

Gender Differences in Views about Cognitive Health and Healthy Lifestyle Behaviors Among Rural Older Adults

By: Bei Wu, PhD, R. Turner Goins PhD, James N. Laditka, DA, PhD, MPA, Valerie Ignatenko, MA and Eric Goedereis, MS

Wu, B., Goins, R.T., Laditka, J.N., Ignatenko, V., Goedereis, E. (2009). Gender Differences in Views about Cognitive Health and Healthy Lifestyle Behaviors among Rural Older Adults. *The Gerontologist, Special Issue. 49, S72-S78.*

Made available courtesy of Oxford University Press:

<http://gerontologist.oxfordjournals.org/content/49/S1/S72.full>

*****Note: Figures may be missing from this format of the document**

Abstract:

Purpose: Research suggests that men and women often differ in knowledge and beliefs about causes and treatments of a variety of diseases. This study examines gender differences in views about cognitive health and behaviors that have been associated with its maintenance, focusing on older adults living in rural areas. **Design and Methods:** We conducted 6 focus groups in rural West Virginia. Participants included 37 women and 30 men, aged 55 years and older. **Results:** Men and women held similar views of cognitive decline, as well as largely similar views about causes of Alzheimer's disease (AD). However, women were more concerned about developing AD than were men. Gender differences were also noted with respect to healthy lifestyle beliefs, including diet, leisure-time physical activity, and strategies to maintain cognitive health. **Implications:** Findings illustrate the importance of considering gender with respect to health beliefs, health behaviors, and health promotion, and emphasize the need to develop interventions designed for specific populations. Results highlight a critical need to translate research findings to the community.

Article:

Increasing evidence suggests that physical activity, healthy diets, and social involvement may help to maintain cognitive health, reducing the risk for cognitive decline as well as the risk of developing Alzheimer's disease (AD) and related disorders (Angevaren, Audfemkampe, Verhaar, Aleman, & Vanhees, 2008; Emerson-Lombardo, Volicer, Martin, Wu, & Zhang, 2006; Hendrie et al., 2006; Lautenschlager, 2008). Despite this evidence, and although the risk for cognitive impairment increases with age, no studies have examined gender differences in views about cognitive health—including knowledge, beliefs, and attitudes—or about the healthy lifestyles that may help to promote it.

Women and men have been shown to differ in views about a variety of disease causes and treatments. For example, women report greater fear of cancer than men and are more likely to believe that its causes are genetic, whereas men are more likely to endorse behavioral causes (Murray & McMillan, 1993). Men report a greater sense of control than women for managing diabetes through diets (Brown et al., 2000). Men tend to attribute depression to psychological factors, whereas women also stress biologic factors (Sigmon et al., 2005). Such differences may notably affect ways that groups respond to health information. It is useful to understand these differences if we are to design effective interventions to promote cognitive health through the adoption of healthy lifestyles. It is also advisable to involve intended recipients of such interventions in the development process of the interventions (Prohaska & Peters, 2007) in part because people are more likely to pay attention to health messages if they are well tailored to their needs (Petty & Cacioppo, 1986). This formative research seeks to contribute to a foundation for health interventions, by helping to understand how older women and men in rural areas view cognitive health, as well as the health behaviors that have been associated with its maintenance.

West Virginia provides a distinct setting for examining rural older adults' views about cognitive health. Nearly 45% of the state's population is rural, compared with 17% of the United States (U.S. Department of Agriculture,

Characteristic	Total (N = 67) ^a		Men (n = 30) ^a		Women (n = 37) ^a		p
	n	%	n	%	n	%	
Age (years)							
55–64	9	13.4	2	6.7	7	18.9	.21
65–74	23	34.3	8	26.7	15	40.5	
75–84	30	44.8	18	60.0	12	32.3	
>85	5	7.5	2	6.7	3	8.11	
Race/ethnicity							
African American	9	13.4	2	6.7	7	18.9	.28
White, not Hispanic	55	82.1	27	90.0	28	75.7	
Other	3	4.5	1	3.3	2	5.4	
Marital status							
Single	8	11.9	5	16.7	3	8.1	.02
Married	25	37.3	16	53.3	9	24.3	
Divorced	10	14.9	4	13.3	6	16.2	
Widowed	24	35.8	5	16.7	19	51.4	
Highest education completed							
<High school	16	23.9	7	23.3	9	24.3	.87
High school graduate or GED	34	50.8	14	46.7	20	54.1	
Some college, technical or vocational	10	14.9	5	16.7	5	13.5	
≥College degree	7	10.5	4	13.3	3	8.1	
Annual income^b (\$; men: n = 30; women: n = 29)							
<20,000	30	50.9	13	43.3	17	58.6	.56
20,000–39,999	19	32.2	11	36.7	8	27.6	
40,000–64,999	6	10.2	4	13.3	2	6.9	
65,000–99,999	1	1.7	1	3.3	0	0	
>100,000	3	5.1	1	3.3	2	6.9	

• *Notes:* GED = General Educational Development.

