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ACCULTURATION AND NUTRITION RESEARCH

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Introduction

Culture is a part of our everyday lives, and acculturation has a significant role in nutrition and dietetics because of its ties to food intake, physical activity, body image, and health care practices. But, how does acculturation really affect diet, and how do we deal with it in nutrition research? This article will provide an overview of acculturation concepts, measures of acculturation, and also the associations between acculturation and food intake-related outcomes. The examples from the literature will focus on Hispanics or Latinos as the largest minority group in the United States (U.S.) who often face nutrition and health disparities.

What is Acculturation and How is It Measured?

Acculturation can be defined as the process by which people "adopt the attitudes, values, customs, beliefs, and behaviors of a new culture".[1] Acculturation is often seen as a change that only immigrants go through, but this would be equal to seeing only half of the picture. Because culture is not a static phenomenon, communities and societies also change over time and through the influence of their community members. Therefore, both individuals and societies go through acculturation. However, because nutrition research is usually focused on individuals, a majority of the published studies about acculturation and nutrition-related outcomes are about changes that individuals or immigrants go through while they become accustomed to the characteristics of a newer culture.

Acculturation is a multidimensional process. In addition to the changes in communities and the society overall, cultural changes that individuals experience can have many facets because of the countless combinations of traits people can retain from their primary culture (culture of origin) or adopt from the new culture. Although many phases within the acculturation continuum exist, four major categories have been proposed: assimilation (complete adaptation to the new culture and loss of traits from the culture of origin), marginalization (exclusion of both cultures), separation or segregation (retention of traits from the culture of origin without integration into the new culture), and integration or biculturalism (acceptance of both cultures).[2-4]

Measures of Acculturation

The multidimensionality of acculturation makes it difficult to measure this concept. Furthermore, researchers' ability to use instruments that can measure various dimensions of acculturation for both cultures – primary and new – is often constrained by limitations in time and resources because these instruments involve several questions and take more time to complete. Therefore, researchers resort to shorter scales that serve as proxy measures and usually focus on one or two

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aspects of acculturation by using unidimensional questions or scales, such as language use at home, country of birth, or length of residence in the U.S.[2]

Some of the acculturation scales, such as the Bidimensional Acculturation Scale,[5] are designed to measure the individuals' characteristics both from the primary and the new cultures to give a bidimensional picture of the acculturation status. More comprehensive acculturation scales measure multiple dimensions of acculturation by including questions about values, beliefs, attitudes, language use, ethnic interactions, and relevant characteristics. Examples of multidimensional scales are the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II)[6] and Hazuda Scale.[7]

How to Interpret Acculturation Research?

Interpreting the literature about the associations between acculturation and nutrition or health outcomes can be confusing. One of the reasons is the considerable variety of acculturation measures in use. As a result, the responses to similar nutrition research questions can be quite mixed. Another reason is because acculturation can bring about both positive and negative influences on nutrition- and health-related behaviors, and these positives and negatives can change over time or from one target population to the next.

Additionally, because acculturation has many dimensions or phases, it is often not linked to nutrition and health outcomes in a linear fashion. For example, less acculturated individuals may have healthier food intake patterns in the country of origin, but these behaviors may deteriorate during the earlier phases of migration as immigrants experience cultural, language, and socioeconomic or structural barriers. However, they may end up with healthier behaviors again years later when they are more acculturated and better equipped to function well in the new environment. A simple, "less versus more acculturated" type of comparison would most likely not capture the extent of these changes or could give contradicting results between different studies.

The influence of acculturation depends on the specific characteristics of the new culture and the individual's culture of origin. For example, the acculturation experience of an immigrant who came from a big city and settled in a small border town in the southern U.S. would probably be different than that of an immigrant who came from a rural town and settled in a big city in the northeastern U.S. In both of these scenarios, the structural (i.e., system-wide, society-specific) elements are likely to affect individuals' experiences but not necessarily lead to the same outcome. The underlying assumption about a mainstream American diet that immigrants may eventually adopt is also questionable because of the heterogeneity of the population in the U.S. Immigrants acculturate toward the culture of the communities around them, and these communities also change by the influence of their members. Hence, the new culture in the U.S. is likely to have many variations over time and in various parts of the country.[4]

Lastly, one must also keep in mind the pitfalls of stereotyping. Although sometimes we have to study and apply the research findings to an entire minority population such as Hispanics/Latinos or Asians, we must remember that there are many subgroups within each of these populations who originate from various countries and may exhibit quite different cultural traits and lifestyle behaviors.[4]

