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Exploring Parental Perceptions of Self-Efficacy, Role Modeling and Factors Contributing to Family Health Practices from an Employer-Provided Family Weight Management Program: A Mixed Methods Study

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EXPLORING PARENTAL PERCEPTIONS OF SELF-EFFICACY, ROLE MODELING AND FACTORS CONTRIBUTING TO FAMILY HEALTH PRACTICES FROM AN EMPLOYER-PROVIDED FAMILY WEIGHT MANAGEMENT PROGRAM: A MIXED METHODS STUDY

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To: Dean Delia Garcia
College of Education

This dissertation, written by Kurt Edward Vargo, and entitled Exploring Parental Perceptions of Self-Efficacy, Role Modeling and Factors Contributing to Family Health Practices from an Employer-Provided Family Weight Management Program: A Mixed Methods Study, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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This dissertation of Kurt Edward Vargo is approved.

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DEDICATION

I am dedicating this dissertation to my family. Your encouragement and support the last several years during coursework and while I have been working on collecting and analyzing so much data has meant a great deal to me. I would like to share my sincerest appreciation and thank you to Lisa, my supporter, proof-reader, typist, sounding-board, reviewer, the person most likely to strangle me for creating an overabundance of stress, and whatever else I asked of you during my dissertation research. Your assistance cannot be measured and I am so grateful for everything you have done to help me through this voyage. And yes, we will be able to find and see the kitchen table, counters, chairs, stools, and whatever else my journal articles may have been covering as they were lying around the house. To my children, Christine and Nate, you make me want to be a better dad everyday and you have brought me so much joy to my life that words cannot describe. I hope that my journey will inspire you to reach for your dreams and know anything you want to accomplish is possible, anything. To my father and mother, thank you for being role models for me during my childhood. The things I learned and the person I have become is because of everything you have done and the examples you set. To my father, even though you can't be here to see the completion of this dissertation, your perseverance and life outlook during your battle with leukemia showed me the qualities that I hope I am able to display to the people around me. You were a true inspiration. And yes mother, I am beginning to see the light at the end of that long dissertation tunnel. Thank you to all of you, for your help, support, and encouragement.

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ABSTRACT OF DISSERTATION

EXPLORING PARENTAL PERCEPTIONS OF SELF-EFFICACY, ROLE MODELING AND FACTORS CONTRIBUTING TO FAMILY HEALTH PRACTICES FROM AN EMPLOYER-PROVIDED FAMILY WEIGHT MANAGEMENT PROGRAM: A MIXED METHODS STUDY

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Parents provide a social learning environment where family nutrition, eating habits and physical activity are largely influenced by and correlated with parental modeling of these behaviors. Increasing self-efficacy is an important component in parents being role models because theoretically, it promotes cognitive change that supports their confidence and ability to modify behaviors that contributes to healthier family practices and biometric outcomes.

Phase one of this sequential two-phase study used biometric data (body mass index [BMI], cholesterol, glucose, and blood pressure) from parents (N = 37) participating in their employer's family wellness initiative as dependent variables. Parental perceptions of nutrition, eating habits, and physical activity related to self-efficacy and role modeling collected via a survey questionnaire served as the independent variables. Correlation analysis indicated significant associations between BMI and nutrition self-efficacy, eating habits self-efficacy and eating habits role modeling. Linear

regression analysis showed that nutrition self-efficacy and eating habits role modeling were significant predictors of BMI. A repeated measures *t* test revealed statistically, attending the family health and weight management program may help participants reduce their BMI, cholesterol, and diastolic blood pressure readings.

Phase two used multiple cases (parents, $n = 12$) that were selected for interviews using purposeful sampling based on their scores reflecting high and low ranges on the self-efficacy and role modeling subscales from the surveys. Each interview was transcribed, coded using the constant comparative method, and individually analyzed for themes. Cross-case synthesis was used to analyze all the cases for commonality and variations. As a result of the findings, participants may be inclined to continue participating in wellness programs because the employer provides opportunities to assist families in their efforts to build confidence and demonstrate role modeling behaviors. The correlations and predictive results in phase one may help substantiate the benefits of participating in the program. Findings from phase two indicated parents acknowledged their role as leaders in creating environments that assist their families in establishing healthy behaviors and voluntarily engaged in this program because it provided assistance and projected them in the right direction for their family to be successful with health and weight management concerns.

