Leisure Competence Moderates the Negative Effect of Life Stress on Health

among Older Adults

Liang-Chih Chang

Assistant Professor, Department of Living Science, National Open University

Abstract

This study examined whether leisure competence was significantly related to life stress and whether leisure competence moderated the negative effect of life stress on health among older adults. Three hundred eighty-nine older adults living in Keelung, Taiwan were systematically selected as participants. Data were collected by a face-to-face questionnaire survey which included measures of leisure competence, life stress, and SRH scales. The data were analyzed using a multiple regression analysis. The results indicated that leisure competence was significantly negatively related to life stress and that leisure competence moderated the relationship between life stress and health. Implications of the results are further discussed.

Keywords: leisure competence, life stress, health
The population of Taiwan, like that of many other nations, is shifting toward older age. The percentage of adults aged 65 years and older in Taiwan was higher than 10% in 2010, and it continues to increase (Ministry of the Interior, 2011). With increasing age, unfortunately, many older adults experience a decline in health. Because numerous studies show that life stress has a significant negative effect on health among older adults (Bureau of Health Promotion, 2006; Choi, Ransom, & Wyllie, 2008; Tak, Hong, & Kennedy, 2007), it is necessary for them to cope with life stress in order to improve their health.

Self-determination theory (SDT), which is viewed as a macro-theory that addresses such basic issues as universal psychological needs, self-regulation, personality development, life goals and aspirations, and the impact of social environment on motivation, behavior, health, and well-being (Deci & Ryan, 1985, 2008), has recently been applied to the field of stress management (Ntoumanis, Edmunds, & Duda, 2009; Weinstein & Ryan, 2011). According to SDT, autonomy, competence, and relatedness are three basic human needs. Autonomy refers to the free choice and initiative in the activities one performs. Competence corresponds to the capacities to deal with the activities in which one participates. Relatedness pertains to one’s connectedness with others. When satisfied, these three needs will contribute to one’s psychological health (Deci & Ryan, 2008). SDT further indicates that autonomy
can facilitate a fuller processing of emotions related to stressful events over time. Autonomy enables one to decrease stress by promoting better emotional health. Competence can also result in positive emotions that prevent incursion of stress (Weinstein & Ryan, 2011). Several SDT-related studies show that the relatedness concept involves social support, belongingness, and loneliness. Because social support is the most frequently reported relatedness concept associated with stress management and depression improvement studies (Hagerty & Williams, 1999; Vanderhorst & McLaren, 2005), relatedness is conceptualized as a social support in this life stress study. Gerontology suggests that social support refers to older adults’ perceptions that they are cared for by family and friends and that adequate support will be available. It enables them to decrease stress by emotion-focused comfort and/or aid to solve problems (Tak et al., 2007). In brief, autonomy, competence, and social support are three factors that may enable older adults to decrease life stress and thereby improve health.

Leisure-based studies suggest that leisure activities, in contrast to necessary tasks such as daily routines and obligatory work, provide participants with more opportunities to exercise autonomy and contribute to their sense of competence (Caldwell, 2005; Trenberth, 2005). Leisure autonomy can further be defined as the perceptions that older adults’ leisure behaviors are expressed within a context of
freedom and that they can perceive freedom within this context; leisure competence can be defined as the perceptions that they perceive themselves as having the capacities to deal with their leisure activities and that they control their own behaviors. Moreover, participation in leisure activities can also serve as an effective avenue for older adults to develop larger networks of friends who become leisure companions, thus helping them receive and perceive more social support (Chalip, Thomas, & Voyle, 1992). Leisure social support refers to their general perceptions that they are cared for by leisure companions and that adequate support will be available when they need it. From the above, a combination of the findings from SDT-related and leisure-based studies implies that promoting the leisure autonomy, leisure competence, and leisure social support of older adults may be a more accessible manner to decrease life stress and then improve health.

Craike and Coleman (2005) showed that leisure autonomy significantly moderated the negative effects of life stress on psychological health among older adults. Sasidharan, Payne, Orsage-Smith, and Godbey (2006) confirmed that leisure social support significantly contributed to stress reduction among older adults. However, an empirical study of the relationship between leisure competence and stress is lacking. Accordingly, it is important to examine whether leisure competence is also significantly negatively related to life stress in order to completely identify the
relationships between SDT-related leisure factors and life stress.

This study not only examined whether leisure competence was significantly related to life stress but also further determined whether leisure competence moderated the negative effect of life stress on health among older adults. The results of the study can provide healthcare practitioners with useful information when they are to design leisure programs to help older adults reduce life stress and improve health.

Method

Sampling

From the data provided by the Keelung City government (Document No. 0980135105), a systematic sampling frame was constructed which listed all the adults, aged 65 years and older, with their addresses in Keelung City ($N = 41,640$). Every 100th older adult ($n = 417$) on this list was then selected for inclusion in this study. To increase the response rates, a face-to-face questionnaire survey was conducted. The research assistants of the study visited older adults’ homes and asked them to respond to this questionnaire. If they were willing to respond to the questionnaire, the assistants read out the questions for them. The assistants eventually coded 389 older adults’ verbal responses to the questionnaire.

