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Erin L. Woodhead  
*San Jose State University*, erin.woodhead@sjsu.edu

R. C. Cronkite  
*Stanford University*

R. H. Moos  
*Stanford University*

H. Valenstein  
*University of Washington*

C. Timko  
*Stanford University*

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# Age-Related Concomitants of Obtaining Mental Health Care in Adulthood

Erin L. Woodhead, PhD; Ruth Cronkite, PhD; Rudolf Moos, PhD; Helen Valenstein, BA; Christine Timko, PhD

**Objective:** To examine the associations between predisposing and need factors and receipt of mental health care and to examine age as a moderator of these associations. **Methods:** Participants (N=521) were surveyed as part of a larger study on health and adaptation. **Results:** Obtaining mental health care was predicted by more reliance on approach coping, and more depressive and medical symptoms. Interactions of age x depres-

sive symptoms and age x gender revealed that middle-aged adults with more depressive symptoms and middle-aged men were less likely to obtain care. **Conclusions:** Middle-aged men and middle-aged adults with depression may not be obtaining needed mental health care.

**Key words:** aging, depression, community mental health care

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Older people have low rates of obtaining mental health care. For example, use of psychotherapy during a depressive episode was only 12% for adults between ages 65 and 69 and only 6.6% among adults over age 80.<sup>1</sup> Another study reported the rate of mental health care as 6.7% for people over age 65, which was significantly lower than rates for both younger and middle-aged adults.<sup>2</sup> Because of the low rate of obtaining mental health care among older adults, it is important to better understand how age interacts with other factors hypothesized to increase or decrease use of mental health services. Andersen's Behavioral Model of Health Services Use has been used to understand why individuals do or do not access health care.<sup>3</sup> This model conceptualizes predisposing and need factors as 2 key sets of determinants of obtaining care. The goals of the current study were to determine associations between these 2 sets of determinants and obtaining mental health care among community-based middle-aged and older adults, and whether age moderated these associations.

## Predisposing and Need Factors in Obtaining Mental Health Care

Multiple predisposing and need factors are associated with obtaining mental health care.<sup>4,5</sup> Predis-

posing factors may trigger or facilitate use of mental health services; in the current study, they include demographics, life stressors, social support, and coping strategies. Need factors reflect a need for services that should increase the likelihood of obtaining care; in the current study, they include poorer physical and mental health.<sup>3,6</sup>

There is some evidence that demographic predisposing factors are associated with obtaining mental health care. In this respect, women and Caucasian adults are more likely to obtain mental health services, whereas older adults and African-American adults are less likely to obtain such services.<sup>7-11</sup> Use of mental health services also tends to be higher among unmarried individuals and those with more education and income.<sup>12</sup>

Social support, life stressors, and coping strategies are predisposing factors that may also enable or impede the use of mental health services. Generally, larger social networks and more social support are associated with less use of mental health services. For example, among individuals with depression, those with broader social support were less likely to obtain mental health care.<sup>8,13</sup> Individuals with more social support may not obtain mental health care as frequently as those with low levels of social support due to receiving more informal support from friends and family members.<sup>6</sup> Thus, smaller networks and less support appear to be predisposing factors for use of mental health services.

Negative life events predispose toward more use of mental health services in adults,<sup>6,14,15</sup> possibly because individuals are trying to seek relief

Erin L. Woodhead, VA Palo Alto GRECC, Palo Alto, CA. Ruth Cronkite, Rudolf Moos, and Christine Timko, VA Palo Alto Center for Health Care Evaluation and Stanford University, Menlo Park, CA. Helen Valenstein, University of Washington Department of Psychology, Seattle, WA.  
Correspondence Dr Woodhead; [Erin.Woodhead@sjsu.edu](mailto:Erin.Woodhead@sjsu.edu)

from the resulting emotional distress. Individuals who use more approach coping strategies and less avoidance coping tend to be more assertive and persistent, which may mobilize the individual to analyze the problem and take action to try to resolve it and/or get needed help.<sup>16,17</sup> Approach coping is characterized by problem-solving, information-seeking, and a proactive approach to problems, whereas avoidance coping is characterized by accepting a problem, resigning oneself to it and/or venting one's emotions. Therefore, more use of approach coping and more negative life events may predispose individuals to obtain mental health services.