• ^a Number responding is 30 for men, 37 for women, and 67 for the total sample, unless otherwise noted.

• ^b Item response was optional.

Three themes were identified in responses to the views about cognitive health questions: terminology, causes of AD and other dementias, and memory loss concerns. Five themes were identified in responses to the healthy lifestyle beliefs questions: preventive strategies, seeking health care information, strategies to promote aging well, healthy diet, and barriers to healthy diet (see Table 2).

Table 2.
Summary and Comparison of Themes by Gender

Response category	Responses specific to men, women, or both		Both
	Men	Women	
Perceptions of cognitive decline			
Terminology			Alzheimer's disorder,

Response category	Responses specific to men, women, or both		
	Men	Women	Both
Causes of Alzheimer's disease (AD) and other dementias		Stress	Medical/physical health problems, food chemicals, genetics
Memory loss concerns		Potential for developing AD	
Healthy lifestyle beliefs			
Preventive strategies		Stress reduction, education/information seeking	Need for proof, question whether preventive strategies work
Sources of health care information	Senior center, family members, Department of Veterans Affairs	Books, health fairs, Alzheimer's Association	
Strategies to promote aging well	Functional activities, work, cleaning, positive attitudes, sense of humor	Structured leisure activities, dance, group exercises, social involvement, volunteering	Cognitive activity, reading, puzzles, games, keeping busy
Healthy diet	Low-fat diet, diet including fish	Vegetables	Vitamin and mineral supplements, fruits
Barriers to healthy diet	Taste preferences, convenience of fast food, lack of self-control	Cooking healthy meals	

AD and Dementia Terminology

When describing memory loss, both men and women endorsed similar terms, most commonly, “Alzheimer's disease,” “dementia,” and “senile.” Neither men nor women seemed to fully understand the meaning of these terms. One man stated: Why do you call it a disease? I always thought a disease; you had to catch a bug, a virus or something to have a disease. So, I, I don't know whether it's a disease or just a state of mind, you know, from age or whatever. But you keep saying all these maladies or diseases, like, you know, you catch a bug.

A woman asked, “There's normal dementia, I mean as you get older, isn't there?”

Causes of AD and Dementia

Medical Problems.—

Both men and women suggested that medical problems caused memory loss. One woman commented: And I know with my first op, with my first by-pass, when they did it, I was on the heart-lung machine for a long time and when I got off it and came home, I couldn't write my name.

Similarly, one man said: My wife had serious loss of memory. She had, last August, she had five by-passes and then a stroke and she remembers none of it. In the hospital, it was touch and go for so long and she was going to ask her about it today and she doesn't remember any of it at all. But her memory is pretty good now. ... It works pretty good now. It came, it came back, but she doesn't remember the past.

Chemicals in the Food.—

Additives and processed foods were a great concern among both women and men. A man said, “It seems in the last 50 years, food processing has changed so much. So, there's so much stuff in our foods.” Women agreed that processed food is a cause of memory loss. One commented: You know evidently there are so many Alzheimer's cases turning up now. More than you ever heard before. ... There's something causing it. I don't know whether it's the food process or whatever it is, but everywhere you go, you find three or four people coming up with this Alzheimer's and it wasn't like that a long time ago. It's, it's something that's causing it.

Genetics Versus Personal Attributes.—

Genetics was cited as a cause of memory loss by both women and men. One man suggested, “... if there has been anything down through your generations, that you can inherit some of this, no doubt.” Some women

expressed concern about their genetic risk for Alzheimer's; one said, "It worries me, you know, about, it worries me because of her having it and then my memory is so bad, so I don't know." However, most women agreed that genetics was not the only component of memory loss. Women also attributed memory loss to stress and anxiety. One said, "I think we crowd a lot into our lives. I stay so busy sometimes; I think that's the reason I forget things."