Questionnaire
The questionnaire has three sections: leisure competence, life stress, and health. Leisure competence was measured using Chang, Yu, and Sung’s (2004) 6-item scale which is widely used in studies of older Taiwanese adults (Chang, 2012; Chang, Yu, Tsai, & Lue, 2006; Lu, 2006). Examples of the items are as follows: (1) Leisure is what I am best at and (2) I feel competent when participating in leisure activities. The participants were asked to rate the degree to which they agreed with each of the items on a 5-point scale, from 1 (hardly) to 5 (strongly). Higher scores indicated better leisure competence.

Life stress was measured using a modified version of Sarason, Johnson, and Siegel’s (1978) scale which has been applied to a study of older Taiwanese adults (Chen, 2006). The scale is a 35-item instrument that measures the degree to which older adults perceive life stress from occurrences of frustration and irritation in their lives over the last six months. The scale contains five subscales: financial concerns, interpersonal relationships in general, health, marital relationships and family dynamics, and life changes. Examples of statements referring to each subscale are in turn shown here: (1) I have felt stressed regarding financial strain, (2) I have felt stressed when I could not maintain companionship with some of my friends, (3) I have felt stressed regarding my ill-health, (4) I have felt stressed when arguments with my spouse become more frequent, and (5) I have felt stressed regarding my retirement.
The participants were asked to rate the degree of life stress they felt regarding each of the 35 items according to a 5-point scale, from 1 (never) to 5 (overwhelmingly). The higher the scores, the higher the life stress.

Health was measured using Self-rated health (SRH). SRH is typically assessed with a single item: ‘Overall, how would you rate your health at present?’ (Barger, 2006; Martínez-Sánchez & Regidor, 2002). Participants to the item are often asked to rate their overall health on a 5-point scale, from 1 (poor) to 5 (excellent). Such a simple measure is consistently found to accurately predict life satisfaction, psychological health, and survival in older adults (Lee & Shinkai, 2003; Walker, Maxwell, Hogan, & Ebly, 2004). Because the item is also used in studies of older adults in Hong Kong (Chou, 2005) and Taiwan (Lee, Arthur, & Avis, 2007), it was selected as an instrument for this study.

**Data Analysis**

Descriptive statistics were used to describe the participants’ characteristics. A multiple regression analysis was performed to examine whether leisure competence was significantly negatively related to life stress and whether leisure competence moderated the negative effect of life stress on SRH among older adults.

**Results**

The participants consisted of 182 men (46.8%) and 207 women (53.2%), aged 65
to 89, with a mean age of 73.3 years (SD = 4.19). Sixty-one (15.7%) were illiterate, 256 (65.8%) had finished primary school, 39 (10.0%) had finished high school, and 33 (8.5%) had a university degree. In addition, 16 (4.1%) were unmarried, 10 (2.6%) were divorced, 80 (20.5%) were widowed, and 283 (72.8%) were married and lived with a spouse.

The average scores of the participants’ leisure competence, life stress, and SRH were 2.31 (SD = 0.62), 3.06 (SD = 0.26), and 2.76 (SD = 0.88), respectively. The results of the multiple regression analysis showed that leisure competence was significantly negatively related to life stress and that leisure competence moderated the negative effect of life stress on SRH (Table 1).

Table 1 *Multiple Regression Analysis for Variables Predicting SRH*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Life Stress Model</th>
<th>SRH Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Leisure Competence (A)</td>
<td>-0.13</td>
<td>0.02</td>
</tr>
<tr>
<td>Life Stress (B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (A×B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* *p < 0.05 **p < 0.01
Discussion

Based on a combination of the findings from SDT-related (Deci & Ryan, 1985, 2008; Weinstein & Ryan, 2011) and leisure-based studies (Caldwell, 2005; Trenberth, 2005), this study examined the relationship between leisure competence and life stress among older adults. Not surprisingly, the study confirmed that leisure competence was significantly negatively related to life stress. The negative relationship between these two factors is consistent with SDT which posits that competence can enable people to decrease stress (Weinstein & Ryan, 2011). It seems that in addition to leisure autonomy and leisure social support, leisure competence can also enable older adults to decrease life stress.

This study further showed that leisure competence could also moderate the negative effect of life stress on SRH among older adults. This finding is important because it not only contributes to a more complete understanding of how leisure competence can enable older adults to decrease life stress but also provide healthcare practitioners with useful information when they are to design leisure programs to help older adults reduce life stress to improve health. That is, it should be a high priority for healthcare practitioners to provide older adults with leisure interventions conducive to the development of leisure competence in order to promote their health.

Several studies indicate that leisure-based virtual reality activities are more
accessible for older adults than are real leisure activities (Saposnik et al., 2010; Wollersheim et al., 2010) and that participation in leisure-based virtual reality activities can promote their competence (Farrow & Reid, 2004). Therefore, it is necessary to provide older adults with leisure-based virtual reality activities if healthcare practitioners wish to strengthen their competence.

This study has several strengths. For example, the participants were systematically recruited from the communities in which they resided. The follow-up response rates were good. This study also has some limitations. First, cause-effect conclusions may not directly be drawn because of the cross-sectional design of the study. Second, the results of the study may not directly be generalized to very old sub-populations because the citizens of Keelung City who declined to respond to the questionnaire were almost all very old adults. However, if one accepts the underlying premise of the study, it is still valuable in spite of these limitations. It suggests that in the present context, leisure competence can enable older adults to reduce life stress to improve health.

References


Bureau of Health Promotion (2006). *Results from the social environment and*
biomarkers of aging study (Taiwan Aging Study Series No.9). Taiwan: Bureau of Health Promotion. (In Chinese)


