From MyPlate to McTeacher's Night: Communication about Nutrition in a Middle School

A Communication-Centered and Ecological Investigation

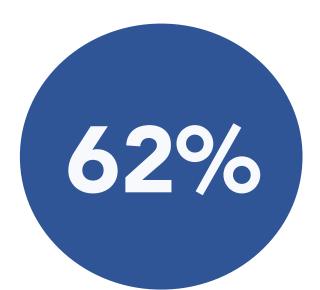


of teachers develop their own materials for teaching nutrition, yet most studies investigate the effectiveness of codified nutrition interventions.¹

The average number of hours spent on ____ nutrition education in middle schools:3

\$149 million

was spent on youth-directed food marketing in schools in 2009.4

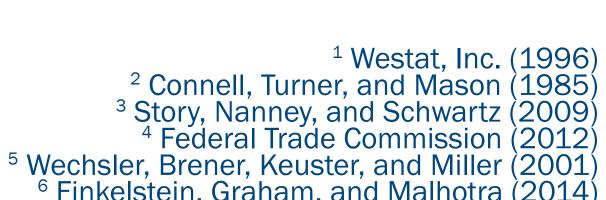


LEVELS OF NUTRITION INFLUENCE AMONG CHILDREN

of middle schools have at least one vending machine to purchase snacks or beverages; most school vending machines sell foods that are high in salt, fat, and sugar.⁵

The direct cost of childhood obesity, per child, is estimated to be:6

\$19,000



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BACKGROUND AND STATEMENT OF THE PROBLEM

Obesity in America has been on the rise for 20 years. Today, more than one-third of adults in this country and nearly one-fifth of children and youth are obese (CDC, 2012). Obesity is a significant issue in our society, costing an estimated \$147 billion in 2008 (Finkelstein, Trogdon, Cohen, & Dietz, 2009) – more than the cost of smoking at \$133 billion (American Cancer Society, 2015; Finkelstein, Brown, Wrage, Allaire, & Hoerger, 2010; Moriarty et al., 2012). In response to the growing issue of childhood obesity, public health officials and government agencies have called upon schools to support the health and wellness of our nation's children. U.S. children ages six to 17 spend nearly 33 hours each week in school (Swanbrow, 2004), making these prime spaces for addressing health promotion and disease prevention. Yet, most schools fail to meet the recommended hours for changing nutrition-related behaviors: 40-50 hours are suggested (Connell, Turner, & Mason, 1985), while most middle schools offer an average of 5 hours per year. Schools are also spaces where children are exposed to food marketing efforts, including those for competitive foods and promotions for Big Food. This study helps to provide an understanding of the complex intersection between food marketing and nutrition education in schools, the role of communication in this context, and the influence on seventh and eighth graders' nutrition-related attitudes and behaviors.

THEORETICAL FRAMEWORK

This study infused the social cognitive theory model with an ecological approach, allowing for the development of a conceptual framework that ensured social cognitive theory constructs like facilitators and impediments were considered from an ecological, rather than interpersonal, perspective. Communication theory and constructs were incorporated in this perspective, presenting the field with a broad approach to communication. Communication was considered to be structural, environmental, verbal, and nonverbal. In this sense, even food is a system of communication (Barthes, 2008).

Social cognitive theory is the most widely used theoretical framework for nutrition education design and evaluation (Hoelscher et al., 2002; Neumark-Sztainer et al., 2003; Sharma, 2011). This work supported the value of a comprehensive approach to social cognitive theory that includes evaluation of the interactions across environmental influences, investigating not only children's behavior, but the myriad of meditating factors that facilitate or impede that behavior on an environmental level. It also highlighted the value of extrapolating behavioral capability, also known as behavioral capacity, as a unique and specific construct that contributes to behavior change.

