

Selected Published Studies Using the Daily Spiritual Experiences Scale (updated May 2010) Some abstracts provided – rough draft

Currently the DSES papers (Underwood and Teresi 2002 and Underwood 2006) have been cited in over 175 publications. Underwood's Daily Spiritual Experiences Scale has been used in at least 65 published studies.

Here are some highlights. Especially useful is the **Ellison and Fan** analysis of the DSES in the General Social Survey – see below for summary.

Allen Rebecca S, Phillips Laura Lee, Roff Lucinda Lee, Cavanaugh Ronald, Day Laura, Religiousness/Spirituality and Mental Health Among Older Male Inmates, *The Gerontologist* 48, 692-69

Ayo, HT, K.T. Adebukola and S. Henry, Psychosocial Variables as Predictors of Work-Family Conflict among Secondary School Teachers in Irele Local Government Area, Ondo State, Nigeria, *Pakistan Journal of Social Sciences* 6:1, pages 11-18

Baillya Nathalie, Roussiaua Nicolas, The Daily Spiritual Experience Scale (DSES): Validation of the Short Form in an Elderly French Population, *Canadian Journal on Aging*, online first

Bay, Paul, The Effect of Spiritual Retreat on Nurses' Spirituality: A Randomized Controlled Study, *Holistic Nursing Practice*, 24:3, 125-133

Boelens, Peter A., Roy R. Reeves, William H. Replogle, Harold G. Koenig, A Randomized Trial of the Effect of Prayer on Depression and Anxiety, *The International Journal of Psychiatry in Medicine*, 39:4, 377-392.

Boswell, Gracie and Boswell-Ford Kirsten, Testing a SEM Model of Two Religious Concepts and Experiential Spirituality, *Journal of Religion and Health*, May 12 2009 online first.

Boswell, Gracie H, Eva Kahana, and Peggye Dilworth-Anderson. 2006. Spirituality and healthy lifestyle behaviors: Stress counter-balancing effects on the well-being of older adults. *Journal of Religion and Health* 45(4):587-602.

ABSTRACT: The goal of this study was to examine stress-ameliorating effects of religiosity, spirituality, and healthy lifestyle behaviors on the stressful relationship of chronic illness and the subjective physical well-being of 221 older adults. We also investigated whether the intervening variables functioned as coping behaviors and orientations or as adaptations in late life. Guided by the stress paradigm, path analysis was used to assess these relationships in a stress suppressor model and a distress deterrent model. No suppressor effects were found; however a number of distress deterrent relationships were detected. Spirituality, physical activities, and healthy diet all contributed to higher subjective physical well-being, as counter-balancing effects, in the distress deterrent model. The findings have implications for future research on the role of spirituality, religiosity and lifestyle behaviors on the well-being of chronically ill older adults. Findings also support the need for studying different dimensions of religiosity and spirituality in an effort to understand coping versus adaptation in behaviors and orientations.

Brelsford, Gina M.; Marinelli, Stephanie; Ciarrochi, Joseph W.; Dy-Liacco, Gabriel S. Generativity and spiritual disclosure in close relationships. *Psychology of Religion and Spirituality*, Vol 1(3), Aug 2009, 150-161

Ciarrocchi, J. W. and E. Deneke (2004) Happiness and the varieties of religious experience: Religious support, practices, and spirituality as predictors of well-being. *Research in the Social Scientific Study of Religion* 15:211-233.

Ciarrocchi, Joseph W. and Erin Deneke Hope, optimism, pessimism, and spirituality as predictors of

well-being: Controlling for personality. *Research in the Social Scientific Study of Religion*: 16.

Cole Brenda, Hopkins Clare M, Tisak, John, Steel, Jennifer L., Carr Brian I. (2007) Assessing spiritual growth and spiritual decline following a diagnosis of cancer: reliability and validity of the spiritual transformation scale. *Psycho-Oncology* 17:112-121.

