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**A PROGRAM FOR RESEARCH ON**

# SOCIAL AND ECONOMIC DIMENSIONS OF AN AGING POPULATION

**The Role of Coping Humour in the Physical and Mental Health of Older Adults**

**Elsa Marziali**
**Lynn McDonald**
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**SEDAP Research Paper No. 225**

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**The Role of Coping Humor in the Physical and Mental Health of Older Adults**

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**The Role of Coping Humor in the Physical and Mental Health of Older Adults**

Abstract

**Objectives:** This study examined the associations among coping humor, other personal/social factors, and the health status of community-dwelling older adults.

**Method:** Survey questionnaires were completed with 73 community dwelling older adults. Included were measures of coping humor, spirituality, self-efficacy, social support and physical and mental health status.

**Results:** Correlations across all variables showed coping humor to be significantly associated with social support, self-efficacy, depression, and anxiety. Forward stepwise regression analyses showed that coping humor and self-efficacy contributed to outcome variance in measures of mental health status. Contrary to expectation, neither social support nor spirituality contributed to the total outcome variance on any of the dependant measures.

**Conclusion:** The importance of spirituality, self-efficacy and social support in determining the quality of life of older adults is well supported in the literature. Coping humor as a mechanism for managing the inevitable health stresses of aging has received less attention. This study shows that coping humor and self efficacy are important factors for explaining health status in older adults. Correlations among coping humor, self efficacy, and social support suggest that a sense of humor may play an important role in reinforcing self-efficacious approaches to the management of health issues.

Keywords: coping humor, aging, health status

JEL Classification: I19

Résumé

**Objectifs:** Cette étude examine les relations entre la gestion du stress par l'humour, d'autres facteurs personels et sociaux et l'état de santé des personnes âgées vivant au sein d'une même collectivité.

**Méthodologie**: Un questionnaire a été rempli dans 73 collectivités afin de mesurer la gestion du stress par l'humour, la spiritualité, l'auto-efficacité, le niveau de support social et physique et l'état de santé mentale.

**Résultats:** Des corrélations entre toutes les variables ont montré que la gestion du stress par l'humour est associé de manière significative au niveau de support social, à l'auto-efficacité, à la dépression et l'angoisse. Les analyses de régression pas à pas ascendantes ont montré que la gestion du stress par l'humour et l'auto-efficacité contribuent à une variation des mesures de l'état de santé mentale. Contrairement aux attentes, le niveau de support social et la spiritualité n'ont pas eu d'influence sur la variation des variables dépendantes.

**Conclusion** : L'importance de la spiritualité, de l'auto-efficacité et du niveau de support social sur la qualité de vie des personnes âgées est bien documentée dans la litterature. La gestion du stress par l'humour comme mécanisme de défense contre le stress inhérent à l'âge n'a reçu que très peu d'attention. Cette étude montre que la gestion du stress par l'humour et l'auto-efficacité sont des facteurs qui permettent de comprendre l'état de santé des personnes âgées. Les corrélations entre la gestion du stress par l'humour, l'auto-efficacité et le niveau de support social suggèrent que le sens de l'humour peut jouer un rôle important dans les approches de renforcement positif de la gestion des problèmes liés à la santé.

**The Role of Coping Humor in the Physical and Mental Health of Older Adults**

Introduction

The purpose of the study was to examine whether coping humor was associated with other personal/social factors and the health status of older, community-dwelling adults. Specifically, is the use of humor as a coping strategy related to the older adult's maintenance of a supportive social network, spiritual belief system, self-efficacious belief system, and self-perceptions of mental and physical health status. Although previous studies have shown the direct and mediating effects of social support, spirituality and self-efficacy on the health of older adults, less is known about the impact of using humor to cope with mental and physical health challenges. We speculated that it is the optimal mix of these personal and social resources that determines perceptions of older adults' overall health status.

