

ORIGINAL ARTICLE

Support and Sabotage: A Qualitative Study of Social Influences on Health Behaviors Among Rural Adults

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Abstract

Purpose: Social environments exert an important influence on health behaviors, yet evidence from rural-specific contexts is limited. This study explored how social relationships influence health-related behaviors among midlife and older rural adults at increased risk of chronic disease.

Methods: Seventeen focus groups were conducted with 125 sedentary, overweight/obese adults (aged 40-91 years) residing in "medically underserved" rural Montana towns in 2014. Groups were stratified by age (40-64 and ≥ 65) and gender. Transcripts were examined thematically using NVivo software according to social influences on diet, physical activity, and tobacco use. Analyses were conducted in 2015-2016.

Results: Attitudes and actions of family members and friends were key influences on health behaviors, in both health-promoting and health-damaging ways. In these small, isolated communities, support from and accountability to family and friends were common facilitators of behavior change and maintenance. However, expectations to conform to social norms and traditional gender roles (eg, caregiving duties) often hindered healthy lifestyle changes.

Conclusions: These findings suggest that health behavior interventions targeting adults in rural settings need to consider and, if possible, integrate strategies to address the impact of social relationships in both supporting and sabotaging behavior change and maintenance.

Key words health behaviors, qualitative research, rural health, social environment.

Despite growing emphasis on reducing rural health disparities, adults living in rural areas remain at increased risk of adverse health outcomes. Compared to their urban counterparts, rural Americans have higher rates of chronic conditions, including obesity, diabetes, and cardiovascular disease, and are more likely to engage in health-risk behaviors such as tobacco use, poor dietary intake, and physical inactivity.¹⁻³ Understanding the factors that impact these lifestyle choices is essential to developing programs and policies to improve rural health.

Research suggests that social ties can exert a powerful influence on health by shaping health behaviors; yet evidence from rural-specific contexts is limited.⁴ Strong social networks, community cohesion, and norms of self-help and reciprocity are frequently cited as positive social aspects of rural life.⁵ However, in small, geographically isolated communities, entrenched social-cultural norms can significantly restrict people's behavioral choices.^{6,7}

Previous studies in rural populations have focused largely on environmental determinants of physical activity, highlighting facilitators, such as social support and accountability, and barriers, such as family responsibilities and discouragement from others.⁸⁻¹² Several qualitative studies have also posited both negative and positive influences of social factors (eg, family support) on eating behavior, though most were conducted only among women.^{6,10,11,13,14} Compared to physical activity and dietary practices, even less is known about the social factors influencing tobacco use in rural settings. However, studies in rural Appalachian adults found encouragement from friends and family to be a primary motivator of smoking cessation, while frequent smoking in social circles hindered quitting efforts.^{15,16}

Although existing research provides support for social influences on rural health behaviors, most studies were limited in geographic scope or restricted by age group, gender, and behavior. In addition, the mechanisms by which different social spheres (eg, family vs peers) act to promote or hinder lifestyle choices have not been well studied. The present study aimed to provide a better understanding of how social relationships influence the adoption and maintenance of health-related behaviors among midlife and older rural adults in medically underserved communities.

Methods

Study Design and Participants

This work was part of a larger formative research study in rural Montana examining the individual, social, and

Table 1 Age and Gender of Focus Group Participants by Town

| Town | Focus Group 1 | Focus Group 2 |
|------|--------------------------|------------------------|
| 1 | Female 65+ (n = 10) | Male 65+ (n = 14) |
| 2 | Female 40-64 (n = 3) | Female 65+ (n = 4) |
| 3 | Female 40-64 (n = 5) | Female 65+ (n = 10) |
| 4 | Female 65+ (n = 3) | Male 40-64 (n = 4) |
| 5 | Female 65+ (n = 6) | Cancelled |
| 6 | Female 40-64 (n = 10) | Male 40-64 (n = 12) |
| 7 | Male 40-64 (n = 8) | Male 65+ (n = 12) |
| 8 | Female 40-64 (n = 8) | Male 40-64 (n = 5) |
| 9 | Female 65+ (n = 8) | Male 40-64 (n = 3) |

