Introduction

There is a growing interest in the relationship between social support and depression among older adults in South Korea. Depression in late life may be a risk factor for dementia or elderly suicide [1]. Therefore, the Visiting Nurse Associations in Korea has supported depressive elders in the community. The depression rate of senior citizens at age 65 or older exceeded 34.0% in 2009, and it was higher for women than men [2]. According to Statistics Korea [3], this phenomenon has increased medical expenses for the elderly which have risen to more than 30.0% of all South Korean medical expenses. Welfare costs, including financial aids and long term care services, have also increased rapidly since 2008 [4]. In dealing with these rising costs, the budget for elderly facilities may not be used effectively if nursing services are provided without a thorough understanding of the elderly's needs. Furthermore, healthcare cannot be effectively provided without an understanding of older adults' psychological states. Among the psychological problems that afflict elderly individuals, depression is an important issue. Much research on depression among the elderly along with related factors such as stress and social support has been conducted. Social support has been found to mitigate elderly depression while stress has been found to be a risk factor that increased elderly depression [1,5–8]. Elderly stress is believed to come from life-related factors such as the spouse’s death and restrictions in the activities of daily living resulting from diseases. On the other hand, it has been reported recently that the elderly women who have experienced discrimination suffer a high level of stress [9–11]. Thus, if experience in discrimination aggravates stress, elderly discrimination is also likely to influence depression in the aged. However, studies on the relationship between discrimination and depression are relatively rare.

Discrimination against the elderly women that isolates individuals from society is one of the most important factors to be considered when developing a social support system for senior citizens [9,12]. Many of the elderly have experiences of discrimination in social institutions that have been built without regard for their needs. Palmore [13] claimed that discrimination against senior citizens, known as ageism, is one of the worst forms of
prejudice along with racism and sexism. However, while racism and sexism are related to specific groups, any individual can experience ageism if they live long enough [14]. People, who experience discrimination, are driven to feel that society has no place for them, and this negative feeling can manifest as severe stress [10,11]. According to Ezzati et al [15], when an individual is not able to deal with this condition, stress causes diverse symptoms, one of which is depression. In other words, ageism increases the elderly’s stress levels and in turn causes depression [1,16]. Since depression is a major cause of social and health problems such as suicide and various psychological disorders, it will worsen as ageism increases. Therefore, it is important to analyze how experiencing discrimination affects stress and depression among the elderly to promote not only the health of senior citizens but also that of the entire society.

Research on depression and its related factors, such as social demographic factors, social support and stress, has been conducted for a long time. However, the relationship between discrimination and depression among South Korean elderly women has been studied only on a limited basis. Moreover, the overall interaction among discrimination, stress, social support and depression has not yet been investigated. Therefore, the current study was conducted to assess not only the interactions between elderly women discrimination (ageism), social support, stress and depression but also the magnitude of the interactions among these factors. In particular, the way in which social support helps reduce depression was highlighted. The specific goals of this research were (a) to gain an understanding of the elderly population’s experience of discrimination, stress, social support and depression in terms of social demographic factors; (b) to establish a research model demonstrating the overall paths and interactions among discrimination, stress, support and depression; and (c) to identify causal factors by examining the direct, indirect and total effects of each variable. Based on these goals, the following hypotheses were developed: (a) discrimination increases stress; (b) stress worsens depression; (c) social support reduces stress; and (d) the reduction in stress leads to decreases in depression among the elderly women.

Methods

Design and samples

This cross-sectional survey study was conducted to examine the relation of discrimination, stress, support and depression in elderly women. For this, elderly women, who lived in rural areas and attended community senior centers, were selected by convenient sampling. All of the study participants lived for more than 10 years in K province (Gyeongsangbuk-Do). Eligibility criteria included being at least 65 years old without cognitive impairment, having the ability to communicate verbally in Korean and consenting to participate in this study.

The generally recommended sample size for structural equation modeling analysis is 150–400 [17]. Thus, in consideration of dropouts, this study distributed questionnaires to 220 elders, and used 207 of them as valid data, satisfying the requirement of sample size.