Background

Results of the MacArthur Foundation Study of Successful Aging (Rowe & Kahn, 1998) suggest three domains of behavior that have been shown to positively influence the aging process; avoidance of disease and disability, maintenance of high physical and cognitive function, and sustained engagement in social and productive activities. Imbedded within Rowe & Kahn's (1998) model of successful aging are numerous personal, social, environmental, and cultural factors that obviously influence to what degree each domain of behavior can be successfully managed across the life span. Similar definitions of successful aging were corroborated in a review of studies of factors associated with successful versus non-successful aging (Depp & Jeste, 2006). The authors found that

correlates of successful aging included age, nonsmoking, absence of disability, arthritis, and diabetes. Only moderate support was found for higher physical activity, more social contacts, better self-rated health, less depression and cognitive impairment. Gender, income, education, and marital status on the whole were not associated with successful aging.

## Social Support – Self-Efficacy – Spirituality and Aging

Three factors that appear to influence overall maintenance of health status by older adults have been identified in numerous studies of the correlates of healthy aging - social support network, self efficacy and spirituality/religiosity. A considerable literature has shown social support to be a resource for coping with stress and a protective factor in moderating the effects of both physical and mental illness (Aneshensel, 1996; Aldwin & Gilmer, 2003). Maintenance of a social network has been shown to, have a positive influence on physical and mental health status (Newsom & Schulz, 1996), reduce mortality risk (Penninx 1997; Lyyra & Heikkinen 2006), predict survival (Giles et al., 2005), increase exercise self-efficacy (McAuley, 2003), and manage disability transitions (Mendes de Leon, 1999; Giles, Glonek, Luszcz & Andrews, 2005.

In a similar fashion self-efficacious beliefs affect health maintenance behaviors. While the effects of domain-specific self-efficacy beliefs on behavior change and control has been well validated since Bandura's (1977) introduction of the construct, more recent studies have shown self-efficacy to be associated with recovery from depression (Steunenberg et al., 2007), managing interpersonal relationships and instrumental daily activities (Seeman et. al., 1999), falls self-efficacy and physical functioning (Stretton et

al., 2006), volunteering and depression avoidance (Govindan & Helmes, 2000), pain management (Turner, Ersek & Kemp, 2005; Krein et. al., 2007), physical activity level (Turner, Ersek & Kemp, 2005), and the maintenance of self-care health behaviors (Clark & Dodge, 1999; Callaghan, 2005; Stretton et al., 2006).

The importance of spirituality and/or religiosity in determining overall well being and health status is less clear. Koenig (1994) suggests that participation in religious rituals provides a source of comfort and hope for disabled older adults. Using data from three national surveys, Levin and Chatters (1998) found support for the impact of religious involvement on health status and psychological well-being. The validity of studies that link religiosity/spirituality to the management of health issues in older adults (McFadden, 1995; Musick, Traphagan, Koeing & Larson, 2000; Coleman & Dayley, 2004) and theoretical models that link adherence to a religious belief system with managing more effectively stress related to loss and illness (Pargament, Van Haitsma, & Ensing, (1995); Crowther et al., (2002) is difficult to determine. Part of the problem rests with the lack of accurate operational definitions of these complex constructs resulting in difficulties in generating reliable and valid measures of religiosity versus spirituality, or both in combination.

Sense of Humor and Aging

Studies of the various manifestations and purposes of possessing a sense of humor have yielded theories about the meanings of humor appreciation and production (Martin 2007; Wolf, 2002; Olson et al., 2005; McFadden, 2004). In a review of studies of the benefits of a sense of humor in mediating symptoms of physical illness, Martin (2001) reported few

significant correlations between trait measures of humor and immunity, pain tolerance, or self-reported illness symptoms. In contrast, Celso, Ebener & Burkhead (2003) report a statistically significant relationship between health status and coping humor. Similarly, studies have shown associations between having a sense of humor and coping with life stress (Overholser, 1992; Thorson & Powell, 1994; Thorson, Powell, Sarmany-Schuller & Hampes, 1997; Newman & Stone, 1996; Kuiper, Martin & Dance, 1992; Kuiper & Martin, 1993; Lefcourt & Thomas, 1998).