environmental influences on cardiovascular disease-related health behaviors.¹⁷ Seventeen focus groups were conducted with midlife and older adults residing in rural Montana towns in September and October 2014. Eligible towns were required to have a Rural-Urban Commuting Area (RUCA) code of 7 or higher and be designated as a medically underserved area (MUA) or medically underserved population (MUP) by the Health Resources and Services Administration.^{18,19} Participants were purposively sampled from 9 towns across the state (average population <2,000) to reflect diversity in age, gender, and geographic location. We expected that participant responses would vary substantially such that separate focus groups based on age and gender were justified. Focus groups were conducted at each site (2 in 8 towns; 1 in 1 town) and ranged from 3 to 14 participants, with an average size of 7-8. Table 1 presents the age and gender of focus group participants by site.

Community-wide recruitment efforts were carried out by National Institute of Food and Agriculture (NIFA) Extension agents and their local partners at each site. Strategies included press releases, flyers, word-of-mouth referrals, and direct contact with community residents. Overweight and sedentary individuals aged 40 and older were specifically recruited because of their increased risk of cardiovascular disease. To confirm eligibility, potential participants were asked to report their age, height, weight, and activity level using a brief survey tool. Sedentary behavior was defined as participating in no more than 1 bout of 30 minutes (or more) of physical activity per week.

Table 2 Focus Group Guide Questions

| Environmental Influences on Behavior | |
|--|---|
| Barriers and opportunities, social support | Tell me about programs and physical and social aspects of your community that promote healthy eating. (<i>Repeat for physical activity</i>) Tell me about things that make healthy eating more difficult. (<i>Repeat for physical activity</i>) What kind of roadblocks have you run into when trying to change your eating habits? What helped or would have helped make those [dietary] changes become habit? Imagine that you have decided to get more exercise. What would prevent you from doing it? Talk about the things that would help you make those [activity] changes and help make them become habit. What resources are currently available in your community for quitting smoking? |
| Normative beliefs | Would you consider your social community healthy? Tell me about that. Think about [men or women] who are 40 years old or older. Describe the type of [men and women] in that age group who get a lot of exercise. In your community, are there many people who currently smoke? Are there many people who are former smokers? |
| Observational learning | Who in your social community influences your health behaviors? |
| Cognitive Influences on Behavior | |
| Knowledge | Describe what it means to eat healthfully. |
| Supporting Behavioral Factors | |
| Behavioral skills, intentions | Think back to the past several years. Have you made any changes in how you eat? What prompted you to make those changes? Tell me about the types of physical activity that you do. Tell me a little about your experience or the experience of others in your community that have quit smoking. |

Procedure

Focus groups were stratified by age (40-64, 65+) and gender to account for differences in perceived health-related influences. Sessions ranged from 60 to 90 minutes in length and were facilitated by a single experienced and trained interviewer at local community venues. The semi structured interview guide that was followed for each discussion was framed around constructs of social cognitive theory (SCT),^{20,21} with input from the research team and an expert national rural health advisory board. Further revisions to the guide were based on a pilot focus group with rural residents.

Focus group questions asked about environmental, cognitive, and behavioral influences on diet, physical activity, and tobacco use. Environmental influences included the following SCT constructs: barriers and opportunities, social support, observational learning, and normative beliefs. Cognitive influences included the constructs of knowledge, self-efficacy, collective efficacy, and outcome expectations. Behavioral influences included the constructs of reinforcement and punishment, behavioral skills, and intentions. A subset of the focus group guide questions, specific to the current study, is presented in Table 2.

At the start of each session, participants were asked to complete a brief questionnaire that asked about demographic characteristics and health behaviors. All participants provided written informed consent and were compensated with a \$50 Visa gift card. Study procedures and materials were approved by Cornell University's Institutional Review Board (Protocol #1402004505).