Abstract: This study assessed the factor structure, reliability, and validity of an instrument designed to assess spiritual transformations following a diagnosis of cancer - the Spiritual Transformation Scale (STS). The instrument was administered to 253 people diagnosed with cancer within the previous 2 years. Two underlying factors emerged (spiritual growth (SG) and spiritual decline (SD)) with adequate internal reliability ($\alpha=0.98$ and 0.86 , respectively) and test-retest reliability ($r=0.85$ and 0.73 , respectively). Validity was supported by correlations between SG and the Positive and Negative Affect Scale (PANAS) Positive Affect Subscale ($r=0.23$, $p<0.001$), the Daily Spiritual Experiences Scale ($r=0.57$, $p<0.001$), and the Post-traumatic Growth Inventory ($r=0.68$, $p<0.001$). SD was associated with higher scores on the Center for Epidemiological Studies Depression scale ($r=0.38$, $p<0.001$) and PANAS-Negative Affect Subscale ($r=0.40$, $p<0.001$), and lower scores on the PANAS-Positive Affect Subscale ($r=-0.23$, $p<0.001$), and the Daily Spiritual Experiences Scale ($r=-0.30$, $p<0.001$). Hierarchical regression analyses indicated that the subscales uniquely predicted adjustment beyond related constructs (intrinsic religiousness, spiritual coping, and general post-traumatic growth). The results indicate that the STS is psychometrically sound, with SG predicting better, and SD predicting poorer, mental and spiritual well-being following a diagnosis of cancer. Copyright © 2007 John Wiley & Sons, Ltd.

Dean, Mary, Islam and Psychosocial Wellness in an Afghan Refugee Community
Doctoral Thesis, 2007, Curtin University, Centre for International Health

Desrosiers Alethea, and Miller Lisa, Relational Spirituality and Depression in Adolescent Girls, *Journal of Clinical Psychology*, 63:10, 1021-1037

Dunn, K.S., E. Chapelski, L. Wordlaw Stinson, and R.M. Massanari. 2004. Everyday Spirituality in Central City Elders." *Journal of Religious Gerontology: the interdisciplinary journal of practice, theory, and applied research* 15(3):41 - 59.

Christopher G. Ellison and Daisy Fan (2007) Daily Spiritual Experiences and Psychological Well-being Among US Adults. *Social Indicators Research*, 10 October on-line prepublication.

Abstract: This study focuses on one of the most significant recent innovations in the conceptualization and measurement of religiousness and spirituality, the Daily Spiritual Experience scale (DSES; Underwood (2006) *Archive for the Psychology of Religion/ Archiv fur Religion Psychologie*, 28, 181–218). Using data from 1998 and 2004 NORC General Social Surveys, we address a number of questions regarding the social patterning of daily spiritual experiences, and the relationships between spiritual experiences and multiple dimensions of psychological well-being. Our results suggest a robust positive association between DSES and psychological well-being. By contrast, DSES appears to have little bearing on negative affect. We also found that DSES does not account for the association between religious practices and psychological variables. That is, DSES appears to tap another aspect of spirituality that is relevant for well-being, above and beyond the influence of religious practices. Various implications of the findings, as well as study limitations and future research direction are discussed.

Fowler, Dawnovise N., and Hope M. Hill. 2004. Social Support and Spirituality as Culturally Relevant Factors in Coping Among African American Women Survivors of Partner Abuse. *Violence Against Women* 10(11): 1267-1282(16).

Fitzgibbon, Marian L, Melinda R. Stolley, Pamela Ganschow, Linda Schiffer, Anita Wells, Nolanna Simon, and Alan Dyer, Results of a faith-based weight loss intervention for black women, *Journal of the National Medical Association*, 97:10, 1393-1402

Goldstein, Elisha David (2007) Sacred moments: Implications on well-being and stress. *Journal of Clinical*

Abstract

This research provides a theoretical, empirical, and qualitative examination of the role of cultivating sacred moments in daily life on subjective well-being (SWB), psychological well-being (PWB), and stress. Seventy-three participants were randomly assigned to two groups: (a) a 3-week intervention group where members were instructed in cultivating sacred moments, or (b) a 3-week control group where members were instructed in writing about daily activities. Findings indicate that the intervention was equally as effective as an adapted therapeutic writing intervention. There were significant effects over time across multiple assessments related to SWB, PWB, stress, and daily spiritual experiences after the 3-week intervention and again 6 weeks later. Qualitative analysis complemented and enriched the findings of these results. This study introduces a new intervention into the field of clinical psychology and extends the findings of prior research. © 2007 Wiley Periodicals, Inc. *J Clin Psychol* 63: 1001-1019, 2007.