Acculturation and Food Intake among Hispanics in the United States

Research results about acculturation and diet usually point to healthier dietary intake patterns among less (versus more) acculturated Hispanics in the U.S. Despite the inconsistencies partially stemming from different acculturation measures used, examples of reported healthier eating patterns include higher consumption of fruits, vegetables, whole grains, and beans, and lower consumption of sugar, sugar-sweetened beverages, salty snacks, desserts, and added fats. (reviewed in 4,8)

In addition to differences in the types of foods consumed, diet quality (e.g., macro and micronutrient content) and compliance with national food intake recommendations also seem to vary by acculturation status among Hispanics. For example, higher intake levels of fiber, protein, vitamins A, C, E, B6 and folate as well as calcium, potassium, and magnesium have been reported among less acculturated Mexican Americans in comparisons to their more acculturated counterparts.[4,8,9] The national data from the NHANES 1999-2004 showed that after adjusting for health care access,

health status, and demographic and socioeconomic characteristics, more acculturated Hispanic adults with diabetes were less likely to meet the saturated fat and fiber recommendations.[10]

The effect of acculturation on adults' behaviors can extend into the succeeding generations through infant feeding and parenting practices. On a positive note, less acculturated Hispanic women are more likely to initiate breastfeeding or breastfeed for longer duration than their more acculturated counterparts, although this practice seems to vary by the country of origin.[3] Conversely, some questionable feeding strategies (e.g., offering alternative foods or rewards and using bribes or threats to influence children's eating behaviors), which can contribute to less healthful eating behaviors for the child, are more common among less acculturated Mexican American parents.[11] Specific consequences of these feeding practices among Hispanics are not known, but similar to the trends seen among adults, studies indicate that greater acculturation is related to worsening of dietary intake among Hispanic youths as suggested by decreased consumption of fruits and vegetables and greater intake of soda, fast food, sodium, energy, and fat.[4]

In addition to the influence of parents' acculturation on children's behaviors, children can catalyze the acculturation process for their families as well. One of the biggest changes in children's diets after moving to the U.S. has been suggested to be with the foods children consume at school. It has been reported that although Mexican American children liked the traditional ethnic foods they received at home, they preferred the American foods they were served at school. Further, they were not aware of the healthfulness of traditional Mexican foods (such as fruits, vegetables, and beans) or potential health risks of the typical American diet, which they perceived as pizza, hotdogs, hamburgers, and French fries.[12,13] As children develop their own self and ethnic identities, they may seek separation from their parents and acceptance from their peers and may identify fast food and other less healthful food options with the culture of the U.S. This can eventually lead to less healthful dietary patterns both for children and their families because children are likely to affect food purchasing decisions in their households.[13]

When looking into the influence of acculturation on food intake behaviors among children and youths, another important element of the social environment, media exposure, must be addressed because of its potential to affect children's behaviors. American children spend more than seven hours per day using or watching media such as television, computers, video games, or movies (i.e., screen time). Estimated screen time seems to be higher among minorities in comparison to non-Hispanic whites[14] and among more (versus less) acculturated individuals.[15] The data from the 2003-04 National Survey of Children's Health indicated that, in comparison to U.S.-born non-Hispanic white children with U.S.-born parents, foreign-born Hispanic children with immigrant parents were 31% more likely, while U.S.-born Hispanic children with U.S.-born parents were 51% more likely to watch television for three or more hours per day.[15] This kind of media exposure can serve as a delivery tool for less than ideal eating habits through food advertisements, unrealistic body images, and unhealthy eating patterns.

Acculturation has close ties to socioeconomic status (SES). Economic conditions can amplify the barriers that new immigrants experience, but education and employment opportunities can speed up the acculturation process. Hence, some of the reasons underlying the changes in eating patterns through acculturation can be actually rooted in socioeconomic factors. For example, affordability and increased availability have been reported as reasons to consume snacks, sweets, and fast food more in the U.S., especially when these foods were more expensive and eaten only on special occasions or seen as a status symbol in the countries of origin.[4,12,16] From an economic perspective, higher rates of food insecurity and low SES among minorities and immigrants are likely to force individuals to purchase relatively cheap and filling but often nutrient-poor, energy-dense foods.[17-19] Additionally, the convenience of fast food seems to be an enticing solution especially for time-strapped immigrant families with children.[20]

Although less studied in the nutrition field, residential context may also have an influence on the acculturation process and eating patterns. Immigrants may experience added barriers in accessing healthier and/or ethnic foods in the U.S.