Data Analysis

Following verbatim transcription and cross-checking of focus group audio files, transcripts were imported into NVivo version 10 (QSR International Pty Ltd, Doncaster, Victoria, Australia) for coding. An initial descriptive coding framework²² was developed around main focus group topics and emic themes and applied to all data. Following careful scrutiny of emergent themes related to the present study, the relevant descriptive codes were split into subcodes. Subcodes were applied by the primary author and coding decisions were systematically reviewed by another member of the research team. Discussions were held to resolve any differences in interpretation. As additional concepts and themes were identified, the subcodes were revised iteratively until agreement

was reached, following procedures for team-based qualitative analysis outlined by MacQueen et al.²³ Quantitative survey data were summarized using SAS version 9.4 (SAS Institute Inc., Cary, North Carolina). Analyses were conducted in 2015-2016.

Results

A total of 125 adults, ranging in age from 40 to 91 years, participated in the focus group discussions. Consistent with the demographic composition of rural Montana communities, almost all participants identified as non-Hispanic white (99.2%) and just over half were women (57%). Participants had an average body mass index of 31.7 (range 24.3-54.1) and 40% were current or former smokers. Table 3 presents additional socio demographic characteristics by gender.

Findings from the focus groups are discussed in terms of family and peer influences on the following health-related behaviors: diet, physical activity, and tobacco use. Emergent subthemes within each social sphere are described in the text and highlighted in Table 4.

Family Influences on Diet

Food choice negotiations within the family emerged as a key determinant of eating behavior. As the primary food preparers, women frequently reported difficulties in reconciling their spouses' food preferences with their own desires to eat healthfully. Meat and potatoes were considered dietary staples, especially among men, and these ingrained eating habits were hard to change without creating conflict.

For me, my husband doesn't want to change the way we've been eating. He likes the meat and potatoes. It's not a meal, unless it's that. Like if I were to give him rice and a nice salad, he would think he was bein' punished, you know. (Woman, 40-64)

However, many men attributed their healthier eating habits to their wives' food preparation and procurement efforts (eg, home canning and gardening). Some women also discussed successful compromises during family meal times including serving smaller portions, making healthy recipe modifications, and preparing separate meals.

Family health concerns were another driver of participant's eating behaviors. Having a spouse or child diagnosed with a chronic condition motivated many people to make supportive dietary changes. For others, watching a family member's health deteriorate came as a wake-up call to change their own behavior.

Table 3 Characteristics of Focus Group Participants by Gender (N = 125)

