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American Indian Cooking Self-Efficacy and Health Perceptions of Obesity

**POSTER
PRESENTATION**

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Abstract

American Indian obesity rates exceed other ethnicities. This cross-sectional study examined cooking techniques and meal preparation self-efficacy (CTMP), negative cooking attitude, eating and cooking with fruits and vegetables self-efficacy, health value, and perceived severity, susceptibility, barriers, and benefits of obesity on body mass index (BMI) for 90 Arizona American Indians. Participants self-reported height and weight and completed the Cooking with a Chef Evaluation Instrument and Health Belief Model Scale in Obesity. Multiple regression revealed a significant large effect of all predictors and small effect of health value and CTMP on BMI. The findings indicate cooking self-efficacy and health perceptions impact BMI and health equity.

Doctoral Capstone

Problem

Government interventions (i.e., menu labeling and junk food taxation) designed to increase food knowledge and reduce obesity rates may act as barriers for changing food consumption behaviors and increase health disparities, specifically within American Indian communities.

Research is limited on the impact of social- and community-based strategies aimed at modifying health perceptions and increasing cooking confidence (i.e., self-efficacy) to reduce American Indian obesity rates.

Purpose

The aim of this quantitative, cross-sectional, survey study was to understand whether **cooking self-efficacy** and **health beliefs and attitudes about obesity as a disease** predict body mass index (BMI) for American Indians.

Significance

Within minority communities, assessments of cooking self-efficacy and health perceptions—based on attitudes and beliefs about obesity as a disease—were limited.

The findings in this research have the potential to address some of the public health challenges facing American Indians.

Specifically, this research advanced discipline knowledge about the relationship between cooking self-efficacy and perceived health status influencing the obesogenic environment within American Indian communities.

Theories

Self-efficacy is a component of Bandura's (1997) **social cognitive theory**, which describes an individual's capacity, or agentic power, to create and control the environment by increasing knowledge.

Self-efficacy is also a moderator variable in the **health belief model** (Janz & Becker, 1984; Rosenstock et al., 1988; Salazar et al. 2015; Simons-Morton et al., 2012) that helps explain behavioral outcomes related to perceived

- a) susceptibility to disease,
- b) severity of disease,
- c) benefits of behavioral change,
- d) barriers to behavioral change; and
- e) readiness to act.

Relevant Scholarship

Cooking skills can be distinguished according to age, gender, education, and socioeconomic status (Caraher et al., 1999).

People with high food self-efficacy have more cooking skills and experience with various cooking methods for an assortment of foods (Hartmann et al., 2013).

Low food self-efficacy is the strongest predictor of frequent high fat/sugar purchases and pan frying (Gittelsohn et al., 2006).

As food insecurity increases, the consumption of fruits and vegetables decreases, but food insecurity was not associated with obesity (Robaina & Martin, 2013).

Consumption of fruits and vegetables is linked to socioeconomic status and cooking skill level (Chen & Gazmararian, 2014).

Affective states toward meal preparation influence health for men (Szabo, 2012).

Research Questions

RQ1: To what extent does cooking self-efficacy predict obesity for American Indians?

RQ2: To what extent do attitudes and beliefs about obesity as a disease predict obesity for American Indians?

Participants

A nonrandom, convenience sampling method was used to recruit volunteers from a local food pantry. Volunteers self-selected to participate in response to a student research study sign.

The sample was restricted to individuals who identified as American Indian between the ages of 18 and 65 years old.

The resulting sample consisted of 70 female and 20 male American Indians between the ages of 18 and 65 years old.

Procedures

Participants self-reported height and weight to calculate **body mass index** (BMI) as the dependent variable and completed the:

- *Cooking With a Chef Evaluation Instrument* to measure three independent variables (**cooking techniques and meal preparation self-efficacy, self-efficacy for eating and cooking with fruits and vegetables, and negative cooking attitude**)
- *Health Belief Model Scale in Obesity* to measure five independent variables (**health value, and perceived susceptibility, severity, barriers, and benefits**).