While studies support associations among personal/social factors and self-reported physical and mental health of older, community-dwelling adults it is difficult to determine which cognitive and/or emotion regulatory mechanisms are operative. Also, little is known about the overlap across the person/social factors reviewed – social support, self-efficacy, spirituality, and humor. Do they contribute to an overall resilient capacity for managing the stresses associated with physical and mental health problems?

## Methods

A cross-sectional survey of personal/social factors and health status with a population of older adults was implemented. A survey conducted in interview format was completed by 73 older community dwelling adults referred from a telephone support program provided by a large multi-service geriatric health center. Referred participants were contacted by phone and a time for a home visit interview was arranged. Following obtaining informed signed consent, trained clinic interviewers engaged the participants initially in talking about themselves, their health status and their involvement with family, friends and community activities. Subsequently they provided demographic information and

completed several questionnaires with the interviewer reading the questions and explaining the response options. Clarifications were made when needed.

### Outcome Measures

Physical health status was measured with the Health Status Questionnaire (HSQ 12), (Pettit et al., 2001). The HSQ is an abbreviated version of the MOS 36 (Ware & Sherbourne, 1992). Studies using the HSQ with community samples of older people have demonstrated concurrent, convergent and discriminant validity. Mental health status – depression was measured with the CES-D Scale (Radloff, 1977), a short, self-report scale designed to measure depressive symptoms. Psychometric properties include high internal consistency and adequate test-retest reliability. Validity was supported by patterns of correlations with other self-report measures of depression, and clinical ratings of depression symptoms. Mental health status – anxiety was measured with the Self-rating Anxiety Scale (SAS) (Zung, 1971), a 20 item scale based on diagnostic criteria for anxiety disorder. The measure shows good concurrent and discriminant validity and is interpreted clinically with lower scores meaning less anxiety and higher scores meaning more anxiety symptoms closely aligned with a diagnosis of anxiety disorder.

### Predictor Measures

Each participant's network of support was measured with the Multidimensional Scale of Perceived Social Support, a 12 items scale developed and tested by Zimet et al. (1988). This self-rated measure provides respondents' perceptions of the availability of support from, significant others, family and friends. Psychometric properties of the scale (reliability and validity) are well established. Spirituality was measured with the

Spiritual Involvement and Beliefs Scale (Hatch et al., 1998). This 26 item scale was designed to be applicable across religious traditions and to capture actions as well as beliefs. Psychometric testing showed high reliability and validity (internal consistency, test-re-test reliability) and high correspondence with another measure of spirituality. It was designed to assess associations between spirituality and health in a clinical setting. Self-efficacy was measured with an 8 item scale that assessed efficacy in eight domains of living: health, transportation, family relationships, finances, safety, relationships with friends, living arrangements and productivity (McVay, Seeman & Rodin, 1996). The development of the scale followed Bandura's (1977) direction that underscores the importance of measuring domain-specific perceptions of self efficacy. The domains included in this scale were selected for assessing self-efficacy in a population of older adults. A measure of the use of humor was selected to assess a form of humor that can be used to manage stressful life situations. The Coping Humor Scale (CHS) (Martin and Lefcourt, 1983), a 7 item scale measures the degree to which individuals use humor in coping with stress. The scale's internal consistency, test-retest reliability, and construct and discriminant validity are well established.

Results

Analysis of the demographic variables showed that the sample consisted primarily of Caucasian women (N=61), ranging in age between 65 and 85 with the majority (71%) being between the ages of 76 and 95. Approximately 60% had completed high school or college education and their retirement income ranged between $20,000 and $50,000 with the majority (70%) reporting an annual income of $30,000 or less. Only five of the

participants were married and living with their spouses. The others were widowed, divorced, or never married, and all lived alone.