| Characteristic | Total (n = 125) | Men (n = 54) | Women (n = 71) |
|---------------------------------|-----------------|--------------|----------------|
| Age (mean, SD) | 64.5 (11.8) | 62.5 (11.1) | 66.0 (12.1) |
| BMI (mean, SD) | 31.7 (5.9) | 31.3 (4.7) | 32.0 (6.7) |
| Age group | | | |
| 40-64 | 61 (48.8) | 30 (55.6) | 31 (43.7) |
| 65+ | 64 (51.2) | 24 (44.4) | 40 (56.3) |
| Race/ethnicity | | | |
| Non-Hispanic white | 83 (66.4) | 37 (68.5) | 46 (64.8) |
| Other | 1 (0.8) | 0 (0.0) | 1 (1.4) |
| Not reported | 41 (32.8) | 17 (31.5) | 24 (33.8) |
| Household income | | | |
| <\$20,000 | 36 (28.8) | 10 (18.5) | 26 (36.6) |
| \$20,000-\$34,999 | 11 (8.8) | 4 (7.4) | 7 (9.9) |
| \$35,000-\$49,999 | 21 (16.8) | 12 (22.2) | 9 (12.7) |
| \$50,000-\$74,999 | 23 (18.4) | 11 (20.4) | 12 (16.9) |
| ≥\$75,000 | 18 (14.4) | 12 (22.2) | 6 (8.4) |
| Not reported | 16 (12.8) | 5 (9.3) | 11 (15.5) |
| Marital status | | | |
| Married | 78 (62.4) | 41 (75.95) | 37 (52.1) |
| Separated | 2 (1.6) | 1 (1.85) | 1 (1.4) |
| Divorced | 18 (14.4) | 6 (11.1) | 12 (16.9) |
| Widowed | 15 (12.0) | 1 (1.85) | 14 (19.7) |
| Never married | 11 (8.8) | 4 (7.4) | 7 (9.9) |
| Not reported | 1 (0.8) | 1 (1.85) | 0 (0.0) |
| Employment status | | | |
| Full-time employed | 27 (21.6) | 11 (20.4) | 16 (22.6) |
| Part-time employed | 17 (13.6) | 5 (9.3) | 12 (16.9) |
| Self-employed | 12 (9.6) | 10 (18.5) | 2 (2.8) |
| Unemployed | 3 (2.4) | 1 (1.9) | 2 (2.8) |
| Retired | 47 (37.6) | 18 (33.3) | 29 (40.9) |
| Unable to work | 9 (7.2) | 5 (9.3) | 4 (5.6) |
| Other | 2 (1.6) | 0 (0.0) | 2 (2.8) |
| Not reported | 8 (6.4) | 4 (7.4) | 4 (5.6) |
| Self-rated health status | | | |
| Excellent | 7 (5.6) | 3 (5.5) | 4 (5.6) |
| Very good | 35 (28.0) | 13 (24.1) | 22 (31.0) |
| Good | 54 (43.2) | 27 (50.0) | 27 (38.0) |
| Fair/poor | 27 (21.6) | 10 (18.5) | 17 (24.0) |
| Not reported | 2 (1.6) | 1 (1.9) | 1 (1.4) |
| Smoking status | | | |
| Current smoker | 13 (10.4) | 5 (9.3) | 8 (11.3) |
| Former smoker | 37 (29.6) | 24 (44.4) | 13 (18.3) |
| Never smoker | 73 (58.4) | 24 (44.4) | 49 (69.0) |
| Not reported | 2 (1.6) | 1 (1.9) | 1 (1.4) |

My wife is pre-diabetic, so that changed her whole eating habits, which led to the rest of us [changing too], you know. (Man, 40-64)

Several elderly women also discussed the negative consequences of living alone on their diets. Without family members around, eating decisions were primarily based on convenience and several participants reported having no incentive to make dietary improvements at their advanced age. These effects were often exacerbated in the

Table 4 Perceived Social Influences on Health Behavior: Emergent Subthemes, SCT Constructs, and Selected Quotes