Procedures

For the survey, letters requesting cooperation were sent to the directors of all the senior centers in K Province with the help of the social welfare department of the provincial office. As 23 of the centers agreed to participate in the research, the researcher obtained a prior permission from the director of each senior center by phone and visited the center. The purpose of the research was explained to the elderly members in the senior center, and then their written consent was obtained. Data were collected by the researchers and 10 assistants from May 5 to May 31, 2014 in community senior centers. The research assistants were nurses, who had worked as home visiting nurses for elderly for more than 3 years. The self-reported questionnaires were completed by the participants. If the participants were illiterate, research assistants helped them. The assistants had been educated about interview methods for 8 hours by the researchers.

Ethical considerations

The study was approved by the Institutional Review Board of the researcher’s institution (IRB; SMU-14-04-05), and performed in accordance with the Declaration of Helsinki. To protect the participants’ human rights, permission to collect data was granted from the director of the relevant facility. Before the survey was administered, the purpose and process of the study, a guarantee of confidentiality, voluntary participation, anonymity of data and their right to discontinue participation at any time during the process were explained to the director of the community senior centers and potential participants. The researchers explained the participation details and survey questionnaires to the participants who decided to join in the survey and completed a written consent form. For the protection of the participants’ personal information, the survey did not ask about information related to personal identity, and collected data were discarded when the study was finished.

Instruments

Discrimination was assessed in terms of the typology of ageism developed by Palmore [13]. The typology was translated into Korean by Won [11] and consisted of 20 items, being divided into three groups that evaluated ignorance, avoidance and negligence. Each item was rated from 1 point to 4 points according to the Likert scale. Respondents indicated how often they experienced a particular event as 1 (never), 2 (rare), 3 (often), and 4 (very often). The index for ignorance consisted of six items on verbal humiliation, ignorance of the individual’s words, behavior, and opinions, and a lack of attention to the elderly. The avoidance index contained seven items in terms of conversation and cooperation. The index for negligence had seven items asking whether the participants felt neglected in social settings. When calculating the score for each index, the average item score was used. The higher the score was, the more an individual experienced ageism. As evidence of the instrument’s reliability, Cronbach’s was .93 in this study.

The level of stress was assessed using a stress recognition scale for the elderly developed by Lee and Lee [6]. The instrument contained a total of 21 items, which were regrouped into four subcategories by the sources of stress during daily life. The four subcategories were the following: stress derived from family relationships (9 items), economical status (5 items), health-related issues (4 items) and home environment factors (3 items). Each item was rated from 1 to 4 points; 1 (never), 2 (rarely), 3 (sometimes), and 4 (often). The average scores of items were calculated for the four subcategories. Higher average scores indicated greater stress levels. As evidence of reliability of this instrument, Cronbach’s was .85 in this study.

Social support was measured by the Multi-dimensional Scale of Perceived Social Support, which was developed by Zimet, Dahlem, Zimet and Farley [18], and translated into Korean by Ko and Seo [7]. The scale includes three subcategories that measure neighborhood support, support from friends and support from family. Responses for items in these subcategories include seven choices ranging from “strongly disagree” (1 point) to “strongly agree” (7 points). The average score for the items in each subcategory was used for data analysis.
analysis with higher average scores indicating more social support for the individual. As evidence of reliability of this instrument, Cronbach $\alpha$ was .95 in this study.

To assess depression, the Geriatric Depression Scale Short Form (GDS-SF), developed by Sheikh and Yesavage [19] and translated by Jang, Kim and Chiriboga [20], was used in this study. The Korean translation of GDS-SF was also used for the Lee and Kim’s [21] study of Korean-American senior citizens. The GDS-SF contained 15 items with questions such as the following: “Is your life satisfactory?” “Did you quit doing what you have done so far?” and “Do you experience anxiety about whether something bad will happen to you?” When grading the participants’ responses, “Yes” was counted as 1 point and “No” as 0. The total score of every item for each participant ranged from 0 to 15. Greater total scores indicated higher levels of depression. As evidence of reliability of this instrument, Cronbach $\alpha$ was .84 in this study.

Data analysis

The data were analyzed using SPSS and AMOS software (IBM, New York, NY, USA) for Windows version 21.0. Descriptive statistics such as frequency, percentage, mean and standard deviation were used to depict the characteristics of the study. To compare differences in measured variables (discrimination, support, stress and depression) by social demographic factors, t test, analysis of variance, and Scheffe test were used. To examine the research model fit and relationship between the variables, a structural equation modeling (SEM) analysis with AMOS was used.