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ABBREVIATIONS AND ACRONYMS

BMI	Body Mass Index
CDC	Centers for Disease Control
CITI	Collaborative Institutional Training Initiative
DL	Deciliter
FIU	Florida International University
FPL	Florida Power and Light
HDL	High-Density Lipoprotein
HIPPA	Health Insurance Portability and Accountability Act
HIPS	Health Information Privacy and Security
LDL	Low-Density Lipoprotein
MG	Milligrams
MLIC	Metropolitan Life Insurance Company
MMHG	Millimeters of Mercury
NIH	National Institutes of Health
QUAL	Qualitative
QUAN	Quantitative
ROI	Return on Investment
USDHHS	United States Department of Health and Human Services

CHAPTER I

INTRODUCTION

Background to the Problem

Over the past 30 years the overweight and obese status of Americans has escalated to epidemic proportions (Ogden, Carroll, Kit, & Flegal, 2012, Wang, Beydoun, Liang, Caballero, & Kumanyika, 2008). Currently, 65% of adults and 33% of children are considered obese or overweight equating to 156 million adults and about 25 million children, respectively (Ogden et al., 2012). Estimates suggest up to 86% of Americans will be overweight and 51% will be obese by 2030 if current trends continue (Wang et al., 2008).

The prevalence of obesity and overweight status of Americans has become an economic and public health concern. In the United States, organizations pay over one-fourth of health care costs and obesity related illnesses are estimated to be $190 billion annually, or almost 21% of total medical costs (Begley, 2012). Poor health of employees and their dependents can increase an organization's direct and indirect costs (Edington & Burton, 2003; Hammond & Levine, 2010; Pelletier, Boles & Lynch, 2004; Sepulveda, Tait, Zimmerman & Edington, 2010). Direct costs stem from medical claims, workers' compensation and disability benefits (Edington & Burton, 2003; Hammond & Levine, 2010; Pelletier et al., 2004). Indirect costs include employee absenteeism and presenteeism (Edington & Burton, 2003; Hammond & Levine, 2010; Pelletier et al., 2004). Presenteeism encompasses diminished on-the-job performance due to impairment by health risk factors, health problems, or work/life issues (Burton, Pranski, Conti, Chen, & Edington, 2004; Edington & Burton, 2003; Goetzel et al., 2004; Johns, 2009; Kessler,

Greenburg, Michaelson, Meneades, & Wang, 2001; Pelletier et al., 2004; Sepulveda, Tait et al., 2010). Presenteeism, when compared to other cost drivers, may be a significant liability for any organization (Burton et al., 2004; Edington & Burton, 2003; Goetzel et al., 2004; Kessler et al., 2001; Pelletier et al., 2004). Further, indirect costs can include the investment attached to hiring and training people to replace those who, because of health problems, can no longer perform their jobs (Pelletier et al., 2004). Productivity losses related to personal and family health problems cost U.S. employers $1,685 per employee/year, or $225.8 billion annually (Childress & Lindsey, 2006).

Proactive organizations are protecting their investments in human capital by making a healthy, productive workforce a core part of their organization by integrating health and wellness programs into cost effective business strategies (Edington, 2009; Edington & Burton, 2003; Loeppke et al., 2007). While building a comprehensive health and wellness program, organizations are using these strategies to reduce healthcare costs and find practical solutions by involving the employee's family in training and development programs (Prochaska, 2008; Pronk, Peek, & Goldstein, 2004). Employees account for about 30% of healthcare costs, while dependents account for the remaining 70% (Powell, 1999). A program that reaches only employees, and not their dependents, is going to limit reductions in health costs.