| Family Influences on Diet | | |
|--|-----------------------------------|---|
| Subtheme | SCT Construct | Selected Quotes |
| <i>Food choice negotiations</i> | <i>Barriers and opportunities</i> | <p>“For me, my husband doesn’t want to change the way we’ve been eating. He likes the meat and potatoes. It’s not a meal, unless it’s that. Like if I were to give him rice and a nice salad, he would think he was bein’ punished, you know.” (Woman, 40-64)</p> <p>“When your wife is staring you down, that’s pretty good motivation to like put the chips down, and start, ya know, pick up the celery.” (Man, 40-64)</p> |
| <i>Health concerns</i> | <i>Observational learning</i> | <p>“My wife is pre-diabetic, so that changed her whole eating habits, which led to the rest of us [changing too], you know.” (Man, 40-64)</p> <p>“In our family, I mean it was imperative that we cut down salt because of my husband’s high blood pressure. So I hardly, I never salt things. If people come to my house they have to get the salt shaker if they need it. But I use more spices too.” (Woman, 65+)</p> |
| <i>Living alone</i> | <i>Social support</i> | <p>“You’re not thinking of your heart; you’re just thinking of what you like to eat . . . And when you’re our ages and you live alone, what else the hell is there?” (Woman, 65+)</p> <p>“I’m often alone . . . and I don’t make a point to prepare healthy, I just open the fridge and what’s in there I use.” (Woman, 65+)</p> |
| Peer Influences on Diet | | |
| <i>Food-centric events</i> | <i>Normative beliefs</i> | <p>“This country out here has way too many lunches . . . everybody is so great about putting food out. You know, when you go to visit they bring out cookies and bars, and all sorts of stuff . . . very hospitable . . . until all you can do is put on weight.” (Woman, 65+)</p> <p>“I think what we always stumble on is anything we do socially, we always do with some friends and it’s either go to their house for dinner or go out for dinner . . . You know, when you go to somebody else’s house, I mean, you just eat what’s . . . I mean, it’s rude to pick . . . So you know, you’re doing well and all the sudden you get these roadblocks, and that’s hard for us.” (Woman, 40-64)</p> |
| <i>Limited networks</i> | <i>Barriers and opportunities</i> | <p>“[If] you wanna eat healthy . . . you pretty much have to change your friends at that point in time. And like in [this town], who you gonna change your friends to? Ya know, it’s not like you have nine hundred thousand other people that you can go out with and visit with.” (Man, 40-64)</p> |
| Family Influences on Physical Activity | | |
| <i>Family obligations</i> | <i>Normative beliefs</i> | <p>“I’ve seen some women that age that work all day and they’ll come home and change into their exercise stuff and there’s kids at home and their husband’s coming home real soon or is home and they just go. And I think, ‘How can they do that?’ I couldn’t, I couldn’t do it. I, I’d feel like, I have to be here for my kids, we have to have supper.” (Woman, 40-64)</p> |
| <i>Pets</i> | <i>Social support</i> | <p>“Anyone who’s ever had a dog, or has a dog, especially—I had a Australian Shepard and I’ve had dogs since before I could walk—but they’re gonna get you up and say, ‘It’s time to go for a walk, come on.’ So it keeps you walking, it keeps you busy taking care of them, you know. They really help.” (Woman, 65+)</p> |
| Peer Influences on Physical Activity | | |
| <i>Support and accountability</i> | <i>Social support</i> | <p>“For me, myself, I find that I am more apt to exercise if I am in a group or have an organized program rather than saying I’m gonna do it on my own. Because some days you do it and some days it’s just very convenient not to do it.” (Woman, 65+)</p> <p>“I had a friend and, you know, if I didn’t want to go, she did, and if she didn’t want to go, I did. So you have some kind of network, if you will, to say, you know, ‘Let’s get. Quit your whining, get in the car!’” (Woman, 40-64)</p> <p>“That’s why I think the group would be kind of cool to get together with . . . to get together as a group and just share some ideas and . . . And then you have to figure out in your day, ‘OK, instead of climbing up the tractor once, I’ll do it 4 times.’” (Man, 40-64)</p> |
| <i>Social connect- edness</i> | <i>Barriers and opportunities</i> | <p>“To me, I do a lotta my walking in Bozeman, because the stores are big. And, just walking Albertsons and Town and Country is not enough. I like to be where there’s other people. I don’t like to exercise or walk alone.” (Woman, 65+)</p> |

(Continued)

Table 4 Continued

| Family Influences on Tobacco Use | | |
|----------------------------------|------------------------|---|
| Health concerns | Observational learning | "[My prompt] was just family members that smoked and had cancer, as far as just lung cancer. So that is when I quit." (Man, 40-64) "My husband quit when our toddler daughter was gumming his cigarette butts. He said, 'OK, I'm done.' And it was just, 'OK, I'll use that money for tools instead.'" (Woman, 65+) |
| Role modeling | Observational learning | "I mean my husband's mother, she quit when she was 70 some years old. She quit smoking and my husband, and my sister-in-law, his sister, they both still smoked. And finally one day she said, 'Well if my 70-year-old mom can quit, I guess I should be able to quit.' And she did. And it wasn't shortly thereafter that my husband quit." (Woman, 65+) |
| Peer Influences on Tobacco Use | | |
| Social pressure and norms | Normative beliefs | "And what I see which saddens me is there's a younger community smoking rather than the older community. I think that most of our age group and even probably for 40s on up have [quit] . . . I don't know if it was they were taught that or . . . But the young kids are getting now into the smoking." (Woman, 65+) |
| Support and accountability | Social support | "It's a lot easier to go through it (quitting) with somebody else, than by yourself." (Woman, 40-64) |