Results

Demographic characteristics and differences of discrimination, stress, support and depression

The mean age of the participants was 77.42 years. Approximately half (50.2%) of the respondents had no official education, while 43.0% had graduated from elementary school. About a quarter (27.6%) of the respondents was in the low income level and 55.6% were in the middle economic status. In total, 45.9% of the respondents lived alone, 31.9% lived with their spouses only, and 22.2% lived with their offspring. In terms of perceived health status, 51.7% were in poor health, and 23.2% were in good health (Table 1).

Differences of dependent variables according to the respondents’ sociodemographic characteristics were shown in Table 1. There were statistical differences in the scores of stress and depression by education and health level. For participants with poor health, the stress score was significantly higher ($F = 5.83$, $p = .009$), and the depression score was significantly higher ($F = 4.83$, $p = .009$) than those of participants with good health. The discrimination score was significantly lower in the poor health group ($F = 5.77$, $p = .004$), but there was no statistical difference in the support score. These results indicated that the perceived health status significantly affected discrimination, stress, and depression.

No difference was found in the discrimination scores grouped by economic status, but there were significant differences in the stress, support and depression scores. The participants in the low economic status had higher stress score ($F = 22.40$, $p < .001$), lower support score ($F = 9.13$, $p < .001$) and higher depression score ($F = 18.55$, $p < .001$) than the participants in the middle or high economic status. The depression score of the participants with no education was higher than the scores of the participants with an elementary or junior high school educational level ($F = 5.03$, $p = .007$). This finding demonstrated that the economic status made a difference in the level of stress, support, and depression, while educational level made a difference only in the level of depression.

