by the caregivers and creating long-term care service plans based on those patterns, it would lead to more appropriate long-term care at home.

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要旨：要介護高齢者の家族介護者1,085名のデータを用いてコーピングを測定する尺度を開発し、コーピングと精神的健康との関係を明らかにすることを目的とした。開発した尺度は、「自己解決型コーピング」「他者協力解決型コーピング」の2因子を下位概念とした「介護関連ストレス・コーピング尺度」としてモデル化したものである。本モデルについて、この2因子で構成される斜交モデルのデータへの適合度は、計学的な許容水準に達しており、その妥当性が示された。さらに、介護関連ストレス・コーピング得点と精神的健康得点との関係を分析したところ、「自己解決型コーピング」を使用する者ほど精神的健康得点は高く、「他者協力解決型コーピング」を使用する者ほど精神的健康得点は低かった。これは、主介護者のストレスへの対処方法を勘案した支援方法を検討する際に重要と考えられた。

キーワード：コーピング、精神的健康、家族介護者、要介護高齢者

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