Need factors are symptoms that may affect health status and need for medical and/or mental health care. Increased psychological distress is associated with increased use of mental health services,<sup>18,19</sup> as is the onset of a new health problem.<sup>14</sup> Additionally, individuals with mood disorders, particularly those with major depressive disorder, are more likely to obtain mental health care compared to those with other psychiatric disorders.<sup>20</sup> Individuals with diagnosed mood disorders and those with more physical and mental health symptoms may have a higher need for treatment due to their high level of distress.

#### **Age as Moderator of Associations Between Predisposing and Need Factors and Mental Health Care**

Predisposing and need factors are associated with obtaining mental health care, but there is limited research on whether the association between these factors and obtaining mental health care varies with age. Older adults experience changes in predisposing and need factors, which may impact the strength of the association between these factors and obtaining mental health care. For example, younger adults are more likely to experience more severe depression and to be diagnosed with a depressive disorder than older adults are.<sup>21</sup> Increased severity of depression is associated with use of mental health services; therefore, the association between depression and obtaining mental health care may be significant for younger but not older adults. Additionally, more social support has been associated with less use of mental health services.<sup>13</sup> Older adults tend to report fewer social contacts than other age groups do,<sup>22</sup> suggesting that the association between social support and obtaining mental health may be significant for older but not younger adults. The existing research on predisposing and need factors associated with obtaining mental health care has yet to examine the interaction of age with these factors.

#### **Overview of the Present Study**

Understanding the predisposing and need factors associated with community-based adults obtaining mental health services, and how these factors vary by age, will help researchers and clini-

cians facilitate use of mental health services in the context of life stage. The Andersen model of health services use provides a framework for examining these factors.<sup>3</sup> Given the low rates of mental health services use among older adults, it is particularly important to understand the association between predisposing and need factors and obtaining mental health care among older adults.<sup>1,2</sup> In light of research suggesting that predisposing and need factors are associated with obtaining mental health care, and that these factors are associated with age, age was hypothesized as a moderator of the association between predisposing and need factors and obtaining mental health care.

#### **METHOD**

##### **Participants**

The sample consisted of 521 community-residing adults in the San Francisco Bay Area who were part of a study focused on health and adaptation.<sup>23</sup> Questionnaires and informed consent documents were mailed to 621 study participants; the response rate was 80%. Participants returned signed informed consents with their questionnaire responses. Data collection and set-up was completed in 2008, while follow-up on vital statistics is ongoing.

##### **Measures**

**Obtaining mental health care.** The primary outcome was use of mental health care in the prior year (0 = no, 1 = yes). It was based on care from 8 types of providers: medical doctor, psychiatrist, psychologist/social worker, spiritual counselor, nurse, marriage/family counselor, self-help group, and an "other" category. Participants were asked whether they had seen any of these types of providers for personal or emotional problems.

**Predisposing factors.** Participants completed the Health and Daily Living Form (HDL)<sup>24</sup> to assess social support, and negative life events. The HDL is a structured assessment for patient and community groups that measures health-related factors, social functioning, and life stressors. The HDL has good reliability, stability, and convergent and predictive validity.<sup>25,26</sup>

Social support was measured with 2 composite scores. Number of social contacts in the past month was comprised of the sum of 5 items (eg, number of visits with friends and relatives). Higher scores indicate more social contacts in the past month. Intensity of social ties was comprised of the mean of 2 items assessing number of close friends, and number of people the participant could count on for real help.

Negative life events in the past year were assessed with yes/no responses to 15 life events (eg, death of a close friend, trouble with superiors at work). Participants received a score of '1' for each negative life event they endorsed having occurred in the past year.