Table 1 Dependent Variables According to Participants’ Sociodemographic Characteristics ($N = 207$).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%) or Mean $\pm$ SD</th>
<th>Discrimination ($\pm$ SD)</th>
<th>Stress ($\pm$ SD)</th>
<th>Support ($\pm$ SD)</th>
<th>Depression ($\pm$ SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr)</td>
<td>77.42 $\pm$ 5.4</td>
<td>1.35 $\pm$ 0.39</td>
<td>1.99 $\pm$ 0.43</td>
<td>5.38 $\pm$ 1.50</td>
<td>6.40 $\pm$ 4.16</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>104 (50.2)</td>
<td>1.35 $\pm$ 0.39</td>
<td>1.99 $\pm$ 0.43</td>
<td>5.38 $\pm$ 1.50</td>
<td>6.40 $\pm$ 4.16</td>
</tr>
<tr>
<td>Elementary school</td>
<td>89 (43.0)</td>
<td>1.46 $\pm$ 0.52</td>
<td>2.01 $\pm$ 0.46</td>
<td>5.59 $\pm$ 1.27</td>
<td>4.89 $\pm$ 3.71</td>
</tr>
<tr>
<td>Junior high school</td>
<td>14 (6.7)</td>
<td>1.43 $\pm$ 0.32</td>
<td>1.83 $\pm$ 0.29</td>
<td>6.04 $\pm$ 1.19</td>
<td>3.85 $\pm$ 2.82</td>
</tr>
<tr>
<td>$F$ ($p$)</td>
<td>1.35 (.260)</td>
<td>1.02 (.362)</td>
<td>1.60 (.204)</td>
<td>5.03 (.007**).</td>
<td></td>
</tr>
<tr>
<td>Economic status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>57 (27.6)</td>
<td>1.42 $\pm$ 0.39</td>
<td>2.28 $\pm$ 0.39</td>
<td>4.87 $\pm$ 1.51</td>
<td>8.05 $\pm$ 3.91</td>
</tr>
<tr>
<td>Middle</td>
<td>115 (55.6)</td>
<td>1.41 $\pm$ 0.49</td>
<td>1.91 $\pm$ 0.41</td>
<td>5.78 $\pm$ 1.31</td>
<td>4.86 $\pm$ 3.80</td>
</tr>
<tr>
<td>High</td>
<td>35 (16.8)</td>
<td>1.34 $\pm$ 0.39</td>
<td>1.77 $\pm$ 0.33</td>
<td>5.67 $\pm$ 1.11</td>
<td>3.94 $\pm$ 2.72</td>
</tr>
<tr>
<td>$F$ ($p$)</td>
<td>0.36 (.698)</td>
<td>22.40 (.&lt;.001**)</td>
<td>9.13 (.&lt;.001**)</td>
<td>18.55 (.&lt;.001**)</td>
<td></td>
</tr>
<tr>
<td>Cohabitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live alone</td>
<td>95 (45.9)</td>
<td>1.34 $\pm$ 0.41</td>
<td>2.00 $\pm$ 0.41</td>
<td>5.53 $\pm$ 1.32</td>
<td>6.08 $\pm$ 4.09</td>
</tr>
<tr>
<td>With spouse only</td>
<td>66 (31.9)</td>
<td>1.45 $\pm$ 0.50</td>
<td>1.95 $\pm$ 0.43</td>
<td>5.65 $\pm$ 1.41</td>
<td>5.28 $\pm$ 3.82</td>
</tr>
<tr>
<td>With children</td>
<td>46 (22.2)</td>
<td>1.45 $\pm$ 0.46</td>
<td>2.04 $\pm$ 0.49</td>
<td>5.26 $\pm$ 1.50</td>
<td>4.97 $\pm$ 3.90</td>
</tr>
<tr>
<td>$F$ ($p$)</td>
<td>1.34 (.262)</td>
<td>0.63 (.523)</td>
<td>1.13 (.324)</td>
<td>1.47 (.231)</td>
<td></td>
</tr>
<tr>
<td>Perceived health status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>107 (51.7)</td>
<td>1.30 $\pm$ 0.30 (a)</td>
<td>2.06 $\pm$ 0.40</td>
<td>5.42 $\pm$ 1.43</td>
<td>6.29 $\pm$ 4.20</td>
</tr>
<tr>
<td>Middle</td>
<td>52 (25.1)</td>
<td>1.51 $\pm$ 0.55 (b)</td>
<td>1.96 $\pm$ 0.47</td>
<td>5.69 $\pm$ 1.42</td>
<td>5.38 $\pm$ 3.61</td>
</tr>
<tr>
<td>Good</td>
<td>48 (23.2)</td>
<td>1.51 $\pm$ 0.55 (b)</td>
<td>1.86 $\pm$ 0.45</td>
<td>5.53 $\pm$ 1.28</td>
<td>4.20 $\pm$ 3.50</td>
</tr>
<tr>
<td>$F$ ($p$)</td>
<td>5.77 (.004**.)</td>
<td>3.76 (.025”)</td>
<td>0.67 (.512)</td>
<td>4.83 (.009**)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>207 (100)</td>
<td>1.40 $\pm$ 0.45</td>
<td>1.99 $\pm$ 0.43</td>
<td>5.51 $\pm$ 1.39</td>
<td>5.58 $\pm$ 3.97</td>
</tr>
</tbody>
</table>

Note. “$p < .05$. “$p < .01.”
square statistic to degree of freedom ($\chi^2/df$), goodness fit index (GFI), root mean square error of approximation (RMSEA), normed fit index (NFI), Tucker-Lewis index (TLI) and comparative fit index (CFI). The chi-square value for the CFA model was 112.73 ($p < .001$) and the degree of freedom for the model was 39. The fitness indices for the CFA model demonstrated that the model fit was good. The absolute fit indices were .91 (GFI), 2.89 [minimum value of the discrepancy function (CMIN)/degree of freedom (DF)] and .09 (RMSEA; low 90: .07; high 90: .11), while the incremental fit indices were .91 (NFI), .91 (TLI) and .93 (CFI). As goodness-of-fit is acceptable if GFI, NFI, TLI, and CFI are over .90 and RMSEA is under .10, this study used these indexes for assessing the goodness-of-fit of the model [13].

In terms of the convergent validity of the research constructs, the reliability of each latent variable (discrimination, support and stress) was greater than .70 (.87 for discrimination, .91 for support and .74 for stress). In addition, the average variance extracted of each latent variable was .69 for discrimination, .77 for support and .42 for stress. With regard to the discriminant validity between each research construct, values for all significant correlations between the constructs were under .85 as shown in Figure 1.

