“Obesogenic Cultural Drift and Nutritional Transition: Identifying Barriers to Healthier Food Consumption in Urban Native American Populations”*

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Running Head: Barriers to healthier food consumption among Urban Native Americans

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ABSTRACT

Social ecology models for understanding food behaviors and their impacts on health outcomes in low-income urban areas have focused on food deserts and other structural constraints to healthier eating. This study expands that work by identifying cultural constraints on food behaviors among low-income urban Native American residents. This creates opportunities to expand the institutional role of urban Indian centers, allowing for culturally sensitive interventions to mitigate the negative impacts of obesogenic cultural drift.
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INTRODUCTION

Nutrition transition is a shift in nutritional patterns within populations from associations with being underweight and having a high prevalence of infectious diseases to patterns dominated by being overweight or obese and suffering from nutrition-related non-communicable diseases (Astrup et al, 2007; Compher, 2006; Popkin and Gordon-Larsen, 2004). This worldwide phenomenon has been driven by changes in economic factors, such as participation in wage labor systems and increasing discretionary income, and social factors, such as more leisure time, technological changes for work, and mass media growth. Both of these are associated with urban-industrialized lifestyles. Essential to this process is a move away from nutritionally dense traditional foods, which are heavier in fiber, animal source proteins, and minerals (Kuhnlein and Receveur, 2007), to processed energy-dense convenience foods and sugar-rich beverages (Popkin, 2004).

The nutritional consequences of this transition, combined with shifts in physical activity and the forces of acculturation, represent a double burden for the world’s poor (Raschke and Cheema, 2007; Turner and Turner, 2008) and for indigenous people (Damman, Eide, and Kuhnlein, 2008; Foley, 2005; Kuhnlein and Receveur, 1996). American Indian/Alaska Native (AIAN) populations have been deeply impacted by this trend (Kuhnlein and Chan, 2000). Gittlesohn et al. (2006) and Companion (2008) find
that food behaviors on reservations mirror that of nutritional transition: dominated by prepackaged components that are high in fat, sugar, and sodium. Greater exposure to television has heightened the sedentary nature of leisure time but also increased the number of cultural food/consumption messages aimed at youth. This fosters an obesogenic culture of eating among young people (Stevenson et al., 2007).

While studies of eating patterns in reservation communities exist, there is a dearth of research on AIANs living in urban centers. Existing research indicates a correlation between urbanization and negative implications for nutritional status associated with obesity, such as rates of Type 2 diabetes, hypertension, and cardiovascular disease (Urban Indian Health Institute (UIHI), 2008). Other work focuses on the difficulties in achieving a low-cost, nutritious diet as a result of “urban food deserts” (Companion, 2010; Drewnowski, 2007; Zenk et al., 2005a, 2005b). Social ecology models for understanding food behaviors and their impacts on health outcomes frame access to supermarkets as “part of the physical an economic environment in which people make food choices, an environment that conditions, or at least reinforces consumer food choices” (Hawkes, 2008, p. 658).

However, little work has been done that focuses on the cultural constraints of eating habits among low-income AIANs living in urban centers. This study seeks to address that absence in the literature through in-depth interviews. By providing a look at the social and cultural forces at work in the food landscape, culturally sensitive strategies...
emerge to empower respondents to alter some unhealthy consumption patterns. Included in these suggestions is an expansion of the institutional role for urban Indian centers.

BACKGROUND

Poverty, Nutrition, and the link to Health Issues within AIAN Populations

Low socioeconomic status is one of the most powerful risk factors for poor health outcomes (Companion, 2008; Halpern, 2007). Large numbers of AIANs are economically disadvantaged in comparison with the general United States population, putting a significant proportion of their population at risk (Companion 2008; Indian Health Service (IHS), 2009a, 2009b). The average life expectancy for AIANs is 5.5 years less than that of the average United States population (IHS, 2009a).