Social and environmental influences on obesity and overweight status. The causes of the obesity and overweight phenomena are complex and a range of social and environmental factors influence weight status of an individual (French, Story, & Jeffery, 2001; Golley, Hendrie, Slater & Corsini, 2010; O'Brien et al., 2007; Sallis & Owen, 2002; Twiddy, Wilson, Bryant, & Rudolf, 2012). Increases in the consumption of foods

with high caloric content and low nutritional value, prepackaged foods, fast foods (French, Lin, & Guthrie, 2003; French et al., 2001; O'Brien et al., 2007), soft drinks (Eaton et al., 2008; French et al., 2003; O'Brien et al., 2007; Reedy & Krebs-Smith, 2010; Van Lippevelde et al., 2013), and the passive over consumption of foods add to the current obesity epidemic (Ahmad, Ahmad, & Ahmad, 2010). The increasing sedentary nature of many forms of work, urbanization, and the changing forms of transportation has led to the decreased physical activity levels of Americans (Ahmad et al., 2010; Berkey et al., 2000; O'Brien et al., 2007). More than 50% of Americans are not physically active enough to achieve health benefits and 25% of adults report no leisure-time activity (Centers for Disease Control and Prevention, 2010). These improper dietary habits and sedentary lifestyles contribute to the overweight and obese status of Americans.

Children's eating habits and physical activity are largely influenced and correlated with family and parental modeling of behaviors (Davison & Birch, 2001; Draxten, Fulkerson, Friend, Flattum, & Schow, 2014; Golan & Crow, 2004; Ihmels, Welk, Eisenmann, & Nusser, 2009; Van Lippevelde et al., 2013; Welk, Wood, & Morss, 2003; Wright, Wilson, Griffin, & Evans, 2010). Eating patterns of children are substantially shaped by the home environment because almost 70% of calories and 80% of snacks consumed by 6-11 year olds are eaten in the home (Lin, Guthrie, & Frazao, 1999). Research shows that parental obesity increases the likelihood of their children being obese by two to five times (American Academy of Child and Adolescent Psychiatry, 2011; Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). While genetics may increase susceptibility and be a predictor of obesity and overweight status, interactions with environmental influences also contribute to factors affecting a child's weight status

(American Academy of Pediatrics, 2003). Parents have a considerable part to play by taking responsibility for their children's food environment and by serving as an active authority figure and role model (Draxten et al., 2014; Golan & Weizman, 2001; Kitzmann, Dalton, & Busceni, 2008; Rhee, 2008; Tinsley, Markey, Ericksen, Ortiz, & Kwasman, 2002; Van Lippevelde et al., 2013; Wright et al., 2010).

Role modeling is a parenting practice where parents can indirectly influence their children's health behaviors through their personal attitudes and actions that are observed by the child (Bandura, 1977a, 1986). Parents provide a major social learning environment where proper actions when dealing with or overcoming health issues can be demonstrated through modeling appropriate parental decisions and behaviors that may assist in establishing the environment in which eating and physical activity behaviors occur (Golan & Weizman, 2001). Parents have a significant influence on their child/children's health and wellness by creating opportunities for experimentation through social learning due to imitation and observation of the parents (Golan & Weizman, 2001). Modeling can enhance or diminish a child's understanding of health behaviors by the parent's social responses and through their engagement and adoption of nutrition, dietary, and physical activities which helps to develop children's attitudes, values, and preferences toward health and lifestyle behaviors (Draxten et al., 2014; Rhee, 2008; Van Lippevelde et al., 2013). Role modeling is also a resource used by children to develop their confidence to perform these behaviors (Bandura 1977a, 1986, 1997; Wright et al., 2010).