**Coping strategies.** An adaptation of the Coping

**Table 1**  
**Sample Characteristics and Values**  
**of the Predisposing and**  
**Need Factors (N=482)**

Variable	%	Mean (SD; Range)
<b>Demographic Factors</b>		
Female	61.6	
White	86.1	
Married/partnered	53.1	
Employed	58.5	
Age (years)		56.42 (10.71; 39 – 89)
Education (years)		15.03 (3.02; 6 – 27)
<b>Predisposing Factors</b>		
# Social contacts in last month		12.75 (11.46; 0 – 84)
Intensity of social ties		5.64 (6.58; 0 – 61.5)
Negative life events		1.38 (1.61; 0 – 9)
Approach coping		37.99 (11.89; 0 – 64)
Avoidance coping		3.96 (3.15; 0 – 16)
<b>Need Factors</b>		
Depressive symptoms		13.62 (5.22; 0 – 26)
Medical symptoms		2.88 (2.80; 0 – 12)

Responses Inventory<sup>27</sup> was used to assess coping strategies. The CRI has good reliability, stability, and convergent and predictive validity.<sup>28</sup> Participants were asked to think of an important problem or stressful situation in the past year, and to indicate the coping strategies they used to handle the problem on a 4-point scale (1=never, 2=once or twice, 3=sometimes, 4=fairly often). Two coping composites were used: approach coping (24 items; “made a plan of action;” alpha = .83), and avoidance coping (8 items; “avoided people;” alpha = .52), with higher scores indicating more frequent use of approach and avoidance coping. Coping scales tend to show modest internal consistency, potentially because endorsing one type of coping strategy may reduce the likelihood that other coping strategies will be endorsed within the same category, particularly when response frequencies are low.<sup>29</sup>

**Need factors.** Depression was assessed with the PHQ-9, which is a reliable and valid measure of depressive symptoms.<sup>30</sup> The PHQ-9 assesses 9 symptoms of depression (eg, little interest or pleasure in doing things) on a 4-point scale (1=not at all, 2=several days, 3=more than half the days, 4=nearly every day). These responses were summed with higher scores indicating more depression symptoms (alpha = .89).

The HDL<sup>24</sup> was used to assess medical symptoms via a list of 12 somatic symptoms (eg, headaches).

**Table 2**  
**Partial Correlations of Predisposing**  
**and Need Factors with Obtaining**  
**Mental Health Care (N=482)**

	Obtained Mental Health Care
<b>Demographic Factors</b>	
Gender (1=Female)	.12**
Race	-.01
Marital status	-.06
Age	-.10*
Education	.01
<b>Predisposing Factors</b>	
# Contacts in last month	.01
Intensity of social ties	.01
Negative life events	.20***
Approach coping	.17***
Avoidance coping	.27***
<b>Need Factors</b>	
Depression Severity	.31***
Medical Symptoms	.30***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Note.**

Partial correlations controlled for employment status (0 = unemployed, 1 = employed full or part time). Gender coded as 0 = male, 1 = female. Race coded as 0 = white, 1 = non-white. Marital status coded as 0 = not currently married/partnered, 1 = currently married/partnered.

Participants were asked to endorse whether or not they had experienced these symptoms in the past year. Responses were summed, with higher scores indicating more somatic symptoms.

**Analysis Plan**

First Pearson and point biserial partial correlations were used to examine whether predisposing and need factors were associated with obtaining mental health care in the past year. Employment status was not significantly associated with obtaining mental health care ( $r = -.07$ ;  $p > .05$ ); nevertheless, it was controlled for in all analyses as a proxy for health insurance coverage, assuming that employed participants had health insurance.