Approaches to Reduce the Risk for Cognitive Decline

Seeking Health Care Information.—

Women said they obtained medical information from books, health fairs, and the Alzheimer's Association. Men received medical information from the senior center, family, and the Department of Veterans Affairs. Women often indicated that they took the lead role in providing health care information for their families. One man conceded that he relied on his wife to provide this information, whereas another said he consulted his daughter on health care topics.

Social Engagement, Activity, and Attitudes.—

Women and men differed in social behaviors, as well as in their perceptions about the importance of such behaviors for promoting cognitive health. For example, women discussed engaging in structured and leisure activities, such as dance and group exercises, more frequently than men. Women emphasized that social involvement was important to aging well. One suggested, "If you just sit in your apartment 24 days, you know 24 hours a day, I mean, you know, it will drive you crazy." Women also suggested that people with memory loss often did not get out of the house regularly. One commented: . . . she didn't go out, she wasn't active and she just got Alzheimer's overnight. And, started carrying a teddy bear all the time, up and down the street. And, I had known her all my life and it was just so sad seeing her lose her mind like that. She passed away a couple of years ago.

Men reported engaging in activities such as working, cleaning, and hunting for physical exercise. One noted, "I'm in pretty good shape because I'm a volunteer fire fighter." Women discussed the importance of social activity. Men stressed the need for a sense of humor, being happy, and having a positive attitude as important factors in aging well. One commented: . . . telling yourself if you wake up in the morning, you've got a choice of doing two things, you're either happy or you're sad. You've got that choice. You can either be happy, which I am all the time. Or you say, geez, what a day, God, I feel awful, I got a, you're gonna feel awful all day long. And if you, if you tell yourself that, you'll believe it.

Healthy Diet and Cognitive Activity.—

Men and women agreed that a healthy diet was important for aging well and that women took more responsibility for diets in their families. Men and women differed in their definitions of healthy diets. Vitamin and mineral supplements were noted by both groups as a crucial part of a healthy diet, as was eating fruit. Women said that a healthy diet included vegetables. Men said that low-fat diets and fish were healthy.

Participants identified barriers to healthy eating. Women said they opted for quick and convenient meals when cooking only for themselves. Men identified taste preference, fast-food convenience, and lack of self-control as barriers to healthy eating. One said, "It's your personal choice if you're willing to sacrifice taste for health." All participants endorsed a variety of cognitive activities, including reading, completing crossword and other puzzles, and keeping busy, as strategies to maintain cognitive health. Participants suggested that using one's brain helps prevent memory loss. One man said, "If you don't use it, you lose it."

Uncertainty About Strategies to Maintain Cognitive Health.—

Both women and men said there was a need for proof that preventive strategies were effective for promoting cognitive health before they were willing to make changes. One woman said, "I knew if I did something definitely that would, you know, prevent it, I'd do it probably, you know." Similarly, a man said: You have to prove to us that something works, first. It's like [Name] was saying, we know about diets and stuff, but we don't know of anything . . . I don't think there's anybody here that believes you can show us solid proof.

One woman questioned the idea that healthy behaviors could reduce the risk of developing AD, “I’ve seen people who are, who are real active but get Alzheimer’s. Real active.” Men also discussed how they have known people who used preventative strategies but developed AD anyway. One commented: Well, they’re always suggesting that you do this or you do that to keep you and you work crossword puzzles and do this and you work, do these things to keep your mind sharp and you belong to all these different things to keep your mind sharp and you exercise. But, that doesn’t necessarily mean that it’s gonna help because the people, some people you know and have seen, why they still get it.

Discussion

Our study provided a unique opportunity to examine gender differences in views about cognitive health and healthy lifestyles among rural older adults. Although both men and women were concerned about memory loss, women were more concerned about developing AD. Women were also more likely than men to seek information about cognitive health. It is possible that women’s tendency to be more concerned than men about developing AD could be attributed to traditional American gender roles. For this birth cohort of rural older adults, it is likely that many participants assumed gender roles of traditional American culture, where women stayed at home and took care of their families and homes, whereas men provided income for the family through employment (Bem, 1974; Spence & Helmreich, 1980). In their roles as caregivers, women are more likely to be exposed to cognitive impairment, perhaps increasing concerns about developing AD. In addition, caregiving is more stressful for women than for men (Walker, Pratt, & Eddy, 1995), a factor that may have contributed to the fact that women more commonly suggested stress reduction as a way to maintain cognitive health.

