

COMMUNITY CHANGE

Older Adult Hunger: Theoretical Support for Community-Based Nutrition Programs

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Abstract: Food insecurity affects over 10 million older adults in the United States. Older adults who experience food insecurity are at greater risk for malnutrition, which can lead to chronic disease and functional decline. Two-thirds of older adults already have two or more chronic diseases, placing food-insecure older adults at even greater risk for increased health care costs and hospitalization. To promote successful aging, older adults need resources to help them overcome the barriers they encounter when attempting to access healthy foods. Select government programs have been established to help older adults obtain and consume nutritious meals, but further efforts are needed to validate the effectiveness and importance of these nutrition programs. The value of government nutrition programs can be theoretically-supported through the lens of the social cognitive theory (SCT). This paper will review constructs of the SCT that help explain the dietary habits of food-insecure older adults and will use the SCT to explain how older adult nutrition programs help facilitate healthy eating behaviors.

Keywords: food insecurity, social cognitive theory, congregate dining, nutrition programs, older adults

Background

The rate of food insecurity among older adults ages 60 and over is a growing concern in the United States (Ziliak and Gunderson 2016, 2). Food insecurity is defined as insufficient access to the foods needed for people to engage in a healthy, active life (Coleman-Jensen, Gregory, and Rabbitt 2016). In 2014, 10.2 million older adults experienced food insecurity, marking a 47% increase in the number of older adults at risk for hunger since 2001 (Ziliak and Gunderson 2016, 2). The association between food insecurity and negative health outcomes has been well-documented, and food-insecure older adults have a greater likelihood of experiencing malnutrition due to poor diet quality and less nutritious eating behaviors (Strickhouser, Wright, and Donley 2014, 11; Wong et al. 2016, 1742; Ziliak and Gunderson 2014, ii). Health conditions that have been associated with the food-insecure older adult population include depression, cardiovascular disease, diabetes, and physical disability (Ziliak and Gunderson 2014, ii). Two out of three older adults already have one

or more chronic health conditions, placing food-insecure older adults at an even greater risk for health decline (Centers for Disease Control and Prevention 2013, 6).

Government nutrition programs funded through the Older Americans Act have been established to maximize older adult nutrition and minimize health decline (Administration on Aging 2015). These nutrition programs have helped millions of older adults improve their nutritional intake, and continued financial and governmental support is necessary to sustain nutrition programming for the growing older adult population. (Thomas, Almanza, and Ghiselli 2010, 339). Albert Bandura's (2004, 144) social cognitive theory (SCT) can be applied to community-based government nutrition programs and can explain how these programs promote healthy eating behaviors among the food-insecure older adult population. Examining community-based nutrition programs, such as congregate dining programs, from the SCT perspective can help justify continued financial and government support for the nutritional needs of our older adult population.

Social Cognitive Theory

The SCT offers a framework for understanding *why* food-insecure older adults exhibit less nutritious eating behaviors as well as *how* eating behaviors can be improved. Bandura (2004) identified several core determinants, or constructs, for promoting healthy behaviors through the SCT. Determinants that could help explain why food-insecure older adults exhibit less nutritious eating behaviors include *impediments* to change and *perceived self-efficacy*.

Several authors have reviewed different impediments, or obstacles, that contribute to the prevalence of food insecurity (Kronl, Coleman, and Lau 2008, 205-220; Story, et al. 2008, 253-272). Some impediments may include financial barriers to purchase foods, transportation and mobility barriers to access healthy foods, physical/mental health conditions that impact food-related activities, and cultural/social norms for food preference.

Impediments

Financial Barriers

Reports from various aging agencies have revealed that low-income older adults, defined as those living at or below 200% of the poverty line, have been at particular risk for food insecurity due to the lack of resources for purchasing nutritious food items (Ziliak and Gunderson 2016, 2). Food insecurity has been most prevalent amongst the low-income Black and Hispanic populations as well as older adults who have been divorced/separated, unemployed, less educated, living alone, residing in the South, and who have been renting their homes (Strickhouser, Wright, and Donley 2014, 6). Interestingly, food insecurity has been less prevalent among adults over age 75 and retired adults perhaps due to retirement benefits and eligibility for older adult nutrition assistance programs.