For each questionnaire scale (outcome and predictor measures) the scores were summed to generate a total score for each participant. However, in order to separate physical health status from mental health status measured by the HSQ we extracted and summed only the physical health items. Thus the outcome measures consist of scores for self-rated physical health status, depression symptoms, and anxiety symptoms.

Correlations among Outcome Variables

Zero-order correlations among the three outcome variables are shown in Table I
The associations among the health outcome variables are not surprising as both depression and anxiety frequently accompany the onset and course of physical health problems. The exact nature of the interaction in terms of cause-effect function of physical versus psychological symptoms in explaining overall health status is unclear. In other words, does depression (or anxiety) follow a decline in physical well being, or does depression (or anxiety) contribute to the onset of physical symptoms?

Correlations among Predictor Variables

Zero-order correlations among the four predictor variables are shown in Table II
The correlations among social support, self-efficacy and coping humor suggest that these three factors may provide the ingredients for balancing self-attributes (coping humor and self-efficacy) with social connectedness (social support). Of note is the lack of association between spirituality and each of the other three predictor variables.

## Correlations - Outcome and Predictor Variables

Zero-order correlations among the three outcome and four predictor variables are shown in Table III. It is clear from the analysis of associations between outcome and predictor variables that domain-specific self-efficacy was the only factor that was associated with physical health. In contrast, with the exception of spirituality the other three predictor variables were associated with the two measures of mental health – depression and anxiety.

We conducted three separate regression analyses to ascertain which of the predictor variables contributed to the variance explained in each of the outcome variables. We excluded spirituality due to the lack of associations with any of the predictor or outcome variables. The analysis showed that coping humor and self-efficacy predicted portions of variance for depression outcome, and for anxiety outcome. However, only self-efficacy explained variance in physical health outcome. See Table IV for regression analysis.

As is clear from the regression analyses, social support did not contribute to outcome variance for any of the health status variables. The key factors that appear to affect health outcomes are the possession of personality attributes, namely a belief in self as captured in the self-efficacy construct and a capacity for using humor to cope with health-related stress.

## Discussion

The results of the analyses of the survey data were in part surprising because we failed to replicate the previously reported associations between social support and physical health status and between spirituality and both physical and mental health status. As indicated

in our earlier review of reported studies other investigators have found associations among these variables. In particular, the need for social support from family and friends during times of physical illness is generally acknowledged as important for the healing process and subsequent rehabilitation. The fact that spirituality, at least as we measured it, was not associated with any of the predictor or outcome variable can be explained possibly by the fact that this is a construct that is difficult to define and therefore problematic in terms of generating a valid and reliable measurement strategy. We selected the Spiritual Involvement and Beliefs Scale (Hatch et al., 1998) because it had been developed to capture the associations, if any, between spirituality and health in a clinical health setting. Participants completing the initial version of the scale were members of a family practice clinic. Possibly, the scale does not include items nor address the questions in a manner suitable for a population of older adults. The meanings of the frequently used terms 'spiritual' and spirituality' throughout the measure are left to the interpretation of the respondent which may result in wide variety of interpretations and therefore responses. Also the measure was tested on a small sample of participants varying in age and selected from one health service clinic. Clearly, more testing of the measure is needed, especially for use with a population of older adults.

The fact that self-efficacy was the only predictor of outcome variance in physical health was expected. Implied in the construct of self-efficacy is a sense of believing that one is in control and therefore can influence life events, including physical health status. Similarly, having a sense of self-efficacy plays an important role in controlling mental health outcomes such as depression and anxiety. Possessing the personal trait of self-

efficacy must inevitably offset the experience of helplessness and hopelessness that frequently accompany symptoms of depression and anxiety.

More surprising were the associations between coping humor and each of the measures of mental health – depression and anxiety. Using humor to cope with adversity implies control, and is therefore is not dissimilar to factors that come into play when self-efficacy is operative. It may be that having a sense of humor and being able to use it to cope with stress converges with possessing a sense of self efficacy that comes into play when taking action to manage or ward off stress. In other words, is the use of humor a self-efficacious strategy for coping with life adversity?