Studies show the vulnerability of AIANs to health conditions related to over-nutrition, including obesity, diabetes, heart disease, and hypertension (Compher, 2006; IHS, 2009a, 2009b). Data reflect the relationship between morbidity and mortality among the IHS service population and socioeconomic and environmental conditions (Compher, 2006; IHS, 2009a, 2009b; UIHI, 2008). For example, above average non-insulin dependent diabetes mellitus rates in many AIAN populations are largely attributable to the increasing prevalence of obesity due to dietary constraints and food consumption patterns. The age of onset of diabetes is also occurring at younger ages as the prevalence of obesity and overweight increases (IHS, 2009a, 2009b).
Poverty limits access to healthful foods. Inexpensive items suitable for stretching the quantity of a meal (e.g., potatoes and rice) are purchased more frequently than are perishable fruits and vegetables (Halpern, 2007). This results in limited dietary variation among reservation residents (Companion, 2008; Compher, 2006; Dillinger et al., 1999). These diets are heavily reliant on simple carbohydrates and fats (Phillips and Finn, 2000; Taylor, Keim, and Gilmore, 2005; Taylor et al., 2006), such as potatoes, sugar, butter, lard, soda and canned fruit drink, processed meats, snack foods, white flour, and pasta.

Recent studies of urban AIAN health identify similar patterns. UIHI (2008) reports that urban AIANs have high rates of obesity and diabetes. IHS studies (2009a, 2009b) demonstrate that reservation physiological pathologies are migrating to urban areas along with the population. However, there have been no detailed discussions of the cultural significance, shaped by poverty, of consuming specific types of food, and the role of these forces as carriers of obesogenic patterns.

This is relevant because Feeding America’s (2008) data show 57.4% of America’s hungry live in urban areas. The Updated Census (2004) estimates that 62.3% of self-identified AIANs live off reservation, with 58% living in urban areas. Healthy People 2010 (2006) reports 23% of the AIAN population as food insecure, while the national prevalence is 11%. Not only does hunger exist coterminously with obesity and overweight among low-income AIANs (Egeland et al., 2010), but the risk of nutrition-related health problems, including Type 2 diabetes, is also high in this population.
Moving beyond Social Ecology Models to Identify Cultural Barriers to Change

Food preferences and consumption habits are shaped by numerous factors that constrain choices and present opportunities. Hseih (2004, p. 84) notes that food habits are influenced by the interaction between individuals and their social and physical environments and not simply by health knowledge. Swinburn and Egger (2002, p. 290) argue that these interactions shape the obesogenicity of an environment, which they define as “the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations.” Lake and Townshend (2006, p. 263) expand this to include the physical design of an area (the built environment), the socio-cultural rules that govern the environment, and the socio-economic status of the environment.

The food environment is a critical component of the obesogenicity, because it not only impacts availability and accessibility, but also includes food advertising, marketing, and strategic proximity, such as locating fast food restaurants near schools. Social ecology studies have consistently found obstacles to healthier eating in the urban food environment (Companion, 2010). A significant constraint faced by low-income, inner city residents is access to fresh produce at reasonable prices. Community mapping around neighborhoods where interviews were conducted for this study affirm the notion of “food deserts.” While fast food restaurants, liquor stores, and shopettes could be found in abundance within a 1 – 2 mile radius around these area, there were no full service grocery stores.
Hawkes (2008, p. 666) notes the negative health implications of living in areas with few supermarkets. In summarizing epidemiological studies, she finds a reduced quality of diet among vulnerable sub-populations as a result of access constriction. Ard et al. (2007, p. 367-368) support this, finding that the proximity of fast food restaurants, combined with the dearth of full service grocery stores and decreased disposable income, can lead to the displacement of fruits and vegetables from low-income diets. As cost per serving predicts the availability of produce in the home, they find that significantly lower retail prices for sugar and sweets and fat and oils do result in dietary displacement.