Confidence in one's ability to organize and master situations constitutes self-efficacy and is developed through mastery of experience, vicarious experience, social

persuasion, physiological and emotional status (Bandura, 1997). Increasing parental self-efficacy is an important component in parents being a role model for children, because self-efficacy promotes cognitive change that supports their ability to modify behaviors and the confidence to persist in the face of obstacles (Bandura, 1997; Golan & Weizman, 2001). Wellness interventions that assist individuals in developing their self-efficacy of healthy eating and physical activity may enable them to perceive fewer barriers and greater benefits from adopting more healthy behaviors (Lox, Martin-Ginis, & Petruzzello, 2010). Self-efficacy levels can increase with experience, success and rewards (Lox et al., 2010). Higher self-efficacy is associated with better adoption of behavior change, and is a key strategy to increasing specific health behaviors (Lox et al., 2010). Increasing levels of self-efficacy and positive outcome expectations can result in self-regulatory modifications that assist in maintaining health behaviors (Anderson-Bill, Winett, & Wojcik, 2011). Interventions may include specific dietary changes (e.g. reduction of calories from fat, increase in fruit and vegetable intake) or an increase in physical activity because high levels of self-efficacy could influence these behaviors and result in weight loss (Wingo et al., 2013).

The acquisition of health behavior knowledge may enhance self-efficacy and interventions promoting this knowledge enhancement have shown correlations between health behaviors, self-efficacy, and weight status (Gallagher, Jakicic, Napolitano, & Marcus, 2006; Linde, Rothman, Baldwin, & Jeffery, 2006; Wilson-Barlow, Hollins, & Clopton, 2014; Wiltink et al., 2007). A change in child health behaviors and weight status may be influenced by parental cognition and behavioral change, environmental changes, and role modeling (Golan & Weizman, 2001). As recommended by the

American Academy of Pediatrics (2003) "families should be educated and empowered through anticipatory guidance to recognize the impact they have on their children's development of lifelong habits of physical activity and nutritious eating (p. 427)." Consequently, improving parental self-efficacy may promote an opportunity to model responsible behavior and create a healthy environment which can help reverse tendencies that lead children to become overweight or obese.

Obesity and overweight related health risks. A general measure of overweight and obesity is the use of an individual's Body Mass Index (BMI). For adults, this index consists of weight, height, and gender to classify the status of an individual; for children BMI is a measure of body weight based upon gender, age, and height (Ihmels, Welk, Eisenmann, Nusser, & Myers, 2009; Centers for Disease Control and Prevention, 2014a; 2014b). Research and surveys have shown physical health problems associated with obesity include increased risk of diabetes and heart disease, increased blood pressure, elevated cholesterol levels, and other negative health consequences (Ahmad et al., 2010; Fagot-Campagna, Venkat-Narayn, & Imperatore, 2001; Freedman, Mei, Srinivason, Berenson, & Dietz, 2007; Harter & Agrawal, 2012; Merrill & Sloan, 2014; Wake et al., 2010).

These health risks/illnesses posed by obesity translates into significant direct and indirect costs to individuals, businesses, the economy, and society (Hammond & Levine, 2010; World Health Organization, 2008). The cost burden of treating obesity and related illnesses has the potential to be devastating to America's future. As a report brief from the Institute of Medicine (2012) states, "the staggering human and economic costs, along with the difficulties of treating obesity and the slow progress made in reversing national

obesity trends, underscore the urgent need to accelerate progress in obesity prevention (p. 1)."

Public health and organization initiatives on obesity and overweight. Healthy People 2010, an initiative set forth by the United States Department of Health and Human Services, developed guidelines for the improvement of American's health and wellness (United States Department of Health and Human Services, 2000). One of the goals is to improve levels of physical activity and dietary habits among adults and children (Linnan et al., 2008; United States Department of Health and Human Services, 2000). To help reach this goal, a recommendation to develop comprehensive wellness programming at organizational worksites, regardless of size or industry, was proposed. Healthy People 2020 expanded the recommendations of organizational health and wellness interventions by emphasizing an ecological approach to health promotion and disease prevention. This ecological approach recommends looking at multi-level determinates such as personal, social, economic, and environmental factors in the development of health and wellness programs (United States Department of Health and Human Services, 2011a).