Hayton, T., L.S. Boylan, S.C. Jackson, and O. Devinsky. 2002. Religious/Spiritual Beliefs and Behavior in Epilepsy. *Annals of Neurology* 52(3):S20.

Holland, Jason M and Robert A. Neimeyer. 2005. Reducing the risk of burnout in end-of-life care settings: The role of daily spiritual experience and training. *Palliative and Supportive Care* 3:173-181.

Kalkstein Solomon Roni Beth Tower The Daily Spiritual Experiences Scale and Well-Being: Demographic Comparisons and Scale Validation with Older Jewish Adults and a Diverse Internet Sample *J Relig Health* ,2008

Abstract A substantive literature connects spirituality to positive physical, social, and mental health. In this study, the Daily Spiritual Experiences Scale (DSES) was administered to 410 subjects who participated in a community study and to 87 residents at the Hebrew Home for the Aged at Riverdale (HHAR), the latter sample consisting primarily of older Jewish respondents. Internal consistency of the DSES in both samples was high and exploratory factor analyses revealed one dominant factor and a second factor, which included 14 and 2 items, respectively, consistent with the scale's original validation (Underwood and Teresi 2002). Demographic subgroup comparison among religious groups revealed significantly fewer daily spiritual experiences among Jews, and lowest scores among those respondents endorsing no religious affiliation. Women exhibited more frequent daily experience than men, and attainment of higher levels of education was associated with less frequent daily spiritual experience. All but one of the outcome measures of physical and psychologic well-being were found to be positively associated with the DSES so that more frequent daily spiritual experience correlated with less psychopathology, more close friendships, and better self-rated health. Directions for future research, study interpretation and limitations, and clinical implications for use of the DSES are discussed.

Keefe, Frank J., G. Affleck, L.G. Underwood, J. Lefebvre, D.S. Caldwell, J. Drew, J. Egert, J. Gibson, and K. Pargament. 2001. Living with Rheumatoid Arthritis: The Role of Daily Spirituality and Daily Religious and Spiritual Coping. *Journal of Pain* 2(2): 101-110.

Abstract:

The objective of this preliminary study was to evaluate more fully the role of daily spiritual experiences and daily religious/spiritual coping in the experience of individuals with pain due to rheumatoid arthritis (RA). Thirty-five individuals with RA were asked to keep a structured daily diary for 30 consecutive days. The diary included standardized measures designed to assess spiritual experiences, religious and spiritual pain coping, salience of religion in coping, religious/spiritual coping efficacy, pain, mood, and perceived social support. The participants in this study reported having spiritual experiences, such as feeling touched by the beauty of creation or feeling a desire to be closer or in union with God, on a relatively frequent basis. These participants also reported using positive religious and spiritual coping strategies much more frequently than negative religious and spiritual coping strategies. Although most of the variance in these measures was due to differences between persons, each measure also displayed a significant variability in scores from day to day. Indeed, there was just as much (or more) variability in these measures over time as there was variability in pain. Individuals who reported frequent daily spiritual experiences had higher levels

of positive mood, lower levels of daily negative mood, and higher levels of each of the social support domains. Individuals who reported that religion was very salient in their coping with pain reported much higher levels of instrumental, emotional, arthritis-related, and general social support. Coping efficacy was significantly related to pain, mood, and social support in that on days that participants rated their ability to control pain and decrease pain using spiritual/religious coping methods as high, they were much less likely to have joint pain and negative mood and much more likely to have positive mood and higher levels of general social support. Taken together, these results suggest that daily spiritual experiences and daily religious/spiritual coping variables are important in understanding the experience of persons who have RA. They also suggest that newly developed daily diary methods may provide a useful methodology for studying religious and spiritual dimensions of living with arthritis.