Another important factor in a household’s social environment is the presence of children. Numerous studies (Chase, et al., 2003; Damman et al., 2008; Foley, 2005; Hargreaves, Schlundt, and Buchowski, 2002; James, 2004; Mueller et al., 2010; Rashke and Cheema, 2007; Stevenson et al., 2007; Wiig and Smith, 2008), including this one, find that children have a tremendous influence on food shopping and preparation patterns. Lake and Townshend (2006, p. 265) note that marketing strategies aimed at children contribute to the obesogenic environment by enhancing “pester power” and targeting promotional activities to schools through sponsorship of educational materials, contests, samples, and vending machines. Lobstein and Dibb (2005, p. 204) report that there are larger indirect effects of advertising that also encourage obesity by normalizing the image of a particular diet. McDonald’s “I’m loving it!” is an example of food campaigns that advocate a lifestyle component by depicting young, “hip,” people having fun in outdoor, urban settings.
Stevenson, et al. (2007, p. 426) note that food-related messages targeting children and adolescents foster an obesogenic environment because they associate eating pleasure with energy-dense food. They argue that the social rewards of fast food consumption are increased through pop culture references to advertising (“Yo quiero Taco Bell”) and the promotion of cultural images through the ads themselves. Their findings are supported by Mueller et al.’s (2010) study of food-related behaviors in school contexts. Mueller et al. (2010, p. 65) note that schools are bounded institutions that generate “adolescent peer cultures with specific values and codes. These school cultures can become influential to individual student behaviors, particularly when conformity helps adolescents gain social status among their peers.”

Social comparison theory, as advanced by Mueller et al. (2010), is critical for understanding nutrition transition among indigenous people (Raschke and Cheema, 2007; Turner and Turner, 2008). It is also relevant for understanding how obesogenic cultural environments are reinforced by both children and their parents. Social comparison is a process that occurs in a specific social context. “Social comparison generally leads individuals to feel pressured to conform to those with whom they compare themselves” (Mueller et al., 2010, p. 66).

The desire to conspicuously consume brand name products and high status foods and to shun traditional foods among indigenous people is directly related to social comparison. Damman et al. (2008) find that eating traditional foods is associated with shame, stigma, and backwardness among children and teenagers. They attribute changes
in taste and values to a larger obesogenic environment that includes schools, which advance acculturation pressures at an institutional level and peer pressure at an individual level, and the media. They find that the media promotes “western images and ideals of the ‘good life,’ including food commercials” (2008, p. 147). Implicit and explicit messages embedded in ads instruct children how to act and what to eat to succeed in ‘modern youth culture.’

Social comparison theory is also relevant for understanding adult purchasing and food consumption patterns and how these reinforce obesogenic environments. Hargreaves et al. (2002, p. 133) find that social influences represent significant barriers to eating healthy. When and with whom food is eaten are significant components of socializing and leisure behaviors. In these situations, pressure to share certain dishes and consume certain types of foods overcome health messages and even health risks. Similarly, James (2004, p. 349) notes that friends and relatives, the adult social comparison groups, are often not supportive of dietary changes.

As shown, social ecology models are a critical first step to constructing a picture of food constraints and opportunities. However, they do not go far enough. Because socio-cultural rules are a significant component of the larger obesogenic environment, social comparison theory has been incorporated into this study. As will be demonstrated below, pressures to conform to the dominant American culture of consumption have a direct impact on food behaviors of urban AIAN respondents. This, in turn, reinforces the overall pattern of nutrition transition and obesogenic cultural drift.
METHODS

An Indian Center in a major mid-western metropolitan area was randomly selected as the starting site for this study. The criteria for inclusion in the randomization process were the location of the Center (inner city) and presence of functioning food pantry on site. Key informant interviews identify initial participants or “seeds” for the study. Respondent-driven sampling (Heckathorn, 1997, 2002), a social network referral method, was used to locate the remaining study participants. This methodology is designed for use with difficult to access individuals who might not participate in studies using other sampling methods. “Seeds” initiate a chain of referrals by recruiting a set number of peers (two) who are not immediate family to participate. They, in turn, recruit others. According to Heckathorn (1997), once referral chains are sufficiently long (4 – 5 waves), the final sample will contain characteristics and behaviors independent of the seeds. This methodology allows for deeper penetration into the local AIAN population.