Moreover, the correlation between the discrimination and support constructs was not significant ($p = .211$).

When examining the nomological validity of the constructs, all the statistical significance and signs of the correlations corresponded to the research hypothesis, which were (a) discrimination increases stress in the elderly; (b) stress enhances depression; (c) social support reduces stress; and (d) the reduction in stress leads to decreases in depression. These findings indicate that there is nomological validity between pairs of constructs.

Results of the analysis of the hypothetical model are presented in Figure 2, Table 2, and Table 3. The model fit was statistically examined first. Then, the factor loading values, direct effects, indirect effects and total effects between combinations of constructs were investigated. In terms of the model fit, the chi-square value of the research model was 120.41 ($p < .001$) and the degree of freedom was 40. Absolute fit indices demonstrated that this research model was statistically well developed: 3.01 (CMIN/DF), .90 (GFI) and .09 (RMSEA; low 90, .07; high 90, .11). These results were also supported by incremental fit indices: .90 (NFI), .93 (CFI) and .90 (TLI).

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*Figure 1. Confirmatory factor analysis and standardized factor loading values. Note. Model fit analysis by structural equation modeling; df = 39, $\chi^2 = 112.73$ ($p < .001$), $\chi^2/df = 2.89$, GFI = .91, RMSEA = .09 (low 90: .07; high 90: .11), NFI = .91, CFI = .93, TLI = .91. CFI = comparative fit index; GFI = goodness of fit index; NFI = normed fit index; RMSEA = root mean square error of approximation; TLI = Tucker-Lewis index.*
The research model that showed the standardized regression weights between constructs was presented in Figure 2. In terms of the direct effects as shown in Table 2, the standardized regression weight of .47 (p < .001) from discrimination to stress was observed. The standardized factor loading value between support and stress was .43 (p < .001). The standardized regression weight from stress to depression was .64 (p < .001). However, the standardized factor loading value from support to depression was not statistically significant.

As shown in Table 3, there were two indirect effects in this research model: standardized value from discrimination to depression was .34 and standardized value from support to depression was .28. The mediating factor of each indirect effect path was stress. The total and indirect effects between discrimination and depression were the same, because no direct effect between discrimination and depression was observed (Table 3). Since there was no statistically significant direct effect between support and depression (Table 2), the real total magnitude of the effect between these variables was −.28. There was an insignificant direct effect in total effect (Table 3). These results imply that discrimination and support affected depression only indirectly through stress in this model. The correlation between discrimination and support (discrimination and D3) was not statistically significant (Table 2).

**Discussion**

This study found that the elderly women's discrimination increases stress and increased stress causes depression. More importantly, stress is reduced by social support among elderly women. Additionally, reduced stress decreases depression. Since

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**Table 2 Standardized Path Coefficients between Variables.**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Regression weights</th>
<th>SE</th>
<th>CR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td>Stress</td>
<td>.64</td>
<td>.11</td>
<td>7.35</td>
</tr>
<tr>
<td>Support</td>
<td>−.08</td>
<td>.06</td>
<td>−1.18</td>
<td>.238</td>
</tr>
<tr>
<td>Stress</td>
<td>.47</td>
<td>.07</td>
<td>6.04</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Support</td>
<td>−.43</td>
<td>.05</td>
<td>−5.79</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Variables</td>
<td>r</td>
<td>SE</td>
<td>CR</td>
<td>p</td>
</tr>
<tr>
<td>Discrimination &amp; DS</td>
<td>−.92</td>
<td>1.16</td>
<td>−1.22</td>
<td>.223</td>
</tr>
</tbody>
</table>

**Table 3 Direct, Indirect, and Total Effects between Each Construct.**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Direct effects</th>
<th>Indirect effects</th>
<th>Total effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td>Independent variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>Stress</td>
<td>.64**</td>
<td>.00</td>
</tr>
<tr>
<td>Support</td>
<td>−.08</td>
<td>−.28**</td>
<td>−.36</td>
</tr>
<tr>
<td>Stress</td>
<td>Discrimination</td>
<td>.00</td>
<td>.34**</td>
</tr>
<tr>
<td>Support</td>
<td>Discrimination</td>
<td>.47**</td>
<td>.00</td>
</tr>
<tr>
<td>Support</td>
<td>−.43**</td>
<td>.00</td>
<td>−.43</td>
</tr>
</tbody>
</table>