The high cost of nutritious foods may affect older adults' food purchase selections. Researchers who have reviewed policy approaches to food insecurity indicated that government regulations have often dictated the prices of healthy foods, such as fruits, vegetables, whole grains, and lean proteins (Story et al. 2008, 262). Also, government support for grain and oilseed crops has contributed to the lower price of processed foods containing high-fructose corn syrup and hydrogenated oils. Conversely, fruit and vegetable farmers have received little government support to supply consumers with produce, leading

to higher prices for fresh fruits and vegetables. These pricing differentials may deter low-income older adults from purchasing healthier produce items and demonstrate how economic impediments influence healthy eating.

The political influence on health care coverage may also impact older adults' financial resources for healthy food purchases. Food-insecure older adults who are Medicare beneficiaries may be at increased risk for health decline because food insecurity has been associated with cost-related medication underuse (CRMU) (Afulani et al. 2015, 337). CRMU occurs when individuals choose to skip, reduce, or delay taking medications to compensate for a lack of household resources. Older adults who have received insurance coverage through Medicare and Medicaid or who received coverage through private insurance companies have been less likely to experience CRMU as compared to their peers who only have received Medicare coverage. Furthermore, older adults with cognitive decline have been shown to have greater healthcare costs, therefore limiting money for healthy food purchases (Zhu et al. 2013, 401). Food-insecure older adults with pre-existing health conditions may experience exasperated health symptoms from poor medication adherence resulting from limited food and financial resources.

Transportation and Mobility

Individuals who are unable to safely access nutritious foods due to mobility and transportation obstacles have been at an increased risk for food insecurity and hunger. Rural households have been at particular risk due to fewer food store locations and transportation services within rural communities (Feeding America 2017). Access to food stores has been identified as one of the most important factors impacting older adults' ability to obtain nutritious food items (Sylvie, Jiang, and Cohen 2015). Therefore, it is plausible that individuals who have difficulty accessing food stores have a greater risk of malnutrition and associated health conditions such as heart disease, diabetes, and stroke.

Much of the food-insecure older adult literature has explored personal or household factors influencing food access. The Core Food Security Module (CFSM) of the Current Population Survey (CPS) and the National Health and Nutrition Examination Survey (NHANES) have been frequently used to obtain data about food insecurity at the personal or household level; however, few to no questions on the surveys directly address community and environmental barriers that affect food insecurity (Strickhouser, Wright, and Donley 2014, 2; Ziliak and Gunderson 2016, 3). Less attention has been dedicated to examining the community and neighborhood characteristics that have served as impediments to food access among older adults. Personal, household, and community factors should all be considered when attempting to understand the influential reasons older adults experience food insecurity. For instance, evidence has indicated that older residents who perceived their neighborhood to have lower social cohesion and walkability were more likely to report concerns about food intake and hunger (Chung et al. 2011, 413-415). Older residents with more favorable perceptions of neighborhood safety were found to have fewer concerns about food intake. A review by Story et al. (2008) also highlighted issues at the environmental and policy levels that can affect older adults' abilities to access, afford, and secure nutritious meals. Multiple factors should be acknowledged to understand the robust and complex nature of older adult food insecurity.

Health Status

Older adults with activity of daily living (ADLs) impairments and instrumental activity of daily living (IADLs) have been reported to have had a higher prevalence of food insecurity (Lee and Frongillo 2001, S97), indicating that older adults with functional impairments may be at greater nutritional risk and further functional decline. An increase in functional decline can lead to increased medical costs and a greater likelihood of hospitalization (Centers for Disease Control, 2013). Caregiver burden may also become more prevalent among food-insecure older adults. Older adults who experience functional decline in ADLs and IADLs may require assistance in areas such as bathing, toileting, cooking, shopping, and medication management (Lloyd and Wellman 2015, 99). A decline in function and increased reliance on caregivers may also contribute to older adults' dependence on others for completion of food-related activities, such as grocery shopping and meal preparation. Reliance on others for help with food-related activities has been associated with decreased food intake among older adults (Keller 2005, 54).