The final sample is comprised of thirty-seven AIAN men (11) and women (26) living in lower-income areas of the city. The sample has been heavily skewed toward female participants despite interviewer referrals to men. The men who agreed to participate often offered their partners as alternative participants if they were responsible for doing the shopping. This is an artifact of the sampling methodology, but does not invalidate the study given the purpose of the research.
All participants are embedded in complex household structures. Some are multigenerational, while others include siblings or cousins and their children. Many are blended, with partners bringing children from previous relationships. Only three respondents live in a “traditional nuclear family.”

Interview questions were posed in a semi-structured open format, focusing on food choices in the context of personal, behavioral, and environmental factors. Participants provided demographic information (age, employment status, length of time residing in the city), food access information (use of food pantries, use of food stamps, types of stores frequented, mode of transportation), food context information (exposure to traditional foods, participation in the Food Distribution Program on Indian reservations (FDPIR), television viewing habits, knowledge of nutritional information), and health-driven changes (shifts in patterns of consumption due to their own illness, someone else’s, exposure to new information, etc.). Interviews lasted anywhere from 90 – 120 minutes. A summary of participant characteristics can be found in Table 1.

[FINDINGS]

Several important impacts on food behaviors emerge: local food access and constraints, television viewing and advertising familiarity, connections to reservations and other traditional influences, habits or learned patterns, and the influence of friends, family, or intimate others. Access to food sites and transportation is a central issue for survey participants. None have direct access to full service grocery stores. As in previous social
ecology studies of urban food environments, respondents are reliant on specialty stores or shopettes. This supports Wiig and Smith’s (2008) findings that food choices and shopping behavior are shaped by economic and environmental situations. One respondent states, “I don’t like to waste my food stamps on the local places. They charge a lot. But, sometimes, I have no choice. We run short and I have no way to get out to the Mart.”

Others were able to go on a “big shop” once a month by getting rides from friends or church members. States one women, “My best friend’s car is really on its last legs. We don’t know when or IF it will start. Hell, I don’t want to be left with nothing if I can’t get to the store. I try to pile up as much food as I can afford per trip!”

All respondents believe that transportation and food access limitations change their shopping strategies. They stock up on canned goods, which are too heavy to carry when taking the bus or walking, and non-perishable, prepackaged foods, like Ramen noodles. This supports Hawkes’s (2008, p. 676) findings that lower socioeconomic status combined with lack of mobility has strong implications for diet. She notes, “the first dietary implication of this is that consumers are more likely to buy the foods that are perceived to be ‘good value’ relative to others…The second dietary implication is that consumers will buy more.”

Canned food purchases, in addition to being selected with an eye to store discounted items (“3-fers”), also focus on convenience and complete meal items. “I buy a lot of Spaghetti-Os. My kids can crack one of those open themselves if they need something. It’s got meat and stuff in it, so they get everything they need in one can.”
Another person notes, “I don’t have a lot of space... I’ve got my sister’s kids as well as mine...I can make better use of out of what space I got by buying beefy soups and Beef-a-Roni and them. I just open a few cans of that, it’s all together, and I can feed the lot!”

Spam and potted meats, like stew beef in gravy, are also popular items. Meat emerges as a central ingredient in meals. However, heavy consumption of canned meats has health implications, as it is high in fat and sodium. Shoppers are concerned that they will run out mid-month and not be able to provide “real meals.” Thus, when they are able to access cars, they stock up on meat-laden items. Wiig and Smith (2008, p. 1728-1729) have similar findings. They note that the majority of food budgets are allocated for meat, in many cases as much as three times the amount spent on other foods. “I feel guilty if I don’t have something substantial, you know? It’s like I’m not giving them real food...I really feel like I failed if I can’t come up with some meat,” notes one respondent.