Note. **p < .01.**
likely to decline. This is of particular interest since data from this
culture [11]. It is difficult to make further comparisons between the
results of the present investigation and those of many other related
studies due to the lack of research on discrimination against the elderly in Korea. As Palmore [13] noted that it is difficult to compare
his data on ageism with findings from previous publications given
the lack of studies on age discrimination in the United States,
additional investigations of discrimination against the elderly
should be conducted in both countries.
Stress is a factor that greatly affects psychological and physical
health [15]. The mean score of stress in this research was 1.99. This
score was higher than the stress scores reported by Lee and Lee [6]
as well as by Youn and Kim [23]. The reason of the higher stress
level in this study than in other studies seems to be participant’s
sex. This study was conducted with only female elderly while the
previous two studies were carried out with both males and females.
In the previous studies, stress in females was greater than that in
males. In this study, participants living in poorer economic
conditions or worse states of health experienced greater stress.
This result corresponds to findings from previous studies [6,23,24]. The
results imply that the health is threatened if there is no strategy for
relieving their stress since stress significantly affects depression.
According to the SEM analysis of the paths of the constructs’
interactions based on the research hypotheses, it was found that
social support buffers the effect of stress on depression. Given that
many studies have demonstrated that depression levels increase as
stress levels rise [6,25,26], it is clear that stress is an influential
factor for depression. However, the relationship between depres-
sion and social support has varied in previous studies. Kim et al [26]
along with Lee and Lee [6] claimed that there were negative corre-
lations between social support and depression. Zhu, Hu and Efird
[8] as well as Ko and Seo [7] contended that depression had a
significant negative relationship with family support but not with
the support of neighborhood or friends. In contrast, Brown et al [12]
reported that the support of friends rather than family was found to
correlate with depression.
Based on these previous studies, it is unclear whether depres-
sion and social support have a significant direct relationship. In this
study, social support for the elderly was found to indirectly reduce
their depression by decreasing stress. In other words, social support
targeted at addressing the stress factors of elderly people can
effectively reduce depression. In a previous study, support from
friends rather than family was discovered to reduce depression
more when a person loses his/her spouse because of death [24].
This finding implies that social support based on an understanding
of the target population should be offered.
Findings of this study imply that the social support for the
elderly should be based on an understanding of stress factors that
affect senior citizens. If social support without considering the
individual’s need is provided to elderly people, their depression is not
likely to decline. This is of particular interest since data from this
investigation indicated that social support for the elderly provides a
buffer against depression by attenuating stress levels. This
consideration is crucial for developing effective nursing care
strategy for the elderly.

Conclusion
This study has provided meaningful data for improving the
health of senior citizens by defining how discrimination, stress,
social support and depression interact with each other among
Korean senior citizens. Among these health-related factors,
discrimination was found to influence the health of the elderly women
significantly. It was also shown that social support and discrimi-
nation have an indirect effect on depression through stress, a
mediating factor. Furthermore, it was discovered that social sup-
port decreases stress, and decreased stress leads to a reduction of
depression. Some of the causal relations between health-related
factors were congruent with the findings of previous studies and
the others were not because of the characteristics and sampling
methods of participants. In conclusion, establishing nursing care
system for senior citizens based on a thorough understanding of
depression-related factors is very important, when developing
depression strategies and policies for improving the health of the elderly
women.
The limitation of this research was that the study was conducted
using only elderly South Korean females living in rural regions.
Thus, the study findings cannot be applied to all senior citizens.
Further studies should therefore be conducted under various con-
ditions taking into account gender, race, and areas of residence. This
study has another limitation in that it used a convenience sampling
method. Therefore, further research in a broader area, in a wider
range of facilities and with a rigorous sampling method is necessary to
generalize the results of this study. Nevertheless this study is
significant in that it investigated the influence of discrimination and
depression in a patriarchal country. The results of this study
will be of use to countries that are in the process of developing
social support in the nursing system.

Conflicts of interest
The authors have no conflict of interest to declare.

Acknowledgments
We gratefully acknowledge financial support from the Academic
Research fund of Sunmoon University in 2014.

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