Some older adults with physical impairments may have difficulty acquiring food (Lee and Frongillo 2001, S97), whereas others may also have difficulty preparing nutritious meals. Tasks such as chopping vegetables, opening packages, carrying dishes, and using appliances may be more challenging for older adults who face barriers such as joint pain, muscle weakness, incoordination, and low vision (Eckel, Schreiber, and Provident 2012, 355). These barriers may not only limit older adults' performance using food, but may also minimize the level of satisfaction older adults find in cooking and preparing meals.

Social isolation is a major concern among the aging population. Older adults are at particular risk for social isolation due to various life transitions that limit their interactions with others. Social isolation has been associated with poorer perceived health status among older adults who live alone, and the feeling of loneliness has been associated with higher rates of mental health conditions (Coyle and Dugan 2012, 1357-1358). Mental health conditions, such as anxiety and depression, have already been associated with food insecurity (Goldberg 2015, 404; Vaudin and Sahyoun 2015, 252), and symptoms of these mental health conditions may negatively influence older adults' interest in food, further perpetuating the risk of malnutrition.

Food Preferences and Culture

One understudied area of food insecurity is the role of preference toward food selection and consumption. When attempting to understand why food-insecure older adults consume less nutritious diets, we must also consider their personal food preferences. Food choices are often influenced by social and cultural norms. Song, Simon, and Patel (2014, 62-63) identified that food preferences vary between genders and different racial/ethnic backgrounds. For instance, one sample of White older adults in Maryland was more likely to prefer seafood and vegetables at older adult dining facilities. Black older adults in the same facility, however, reported a preference for traditional festive foods such as fried chicken and macaroni and cheese, which are typically low in nutritional value. Older adult dining programs that have accommodated for cultural food preferences have demonstrated an increase in overall program attendance, indicating the value of adapting healthy meal options for the culturally diverse older adult population (Mower 2008, 429). As the older adult population continues to grow in size and diversity, greater efforts will be warranted to meet the cultural needs of nutrition program participants.

Older adult nutrition programs should also consider acknowledging the socialization needs of certain cultural groups, such as the older LGBT community. LGBT older adults have been found to have more non-kin-centered social relationships than their non-LGBT older peers (Porter et al. 2016, 976). The non-kin-centered social contacts available at community-based nutrition programs may be particularly appealing to older LGBT individuals. Community-based nutrition program administrators should consider fostering inclusive and diverse communal environments in order to draw a greater number of minority participants to their sites, especially since so few community programs are designed for sexual and racial older adult minorities.

Perceived Self-Efficacy

Perceived self-efficacy is a core construct of the SCT, regardless of how the theory is applied. Self-efficacy is the collection of beliefs individuals have toward achieving a particular outcome or goal (Bandura 2002, 271; Bandura 2004, 144). Food-insecure older adults with low perceived self-efficacy may be less likely to seek out methods to improve their eating behaviors, especially if any initial effort to change is challenged by unforeseen barriers. Older adults with high perceived self-efficacy would be more likely to explore healthy eating options and to expect favorable outcomes with their behavior change attempts. One could argue that nutrition programs for older adults could serve as a strategy to help older adults build and maintain their self-efficacy for practicing healthy eating behaviors.

Self-efficacy has been associated with increased fruit and vegetable intake in the African-American population (Stephens et al. 2015, 174) and has also been associated with an increase in physical activity in middle-age and older adults (White, Wójcicki, and McAuley 2012, 24). Despite this evidence supporting how self-efficacy can influence behavior change, limited research speaks to the associations between self-efficacy and eating behaviors of older adults. Klug, Toobert, and Fogerty (2008, 1059) did, however, note an increase in self-efficacy among older adults participating in a healthy lifestyle behavior program. Older adults in the program participated in goal setting, problem-solving tasks, and group support activities which contributed to increased self-efficacy for practicing healthy behaviors. Self-efficacy has also been described as an important factor in promoting physical activity amongst older adults who participated in older adult dining programs (Estabrooks et al. 2005).