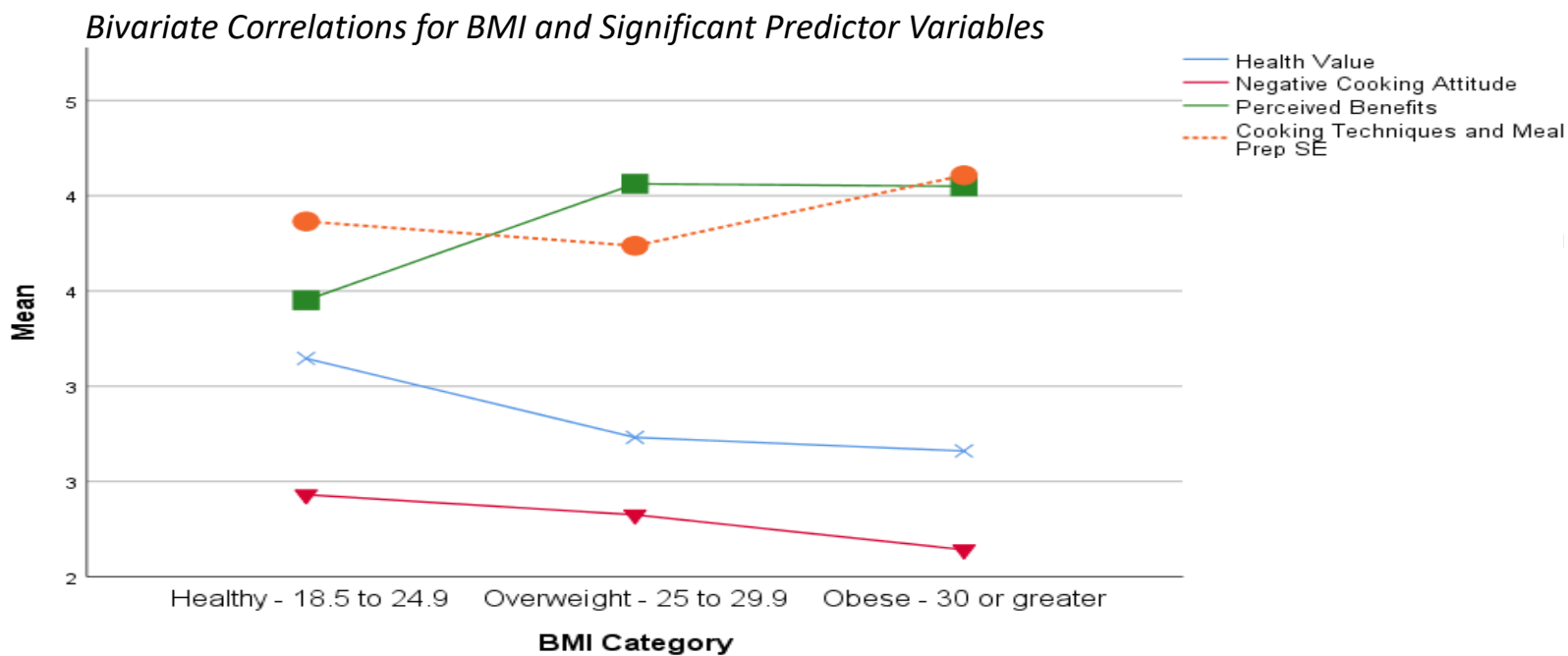
Analysis

Data were analyzed through multiple regression analysis via the hierarchical method with cooking self-efficacy predictors entered first followed by predictors for attitudes and beliefs about obesity as a disease.

Findings

In the regression analysis, all predictors had a significant large effect on BMI, with small effects for **health value** and **cooking techniques and meal preparation self-efficacy**.

- 54 participants were categorized as **obese**.
- **Perceived benefits** and **cooking techniques and meal preparation self-efficacy** had significant small correlations with BMI.
- **Health value** and **negative cooking attitude**¹ had significant, inverse, small to medium correlations with BMI.



¹ Negative Cooking Attitude is reverse scored; higher scores indicate a positive attitude toward cooking.

Interpretation

To some extent, BMI is predictable based on the measurement of cooking self-efficacy and attitudes and beliefs about obesity for American Indians.

Perceived benefits and cooking techniques and meal preparation self-efficacy were positively correlated with BMI.

- Recognizing the benefit of an action or having confidence to preform a task does not necessarily reduce the risk of disease.
- Supports the idea that increasing food knowledge is an ineffective strategy for reducing calorie consumption and obesity rates in ethnic minority populations (Babbitt, 2016; Becker et al., 1977; Chen et al., 2015; Ellison et al., 2013; Kiszko et al., 2014; Prestwich et al., 2014; Rekhy & McConchie 2014; Rosenstock et al., 1988; Swartz et al., 2011; Warren et al., 2015).

Health value and negative cooking attitude each had significant, inverse, small to medium correlations with BMI.

- Participants' BMI was lower when they highly valued their health and had a positive attitude toward cooking.
- Supports Szabo's (2012) research demonstrating the impact of affective states on health when cooking is viewed as enjoyable.

Limitations

Potential limitations:

- Nonprobability convenience sample
- Correlational research design
- Lack of effort- or attention-check survey items.
- Response and experimenter biases

Recommendations

Measure **food security** as a modifying variable of perceived health status

Assess **readiness and motivation** to change negative obesogenic behaviors in relation to perceived benefits of change

Conduct qualitative research to determine the **role of culture** on perceived health status in obesogenic environments

Social Change Implications

Clinicians, physicians, and tribal authorities could benefit from this study's findings to **implement community-based approaches** focused on leveraging socio-structural, demographic, environmental, and cultural factors that **modify perceptions of obesity on health and influence cooking attitudes** to reduce BMI and improve health equity within American Indian communities.

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