context of rural isolation, where companionship and motivation were dependent upon close proximity to family.

You're not thinking of your heart, you're just thinking of what you like to eat . . . And when you're our ages and you live alone, what else the hell is there? (Woman, 65+)

Peer Influences on Diet

Participants described food-centric social events as a primary constraint to eating well. Limited entertainment options in these rural communities meant that most activities involved getting together for a snack or meal. Food provision was regarded as a sign of "hospitality" and people felt obligated to eat whatever was offered in social settings (eg, church, senior centers). These commensal relationships often sabotaged participants' efforts to eat well because of the quality and quantity of food available. For example, several elderly participants who gathered for weekly meals at the local senior center found the unhealthy offerings restrictive.

This country out here has way too many lunches . . . everybody is so great about putting food out. You know, when you go to visit they bring out cookies and bars, and all sorts of stuff . . . very hospitable . . . until all you can do is put on weight. (Woman, 65+)

Participants reported that peer pressure to engage in unhealthy eating behaviors was often difficult to overcome due to the close-knit nature of rural social circles. In contrast, having tight social networks was viewed as

beneficial if friends were "health-conscious" and acted as positive role models. Several women cited peer support as a primary motivator for maintaining healthy eating habits.

Family Influences on Physical Activity

Family obligations emerged as a common barrier to being physically active. Women in these rural households frequently assumed traditional caregiving roles and prioritized time with their kids and husbands over exercise. Some articulated concerns over abandoning family responsibilities to fulfill their own needs.

I've seen some women that age (early adulthood) that work all day and they'll come home and change into their exercise stuff and there's kids at home and their husband's coming home real soon or is home and they just go. And I think, "How can they do that?" I couldn't, I couldn't do it. I, I'd feel like, I have to be here for my kids, we have to have supper. (Woman, 40-64)

Juggling busy family schedules and having to shuttle children around to various activities also left little opportunity for activity. For instance, some parents noted how attending children's sporting events meant frequently sitting during the evenings. One group of women jokingly referred to the consequences of these prolonged sitting episodes as "bleacher butt."

However, communal activity was viewed by some participants as a way to incorporate exercise into one's daily routine without sacrificing family time. This frequently

took the form of outdoor activities such as biking, walking, or farm chores. In addition to reinforcing family bonds, these participants felt that exercising with their spouse or close family member provided the accountability needed to maintain good habits. For several participants, pets provided much needed companionship and reason to be active. Pets appeared to be especially important motivators of physical activity for elderly individuals living alone.

[Having a dog] it keeps you walking, it keeps you busy taking care of them, you know. They really help. (Woman, 65+)

Peer Influences on Physical Activity

Multiple women and a few men described peer exercise groups or “buddies” as strong motivators to staying active. Fitbits and other fitness trackers were mentioned by younger participants as a useful social networking tool to boost exercise morale. Exercising with others created a sense of accountability and allowed people to “share ideas” for incorporating fitness into their daily lives. Several participants expressed the need to exercise with people at their fitness level to avoid feeling discouraged. Without this peer support, participants were less likely to engage in exercise or maintain a consistent routine.

That’s why I think the group would be kind of cool to get together with . . . to get together as a group and just share some ideas . . . And then you have to figure out in your day, “OK, instead of climbing up the tractor once, I’ll do it 4 times. (Man, 40-64)

In these small rural towns, social interaction appeared to be an important facilitator of active lifestyles, particularly for women. Organized group activities, such as walking, were viewed as an opportunity to socialize with friends and connect with the community. Building these networks increased enjoyment and gave people more incentive to engage in activity.