Additionally, older adults who socialize together may find themselves embracing other behavioral changes besides nutritious meal consumption. Evidence has indicated that older adults who socially interacted together were more likely to encourage each other to adopt healthier lifestyle habits, such as exercising, adhering to medical treatments, and accessing useful resources (Lett et al. 2007, 426). It is plausible that older adults who socially connect in congregate dining programs may feel empowered to find strategies to overcome impediments hindering their access to healthy food. Overcoming these impediments may lead to an increased sense of self-efficacy which can benefit older adults' perceptions of how they can take control of their own diet quality and nutritional status.

Prior evidence has helped to explain *why* certain SCT constructs, such as impediments and low perceived self-efficacy, contribute to the less healthy eating behaviors of food-insecure older adults. SCT suggests that *outcome expectations* and

observational learning are additional constructs that can contribute to building older adults' perceived self-efficacy and capability for navigating around impediments.

Outcome Expectations

Outcome expectations are the perceived consequences, positive or negative, of engaging in a certain behavior. Outcome expectations may be based on physical or social factors or may be rooted in one's self-satisfaction (Contento 2011). Physical outcomes that result from nutritious eating may include improved health status and fewer symptoms from existing chronic disease (Office of Disease Prevention and Health Promotion 2017). Improved health outcomes may also contribute to a decrease in medical expenses, which is a more tangible, physical outcome. A social outcome expectation of healthy eating can include the opportunity to engage in social interactions when dining (Sylvie, Jiang, and Cohen 2015, 169). Furthermore, because of the association between health and nutrition, older adults who practice healthy eating behaviors may experience an increase in general wellness when socializing with peers, family, and neighbors.

Outcome expectations may also relate to one's level of self-satisfaction. Older adults who embrace dietary changes may take pride in their newfound healthy eating habits, providing them with an increased sense of self-worth. An increase in self-satisfaction also translates to an increase in self-regulation. Older adults who set goals to engage in healthy eating, monitor their own progress, and problem-solve through barriers will be more likely to develop skills needed to sustain healthy eating behaviors (Contento 2011, 96).

Observational Learning

Observational learning, or modeling, is another key construct of SCT that is relevant to behavior change with older adults. With observational learning, a person who observes another person demonstrating a desired behavior will be more likely to perform the behavior as well (Kelder, Hoelscher, and Perry 2015, 160-181). Observational learning is most effective for facilitating change when desirable behaviors are modeled by characteristically-similar individuals. Older adults already share similarities based on age and may feel more motivated to consume nutritious meals when similarly-aged older adults are observed practicing healthy eating behaviors (Contento 2011, 96). Observational learning may be further enhanced if older adults can model eating behaviors to others from similar demographic backgrounds as well (Bandura 2002, 275). Because non-White older adults are at greater risk for food insecurity than White older adults, community-based nutrition programs may be particularly appealing to older adults from minority backgrounds. Through modeling, Black, Hispanic, and LGBT older adults who regularly practice healthy eating behaviors at community-based dining sites may have a positive influence on other older adults from similar demographic backgrounds who are not as familiar with adopting healthy eating behaviors.

Community Strategies to Improve Eating Behaviors

Older Adult Nutrition Programs

Community programs have been established to help mitigate malnutrition and negative health outcomes of the food-insecure older adult population. The Older Americans Act Nutrition Program (OAANP) provides government funding for home-delivered meals and

congregate dining sites for older adults (Lloyd and Wellman 2015, 99-100). These federally-funded food assistance programs were initiated to help older adults meet their nutritional needs while remaining socially connected. The home-delivered meal program, often referred to as Meals-on-Wheels, provides older adults with nutritional meals and social interactions with the individuals making home deliveries. Home-delivered meal recipients are often unable to leave their homes independently, report multiple chronic conditions, and have various functional limitations (Administration on Aging 2015). In addition to home-delivered meals, the OAANP also funds congregate dining sites (Kowlessar, Robinson, and Schur 2015).