Because socio-structural factors compel shoppers to spend their food budget in one or two trips, all respondents note that food resources are stretched by the end of the month. Thirty-two respondents supplement their purchases with rations supplied by local food pantries or the Indian Center. Often, families use both. However, taste preferences play a significant role in determining which donated foods will actually be taken home. Nineteen respondents admit to looking through their food bags and then leaving things they didn’t want outside the building. “I know it’s food and food is food, but I really don’t like lima beans...you really couldn’t pay me to eat ‘em. I’d gag.” “There’s lots of corn, which is okay, but beats? I wish we’d get stuff we can really use like refried beans.
Sometimes we get canned beans, but my kids won’t eat them. They only like Taco Bell kinda beans.”

Thus, even when resources are tight, people reject food due to personal and family taste preferences. This supports other studies that demonstrate the impact of such preferences, particularly those of children, on shopping patterns (Chase et al., 2003; Foley, 2005; James, 2004; Wiig and Smith, 2008). Says one respondent, “My kids are real picky eaters. They just won’t touch some of the things in there. Like, they won’t eat the canned peas because of the color…And besides, there’s some stuff I don’t know what to do with. How do you serve okra? My kid just looked at the can and started making faces…It could be the best thing on the planet, but I can’t get ‘em past the look.”

Only one person re-donated the canned items that her family wouldn’t eat. “Oh, I always take everything home. Even if we don’t eat it, you know someone will. I’d feel real bad wasting it. I take it to church with me and donate it there. It makes me feel like I’m contributing. I hate feeling like I’m the only one that never gives anything when they have the food drives.”

Across all respondents, taste preferences are influenced by pressures to acculturate, as promoted through television and advertising messages, the amount of movement between the city and reservation, and cooking habits. “Really, who doesn’t want to fit in? There are so many negative images of us out there: crazies, drunks. Sometimes it is just easier to do small stuff to kinda blend,” say one participant. “I’m not embarrassed to be Indian. I just don’t like to call attention to it. I just want to be myself.
Sometimes, if wearing the right clothes or carrying around fast food stuff makes it easier, okay. It’s worth the extra money to not always stand out,” says another.

All of these factors are heavily mediated by the influence of friends and family. Influential peer groups for school-aged children are strong predictors of the acceptance of traditional Indian foods and the adoption of new foods into the diet. Twenty-six respondents specifically mentioned their children’s concerns over how they appeared to school peers. Fast food is often mentioned as the key identifier of status in school meals. “I can buy them each a breakfast bun at Mickey’s [McDonald’s breakfast sandwich] for a buck and some change. Then, they can go to school with the bag. It helps them fit in. They don’t want to stand out because they eat stuff that the other kids think is gross!” This supports the theoretical link made above to Mueller et al.’s (2010) social comparison model and how it fosters obesogenic environments.

Additional acculturation factors impact nutritional transition. Eleven respondents report no exposure to tribal traditional foods. While older respondents stated more preferences for such food, age is not a consistent predictor of exposure. Says one man, “I grew up here. My parents came in the relo program in the 50s…My father wanted to get away from the rez and have a shot at being normal. So, we never ate any of that stuff. He never brought us out to rez either. I guess he just wanted to distance himself from that life. So I never developed a taste for it. I like McDonalds and the Colonel.”

It is important to note that historical factors and public policy influence dietary intake as well. Twenty-one former reservation residents grew up eating commodity food
items provided through FDPIR. Thus, their notions of “traditional foods” are skewed toward family dishes made from commodity provisions. This supports Foley’s (2005) findings that colonial foods morphed into new traditional foods over time. “You know, we got the commodities. I liked making stuff with that cheese. It melted real well on everything. I always try to get blocks of Velveeta ‘cause it is similar. My kids won’t touch a vegetable without cheese sauce!” Another woman notes that she often buys Spam even when she has the resources to buy better meats because of the sense of connection that it provides. “My mom was real creative. She taught me a million different ways to cook up Spam. I buy a lot of it. It makes me feel close to her.”