Beyond the economic concerns, organizations are in a unique position and can play a critical role in fighting the obesity and overweight epidemic by helping families develop healthy lifestyles. Implementing interventions that are specific to each worksite and the diverse needs of families may help improve family health and weight status (Musich, McDonald, Hirschland, & Edington, 2003; University of Michigan Health Management Research Center, 2008). This may be achieved by providing employees access to educational materials, to employer-provided wellness programs, and to lifestyle coaching targeted and designed for families.

Problem Statement

Family health and weight management interventions have shown some evidence of success; however, research suggests no one approach may be more effective and factors that are related to parental connection, participation and involvement of familial health and weight management needs further investigation (Berry et al., 2014; Edwardson & Gorely, 2010; Golley et al., 2010; Twiddy et al., 2012; West, Sanders, Cleghorn, & Davies, 2010). While research in family health and wellness programs commonly examine relationships of role modeling and self-efficacy as predictors, determinates, and/or moderators of program effectiveness, many studies use quantitative analysis in the findings. Although significant, researchers have suggested that qualitative examination is needed to gain a more thorough understanding of family health and weight management issues (Luttikhuis et al., 2009; Twiddy et al., 2012). This is an important but often omitted step in family health and wellness research (Berge, Arikian, Doherty, & Neumark-Sztainer, 2012).

While generally situated and/or presented in school, community-based or governmental (e.g. park and recreation, and health) departments, employers are not typically identified as potential partners in offering family wellness programs even though evidence has shown organizational health and wellness interventions involving families can be effective in promoting healthy behaviors (Sepulveda, Lu, Sill, Young, & Edington, 2010; Sepulveda, Tait et al., 2010; Sorenson et al., 1999). A national worksite health promotion survey found only 6.9% of employers offered comprehensive worksite wellness programming and it often targeted only the employee in their health promotion efforts (Linnan et al., 2008). Weight management interventions targeting only one family

member may be unrealistic and detrimental if other members are exhibiting contradictory behaviors.

Organizational initiatives provide an opportunity to demonstrate the importance of creating a work environment that supports optimal employee and family health. Choosing appropriate interventions is a critical step in developing and delivering a results-oriented wellness program (Goetzel et al., 2007; Sepulveda, Lu et al., 2010; Sepulveda, Tait et al., 2010). The activities implemented in the wellness program should reflect the overall wellness goals, the interests of the employees and their dependents, and the major health risks that are prevalent within the specific population (Goetzel et al., 2007; Golley et al., 2010). Additionally, further research has been recommended for tailor-packaged family health and weight management programs that address the needs of specific populations in which they are implemented (Twiddy et al., 2012). Employer-based family wellness initiatives can serve as a foundation in developing these programs and may have the resources to help develop and address specific interests of their employees. Consequently, organizations can be an important source of influence on an employee's familial efforts to engage in health and weight management practices.

Recent public health policies and initiatives advocate, through the adoption of organizational policies and research, exploring and promoting practices and programs affecting the health of employees, employee's families, and the communities in which they are situated (American Medical Association, 2013; United States Department Health Human Services, 2011b). Further, it is recommended research should investigate programs where self-efficacy and role modeling factor into the complex environment of parent-child interactions and communications in health and weight management

programs (Berge et al., 2012; Draxten et al., 2014; Twiddy et al., 2012; Williams & French, 2011; Wingo et al., 2013).

Purpose of the Study

The aim of this study was to explore parental perceptions of self-efficacy, role modeling and factors considered important by parental participants that help contribute to positive family health practices from an employer-provided family wellness initiative in promoting health and weight management. The study used a two-phase mixed methods sequential design (Creswell, 2009). During the first phase, biometric and survey questionnaire (from parents) data that were collected by the organization as part of an employer-provided family weight management program was examined to look for relationships between parental perceived capability (self-efficacy) and role modeling of nutrition, eating habits, physical activity, and any correlations with biometric data of BMI, cholesterol, glucose and blood pressure. During the second qualitative phase, program documents were reviewed and semi-structured interviews were conducted with parental participants (informants) to explore their personal experiences with self-efficacy and role modeling of family health and weight management issues and their views with factors that help contribute to positive family health practices. Multiple cases, from within the employer-provided family wellness program, were selected using purposeful sampling to probe and gain a better understanding of the quantitative results and the parents' perspectives.