Study Limitation

Despite the promising finding with regard to the associations among several psycho-social predictor variables and physical and mental health status in a sample of older adults, the sample size was small, not well balanced in terms of gender, and contained little diversity. The measure of the spirituality variable was not well chosen especially for a sample of older adults. Possibly a guided interview format for eliciting the respondents' subjective meanings of spirituality and it's relevance in their lives would have provided important insights into the value of personal beliefs in coping with physical and mental health issues.

Table I Correlations among Outcome Variables

| | Physical Health | Depression | Anxiety |
|---|---|---|---|
| Physical Health | | -.465** | -.517** |
| Depression | | | .691** |

** Correlation significant at 0.01 level (2-tailed)

Note: All correlations are in expected direction.

Table II Correlations - Predictor Variables

| | Social Support | Spirituality | Self-efficacy | Coping Humor |
|---|---|---|---|---|
| Social Support | | .129 | .454** | .395** |
| Spirituality | | | .008 | .098 |
| Self-efficacy | | | | .307* |

** Correlation significant at 0.01 level (2-tailed)

*  Correlation significant at 0.05 level (2-tailed)

Note: All correlations are in expected direction.

Table III Correlations Among Outcome and Predictor Variables

| | Social Support | Spirituality | Self-efficacy | Coping Humor |
|---|---|---|---|---|
| Physical Health | .076 | -.199 | .327** | .108 |
| Depression | -.340** | .154 | -.345** | -.370** |
| Anxiety | -.308* | .109 | -.513** | -.504** |

** Correlation significant at 0.01 level (2-tailed)

*   Correlation significant at 0.05 level (2-tailed)

Note: All correlations are in expected direction.

Table IV Regression Analyses

| Model | B | Std. Error | Beta | t | Sig. |
|---|---|---|---|---|---|
| **Physical Health** | | | | | |
| Self-efficacy | .062 | .021 | .349 | 3.03 | .003 |
| | | | | | |
| **Depression** | | | | | |
| Humor | -.023 | .010 | -.277 | -2.318 | .02 |
| Self-efficacy | -.039 | .019 | -.253 | -2.115 | .04 |
| | | | | | |
| **Anxiety** | | | | | |
| Self-efficacy | -1.778 | .456 | -.399 | -3.898 | .000 |
| Humor | -.900 | .246 | -.375 | -3.660 | .001 |

References

ALDWIN, C. M., GILMER, D. F. (2003). *Health, illness, and optimal aging*. New York: Sage.

ANESHENSEL, C. S. (1996). *Consequences of psychosocial stress: The universe of stress outcomes*. New York: Academic Press.

BANDURA, A. (1997). Mastery and neuroticism predict recovery of depression in later life. *The American Journal of Geriatric Psychiatry, 15*(3), 234-242.

CALLAGHAN, D. (2005). Healthy behaviours, self-efficacy, self-care, and basic conditioning factors in older adults. *Journal of Community Health Nursing, 22*(3), 169-178.

CELSO, B.G., EBENER, D.J., & BURKHEAD, E. J. (2003). Humor coping, health status, and life satisfaction among older adults residing in assisted living facilities. *Aging & Mental Health, 7*(6), 438-445.

CLARK, N. M., & DODGE, J.A. (1999). Exploring self-efficacy as a predictor of disease management. *Health Education & Behavior, 26*(1), 72-89.

COLEMAN, K. S., & DALEY, D. (2004). Spirituality and well-being in frail and non-frail older adults. *Journal of Gerontology, 59*(3), 123-129.

CROWTHER, M., PARKER, M.W., ACHENBAUM, W.A., LARIMORE, W.L., & KOENIG, H.G. (2002). Rowe and Kahn's model of successful aging revisited: positive spirituality - the forgotten factor. *The Gerontologist, 42*, 613-620.