Koenig, Harold G., Linda K. George, and Patricia Titus. 2004. Religion, spirituality, and health in medically ill hospitalized older patients. *Journal of the American Geriatrics Society* 52(4):554-556.

Koenig, Harold G., Linda K. George; Patricia Titus; and Keith G. Meador. 2004. Religion, spirituality, and acute care hospitalization and long-term care use by older patients. *Archives Internal Medicine* 164:1579-1585.

Background: The impact of religion and spirituality on acute care hospitalization (ACH) and long-term care (LTC) in older patients before, during, and after ACH is not well known.

Methods Patients 50 years or older consecutively admitted to the general medical service at Duke University Medical Center were interviewed shortly after admission (N = 811). Measures of religiosity were organized religious activity (ORA), nonorganizational religious activity (NORA), religiosity through religious radio and/or television (RTV), intrinsic religiosity, and self-rated religiousness. Measures of spirituality included self-rated spirituality and daily spiritual experiences (DSE). Primary outcome was number of ACH days during an average 21-month observation period. Secondary outcomes were times hospitalized and number of days spent in a nursing home or rehabilitation setting (collectively, long-term care: LTC). Race and sex interactions were examined.

Results In the cross-sectional analysis, ORA was the only religious variable related to fewer ACH days and fewer hospitalizations, an effect that is fully explained by physical health status and that disappeared when examined prospectively. The number of LTC days was inversely related to NORA, RTV, and DSE, effects that were partially explained by social support but not by severity of medical illness. Interactions with race and sex were notable but reached statistical significance only among African Americans and women. In those groups, religious and/or spiritual characteristics also predicted future LTC use independent of physical health and baseline LTC status.

Conclusions Relationships with ACH were weak, were confined to ORA only, and disappeared in prospective analyses. However, robust and persistent effects were documented for religiousness and/or spirituality in the use of LTC among African Americans and women.

Laudet, Alexandre B., Keith Morgen, and William L. White. The Role of Social Supports, Spirituality, Religiousness, Life Meaning and Affiliation with 12-Step Fellowships in Quality of Life Satisfaction Among Individuals in Recovery from Alcohol and Drug Problems. *Alcohol Treat Q.* 2006; 24(1-2): 33-73.

Loustalot Fleetwood V, Wyatt Sharon B, Boss, Barbara, May Warren, McDyess Tina. (2006) Psychometric Examination of the Daily Spiritual Experiences Scale. *Journal of Cultural Diversity.* 13:3 : 162-167.

Abstract: Despite the burgeoning research literature addressing spirituality and its measurements, few instruments have undergone rigorous reliability and validity testing. This study contributed to determining the reliability and validity of the 16- and 6-item Daily Spiritual Experiences Scale (DSES) in a convenience sample of African Americans ages 34-85. Data were collected via self-administered questionnaire including the DSES and sociodemographic variables thought to influence spiritual experiences. Data were analyzed using paired t-tests, ANOVA, inter-class correlation coefficients, Pearson's correlation, and Cronbach's alpha. Both versions were stable over time, internally consistent, and the forms were equivalent and valid in an all-African American sample.

Loustalot, Fleetwood, Sharon B. Wyatt, Mario Sims, Christopher G. Ellison, Herman A. Taylor, and Lynn Underwood. Psychometric Testing of the Daily Spiritual Experiences Scale Among African Americans in the Jackson Heart Study, 2009, *Journal of Religion and Health*, online first.

Maselko J, Kubzansky. (2006) Gender differences in religious practices, spiritual experiences and health: results from the US General Social Survey. *Soc Sci Med.* 62(11):2848-60.

Mayoral, E., Underwood, L.G., Laca, F., & Mejía, J.C. Validation of the Spanish version of Underwood's Daily Spiritual Experience Scale in Mexico. (In press, later in 2010). *International Journal of Hispanic Psychology*.

McCauley J, Tarpley MJ, Haaz S, Bartlett SJ. Daily spiritual experiences of older adults with and without arthritis and the relationship to health outcomes. *Arthritis Rheum.* 2008 Jan 15;59(1):122-8.