Research Questions

For the first, quantitative phase of the study, the research questions are:

1. What is the relation between parental perceived capability (self-efficacy) of weight management factors (i.e., nutrition, eating habits, and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure?
2. What is the relation between parental role modeling of weight management behaviors (i.e., nutrition, eating habits, and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure?

For the second, qualitative phase of the study, the research questions are:

3. What factors are considered important by parental participants that help contribute to positive family health practices in an employer-provided family health and weight management program?
    a. How do parental participants view their perceived capability (self-efficacy) for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity?
    b. How do parental participants view their use of role modeling for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity?

Conceptual Framework

The research in this study was informed by Social Ecological Theory (Bronfenbrenner, 1979; McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1992, 1996) and Social Cognitive Theory (Bandura, 1977a, 1986, 1997). These theories emphasize the importance of interactions between people and their environments and the connections and linkages between the workplace and other influential areas such as social, institutional, and cultural contexts within peoples' lives. The social ecological

paradigm has its foundation in these core principles and themes (Stokols, 1992, 1996) and social cognitive theory looks at cognition and environmental factors to explain human behaviors (Bandura, 1986, 1997).

Social ecological theory. The core theoretical foundations of social ecological theory were developed by Urie Bronfenbrenner (1979) in his seminal work *The Ecology of Human Development*. Social ecology is a framework that assists in understanding human development and behavior where an individual's choices and transactions are influenced by multiple relationships within physical and sociocultural environments (Bronfenbrenner, 1979). These relationships revolve around both proximal and distal environments in conjunction with cultural and personal influences that may be exerted on an individual in determining behavioral choices and actions. These interrelationships serve as determinants and each can have multi-level impacts on behavior and imply a reciprocal causation between the individual and the environment.

Advancing the work of Bronfenbrenner, McLeroy et al. (1988) proposed emphasizing five levels of influence in health promotion: intrapersonal, interpersonal, institutional, community, and public policy. They recommended that *intrapersonal* wellness interventions use strategies such as educational programs and support groups. Targets of these interventions should include consideration of an individual's characteristics including knowledge, attitudes, skills, or intentions. *Interpersonal* wellness interventions apply strategies focusing on changing an individual's behavior and attitudes through social influence, recognizing that these relationships are essential aspects of social identity. *Institutionally*, worksite wellness interventions provide opportunities to change organizational culture by strategically using wellness to be

valued as part of the organizational ideology. The use of incentives, building social support structures and garnering upper management buy-in should be used to promote behavioral change. These types of leverage points can exert influence on wellness efforts (Stokols, Pelletier & Fielding, 1996). The *community* level provides opportunities to include members from disadvantaged populations whereas the *public policy* level provides opportunities for organizations to adopt policies that strengthen their ability to meet the needs of members by increasing awareness of specific health and wellness issues. Together, these levels could serve as interdependent determinants to better understand health related behaviors and interventions that may be appropriate at each level (McLeroy et al., 1988).

Social cognitive theory. Social cognitive theory (Bandura (1977a, 1986, 1997) is a paradigm explaining human behavior through cognition and environmental factors. Cognition is the mental process used in gaining knowledge and comprehension of ideas with the ability of thought to use these ideas for future actions. The capability of thought supersedes a mere reaction to the environment and the acquisition of knowledge is obtained in many ways. Individuals can learn by watching other people act or observing what happens and then imitating the behavior. Individuals can also learn behavior from reading or having something explained to them. This type of learning is called observational learning; it occurs without external reinforcement or without even performing the behavior. Any resulting behavior consists of internal motivational thought processes while intertwining with the environment in a complex causal network. Within the social cognitive theory framework the concept of reciprocal interaction or reciprocal determinism recognizes that the individual, the environment, and behavior

influence one another. Each of the factors can serve as determinants of each other and studying their interaction may provide a more comprehensive understanding of how people learn and their behaviors.