METHODOLOGY AND RESEARCH SITE

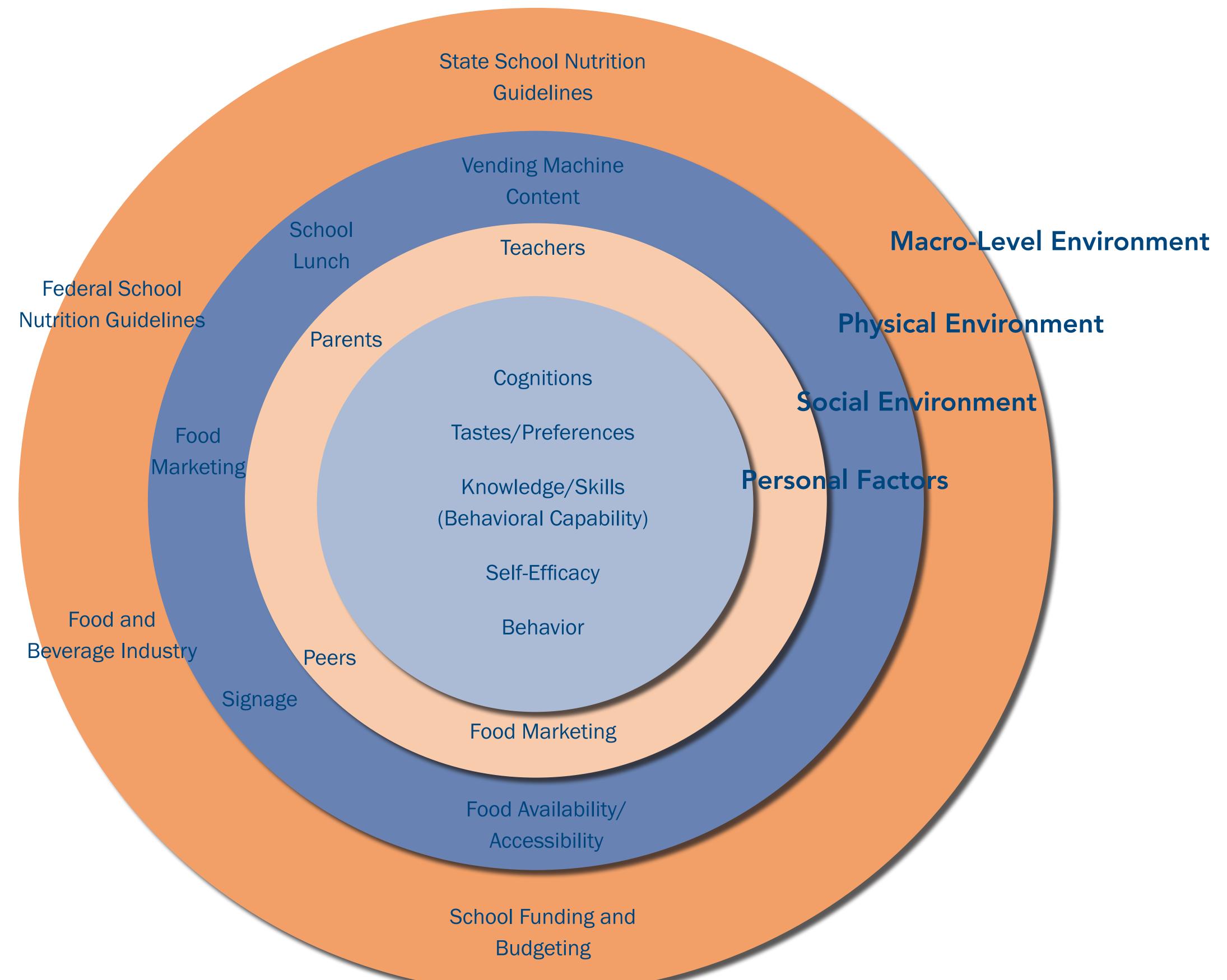
Research was conducted at a middle school in upstate New York. The study entailed a multi-method qualitative data collection approach:

- Focus groups with middle school students (n=28)
- Interviews with key informants: the Family and Consumer Sciences teacher and the school district superintendent (n=2)
- Participant observation of nutrition-related lessons in a Family and Consumer Sciences class

Qualitative data analysis was guided by practical grounded theory; coding completed with NVivo.

DATA SOURCES STUDENT PARTICIPANTS (N=28)		
Sex		
Male	44%	32%
Female	46%	68%
Race		
Nonwhite	27%	29%
White	73%	71%

KEY INFORMANTS (N=2) FIELD NOTES (33 OBSERVATION DAYS)



FINDINGS

The school physical environment was largely an impediment to the development of healthful nutrition attitudes and behaviors.

The school social environment largely helped to facilitate healthful nutrition behaviors.

Nutrition education did indeed influence children's self-reported nutrition-related attitudes and behaviors, largely through improvements in behavioral capability and self-efficacy that were generated through communication.

There was evidence that students who participated in nutrition education applied concepts from the class in their interpretation of food marketing messages.

"The school doesn't really care."

"I mean, ice cream vending machines?"

"The teacher told us that McDonald's food is the worst."

"Now, whenever I eat something, I took on the back to see what the main ingredient is, if it's good or

CONCLUSIONS

Both behavioral capacity and self-efficacy are linked to nutrition-related behavior change in children, contrary to research that posited self-efficacy was more influential than knowledge (Hall et al., 2015).

Environmental communication strategies, including messaging in social and physical environments, can serve to increase the effectiveness of classroom nutrition interventions, consistent with the conclusions drawn by previous researchers, e.g.: Bauer, Yang, and Austin (2004); Kubik, Lytle, Hannan, Perry, and Story (2003); and Neumark-Sztainer et al. (2003). Lack of consistency, such as the presence of vending machines with nonnutritious content, can undermine health promotion efforts.

The delivery of media literacy skills is consistent with the healthful intentions of nutrition education interventions, and it is not inconsistent to teach these skills in the context of nutrition behaviors. The data in my study supported research that claimed increased media literacy may improve eating habits (Godbold Kean et al., 2012).

The classroom provides opportunities for teachers to undermine communication inequalities (Viswanath, 2016) that exist between school districts and Big Food; and for teachers to serve as influential sources of nutrition education, contrary to research that concluded teachers were not perceived by students as being a helpful source of nutrition information that leads to nutrition-related behavior changes (Shepherd et al., 2006).

LIMITATIONS AND FUTURE RESEARCH

- Findings of this case study are not generalizable to other middle schools.
- A purely qualitative approach to the topic limited the opportunities for discovering causality; lack of a control group did not allow temporal and other biases to be accounted for.
- Focus groups with children can be particularly influenced by social desirability and social approval biases.

Despite the limitations of this study, the research contributes to understanding the ecological influences on children's nutrition-related attitudes and behaviors from a communication-centered perspective, and the findings offer directions for future research in the field.

- Distinguishing the differences between social cognitive theory's self-efficacy and behavioral capability constructs can help shape the delivery of nutrition education in schools, offering an understanding of the relationship between the two concepts. This research found that behavioral capability may be a prerequisite to self-efficacy, while other researchers have found self-efficacy is more of a relevant influence, despite behavioral capability.
- Mixed methods designs that incorporate participant observation as a qualitative methodology can help determine whether or not nutrition-related beliefs, attitudes, and behaviors are changed as a result of participation in a nutrition education class and to what degrees, as well as how those changes are prompted.
- Furthering the investigation of how students' nutrition behaviors are influenced by food marketing after participation in nutrition education can promote an increased understanding of the intersections of nutrition education, food marketing, and children's nutrition behaviors to help inform policies related to both food marketing and school-based nutrition intervention designs.