because of limited availability and quality (e.g., freshness, taste), and lack of economic resources or language barriers can further inhibit access. Conversely, neighborhood socioeconomic conditions can sometimes work to the immigrants' advantage. Previous research suggested that immigrant-dense residential areas were linked to more fruit and vegetable intake and less high-fat/processed food intake.[21,22] These results might be stemming from socioeconomic advantages through greater social capital, availability of stores with healthier ethnic food options (because they serve the clients' demands), and greater retention of social norms, values and (healthier) food intake habits in these neighborhoods.[21]

In summary, less acculturated Hispanics in the U.S. seem to have healthier dietary intake patterns, but there are many pathways in which acculturation can affect dietary intake and lead to different outcomes. Therefore, it is important to examine these different characteristics and behavioral patterns comprehensively in order to formulate appropriate surveys, research interventions, and practice recommendations.

Conclusions

Acculturation is a multidimensional process that affects both individuals and communities. Interpretation of acculturation in nutrition research can be complicated because of several factors such as acculturation's non-linear relationship with nutrition or health-related outcomes, its close ties to individuals' experiences from countries of origin, characteristics within the new host cultures, and socioeconomic conditions. The use of comprehensive acculturation scales is appropriate to take some of these factors into consideration in nutrition research, but simple proxy measures can also have their place in nutrition and dietetics practice when only a short amount of time is available for assessment. In either case, it is important to look into the acculturation and socioeconomic characteristics of individuals, families, and environments when working with immigrant populations.

Research on acculturation and food intake among Hispanics or Latinos in the U.S. generally suggests healthier dietary intake patterns among less acculturated individuals. Therefore, this presents itself as a critical time for primary prevention because of nutrition and health disparities that minorities and immigrants often face in the U.S. It is crucial in nutrition and dietetics practice to recognize these healthier dietary intake patterns among less acculturated individuals in order to help them maintain these patterns rather than trying to change it back after the change occurs in their later years in the U.S.

However, we cannot automatically assume that less acculturated individuals would be more likely to have healthier intake patterns. Culture, socioeconomic conditions, and food environment continue to change in other countries as well as in the U.S., and availability of highly processed foods, sugary drinks, and fast food is likely to rise in many countries around the globe.[23,24] Depending on the cost and availability of foods in the location of origin, immigrants could increasingly be facing similar – and often less healthful – food choices in their home countries as well as in the U.S. Therefore, nutrition and dietetics professionals still have to evaluate past and current intake patterns of each patient or target group to be able to better understand and promote healthier lifestyles.

References

1. Abraido-Lanza AF. Immigrant Populations and Health. In: Anderson NB, ed. *Encyclopedia of Health & Behavior, 2*. Thousand Oaks/London/New Delhi: Sage Publications; 2004:533-537.
2. Lara M, Gamboa C, Kahramanian M, Bautista Hayes D, Morales L. Acculturation and Latino health in the United States: a reivew of the literature and its sociopolitical context. *Annu Rev Public Health*. 2005;26:367-397.
3. Perez-Escamilla R, Putnik P. The role of acculturation in nutrition, lifestyle, and incidence of type 2 diabetes among Latinos. *J Nutrition.* 2007;137:860-870.
4. Fitzgerald N. Acculturation, socioeconomic status, and health among Hispanics. *Ann Anthropol Pract (NAPA Bulletin).* 2010;34(1):28-46. http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4797.2010.01050.x/full
5. Marin G, Gamba RJ. A new measurement of acculturation for Hispanics: the bidimensional acculturation scale for Hispanics (BAS). *Hispanic J Behav Sci.* 1996;18(3):297-316.
6. Cuellar I, Arnold B, Maldonado R. Acculturation rating scale for Mexican Americans-II: a revision of the original ARSMA scale. *Hispanic J Behav Sci.* 1995;17(3):275-304.
7. Hazuda HP, Stern MP, Haffner SM. Acculturation and assimilation among Mexican-Americans: scales and population based data. *Soc Sci Q.* 1988;69(3):687-706.
8. Ayala GX, Baquero B, Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. *J Am Diet Assoc.* 2008;108(8):1330-1344.