The perceived capability of an individual to organize and execute courses of action required to manage prospective situations is identified as self-efficacy (Bandura, 1986, 1997). Efficacy beliefs influence how people think, feel, motivate themselves, and act (Bandura, 1986, 1997). Thus, confidence in one's ability to organize and master situations constitutes self-efficacy. Self-efficacy is developed through mastery of experience, vicarious experience, social persuasion, physiological and emotional status (Bandura, 1997). The achievement of successful performance requires that individuals develop and experientially test various behaviors and strategies over time (Bandura, 1997). Those individuals who are higher in self-efficacy are more likely to persist in an endeavor, while those who lack belief in their ability to be successful will abandon the challenge (Bandura, 1997). Stronger self-efficacy beliefs lead to more systematic approaches to problem-solving and greater persistence in attempts to formulate decisions that guide effective performance (Bandura, 1997; Gibson, 2004).

Definitions

Absenteeism – refers to the occurrence of a failure to appear or absence from work (Johns 2009).

Employer-provided family health and weight management program – for this study, it is operationally defined as an organizational health and wellness initiative created to improve the health of employees and their families. The premise of this program is that to be successful in managing overweight and obesity within families, the

issue(s) needs to be addressed as a family. The program provides educational material on nutrition, eating habits, physical activity, and parental role modeling with special emphasis on addressing overweight and obese dependents of employees between the ages of eight (8) and twelve (12) years.

Exercise – a subcategory of physical activity that is planned, structured, repetitive, and purposive in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Exercise generally refers to physical activity performed during leisure time with the primary purpose of improving or maintaining physical fitness, physical performance, or health (Caspersen, Powell, & Christenson, 1985).

Fitness – is the state or condition of being physically sound and healthy, especially as the result of exercise and proper nutrition. It can be a state of general mental and physical wellness (Caspersen, Powell, & Christenson, 1985).

Health – a human condition with physical, social, and psychological dimensions. Positive health is associated with a capacity to enjoy life and to withstand challenges; it is not merely the absence of disease. Negative health is associated with illness, and in the extreme, premature death (Harris, 2010).

Motivation – is operationally defined as the internal and external force(s) that drives individuals to accomplish personal health and wellness goals.

Parental role modeling – operationally defined as a process of observational learning in which the behavior of the parent acts as a stimulus for similar behavior in his/her child (Tibbs et al., 2001)

Physical activity – any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level, generally referring to activities that enhance health (Caspersen, Powell, & Christenson, 1985) .

Presenteeism – refers to diminished on-the-job performance due to impairment by health risk factors, health problems, or work/life issues (Johns 2009).

Self-efficacy - the belief in the ability to succeed in certain situations, in other words, a perceived capability. A sense of self-efficacy has a major influence on the approach to challenges and goals (Bandura, 1997).

Wellness – is a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being. It is the condition of good physical, mental and emotional health, especially when maintained by appropriate diet, exercise, and other lifestyle modifications (National Wellness Institute 2014).

Worksite – operationally defined as those settings in which one or more individuals engage in job-related tasks, including offices, facilities, or vehicles controlled by an employer.

Delimitations

The study will be confined to the specific context of participants from an employer-based family health and weight management program. Participants' responses will be reflections and self-assessments, which will be confined to their personal experiences with, and perspectives of, self-efficacy and role modeling of family health and wellness issues. The study will provide a viewpoint from the parents of child/children participants only - excluding other constituents internal and external to the program.

Limitations

Although the study provides an opportunity to explore parental perceptions of self-efficacy, role modeling and factors contributing to family health practices from an employer-provided family wellness initiative does have limitations. Exploring these factors within a specific healthcare organization may not be representative of the general population. Reviewers should use caution interpreting and generalizing the findings to other types of organizations (e.g. private, public sector, non-healthcare organizations). Because it is possible that the effects of the health and wellness intervention program will diminish over time, health effects may not be enduring in future years.