To me, I do a lotta my walking in Bozeman because the stores are big. And, just walking Albertsons and Town and Country (2 grocery stores) is not enough. I like to be where there’s other people. I don’t like to exercise or walk alone. (Woman, 65+)

In contrast, men were less likely to view structured group exercise as a social activity. Many preferred outdoor pursuits (eg, hunting, fishing) with friends or felt that they could stay active through farmwork and household chores.

Family Influences on Tobacco Use

Family health concerns were a primary reason for quitting smoking or chewing tobacco. Several people discussed stopping to protect their children while others quit after having family members diagnosed with smoking-associated conditions.

[My prompt] was just family members that smoked and had cancer, as far as just lung cancer. So that is when I quit. (Man, 40-64)

For other individuals, family health issues could not help them overcome their tobacco addiction. Participants often discussed how being surrounded by family members who smoked or chewed tobacco made it more difficult to quit or abstain. Conversely, encouragement and support from family members was viewed as a strong motivator for smoking cessation. For some, pleas from children and grandchildren were especially effective; for example, 2 participants reported quitting for a grandchild’s high school graduation. Watching a spouse or close family member quit also enhanced some people’s willpower and empowered them to follow suit.

Peer Influences on Tobacco Use

Although smoking was perceived to be less socially acceptable than in the past, many participants felt that it was still a common practice in the community. Chewing tobacco remained highly prevalent among ranchers who were unable to smoke while working due to the dry and windy conditions. Being surrounded by tobacco users was frequently cited as a barrier to quitting or abstaining, especially by men. These negative influences were difficult to avoid due to small social networks and limited opportunities for social interaction. Several participants also expressed concern that smoking norms were being increasingly reinforced among youth. In contrast, positive peer pressure was a key facilitator of smoking cessation. Several participants mentioned the need for “constant support” or “badgering” from friends in order to follow through with cessation attempts.

It’s a lot easier to go through it (quitting) with somebody else than by yourself. (Woman, 40-64)

Discussion

The present study provides the first exploration of social influences on health-related behaviors among midlife and older rural adults in the western United States. In the context of geographic isolation, we found the actions

and attitudes of family members and friends to be key influences on diet, physical activity, and tobacco use behaviors, with both positive and negative consequences. The importance of social influences was consistent across age and gender; however, the nature of influence varied for different groups. Consistent with SCT,^{20,21} our findings emphasize the need for public health programming in rural areas to consider the ways in which social connections can be leveraged to improve program outcomes.

Family interactions dictated many of the health-related decisions people made inside and outside the home. Shared family meals were a common occurrence, with women bearing the primary responsibility for food provision. Many women found it difficult to accommodate family dietary preferences during meal times, which was seen as a barrier to behavior change. However, those with higher self-efficacy were able to negotiate these conflicts and promote healthy eating habits. Participants noted that it was much easier to make dietary changes when spouses and other family members were supportive. These themes of gendered food roles and family meal sharing have been echoed in previous studies and highlight the need for rural dietary interventions that involve both women and their families.²⁴⁻²⁷

Positive role modeling and encouragement from family members also emerged as important facilitators of physical activity and smoking cessation. This supportive team mentality provided the motivation and accountability needed to stick with lifestyle changes. Lifestyle interventions that emphasize supportive family relationships have the potential to engage rural adults in healthier behaviors; however, existing efforts have focused primarily on children.²⁸⁻³⁰

Normative beliefs about family obligations commonly hindered health behavior change, particularly among women. Forgoing family responsibilities for personal benefit was viewed with disapproval. For example, caregiving duties and busy family schedules often restricted adults' engagement in physical activity. This finding is consistent with previous research in rural women who often shoulder most of the child-rearing and elder care responsibilities.^{8,10,31,32} For some, communal activities with spouses or children helped balance competing demands by allowing people to stay active without sacrificing family time.