The remaining variables that were significantly correlated with receiving mental health care were entered as independent variables in a logistic regression. In the logistic regression, employment status was entered in Block 1 as a control variable. Predisposing and need factors were entered in Block 2. Interactions (age by each predictor) were entered in Block 3 in separate logistic regressions

**Table 3**  
**Logistic Regression for Obtaining Mental Health Care (N=482)**

Variable	B	Exp (B)	95% CI
<b>Block 1</b>			
Employment status	-.298	.742	.515 to 1.069
<b>Block 2</b>			
Gender	.358	1.431	.940 to 2.176
Age	.006	1.006	.985 to 1.028
Negative life events	.129	1.138	.995 to 1.301
Approach coping	.022	1.023*	1.005 to 1.041
Avoidance coping	.053	1.054	.974 to 1.141
Depression severity	.084	1.087**	1.027 to 1.151
Medical symptoms	.114	1.121*	1.020 to 1.232
<b>Block 3</b>			
Age x depression severity	.002	1.002*	1.000 to 1.003
Age x gender	-.083	.921***	.883 to .960

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

(one interaction term entered at a time). The final multivariate logistic regression model includes employment status in Block 1, predisposing and need factors in Block 2, and significant interactions in Block 3. Interaction terms were entered in the final model if they were significant when entered into the separate logistic regressions. All independent variables were centered at their mean. All data analyses were completed with IBM SPSS 18, using an alpha of .05.

## RESULTS

### Response Rate

Analyses include only individuals with complete data (N=482). They did not differ significantly from those without complete data with regard to age, education, marital status, or gender. Those with complete data were more likely to be white (83.3%,  $\chi^2(1, N=521) = 6.92, p = .009$ ) and employed (54.1%,  $\chi^2(1, N=521) = 7.54, p = .006$ ).

### Mental Health Care

Demographic characteristics of the sample are presented in Table 1. A total of 45.1% of participants obtained mental health care in the past year. Table 1 also presents the means and standard deviations of the predisposing and need factors.

### Predisposing and Need Factors and Mental Health Care

Partial correlations controlling for employment status revealed that younger participants, women, and participants with more predisposing factors

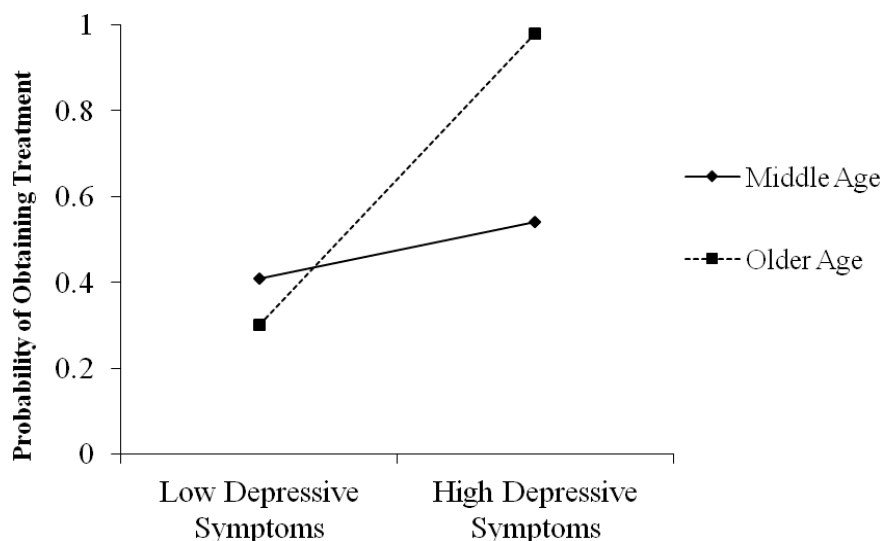
(negative life events, and reliance on approach and avoidance coping) and greater need (more depression and medical symptoms) were more likely to obtain mental health care (Table 2). The average inter-correlations of the predictors was low ( $r = .193$ ); based on this, all predictors were retained.

### Associations with Mental Health Care

The logistic regression showed that more reliance on approach coping (O.R. = 1.023,  $p = .013$ ), more depressive symptoms (O.R. = 1.087,  $p = .004$ ), and more medical symptoms (O.R. = 1.121,  $p = .018$ ) were associated with mental health services use in the past year (Table 3). There were significant interactions of age by depressive symptoms (O.R. = 1.002,  $p = .029$ ) and age by gender (O.R. = .921,  $p < .001$ ).