When asked to describe barriers to healthy diets, women identified the difficulty of preparing healthy food, whereas men cited taste preference for unhealthy foods, the convenience of “fast foods,” and lack of self-control. Lack of concern about healthy eating among men in this study is consistent with previous research (Wardle et al., 2004). Men said that their wives were responsible for healthy diets.

Gender differences also emerged regarding physical activity. When describing physical activity, men commented about employment and manual labor. Women endorsed a variety of structured physical activities, including dance and group exercise classes. These results are interesting in relation to participants’ beliefs about aging well. Women readily endorsed social engagement as a requirement for aging well, whereas men voiced reluctance to attend organized activities. Men suggested internal factors that affected aging well, including a positive attitude and a sense of humor. These findings echo different gender expectations that are common in this society that women are expected to engage more in human interactions and social activities, whereas men tend to be involved in functional activities (Adams, 1997).

Although the focus of this study was to identify gender differences, it is worth noting that both men and women held similar views about cognitive decline, as well as largely similar views about causes of AD and dementia. Their limited understanding of cognitive decline suggests that these older adults may receive little or inaccurate information from health care providers, the public health system, or the media. Further, both men and women had difficulty distinguishing between disease prevention and risk reduction. Although there is increasing scientific evidence suggesting that healthy behaviors, such as physical activity, healthy diet, and social engagement, play important roles in reducing the risk for cognitive decline, participants were doubtful about the effectiveness of adopting these behaviors. Results suggest a need for translational approaches for providing older adults in rural communities with accurate knowledge about cognitive diseases, as well as strategies for reducing the risk of developing them.

Due to the qualitative approach, as well as potential selection bias associated with focus group participation, the results should be interpreted with caution. Given the recruitment strategy, it is likely that more socially isolated, socioeconomically disadvantaged, and less mobile seniors were inadequately represented. It is also possible that some of the differences observed in responses of women and men may be attributable to differences in other characteristics among the focus groups, rather than specifically to gender. Future efforts may benefit from

adopting various models, such as D'Andrade's (1989) cultural model or Kleinman's (1978) explanatory model, to frame focus groups and follow-up with individual interviews. Despite these considerations, this study provides a useful description of gender differences and similarities in rural older adults' perceptions about cognitive health and healthy lifestyles. Interventions that go beyond a "one-size-fits-all" approach are needed. Such programs should consider the important role of both gender and rurality.

Funding

The research reported in this publication was supported in part by cooperative agreements from the Centers for Disease Control and Prevention's (CDC) Prevention Research Centers Program Healthy Aging Research Network (PRC-HAN) Special Interest Project (SIP) 13-04 and SIP 8-06, and by Cooperative Agreements 1-U48-DP-000025, 1-U48-DP-000033, 1-U48-DP-000045, 1-U48-DP-000048, 1-U48-DP-000050, 1-U48-DP-000051, 1-U48-DP-000052, 1-U48-DP-000054, and 1-U48-DP-000059. The PRC-HAN is supported by the CDC's Healthy Aging Program.

Conflict of Interest

The findings and conclusions in this report are the authors' and do not necessarily represent the official views of the CDC or other institutions with which the authors are affiliated.

Adams RG. Friendship patterns among older women. In: Coyle JM, editor. Handbook on women and aging. Westport, CT: Greenwood Press; 1997. p. 400-471.

Angevaren M, Aufdemkampe G, Verhaar HJJ, Aleman A, Vanhees L. Physical activity and enhanced fitness to improve cognitive function in older people without known cognitive impairment. Cochrane Database of Systematic Reviews 2008. (3), CD005381.

Bem SL. The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology 1974;42:155-162.

Brown SA, Harrist RB, Villagomez ET, Segura M, Barton SA, Hanis CL. Gender and treatment differences in knowledge, health beliefs, and metabolic control in Mexican Americans with type 2 diabetes. Diabetes Educator 2000;26:425-438.

Bryant LL, Laditka JN, Laditka SB, Matthews AE. Characteristics of the healthy brain sample: Representing diversity among older Americans. The Gerontologist 49 (Suppl. 1):S23-S29.

Posner MI D'Andrade RG. Cultural cognition. In: Posner MI, editor. Foundations of cognitive science. Cambridge, MA: MIT Press; 1989. p. 795-830.