OBJECTIVE: Strategies to improve coping with chronic disease are increasingly important, especially with the aging US population. For many, spirituality serves as a source of strength and comfort. However, little is known about the prevalence of daily spiritual experiences (DSE) and how they may relate to physical and mental health. **METHODS:** We surveyed older adults age >50 years with chronic health conditions seen in a primary care setting about their DSE, health perceptions, pain, energy, and depression. **RESULTS:** Of 99 patients, 80% reported DSE most days and many times per day. Women had significantly lower DSE scores than men (reflecting more frequent DSE, mean +/-SD 37.3 +/-15.0 versus 45.8 +/-17.5; P=0.012). African American women reported the most frequent DSE and white men reported the least frequent DSE (mean +/-SD 35.9 +/-13.6 versus 52.2 +/-19.1). Frequent DSE were significantly associated with a higher number of comorbid conditions (P=0.003), although not with age, education, or employment status. Persons with arthritis reported significantly more DSE than those without arthritis (mean +/-SD 35.2 +/-12.1 versus 47.1 +/-18.6; P<0.001). After adjustment for age, race, sex, pain, and comorbid conditions, more frequent DSE were associated with increased energy (P<0.009) and less depression (P<0.007) in patients with arthritis. **CONCLUSION:** DSE are common among older adults, especially those with arthritis. Increased DSE may be associated with more energy and less depression. DSE may represent one pathway through which spirituality influences mental health in older adults.

Miller, William R. Alyssa Forcehimes,, Mary J. O'Leary, , Marnie D. LaNoue,, Spiritual direction in addiction treatment: Two clinical trials, *Journal of Substance Abuse Treatment* 35:4, 434-442

Mofidi, Mayhar, Robert F. DeVellis, Dan G. Blazer, Brenda M. DeVellis, A.T. Panter, and Joanne M. Jordan. 2006. Spirituality and depressive symptoms in a racially diverse U.S. sample of community-dwelling adults. *Journal of Nervous & Mental Disease.* 194(12):975-977.

Abstract: The role of spirituality in depression is understudied. We examined the relationship between one dimension of spirituality, spiritual experiences, and depressive symptoms, and evaluated whether differences in gender, race, age, and stress moderated the relationship. The study was conducted with a community-based sample of 630 racially diverse middle-aged and older adults. Structural equation modeling was used to estimate a model linking spiritual experiences to depressive symptoms while controlling for demographic and health variables. Spiritual experiences were operationalized using six items of the Daily Spiritual Experiences Scale. Sample items included, "I feel God's presence," and, "I feel comfort in my religion or spirituality." The model achieved satisfactory goodness of fit. Spiritual experiences were significantly associated with fewer depressive symptoms, and age as well as stress moderated the association, but not gender and race. Spirituality appears to be a psychosocial resource against depressive symptoms, although the results must be confirmed in longitudinal investigations.

Mofidi, Mayhar, Robert F. DeVellis, Dan G. Blazer, Brenda M. DeVellis, A.T. Panter, and Joanne M. Jordan. (2007) The Relationship Between Spirituality and Depressive Symptoms. *The Journal of Nervous and Mental Disease.* 195:8, 681

Abstract:

Although many studies suggest lower rates of depressive symptoms in those who report greater spirituality, few have investigated the mechanisms by which spirituality might relate to depressive symptoms. The current study aimed to elucidate potential psychosocial mechanisms that link these 2 variables. Data were drawn from a community-dwelling stratified sample of 630 racially diverse adults in rural North Carolina. Spirituality was assessed by 6 items of the Daily Spiritual Experiences Scale. Depressive symptoms were measured using 4 subscales from the Center for Epidemiological Studies-Depression. Hypothesized mediators were optimism, volunteering, and perceived social support. Structural equation modeling was used to test whether proposed mediators explain a link between spirituality and depressive symptoms. The model demonstrated a satisfactory fit. Spirituality was indirectly related to depressive symptoms. More specifically, spirituality was significantly associated with optimism and volunteering but not with social support, and optimism, volunteering and perceived social support were significantly associated with depressive symptoms. The link between spirituality and depressive symptoms is indirect. The relationship is mediated by optimism, volunteering, and social support. Findings present research and practice implications.