The 2 significant interactions were further analyzed using the pick-a-point approach.<sup>31</sup> This approach examines how the association between a predictor (gender or depressive symptoms) and outcome (mental health services use) varies as a function of the moderator (age). When age was set to one standard deviation above the mean (67.1 years), the association of depressive symptoms and obtaining mental health care was .18 [ $t(480) = 3.95, p < .001$ ], with a 95% CI from .09 to .26 (Figure 1). Depressive symptoms were not significantly associated with obtaining mental health care when age was set to one standard deviation below the mean (45.7 years). Therefore, more depressive symptoms were associated with obtaining mental health care only among older adults; this associa-

**Figure 1**  
**Interaction of Age and Depressive Symptoms on Obtaining Mental Health Care**



tion did not hold among middle-aged adults.

A similar procedure was used to examine the interaction of age and gender. When age was set to one standard deviation below the mean, the association of gender and obtaining mental health care was 1.29 [ $t(480) = 3.98, p < .001$ ], with a 95% CI from .65 to 1.92. When age was set to the mean or one standard deviation above the mean, gender was not significantly associated with obtaining mental health care. Therefore, it was only among middle-aged adults that gender was associated with obtaining mental health care, with middle-aged women more likely to obtain care than middle-aged men (Figure 2).

## DISCUSSION

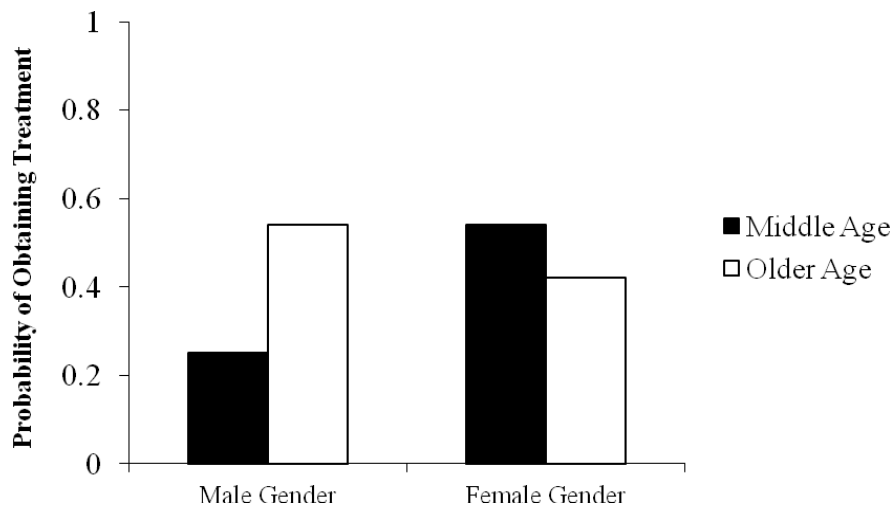
The current study used Andersen's model to examine whether predisposing and need factors were associated with use of mental health services among middle-aged and older adults, and whether age interacted with these factors to affect the likelihood of obtaining mental health care. Individuals who relied more on the predisposing factor of approach coping were more likely to access mental health care. This finding supports existing literature on the health-related benefits of approach coping. Approach coping is characterized by active cognitive and/or behavioral steps the individual takes to manage stressors (eg, by obtaining social support). Approach coping may predispose an individual toward getting needed help, and thus may be associated with positive outcomes, including better mental health.<sup>16,17</sup> Individuals with more medical symptoms were also more likely to obtain

mental health care. A chronic, unremitting course of depression is associated with more medical conditions at baseline,<sup>32</sup> suggesting that medical conditions may exacerbate depressive symptoms and lead an individual to obtain mental health care.