Vellas B, Fitten LJ, Feldman H, Giacobini E, Grundman M, Winblad B, Kurz A, Emerson-Lombardo NB, Volicer L, Martin A, Wu B, Zhang XW. Memory preservation diet™ to reduce risk and slow progression of Alzheimer's disease. In: Vellas B, Fitten LJ, Feldman H, Giacobini E, Grundman M, Winblad B, Kurz A, editors. Research and practice in Alzheimer's disease. Vol. 11. Paris: Serdi; 2006. p. 138-159.

Goins RT, Williams KA, Carter MW, Spencer SM, Solovieva T. Perceived barriers to health care access among rural older adults: A qualitative study. Journal of Rural Health 2005;21:206-213.

Hendrie HC, Albert MS, Butters MA, Gao S, Knopman DS, Launer LJ, et al. The NIH cognitive and emotional health project report of the critical evaluation study committee. Alzheimer's and Dementia 2006;2:13-32.

Kleinman A. Culture, illness and cure: Clinical lessons from anthropologic and cross-cultural research. *Annals of Internal Medicine* 1978;88:251-258.

Abstract/

Laditka JN, Beard R, Bryant L, Fetterman D, Humter R, Ivey S. Promoting cognitive health: An overview. *The Gerontologist* 2009;49 (Suppl. 1):S12-S17.

Laditka SB, Corwin SJ, Laditka JN, Friedman DB, Liu R, Matthews AE. Methods and management of the Healthy Brain Study, a large multi-site qualitative research project. *The Gerontologist* 2009;49 (Suppl. 1):S18-S22.

Lautenschlager NT, Cox KL, Flicker L, Foster JK, van Bockxmeer FM, Xiao J, et al. Effect of physical activity on cognitive function in older adults at risk for Alzheimer Disease. *Journal of the American Medical Association* 2008;300:1027-1037.

Abstract/

Miles MB, Huberman AM. *Qualitative data analysis: An expanded sourcebook*. 2nd ed. Thousand Oaks, CA: Sage; 1994.

Murray M, McMillan CL. Gender differences in perceptions of cancer. *Journal of Cancer Education* 1993;8:53-62.

Petty RE, Cacioppo JT. *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag; 1986.

Prohaska TR, Peters KE. Physical activity and cognitive functioning: Translating research to practice with a public health approach. *Alzheimer's and Dementia* 2007;3 2 Suppl. 1:S58-S64.

Ricketts TC, Schur CL, Franco SJ. Access to health care. In: Ricketts TC, editor. *Rural health in the United States*. New York: Oxford University Press; 1999.

Scientific Software Development. *Atlas.ti 5.0 software*. Berlin: Germany; 2004. Author.

Sigmon ST, Pells JJ, Boulard NE, Whitcomb-Smith S, Edenfield TM, Hermann BA, et al. Gender differences in self-reports of depression: The response bias hypothesis revisited. *Sex Roles* 2005;53:401-411.

Sortet JP, Banks SR. Health beliefs of rural Appalachian women and the practice of breast self-examination. *Cancer Nursing* 1997;20:231-235.

Spence JT, Helmreich RL. Masculine instrumentality and feminine expressiveness: Their relationships with sex role attitudes and behaviors. *Psychology of Women Quarterly* 1980;5:147-163.

SPSS for Windows, Rel. 11.0.1. (2001). Chicago: SPSS.

U.S. Census Bureau. *Estimates for West Virginia Counties, 2003. Small Area Income and Poverty Estimates*. 2003. Retrieved June 6, 2008, from <http://www.census.gov/cgi-bin/saipesa/saipesa.cgi>.

U.S. Department of Agriculture, Economic Research Service. State fact sheets, West Virginia. 2008. Retrieved June 6, 2008, from <http://www.ers.usda.gov/StateFacts/us.htm>.

Walker AJ, Pratt CC, Eddy L. Informal caregiving to aging family members: A critical review. *Family Relations* 1995;44:402-411.

Wardle J, Haase AM, Steptoe A, Nillapun M, Jonwutiwes K, Bellisle F. Gender differences in food choice: The contribution of health beliefs and dieting. *Annals of Behavioral Medicine* 2004;27:107-116.

West Virginia Department of Health and Human Resources. Minority health in West Virginia. 2007. Retrieved September 2, 2008, from http://www.wvdhhr.org/bph/oehp/hsc/pubs/MinorityHealth/Minority_Health_