Neimayer Robert A, Moser Richard P. Wittkowi Joachim. Assessing Attitudes towards Dying and Death: Psychometric Considerations . (2003). *OMEGA: The Journal of Death and Dying*. 2003

Abstract:

In the 50 years of research in death attitudes, clear gains have been made in the measurement of death concerns and competencies, leading to the development and validation of several scales whose more extensive use could improve the conceptual yield of research in this area. In this article, we review these promising instruments, focusing on nine general questionnaires for measuring death anxiety, fear, threat, depression, and acceptance, and four specialized measures of death self-efficacy and coping, readiness for death, and desire for hastened death. We also offer an orientation to non-questionnaire based techniques for the assessment of death attitudes (e.g., narrative measures, repertory grids, behavioral observations, death personifications and drawings), and close with a note on international developments that hold promise for improved cultural awareness of the role of death attitudes in human life.

Ng, Siu-Man Ted C. T. Fong, Elaine Y. L. Tsui, Friendly S. W. Au-Yeung and Sally K. W. Law "Validation of the Chinese Version of Underwood's Daily Spiritual Experience Scale—Transcending Cultural Boundaries? *International Journal of Behavioral Medicine*, Volume 16, Number 2 / June, 2009.

Parker, M., L. Roff, D.L. Kemmanck, H.G. Koenig, and P. Baker. 2003. Religiosity and mental health in southern, community-dwelling older adults. *Aging & Mental Health* 7(5):390-397.

Polcin, Douglas L., and Sarah Zemore. 2004. How psychiatric severity is related to helping, spirituality, and achievement in Alcoholics Anonymous. *American Journal of Drug and Alcohol Abuse* 30(3), 577-592.

Richards, T. Anne ,Judith Wrubel, Jenna Grant and Susan Folkman. Subjective Experiences of Prayer Among Women Who Care for Children with HIV, *Journal of Religion and Health* 42:3, 201-219

Shorkey, Clayton, Uebel Michael, Windsor, Liliane C. (2007) Measuring Dimensions of Spirituality in Chemical Dependence Treatment and Recovery: Research and Practice. *International Journal of Mental Health and Addiction*

Abstract Spirituality and religiousness have long been associated with physical and mental health. The scientific treatment of religiosity as a multi-dimensional phenomenon is well established, especially in relation to chemical dependence treatment. Indeed, over 100 instruments are available for measuring various dimensions of religiosity. The more recent emergence of spirituality as an accepted construct in research has seen the development of a growing number of instruments to measure aspects of spirituality. The authors selected ten spirituality scales for review and discussion, and provided information relating to the scales' development, psychometrics, format, scoring, and availability. The scales are then conceptualized in terms of their aggregate and overlapping usefulness for research and practice, and suggestions are made concerning the salient dimensions of spirituality measured by each scale. The scales are presented as defining an increased sense of internalized spirituality that contributes to positive

psychological and emotional outcomes underpinning recovery from chemical dependence.

Sprecher, Susan, Beverley Fehr (2005) Compassionate love for close others and humanity. *Journal of Social and Personal Relationships*, Vol. 22, No. 5, 629-651.

Sterling RC, Weinstein S, Losardo D, Raively K, Hill P, Petrone A, Gottheil E. A Retrospective Case Control Study of Alcohol Relapse and Spiritual Growth. *Am J Addict.* 2007 Jan-Feb;16(1):56-61.