The finding of an association between depression severity (a need factor) and obtaining mental health care was qualified by a significant interaction with age. Although older adults in their mid-60s were more likely to obtain mental health care when they were more depressed, this finding did not hold for middle-aged adults in their mid-40s. In addition, age influenced the association between gender (a predisposing factor) and obtaining mental health care. Specifically, middle-aged men were less likely to obtain mental health care than middle-aged women were; among older adults, gender was not associated with the likelihood of obtaining mental health care.

These results are important for several reasons. First, there is limited research examining the interaction of age with predisposing and need factors on use of mental health services. In the current study, the significant interactions of age with gender (a predisposing factor) and age with depression (a need factor) suggest that middle-aged men and middle-aged adults with depression may not be obtaining needed mental health care. Compared to women, men are less likely to seek mental health and psychiatric services.<sup>33</sup> This finding may be due to less access to care, a negative attitude towards mental health treatment,<sup>34</sup> or difficulty identifying and labeling emotional problems.<sup>35</sup> These limiting factors may be less likely among older adults; con-

**Figure 2**  
**Interaction of Age and Gender on Obtaining Mental Health Care**



sistent with earlier studies,<sup>1,2</sup> there were no gender differences in obtaining mental health care among older adults in the current study. Possibly, older adults have greater access to mental health care through use of Medicare services, as compared to middle-aged adults.<sup>36</sup>

The Andersen model posits that increased need, as assessed by more symptoms, should increase services use. Consistent with this expectation, findings in the current study showed that older adults who experienced more depressive symptoms were more likely to obtain mental health care. In contrast, middle-aged adults with high levels of depressive symptoms were no more likely to obtain mental health services than were those with low levels of symptoms. Therefore, when middle-aged adults experience high levels of depressive symptoms, they seem unlikely to obtain appropriate services. Previous research suggests that middle-aged adults are more likely to obtain mental health care than other age groups,<sup>37</sup> but it is unknown how other predisposing and need factors may alter this association. Possibly, depression strengthens the effects of counteractive factors, such as time pressures and family and job-related stressors to limit middle-aged adults' use of mental health services. Therefore, interventions aimed at increasing approach coping skills and behavior may facilitate middle-aged adults obtaining needed mental health care.

Among older adults, more severe depressive symptoms may increase perceived need for mental health services. This idea is consistent with Simning et al<sup>38</sup> who found that older adults who report-

ed high levels of psychological distress were more likely to have discussed mental health issues with a primary care provider and sought professional mental health services in the past year, compared to those reporting low levels of psychological distress. Jorm et al<sup>18</sup> also found that obtaining help from professional sources peaked among an older age group at moderate levels of distress. Possibly, older adults are more likely to understand the benefits of getting needed mental health care due to accumulated life experience handling stressors and determining how and when to seek help for mental health concerns.<sup>39</sup>

#### Limitations

The results of the current study should be considered in light of some limitations. First, a cross-sectional approach was used to examine age differences in factors associated with use of mental health services, which precludes any conclusion about causality. Second, all of the measures were self-report. Other sources of data about predisposing and need factors and mental health care would be helpful in corroborating participant reports. For example, access to medical records could increase the accuracy of future research on mental health services use. Finally, employment status was used as a proxy for health insurance. Health insurance coverage is important to measure in future research on age differences in mental health services use because insurance coverage is strongly associated with obtaining mental health care.<sup>40</sup> When examining mental health services use among older adults, future studies should include Medicare

status since this may be associated with obtaining more comprehensive services.<sup>36</sup>

### Conclusions and Future Directions

Results of the current study suggest that adults who employ an approach-based coping style, and those who report more medical symptoms, may be more likely to obtain mental health services. A need factor (depression severity) was associated with obtaining mental health care in older but not middle-aged adults, whereas a predisposing factor (gender) was significant for middle-aged but not older adults. This suggests that middle-aged men and middle-aged adults with depression may not be obtaining needed mental health care. Future research should examine efforts to motivate middle-aged adults to obtain mental health care. Such efforts might include gender-specific interventions to reduce barriers to mental health services use by middle-aged men,<sup>41</sup> or interventions to increase approach coping, such as through seeking social support and/or learning to process and express emotions during stressful situations.<sup>42</sup>

### Human Subjects Statement

The Stanford University Institutional Review Board approved the study.