Congregate Dining

Congregate dining sites promote older adult nutritional food intake and also provide older adults with the opportunity to socialize with their peers (Weddle et al. 2012). Congregate dining is a community-based nutrition program for older adults as opposed to the home-based nutrition program. Congregate meals are often held in older adult centers, adult day service centers, churches, and other community venues (Kowlessar, Robinson, and Schur 2015). In addition to the meal provision and social experiences, congregate dining sites also offer older adults access to nutrition counseling and nutrition education.

Congregate dining sites help combat the impediments food-insecure older adults encounter when attempting to obtain nutritious food. Low-income older adults age 60 and older, and their spouses, can attend congregate dining sites and can choose to make a volunteer donation to pay for their meal. Congregate dining services are not means-tested, indicating that any older adult can receive congregate meals; however, services are designed for older adults at greatest risk for malnutrition and institutionalization (Lloyd and Wellman 2015, 95), such as low-income older adults, older adults with multiple chronic diseases, and older adults with functional impairments (Administration on Aging 2015).

Congregate dining programs vary across locations but are usually offered three to four times per week, and all provided meals must meet the dietary guidelines set forth by the United States Department of Agriculture (USDA) (Gergerich, Shobe, and Christy 2015, 276). Government funding for nutritious meals is especially important for low-income older adults who cannot afford healthy food throughout the week. Lloyd and Wellman (2015, 101) reported that 56% of congregate dining participants consumed half or more of their daily food intake at congregate sites. Over 80% of congregate dining participants also indicated that the congregate dining program helped increase their sense of wellness. A higher wellness factor may contribute to decreased health care costs, allowing older adults to have more resources for other household and medical expenses. One example of a medical expense would be prescription medications, and food insecurity has been associated with lower rates of medication adherence in Medicare beneficiaries (Afulani et al. 2015, 337).

Physical and functional impairments have been prevalent in the food-insecure older adult population. These impairments can affect older adults' independence for obtaining and preparing nutritious food items (Lee and Frongillo 2001, S97). Accessible congregate dining sites provide older adults with a regular source of nourishment without the challenges of shopping and meal preparation. Congregate dining may be particularly appealing for food-insecure older adults who experience physical difficulties preparing

foods as a result of joint pain, weakness, or low vision (Eckel, Schreiber, and Provident 2012, 355) and can serve as a strategy for overcoming physical impediments towards accessing and obtaining healthy meals.

Congregate dining sites can also help build older adults' perceived self-efficacy through the social support provided from program participants and through the nutrition services offered at each dining location. Arguably, one goal of congregate dining programs would be to strengthen older adults' self-efficacy through social support (Bandura 2002, 271). As self-efficacy builds, older adults may feel more in control of their abilities to regularly access healthy food resources and make nutritious meal choices. As self-efficacy continues to increase, older adults may have greater motivation to manage their environmental demands, regularly utilize nutritional services, and practice healthy eating behaviors (Bandura 2002, 281; Bandura 2004, 145; Contento 2011, 96).

Self-efficacy can be further enhanced by the knowledge provided to older adults at congregate dining sites (Thomas, Almanza, and Ghiselli 2010, 340). Under the OAANP, congregate dining sites must offer participants nutritional services such as nutrition screening, counseling, and education. Simply providing congregate dining participants with written nutrition information, however, may not produce behavior change. Participants who are individually consulted about their diets may be more likely to make healthy eating choices. Thomas et al.'s research indicated that older adults have been able to successfully identify certain foods that should be included in their diets; however, these same older adults had greater difficulty determining what dietary habits could help prevent or improve chronic health conditions.