The presence of strong family ties amplified the influence of family health concerns on health behavior changes. Participants frequently attributed improved eating habits or successful attempts at tobacco cessation to a family member's chronic illness diagnosis. These changes were driven by the observation of negative health consequences, which heightened participants' sense of

perceived risk and desire to protect their loved ones. Conversely, living alone left many older women with little motivation to take care of their health. Previous research has highlighted poorer dietary habits among older men living alone, suggesting that inadequate cooking skills and poor nutrition knowledge leave them less able to cope independently.³³ In our study, elderly rural women reported similar struggles due to difficulties adapting cooking habits for one and feelings of isolation. An absence of familial support was particularly isolating for rural seniors because they had limited options for social contact. For some, having a pet was a buffer to social isolation and promoted physical activity. The health-promoting benefits of pet ownership have been described elsewhere, with pets providing companionship and purposeful physical activity.^{11,12,34,35}

In these small rural communities, peer networks were also important determinants of health behavior. Participants expressed a strong desire for social contact; however, most community events revolved around food. Cultural norms of meal sharing and hospitality often undermined healthy eating efforts, although people had few alternatives for socializing. Several studies have examined the role of relationships in shaping food choices and suggest that sociability can both positively and negatively affect these processes.^{24,36,37} In our study, several women described the dietary benefits of having supportive and health-conscious friends. Yet, normative preferences for generous portions and calorically dense foods in rural areas often factored prominently into commensal situations. Given the centrality of food to social life in rural areas, interventions should consider the choices available in social settings without overlooking the value of food sharing.

Beneficial forms of social interaction included walking groups or exercise programs. In line with previous studies limited to rural, Midwestern women, participants discussed the importance of peer support and accountability and viewed exercise partners with similar fitness abilities to be desirable.^{10,31,32} Conversely, the absence of peer support groups deterred people from engaging in physical activity. While women favored regular participation in organized fitness groups, men preferred less-structured outdoor activities such as hunting and fishing. However, several men acknowledged the value of peer groups for sharing active living strategies (eg, strength-training, stretching between farm chores). Ferrand and colleagues provide a possible explanation for these differences, finding that women appreciate the emotional support and encouragement offered by group activities while men emphasize informational support through the exchange of skills and knowledge.³⁸ Gendered preferences for social support need to be factored into the design of

community-based programs to effectively promote activity in rural areas.

Some limitations should be considered in interpreting the results of this work. First, we cannot generalize to rural populations in other areas of the country. In addition, our sample purposefully included overweight, sedentary adults whose health attitudes and behaviors likely differ from their healthier counterparts. It is important to also note that social desirability bias is an inherent limitation of focus group research but efforts were made to encourage open and honest communication. Additional strengths include the participation of men and women across a wide age range, use of a single focus group facilitator, and multiple checks for data consistency and accuracy.

Implications

Findings of this study highlight the ways in which social connections can support or sabotage health-related behaviors among rural Western midlife and older adults. Important social differences emerged between age groups and genders, such as feelings of isolation among the elderly and women's heightened sense of family responsibility. The pervasiveness of traditional gender roles meant that women were more likely to initiate or support family lifestyle changes while men were more likely to resist these efforts. As women were bound by caregiving duties, they often experienced disparate impacts of negative family influences.

Future interventions should emphasize positive role modeling and foster social support by integrating family members and peers and addressing age- and gender-specific needs. Efforts should also recognize normative influences on health behavior in rural communities and work to shift these beliefs. Opportunities include promoting family fitness activities, providing healthy meals at senior center gatherings, and offering health-focused community events with minimal emphasis on food. Initiatives that target women should acknowledge their role as predominant caregivers and meal providers and offer ways to incorporate lifestyle changes into family routines. Leveraging interpersonal relationships in these ways can enhance the impact of health promotion efforts in rural, underserved settings.

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