Interaction with non-AIAN co-workers and peers increases willingness to try new foods, supporting Mueller et al.’s (2010) social comparison theory. “We went and had dinner with this woman I work with. She’s got kids that go to school with my kids, so it was fun for everyone. She made this casserole and my kids really loved it, so she gave me the recipe and now I make it too.” Normally, her children are reluctant to experiment with new foods. The supportive presence of their peers was a major factor in their willingness to try something new.

While acculturation pulls some respondents toward the American mainstream, others frame their taste preferences as an explicit rejection of the acculturation process and a reaffirmation of indigenous identity. “I don’t want to lose all of who I am, you know? I want my kids to at least have some kinda sense that they are special and not like everyone else here. So, I cook up fry bread instead of donuts on the weekends.” Another
respondent states, “My kids tease me about Spam. They don’t want it. It’s too low [class] for them. I make them eat it anyway. For one, it tastes good and it’s cheap. For two, I don’t want to get sucked up into those frou-frou ways of eating. I grew up eating real food, hearty food. That’s traditional food. I mean, real Indians don’t eat bean sprouts!”

Thus, consumption patterns are also a form of cultural capital. They are identity markers that help draw boundaries that maintain a sense of shared identity and connection to that larger group. This supports James’ (2004) findings that “eating healthy” is perceived by some as giving up their heritage and conforming to the dominant culture.

Twenty-seven respondents make use of the cultural capital frame in describing influences on their cooking styles. They note that certain recipes help them maintain connections to their personal histories. One woman says, “Fry bread is important for me and [boyfriend]. The smell of it keeps us happy, you know? It makes me think about my moms and how she’d cook that up every morning. [Boyfriend] used to dance in the powwow circuit, so it also reminds of us being young and kicking our heels up.”

The prevalence of commodities programs, combined with strong migration patterns between the city and reservations, reinforces eating patterns and preferences learned out of necessity. Each family has developed their own recipes to prepare FDPIR items in different ways. For respondents who visit the reservation frequently (70.3%), there is pressure to maintain their old eating patterns. “I wouldn’t dare turn my nose up to Spam! When I first came home after being away for a while, I told my mom I didn’t want to eat like that anymore. She got pissed! She accused me of being citified and being too
good for everyone else. She was REAL insulted. She said Spam was all they got and if that was good enough for them, it ought to be good enough for me!”

Friends and family also influence the repetition of recipes. All shoppers report only purchasing foods that they already know how to make. “All my kids want is spaghetti and meatballs,” reports one woman. With limited budgets, all expressed a fear of wasting resources. “I can’t afford to experiment, no matter how much it is on sale for! I’m bored. I’d love to try new things but my kids are the real problem. And my boyfriend. They don’t want to try new stuff. They like what they like. If I try something new, they won’t even taste it and we waste the food. Maybe that is why I buy so many different kinds of chips! I need some variety!”

Twenty-three women expressed frustration with the repetition in their diets and consistently reference obesogenic behaviors such as snacking to alleviate food boredom. However, they are not willing to experiment with new recipes or foods. “We can’t afford to throw away food. We are barely making it now!” For all respondents, financial constraints reinforce meal redundancy. This supports findings from studies on purchasing influences in low-income families (Foley, 2005; James, 2004; Wiig and Smith, 2008).

Intersecting with the influence of family and financial constraints is the impact of the mass media. Television advertising shapes food preferences and the pressure that children put on their parents. As noted above, this contributes to social comparisons and fosters and reinforces an obesogenic environment. The interviews demonstrate the importance of fast food in urban AIAN diets. All report buying something from a fast
food restaurant twice a week. Twenty-one report purchasing something four times a week or more.

Children’s influence, which is interwoven through issues of convenience and social status, over purchasing decisions is paramount. “My kids don’t want rice and beans. They get embarrassed at school when people’s talking about what they had last night. Besides, I know they’ll eat it.” Twenty-seven respondents also report using fast food as a treat or a bribe. “I’ve really tried to get my son to focus better in school. Each week, we get a homework report. I’ve told him that if he does okay, we can all go and eat at the restaurant. So, my other kids really get on him to keep up.”