Congregate dining sites may be a useful resource for older adults who have mobility impairments and cannot access healthy foods and nutrition resources. Select communities have recognized the detrimental impact impaired mobility can have on older adults' health status and have implemented programs to provide older adults with alternative transportation options. For instance, older adult agencies in Columbus, Ohio offer older adults transportation assistance to and from congregate dining sites. Transportation is funded through a local agency that provides health and social services to older adults (Lifecare Alliance 2017). Older adults who are unable to drive can use this service to overcome impediments to mobility and community-based nutrition resources. In Atlanta, the Lifelong Communities initiative was established to provide older adults with transportation services that help enable older adults to participate in healthy lifestyle activities (CDC 2013, 39). Both of these innovative transportation programs are located in communities that value the importance of healthy aging and serve as examples for how older adults can utilize community resources to overcome impediments that impact their nutrition and health status.

Sylvie, Jiang, and Cohen (2014, 172) determined that one of the most important factors influencing healthy eating in older adults was found to be social support received at congregate meal sites. Congregate dining sites provide older adults with the opportunity to socially connect with other individuals, mitigating the risk of social isolation and negative health outcomes (Coyle and Dugan 2012, 1357). Nearly half of congregate dining participants have reported to have six or more chronic health conditions. Social support received through congregate dining may encourage participants to consistently manage their health conditions by adhering to medication regimens and by embracing healthy lifestyle habits (Lett et al. 2007, 426). Increased social support may also foster an improved

sense of self-efficacy for managing health conditions and consuming more nutritious foods. (Kelder, Hoelscher, and Perry 2015, 160-181).

As previously indicated, food preferences vary among older adults (Song, Simon, and Patel 2014, 63). Preferences can be influenced by factors such as taste, familiarity, or cultural norms. Due to these preferences, congregate dining sites have attempted to appeal to a range of audiences. Food items offered at congregate dining sites have been reported to include poultry/meat, fruits, vegetables, sandwiches, soups, pasta, and ethnic foods. Originally, American and Kosher meals were served at congregate dining sites, and certain sites have attempted to increase the diversity of the meals served (Mower 2008, 428). In Maryland, select dining sites incorporated foods that appeal to Korean, Vietnamese, and Chinese older adults. As a result of their culturally-sensitive dining programs, these sites experienced significant growth in the number of meals served and the number of congregate dining participants attending the sites. In Columbus, Ohio, Asian and Somali participants can choose to attend congregate dining sites that are designated to serve meals specific to their respective ethnicities (LifeCare Alliance 2017). Although the variety of ethnic foods has expanded since the start of older adult nutrition programming, further efforts are warranted to meet the nutritional and social needs of the diverse aging population (Mower 2008, 429).

The impact of congregate dining sites can further be validated through the observational learning construct of the SCT. Older adults who are less familiar with congregate dining resources and the benefits of nutritious meals may need guidance to feel confident using congregate dining services. Observational learning occurs when one older adult observes another performing a desired behavior (Contento 2011, 96). In the congregate dining setting, the desired behavior could include healthy eating, using nutrition counseling services, or socializing with other participants. Older adults have several opportunities for observational learning due to the inclusive, social nature of congregate dining sites that continue to attract more diverse participants (Kowlessar, Robinson, and Schur 2015). Additional research has postulated that observational learning can occur even through the behaviors being modeled by congregate dining site directors (Thomas, Almanza, and Ghiselli 2010, 339). Directors who engage with participants, who are visible at congregate sites, and who adopt healthy lifestyle choices themselves may be perceived more favorably by older participants. By modeling healthy social and eating behaviors, directors reinforce the same behaviors congregate dining participants are trying to adopt as well. As stated by Thomas et al. in their discussion of nutrition programming for rural older adults, "If proper reinforcement is not employed on the part of the site director...the impact of the intervention will be inconclusive" (2010, 339).