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Erin Woodhead is currently employed at San José State University, Department of Psychology, San José, CA.

### REFERENCES

- Crystal S, Sambamoorthi U, Walkup JT, Akincigil A. Diagnosis and treatment of depression in the elderly Medicare population: predictors, disparities, and trends. *J Am Geriatr Soc*. 2003;51(12):1718-1728.
- Klap R, Unroe KT, Unützer J. Caring for mental illness in the United States: a focus on older adults. *Am J Geriatr Psychiatry*. 2003;11(5):517-524.
- Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? *J Health Soc Beh*. 1995;36(1):1-10.
- Cronkite RC, Moos RH. Life context, coping processes, and depression. In Beckham EE, Leber WR, (Eds). *Handbook of Depression*. New York: Guilford Press 1995:569-587.
- Fiske A, Wetherell JL, Gatz M. Depression in older adults. *Annu Rev Clin Psychol*. 2009;5:363-389.
- Brennan PL, Moos RH. Functioning, life context, and help-seeking among late-onset problem drinkers: comparisons with nonproblem and early-onset problem drinkers. *Br J Addiction*. 1991;86(9):1139-1150.
- Horwitz AV, Uttaro T. Age and mental health services. *Community Ment Health J*. 1998;34(3):275-287.
- Fasoli DR, Glickman ME, Eisen SV. Predisposing characteristics, enabling resources and need as predictors of utilization and clinical outcomes for veterans receiving mental health services. *Med Care*. 2010;48(4):288-295.
- Rhodes AE, Goering PM, To T, Williams JI. Gender and outpatient mental health service use. *Soc Sci Med*. 2002;54(1):1-10.
- Cooper-Patrick L, Gallo JJ, Powe NR, et al. Mental health service utilization by African Americans and Whites: the Baltimore Epidemiologic Catchment Area follow-up. *Med Care*. 1999;37(10):1034-1045.
- Woodward AT, Taylor RJ, Chatters LM. Use of professional and informal support by Black men with mental disorders. *Res Soc Work Pract*. 2011;21(3):328-336.
- Wang PS, Aguilar-Gaxiola S, Alonso J, et al. Worldwide use of mental health services for anxiety, mood, and substance disorders: results from 17 countries in the WHO World Mental Health (WMH) surveys. *Lancet*. 2007;370(9590):841-850.
- Maulik PK, Eaton WW, Bradshaw CP. The effect of social networks and social support on mental health services use, following a life event, among the Baltimore epidemiologic catchment area cohort. *J Behav Health Serv Res*. 2011;38(1):29-50.
- Phillips MA, Murrell SA. Impact of psychological and physical health, stressful events, and social support on subsequent mental health help seeking among older adults. *J Consult Clin Psychol*. 1994;62(2):270-275.
- Abe-Kim J, Takeuchi D, Hwang W. Predictors of help seeking for emotional distress among Chinese Americans: family matters. *J Consult Clin Psychol*. 2002;70(5):1186-1190.
- Moos RH, Schaefer JA. Coping resources and processes: current concepts and measures. In Goldberger L, Breznitz S, (Eds). *Handbook of Stress: Theoretical and Clinical Aspects*. New York: Free Press 1993:234-257.
- Cronkite RC, Moos RH, Twohey J, et al. Life circumstances and personal resources as predictors of the ten-year course of depression. *Am J Community Psychol*. 1998;26(2):255-80.
- Jorm AF, Griffiths KM, Christensen H, et al. Actions taken to cope with depression at different levels of severity: a community survey. *Psychol Med*. 2004;34(2):293-299.
- Mojtabai R, Olfson M. Treatment seeking for depression in Canada and the United States. *Psychiatr Serv*. 2006;57(5):631-639.
- Bijl RV, Ravelli A. Psychiatric morbidity, service use, and need for care in the general population: results of the Netherlands mental health survey and incidence study. *Am J Public Health*. 2000;90(4):602-607.
- Christensen H, Jorm AF, Mackinnon AJ, et al. Age differences in depression and anxiety symptoms: a structural equation modelling analysis of data from a general population sample. *Psychol Med*. 1999;29(2):325-339.
- Cornwell B, Laumann EO, Schumm LP. The social connectedness of older adults: a national profile. *Am Sociol Review*. 2008;73(2):185-203.
- Timko C, Cronkite RC, Moos RH. Do parental stressors and avoidance coping mediate between parental depression and offspring depression? A 23-year follow-up. *Fam Relat*. 2010;51(2):121-135.
- Moos RH, Cronkite RC, Finney JW. *Health and Daily Living form Manual*. Menlo Park, CA: Mind Garden 1992.
- Billings A, Moos R. Chronic and nonchronic unipolar depression: the differential role of environmental stressors