DEPP, C., & JESTE, D. (2006). Definitions and predictors of successful aging: a comprehensive review of larger quantitative studies. *American Journal of Geriatric Psychiatry, 14*, 6-20.

GILES, L., GLONEK, G., LUSZCZ, M., & ANDREWS, G. (2005). Effect of social networks on 10 year survival in very old Australians: the Australian longitudinal study of aging. *Journal of Epidemiology and Community Health, 59*, 574-579.

GOVINDAN, A., & HELMES, E. (2000). Self-efficacy and depression in older adults: differences between volunteers and non-volunteers. *www.aro.gov.au* accessed June, 2007.

HATCH, R.L., BURG, M.A., NABERHAUS, D.S. & HELLMICH, L.K. (1998). The Spiritual Involvement and Beliefs Scale: development and testing of a new instrument. *Journal of Family Practice, 46*(6), 476-486.

KOENIG, H. (1994). *Religion and hope for the disabled elder*. Thousand Oaks: Sage.

KREIN, S. L., HEISLER, M., PETTE, J.D., BUTCHART, A., & KERR, E.A. (2007). Overcoming the influence of chronic pain on older patients' difficulty with recommended self-management activities. *The Gerontologist, 47*, 61-68.

KUIPER, N., MARTIN, R., & DANCE, K. (1992). Sense of humor and enhanced quality of life. *Personality and Individual Differences, 13*, 1273 -1283.

KUIPER, N., & MARTIN, R. (1993). Humor and self-concept. *Humor: International Journal of Humor Research, 6*, 251-270.

LEVINE, J., & CHATTERS, L. (1998). Religion, health, and psychological well-being in older adults: Findings from three national surveys. *Journal of Aging and Health, 10*(4), 504-531.

LEFCOURT, H. & THOMAS, S. (1998). Humor and stress revisited. In WILLIBALD RUCH (Ed.), *The Sense of Humor: Explorations of a Personality Characteristic*. Berlin, Germany: Mouton de Gruyter, 179-202.

LYYRA, T., & HEIKKINEN, R. (2006). Perceived social support and mortality in older people. *The Journals of Gerontology B Psychological Sciences and Social Sciences, 61*, 147-152.

MARTIN, R., & LEFCOURT, H. (1983). Sense of humor as a moderator of the relation between stressors and mood. *Journal of Personality and Social Psychology, 45*, 1313-1324.

MARTIN, R. A. (2001). Humor, laughter and physical health: Methodological issues and research findings. *Psychological Bulletin, 127*(4), 504-519.

MARTIN, R. A. (2007). *The Psychology of Humor: An Integrative Approach*. Burlington: Elsevier Inc.

McAULEY, E., JEROME, G., MARQUEZ, S., ELAVSKY, B., & BLISSMER, B. (2003). Exercise self-efficacy in older adults: social, affective and behavioral influences. *Annals of Behavioral Medicine, 25,* 1-7.

McVAY, G. J., SEEMAN, T.E., & RODIN, J. (1996). A longitudinal study of change in domain-specific self-efficacy among older adults. *Journal of Gerontology, 51B*(5), 243-253.

McFADDEN, S. H. (1995). Religion and well-being in aging persons in an aging society. *Journal of Social Issues, 51*(2), 161-175.

McFADDEN, S. H., BRENNAN, M., & HICKS-PATRICK, J. (2004). *New directions in the study of late life religiousness and spirituality*. New York: The Haworth Press.

MENDES DE LEON, C., GLASS, T., BECKETT, L., SEEMAN, T.E., EVANS, D.A., & BERKMAN, L.F. (1999). Social networks and disability transitions across eight intervals of yearly data in the New Haven EPESE. . *The Journals of Gerontology*

*Series B: Psychological Sciences and Social Sciences, 54*, 162-172.