Program evaluations have highlighted the outcomes of congregate dining services. According to SCT's outcome expectations construct, older adults may be more likely to participate in congregate dining services if they are aware of these positive consequences to their eating behaviors. Eating nutritious meals, such as those offered at congregate dining sites, can decrease the risk of malnutrition and maximize functional independence (CDC 2013). Health outcomes, such as increased functional performance, can be viewed as a physical outcome that may motivate older adults to engage in congregate dining services. Lloyd and Wellman (2015, 101) found that of congregate dining participants, 83% indicated that congregate dining meals helped them feel better and 68% indicated that the meals help them remain living at home. Older adults may also find the social outcomes and

self-worth outcomes of congregate dining appealing. Congregate dining sites provide older adults with opportunities for social interaction, and healthy food consumption may be perceived as satisfying for older adults who are not able to eat nutritious foods regularly.

Future Directions for Congregate Dining Sites

Congregate dining sites provide food-insecure older adults with a social dining experience while decreasing the financial, mobility, and functional ability impediments associated with eating well. Congregate dining sites that have provided at least one meal per day to participants have helped create an increase in older adult food security (Lee et al. 2011, 1366-1367). Continued government support is required to fund older adult nutrition programming to promote change within the older adult community, and additional research, outcome assessments, and program evaluations are also needed. Many of the services offered at congregate dining sites, such as nutrition education classes and materials, may benefit from further exploration as well.

Although congregate dining sites are required to provide older adults with a minimum of one meal per day, individual state and local agencies determine how often congregate meals are served and how nutrition education is disseminated to their congregate dining participants. This freedom in decision making across agencies allows meal provision and nutrition education programs to vary greatly (Gergerich, Shobe, and Christy 2015, 272; Lloyd and Wellman 2015, 96). More consistent programming across sites could lead to more significant program outcomes.

Many congregate dining sites provide meals only during the work week, often over the lunchtime hours. When congregate meals are not provided, many participants are required to select, access, purchase, and prepare other meals either on their own or with informal assistance from caregivers. The acquisition of healthy food items for weekend and nighttime meals may prove to be a challenge for many food-insecure older adults due to the various impediments and barriers previously presented. To date, older adults do not appear to have the option to take left-over congregate meal items home with them for later consumption during evenings or weekends (Gergerich, Shobe, and Christy 2015).

Even though congregate dining participants have opportunities to receive nutrition education, the education services offered are less frequently tailored to meet the needs of individual participants (Thomas, Almanza, and Ghiselli 2010, 338). Programming that offers participants customized nutrition education may be more effective and may provide older adults with the tools and skills needed to obtain and prepare healthy meals outside of the congregate dining setting. Without an effective education program designed to teach participants how to access and prepare healthy meals, older adults may not be meeting their nutritional needs in their home environments.

The OAANP has stated that food access as well as nutrition education and counseling can affect older adults' well-being and their independent ability to remain living at home (Lloyd and Wellman 2015, 94). Ensuring the quality and increasing the comprehensiveness of these nutrition education programs within congregate meal sites could empower older adults to access and/or prepare healthier meals and promote healthy eating behaviors. Lyons (2014, 815-816) provided a review of intervention strategies, specifically targeted towards older adults, which may enhance nutrition education. Suggested strategies included taste testing, cooking demonstrations, and hands-on meal preparation experiences. Furthermore, nutrition education programs geared towards older

adults may be more successful if designed with a strong theoretical foundation, such as the social cognitive theory, with emphasis on self-efficacy and outcome expectation constructs. Despite the value of the education program founded on the SCT, many congregate dining sites have been limited in the nutrition education programs offered due to financial restraints (Gergerich, Shobe, and Christy 2015, 277).

Facilitating change among any population is a complex task. Constructs from the social cognitive theory and evidence from past research help to further understand the complexity of older adult food insecurity while also supporting the benefits of community-based nutrition programs. Continued community outreach efforts are needed to inform participants of the services offered at congregate dining sites, especially as the aging population continues to grow. Increased outreach efforts may lead to an increase in participation and improved nutritional outcomes among food-insecure older adults. These outcome data are crucial for justifying the continued need and support for community-based nutrition programs for our older adult population.

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