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Chair's Report

Dear Research DPG Members

Chris Taylor, PhD, RD, LD

After attending the Public Policy Workshop in Washington D.C. this spring to represent the Research DPG, it is evident how pivotal this time is for our profession. Many of the nation's challenges, from the Farm Bill to the medication shortages, have roots in nutritional issues that RDs and DTRs contend with on a daily basis. Underlying all those efforts are the scientific advances and research breakthroughs made by trained dietetics experts. Furthermore, our D.C. legislative team has been able to meet with legislators on the Hill, armed with evidence from the Academy's Evidence Analysis Library, to support the role of dietetics professionals. Therefore, we have a great deal of influence over the trends facing the US and the world and the time to act is now.

Because of the nature of our DPG, we are unified by a support or expertise in the central tenet of dietetics – being evidence-based. We embody advances in all facets of the practice of dietetics; the consummate translational scientist before it was a buzz word. This vast membership provides numerous opportunities for collaboration, dialogue and collegial support. Numerous opportunities are now before us to champion the evidence-based initiatives of the Academy. Over the coming months, you will receive calls for action by our members to support these efforts.

As an Executive Committee, we are working continually to enhance member benefits. I welcome suggestions of potential ways we can serve you better. With additional member benefits, there are additional ways to serve and gain valuable collaborative and leadership experiences. I look forward to serving you for the next year.

Chris Taylor, PhD, RD, LD
Chair, Research DPG

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9. Dixon LB, Sundquist J, Winkleby M. Differences in energy, nutrient, and food intakes in a US sample of Mexican-American women and men: findings from the Third National Health and Nutrition Examination Survey, 1988-1994. *Am J Epidemiol.* 2000;152(6):548-557.
10. Mainous AG, III, Diaz VA, Geesey ME. Acculturation and healthy lifestyle among Latinos with diabetes. *Ann Fam Med*. Mar-Apr 2008;6(2):131-137.
11. Kaiser LL, Melgar-Quinonez HR, Lamp CL, Johns MC, Harwood JO. Acculturation of Mexican-American mothers influences child feeding strategies. *J Am Diet Assoc.* 2001;101(5):542-547.
12. Colby S, Morrison S, Haldeman L. What changes when we move? A translational exploration of dietary acculturation. *Ecol Food Nutr.* 2009;48: 327-343.
13. Gray VB, Cossman JS, Dodson WL, Byrd SH. Dietary acculturation of Hispanic immigrants in Mississippi. *Salud Publica Mex*. Sep-Oct 2005;47(5):351-360.
14. Rideout VJ, Foehr U, Roberts D. *Generation M^2 media in the lives of 8- to 18-year-olds*. Menlo Park, CA: Henry J. Kaiser Family Foundation; January 2010.
15. Singh GK, Yu SM, Siahpush M, Kogan MD. High levels of physical inactivity and sedentary behaviors among US immigrant children and adolescents. *Arch Pediatr Adolesc Med.* Aug 2008;162(8):756-763.
16. Himmelgreen D, Romero Daza N, Cooper E, Martinez D. I don't make the soups anymore: pre- to post-migration dietary and lifestyle changes among Latinos living in west-Central Florida. *Ecol Food Nutr.* 2007;46:427-444.
17. Drewnowski A, Darmon N. Food choices and diet costs: an economic analysis. *J Nutr.* 2005;135(4):900-904.
18. Rosas LG, Harley K, Fernald L, et al. Dietary associations of household food insecurity among children of Mexican descent: results of a binational study. *J Am Diet Assoc.* 2009;109:2001-2009.
19. Townsend MS, Aaron G, Monsivais P, Keim N, Drewnowski A. Less-energy-dense diets of low income women in California are associated with higher energy-adjusted diet costs. *Am J Clin Nutr.* 2009;89:1220-1226.
20. Lindsay AC, Sussner KM, Greaney ML, Peterson KE. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. *Health Educ Behav.* Feb 2009;36(1):81-96.
21. Dubowitz T, Subramanian SV, Acevedo-Garcia D, Osypuk TL, Peterson KE. Individual and neighborhood differences in diet among low-income foreign and U.S.-born women. *Women's Health Issues*. May-Jun 2008;18(3):181-190.
22. Osypuk TL, Roux AV, Hadley C, Kandula NR. Are immigrant enclaves healthy places to live? The Multi-ethnic Study of Atherosclerosis. *Soc Sci Med.* Jul 2009;69(1):110-120.
23. Barquera S, Hernandez-Barrera L, Tolentino ML, et al. Energy intake from beverages is increasing among Mexican adolescents and adults. *J Nutr.* Dec 2008;138(12):2454-2461.
24. Popkin BM, Gordon-Larsen P. The nutrition transition: worldwide obesity dynamics and their determinants. *Int J Obes.* Nov 2004;28 (Suppl 3): S2-9.