DISCUSSION

As demonstrated above, pressures to conform to the dominant American culture of consumption have direct impacts on food behaviors of urban AIAN respondents. This study finds competing pressures toward and away from acculturation. This impact is mediated by the frequency of movement to and from the reservation, maintaining connections to traditional influences, and mass media exposure. Acculturation is manifested through and mitigated by habits or learned patterns of food preparation, cultural perceptions of the centrality of certain foods to a meal, and emotional attachments to specific foods. Aspects of acculturation hasten nutrition transition and foster an obesogenic environment. As obesogenic environments become more deeply
established and are consistently reinforced, local food cultures develop and become their own barriers to change.

Consistent with previous social ecology research, this study finds that local food access is an important behavioral constraint. However, the most significant barriers to change and forces of acculturation are family, particularly children, intimate others, and friends. Social comparison theory becomes a critical tool for understanding how the larger obesogenic environment of food consumption messages and other structural constraints shape the culture of eating among low-income urban AIANs.

In addition to challenges that impact all low-income urban households, cultural obstacles to healthier eating that are unique to this sub-population have been identified. Of particular relevance for nutritional status is a history of FDPIR dependence. This has shaped personal ideas of what constitute “traditional foods.” Cooking styles (how are foods prepared, what ingredients are used to flavor foods), recipes, and notions of what constitute a meal are related to the limited number of foods available in the commodities packages.

Given all of these forces, respondents were asked what role their local Indian centers could play in empowering them to make sustainable, positive changes in culturally sensitive ways. Seventeen respondents suggest having workshops on label reading or familiarizing people with what to buy ahead of time. Thirty-two respondents aren’t sure what to be looking for nutritionally. “I know we all need to eat healthy. The
TV news is always talking about how we is so fat. But all that stuff about sodium and the tranies [trans fats]…well, that’s all Cherokee to me!”

Beyond that, they do not want to be searching for that information in the store. They want to go in already knowledgeable about what foods they need to buy that still conform to their budgetary constraints. “It is really tough in the store. I don’t have the time to look at everything. I’ve got my kids nagging me and pulling me around. If I take too long anywhere, they start dumping stuff into the cart. I want to get in and get out with as little hassle as possible.” Another respondent states, “I really don’t have much time when I’m shopping. I got to rely on other folks for my ride, so I need to hustle when I’m there. I don’t want to hold them up or they may not take me again. So, I really just run down the aisles and grab for stuff I already know we’ll all like.”

Demonstrations and tastings are also recommended. Twenty-nine respondents believe that cooking demonstrations on how to use flavorings or spices to reduce salt and fat intake would be helpful to them. “I hear all the time how bad salt is and how bad cooking with lard is, but those things get the flavors going. I don’t know a lot about spices or other ways of doing stuff. If we could have classes where we made some foods in different ways and then could taste them, that might help,” says one respondent.

However, all respondents are worried about the cost and acceptability to family members, especially children, of changing their food habits too radically. Having entire families participate in the demonstration workshops and then following them with a tasting can provide a forum for exposure to new foods or different recipes without the
economic impact of waste. Thirty-one respondents mention tasting as an opportunity to try new things. “I know we got to eat healthy…but I can’t afford to experiment with foods ‘cause we barely have enough to go around now. If we could see how stuff is made and have everyone in the family try it first, I’d be willing to make some changes.”

Demonstrations and tastings can increase the social rewards of healthy food (Stevenson et al., 2007) and potentially mitigate the impact of the larger obesogenic environment. “I’m sure I could get my kids to eat some different stuff once in while if they saw other people trying it too. Maybe at the community dinners or something. We could have a spotlight dish that is easy to make and cheap. Then they could try it. If they’ll eat it there, I’d probably try it at home.”