MUSICK, M., TRAPHAGAN, J., KOEING, H., & LARSON, D. (2000). Spirituality in Physical Health and Aging. *Journal of Adult Development, 7*(2).

NEWMAN, M.G., & STONE, A.A. (1996). Does humor moderate the effects of experimentally-induced stress? *Annals of Behavioral Medicine, 18*(2), 101-109.

NEWSOM, J., & SCHULZ, R. (1996). Social support as a mediator in the relation between functional status and quality of life in older adults. *Psychology and Aging, 11*(1), 34-44.

OLSON, M. L., HUGELSHOFER, D.S., KWON, P., & REFF, R.C. (2005). Rumination and dysphoria: The buffering role of adaptive forms of humor. *Personality and Individual Differences, 39*(8), 1419-1428.

OVERHOLSER, J. (1992). Sense of humor when coping with life stress. *Personality and Individual Differences, 13*, 799-804.

PARGAMENT, K., VAN HAITSMA, K., & ENSING, D. (1995). *Religion and coping*. Minneapolis: Fortress.

PENNINX, B., TILBURG, T., KRIEGSMAN, D.M.W., DEEG, D.J.H., BOEKE, A.J.P., & EIJK, J.T.M.V. (1997). Effects of social support and personal coping resources on mortality in older age: the longitudinal aging study. *Amsterdam American Journal of Epidemiology, 146*(6), 510-519.

PETTIT, T., LIVINGSTON, G., MANELA, M., KITCHEN, G., KATONA, C., & BOWLING, A. (2001). Validation and normative data of health status measures in older people: the Islington study. *International Journal of Geriatric Psychiatry, 16*(11), 1061-1070.

RADOLFF, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

ROWE, J., & KAHN, R. (1998). *Successful aging: The MacArthur foundation study*. New York: Dell Publishing.

RUCH, W., McGEE, P.E., & HEHL, F.J. (1990). Age differences in the enjoyment of incongruity-resolution and nonsense humor during adulthood. *Psychology and Aging*, *5*(3), 348-355.

SEEMAN, T. E., UNGER, J.B., MCAVAY, G., & MENDES DE LEON, C.F. (1999). Self-efficacy beliefs and perceived declines in functional ability: Macarthur studies of successful aging. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 54*(4), 214-222.

STEUNENBERG, B., BEEKMAN, A., DEEG, D., BREMMER, M., & KERKHOF, A. (2007). Master and neuroticism predict recovery of depression in later life. *The American Journal of Geriatric Psychiatry, 15*(3), 234-242.

STRETTON, C., LATHAM, N.K., CARTER, K.N., LEE, A.C., & ANDERSON, C.S. (2006). Determinants of physical health in frail older people: the importance of self-efficacy. *Clinical Rehabilitation, 20*(4), 357-366.

THORSON, J. A., & POWELL, F.C. (1994). Depression and sense of humor. *Psychological Reports, 75*(3, Pt.2), 1473-1474.

THORSON, J. A., POWELL, F.C., SARMANY-SCHULLER, I., & HAMPES, W.P. (1997). Psychological health and sense of humor. *Journal of Clinical Psychology, 53*(6), 605-619.

TURNER, J., ERSEK, M., & KEMP, C. (2005). Self-efficacy for managing pain is associated with disability, depression, and pain coping among retirement community residents with chronic pain. *Journal of Pain, 6*(7), 471-479.

WARE, J. E., & SHERBOURNE, C.D. (1992). The MOS 36-Item Short-Form Health Survey. *Medical Care, 30*(6), 473-481.

WOLF, P. M. (2002). A grasshopper walks into a bar: humor as a tool of normativity. *Journal for the Theory of Social Behavior, 23*(3), 331-344.

ZIMET, G. D., DAHLEM, N.W., ZIMET, S.G., & FARLEY, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*(1), 30-41.

ZUNG, W. W. (1971). A rating instrument for anxiety disorders. *Psychosomatics, 12*(6), 371-401.

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