- and resources. *J Nerv Ment Dis.* 1984;172(2);1-11.
26. Billings A, Cronkite R, Moos R. Social-environmental factors in unipolar depression: comparisons of depressed patients and nondepressed controls. *J Abnorm Psychol.* 1983;92(2);119-133.
27. Moos RH. *Coping Responses Inventory: Adult Form Manual.* Odessa, FL: Psychological Assessment Resources 1993.
28. Holahan CJ, Moos RH, Holahan CK, Cronkite RC. Resource loss, resource gain, and depressive symptoms: a 10-year model. *J Pers Soc Psychol.* 1999;77(3);620-629.
29. Moos RH, Holahan CJ. Dispositional and contextual perspectives on coping: toward an integrative framework. *J Clin Psychol.* 2003;59(12);1387-1403.
30. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med.* 2001;16(9);606-613.
31. Hayes AF, Matthes J. Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behav Res Methods.* 2009;41(3);924-936.
32. Cronkite RC, Moos RH, Twohey J, et al. Life circumstances and personal resources as predictors of the ten-year course of depression. *Am J Community Psychol.* 1998;26(2);255-280.
33. Addis ME, Mahalik JR. Men, masculinity, and the contexts of help seeking. *Am Psychol.* 2003;58(1);5-14.
34. Gonzales JM, Alegria M, Prihoda TJ. How do attitudes toward mental health treatment vary by age, gender, and ethnicity/race in young adults? *J Community Psychol.* 2005;33(5);611-629.
35. Carpenter KM, Addis ME. Alexithymia, gender, and responses to depressive symptoms. *Sex Roles.* 2000;43(9);363-378.
36. Marcus SC, Olfson M. National trends in the treatment for depression from 1998 to 2007. *Arch Gen Psychiatry.* 2010;67(12);1265-1273
37. Wang PS, Lane M, Olfson M, et al. Twelve-month use of mental health services in the United States. *Arch Gen Psychiatry.* 2005;62;629-640.
38. Simning A, Richardson TM, Friedman B, et al. Mental distress and service utilization among help-seeking, community-dwelling older adults. *Int Psychogeriatr.* 2010;22(5);739-749.
39. Mackenzie CS, Gekosk WL, Knox VJ. Age, gender, and the underutilization of mental health services: the influence of help-seeking attitudes. *Aging Ment Health.* 2006;10(6);574-582.
40. Landerman LR, Burns BJ, Swartz MS, et al. The relationship between insurance coverage and psychiatric disorder in predicting use of mental health services. *Am J Psychiatry.* 1994;151(12);1785-1790.
41. Rochlen AB, Paterniti DA, Epstein RM, et al. Barriers in diagnosing and treating men with depression: a focus group report. *Am J Mens Health.* 2010;4(2);167-175
42. Stanton AL. Regulating emotions during stressful experiences: the adaptive utility of coping through emotional approach. In Folkman S, (Ed). *The Oxford Handbook of Stress, Health, and Coping.* New York: Oxford University Press 2010;369-386.

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