Abstract

In the context of an NIAAA/Fetzer Institute-funded study designed to look at the impact of spirituality in an inpatient alcohol treatment, this retrospective case control study investigated whether spiritual growth occurred during an inpatient phase of treatment for alcohol dependence, the degree to which spiritual gains (if noted) would be maintained at follow-up, and whether spiritual growth would be associated with follow-up sobriety. To accomplish this goal, thirty-six individuals who reported relapsing to alcohol at three-month follow-up were compared with thirty-six matched controls who reported abstinence at follow-up. Spiritual development and change was assessed via a set of six measures. Paired t-tests revealed that spiritual growth occurred across all measures during the treatment phase. Repeated measures analysis of variance (ANOVA) indicated that this growth was maintained at three-month follow-up. Two-way repeated measures ANOVA revealed that while non-relapsers maintained spiritual growth over the course of four weeks of treatment and in the three-month period following treatment, renewed alcohol use was associated with decreased spirituality.

Stewart C, GF Koeske, RD Koeske (2006) Personal Religiosity and Spirituality Associated with Social Work Practitioners' Use of Religious-Based Intervention Practices. *Journal of Religion & Spirituality in Social Work: Social Thought.* 25: 1: 69 – 85

Abstract:

Social workers (N = 221) in the Southeastern USA responded to survey questions measuring 3 outcome variables, attitude toward religion in social work, the appropriateness of 15 religious-based interventions, utilization of these practices, and 3 dimensions of spirituality: spiritual experiences (spirituality), religious practices (organized religiosity), and religious affiliation. Attitude was generally favorable, and more than half of the interventions were judged appropriate and utilized by over 50% of the respondents. Beyond identifying with no religion, which predicted lower outcome scores, high spirituality strongly predicted attitude and utilization, whereas extrinsic organized religiosity was unimportant. A process model utilizing path analysis suggested that personal spirituality increases utilization resulting in corresponding perceptions of appropriateness and attitude toward religion in practice. More research was recommended on (1) utilization prevalence in other and diverse samples, and (2) the efficacy of religious-based practice.

Underwood, L (2009), *Compassionate Love, a Framework for Research*, in Fehr. B. Sprecher, S , Underwood, LG, *Science of Compassionate Love: Research, Theory, and Practice*. New Malden: Wiley-Blackwell Press.

Van Dyke Cydney J. ; David S. Glenwick ; John J. Cecero ; Se-Kang Kim , The relationship of religious coping and spirituality to adjustment and psychological distress in urban early adolescents, *Mental Health, Religion & Culture*, Volume 12, Issue 4 May 2009 , pages 369 – 383

Wacholtz, Amy B. and Kenneth I. Pargament, Migraines and mediation: Does spirituality matter? *Journal of Behavioral Medicine*, 31:4, 351-366

Zemore, S.E., and L.A. Kaskutas. 2004. Helping, spirituality and Alcoholics Anonymous in recovery. *Journal of Studies on Alcohol* 65(3):383-91.

Abstract: OBJECTIVE: The purpose of this study is to examine how helping activities and spirituality--perhaps key influences on sobriety--change over recovery. The study also explores interrelations among Alcoholics Anonymous (AA), helping and spirituality. METHOD: Questionnaires were administered to recovering alcoholics (118 men, 80 women) recruited at AA and Women for Sobriety

meetings, treatment programs and through personal connections. A helping scale measured Recovery Helping (8-item $\alpha = 0.78$), Life Helping (12-item $\alpha = 0.62$), and Community Helping (6-item $\alpha = 0.60$). The Daily Spiritual Experiences scale assessed two components of spirituality identified by factor analysis: Theism and Self-Transcendence. Two components of an AA scale, Involvement and Achievement, were also treated separately on the basis of factor analysis. RESULTS: Structural equation modeling revealed that longer sobriety predicted significantly more time spent on Community Helping, less time spent on Recovery Helping and higher levels of Theism, Self-Transcendence and AA Achievement. Model covariances revealed that both AA components were related to more Recovery Helping and higher Theism. Both spirituality components related to all forms of helping, with one exception. CONCLUSIONS: The findings highlight important changes in helping with length of sobriety. As their sobriety accumulates, recovering alcoholics seem to devote less time to informal helping and more time to organized community projects--perhaps indicating evolving needs and abilities. The results also suggest roles for AA and spirituality in encouraging helping, and they indicate that some forms of spirituality relate to AA affiliation. Future work might establish whether and when helping in different domains contributes to the maintenance of abstinence and to other drinking-related outcomes.