Acculturating to Multiculturalism: A New Dimension of Dietary Acculturation among Asian American, Native Hawaiian, and Pacific Islander Women in the San Francisco Bay Area

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Introduction

Dietary acculturation is the process of adaptation in which individuals preserve/change dietary patterns/preferences to those prevalent in a new environment. Little is known about how to best characterize dietary acculturation among Asian American, Native Hawaiian, and Pacific Islander communities (AANHPI). This study presents an innovative approach to assessing patterns in dietary acculturation among AANHPI women in the San Francisco Bay Area.

Methods

- The sample comprised 440 women (controls) from a population-based case-control study of breast cancer in the SF Bay Area.
- Participants were asked about frequency of consumption across 27 food/beverage items, and about dietary practices (e.g., frequency of consuming packaged foods, balancing yin/yang in diet).
- We quantified underlying patterns in dietary acculturation using exploratory principal components factor analysis, and explored distributions of sociodemographic, neighborhood, and immigration characteristics across patterns of dietary acculturation.

Results

- Three dietary patterns were identified: "Asian", "Western", and "Multicultural".
- Compared to respondents with low-Asian diets, those with high-Asian diets tended to report smaller social networks, higher stress, and (among immigrants) an educational standing that was better before immigration.
- Compared to respondents with low-Western diets, those with high-Western diets reported the highest level of discrimination.
- Compared to respondents with low-Multicultural diets, those with high-Multicultural diets tended to report higher neighborhood collective efficacy.
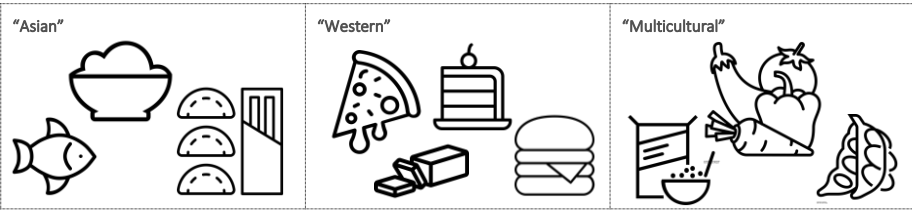
Conclusion

- We introduce a novel way to consider dietary patterns in studies looking at diet as a risk factor for chronic health conditions.
- Uncovering a distinct "Multicultural" factor beyond the binary "Asian"/"Western" factors reflects the multidirectional & dynamic process of dietary acculturation.
- Adapting dietary acculturation measures to multicultural environments across the U.S. can be a promising approach to designing effective nutritional policies and interventions for immigrant communities.

Lessons Learned

As the analyst on this project led by ARCH members Drs. Tan, Shariff-Marco, and Gomez, and senior biostatistician, Alison Canchola, I had the privilege of learning a new analytic method (principal components factor analysis), which was not covered in any of my coursework. As a result of this project, I developed the confidence to propose the use of this method for an aim on an F31 grant application.

Factors that loaded highly into each dietary pattern *(Select illustrative foods presented below)*

			Western		
			Low	Med	High
Multicultural Low	Asian	Low	11	22	19
		Med	13	13	20
		High	15	18	16
Multicultural Med	Asian	Low	15	19	15
		Med	20	15	15
		High	16	17	15
Multicultural High	Asian	Low	16	14	16
		Med	21	14	16
		High	20	15	14

Ns presented above

Distribution of select characteristics across the highest score of each dietary factor
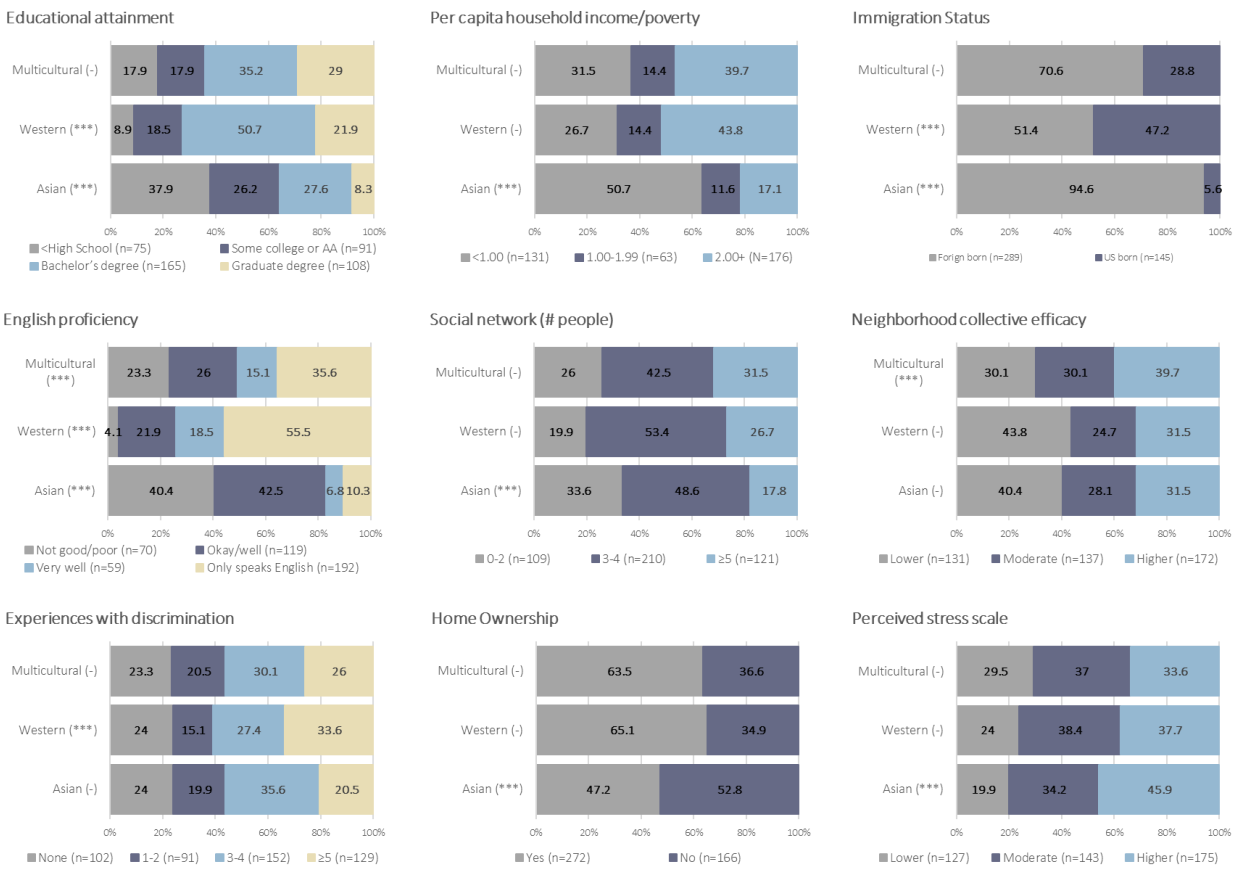
Statistical significance was evaluated using chi-square tests; while distributions in the figure above represent only the highest score for each dietary factor, (***) p<0.05, (-) p>0.05 indicates that there were observed differences in the selected characteristic across tertiles of each dietary factor (e.g., distribution of educational attainment differed across low, medium, and high scores of Asian American diet. Values in table above represent column percentages; Income/poverty ratio <1.00 indicates that family income was less than the poverty threshold; Income/poverty ratio between 1.00-1.99 indicates that family income was equal to or higher than poverty threshold; Income/poverty ratio 2.00+ generally indicates that the family is relatively well off.