Finally, thirty-three respondents suggest that recipes be included in the food pantry bags to help them think of new ways to cook the same sets of ingredients. As noted above, repetition and boredom with meals contributes to snacking on chips and the desire for fast food treats. In addition, food pantry users might be less likely to abandon foods if they knew what to do with them. As a recent example, the Center received several crates of textured vegetable protein. Pantry staff were not familiar with this item, so they were reluctant to distribute it. “I think people are just going to pitch it,” said one staff member. “I really don’t want to give this to my friends…You hand people a baggie of tan pebbly stuff and they are going to look at you like you are nuts,” said another. Food demonstration and tastings, along with recipes or serving ideas could address situations like these when they arise.
CONCLUSION

The findings from this study identify some culturally specific barriers to healthier food consumption among low-income, urban AIANs. In order to mitigate the impacts of the larger obesogenic environment, programming initiatives should seek to empower individuals to make positive changes in culturally sensitive ways. Urban Indian centers can provide a focal point for programming initiatives that can reach the target population.

These findings have strong implications for health and political policy makers. Funding expansion of Indian centers so that they can support a demonstration kitchen and creating targeted development grants to provide food and cookware for such programs can expand nutritional information outreach to an underserved community. In addition, channeling health initiative partnerships through Centers has the potential to increase community awareness of risk factors and increase cultural health capital (Shim, 2010).

While this study represents a critical first step, there is still much work to be done. Additional research needs to be conducted within the AIAN population to identify other barriers to improving long-term health outcomes. Future research should focus on the development of nutritional pilot programs in collaboration with Indian center staff members. These programs should include components that address the needs of primary shoppers and food preparers. Program development should also specifically focus on children and adolescents to help mitigate the impacts of obesogenic cultural drift.
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Table 1: Participant characteristics and response summaries

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<td>20-30</td>
<td>2</td>
</tr>
<tr>
<td>30-40</td>
<td>4</td>
</tr>
<tr>
<td>40-50</td>
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<tr>
<td>50-60</td>
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<tr>
<td>60-70</td>
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<tr>
<td>Currently employed FT</td>
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</tr>
<tr>
<td>Currently employed PT</td>
<td>7</td>
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<tr>
<td>Mean number years in city(^a)</td>
<td>11.3</td>
</tr>
<tr>
<td>Receive government assist.(^b)</td>
<td>2</td>
</tr>
<tr>
<td>Use of food pantry, other</td>
<td>2</td>
</tr>
<tr>
<td>Use of Indian center pantry</td>
<td>6</td>
</tr>
<tr>
<td>Use of food stamps (SNAP)</td>
<td>5</td>
</tr>
<tr>
<td>Own a car</td>
<td>2</td>
</tr>
<tr>
<td>Access to full service grocery store</td>
<td>0</td>
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<tr>
<td>Participated in FDPIR</td>
<td>4</td>
</tr>
<tr>
<td>Exposed to tribal foods</td>
<td>6</td>
</tr>
<tr>
<td>Rate nutritional knowledge</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>0</td>
</tr>
<tr>
<td>Medium</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Television viewing habits/day</td>
<td></td>
</tr>
<tr>
<td>Heavy (5+)</td>
<td>3</td>
</tr>
<tr>
<td>Medium High (4-5)</td>
<td>6</td>
</tr>
<tr>
<td>Medium (3-4)</td>
<td>2</td>
</tr>
<tr>
<td>Medium Low (1-2)</td>
<td>0</td>
</tr>
<tr>
<td>Low (0-1)</td>
<td>0</td>
</tr>
<tr>
<td>Every been to their reservation</td>
<td>9</td>
</tr>
<tr>
<td>Travel to reservation in past</td>
<td></td>
</tr>
<tr>
<td>1 month</td>
<td>0</td>
</tr>
<tr>
<td>6 months</td>
<td>0</td>
</tr>
<tr>
<td>1 year</td>
<td>7</td>
</tr>
<tr>
<td>2 years</td>
<td>8</td>
</tr>
</tbody>
</table>

\(^a\)Time spans are misleading as a large proportion of respondents lived in the city for a few years, returned to the reservation for a few years, then back again.

\(^b\)This excludes participation in SNAP.