The researcher is using a secondary data source for the quantitative phase of the study and consequently had no reliability or validity measures prior to the survey questionnaire being distributed. Additionally, the biometric readings were conducted without the researcher having direct involvement in the collection of this data. Consequently, the researcher is reliant upon the organizations' wellness staff for the accuracy of this information. Self-report questionnaires used in the program could lead to self-report and social expectancy bias (Donaldson & Grant-Vallone, 2002; Moorman & Podsakoff, 1992; Podsakoff & Organ, 1986). In the quantitative phase of the study there is a potential risk of non-response error, for example, problems caused by differences between those who responded and those who did not in the event of low response rate (Hunter & Schmidt, 2004). Due to the interpretive nature of qualitative research, data obtained in the second phase may be subject to various interpretations by different readers.

Significance of the Study

This research may be of interest to decision-makers and designers of organizational health and wellness programs who may be considering implementing or modifying workplace initiatives with the adoption of organizational policies that support changes to social and environmental conditions impacting a person's health and wellness. The mixed methods design yields valuable additional results and provides a deeper understanding of familial health and weight management concerns by exploring the parents' perspectives of self-efficacy and role modeling that affect family health and weight management issues and their relationship to nutrition, eating habits, and physical activity.

Findings of this study help to understand the learning and environmental conditions that impact program goals and help meet the needs of participants. Designers and implementers of wellness programs that use theoretical perspectives of learning concepts may want to consider approaching the planning process with the understanding that there are many determinants that affect program success. In practice, organizations may have an influence on both physical and social determinants of health and wellness. This may be accomplished through the adoption of organizational policies that explore and promote practices and programs affecting the health of employees and their families. The allocation of organizational resources may be used in the development of educational programs and maximize opportunities for collaboration with individuals to make choices that lead to good health. This complementary role by organizations may lead to the establishment of common goals and may serve as a determinant of health by participating in wellness programs and building constructive relationships for the enhancement of

quality-of-life and health outcomes. Establishing policies that support positive changes in an individual's behavior and by creating and influencing social and environmental conditions impacting a person's health and wellness, organizations have the opportunity to play a critical role as a determinate of health and wellness of their employees and their families.

Researchers may find the study's outcomes useful as a resource when investigating organizations as the provider of family health and weight management approaches. Knowledge and understanding of the family, particularly parental self-efficacy and role modeling that affect family health and weight management issues and their relationship to nutrition, eating habits, and physical activity may be of value in other studies. This study may be significant in contributing to the development of future research and program enhancements of organizational health and wellness programs. Organizations that explore, support, and promote practices and programs affecting the health of employees and their families may look at this program as a potential model for implementation.

Because this study uses theoretical concepts that explore the importance of interactions between people and their environments, results may lend support for designing components into family wellness programs that are theoretically-based. Social ecology and social learning theories may allow for the integration of various models for the examination of both individual and aggregate manifestations of health and wellness programs and the impact of the interventions. Findings from the study may help in understanding these theoretically-based models and could suggest multiple levels of influence on family nutrition, dietary habits and physical activity which may help inform

theories of the complex interplay of experiences between the personal, organizational, environmental, and cultural factors in determining the success of an employer-provided wellness program.

Organization of the Study

Chapter I provided a background of the problem for the research with an introduction to the purpose, research questions, and the theoretical conceptual framework that informed the study. Delimitations, definitions, and the significance of the study were also discussed. Chapter II presents a literature review of previous research and Chapter III illustrates the methods used in this study. Chapter IV presents the findings and results. Chapter V provides a discussion of the findings and recommendations for organizations considering providing family health and weight management programs.

CHAPTER II

LITERATURE REVIEW

Societal Overweight, Obesity, and Wellness Perspectives

This section of the literature review looks at overweight and obesity from a historical perspective that shows a societal point-of-view that has oscillated over time. Information is presented as to how the overweight/obesity phenomenon has come to be considered a public health concern and how the creation of these classifications has developed. The section ends with a discussion on the definition of wellness and how it may impact human functioning.

Historical View

The human condition of overweight and obesity is not new. What has fluctuated and changed is the way society has perceived and looked at the pervasiveness of this condition. Throughout time, overweight and obesity has been depicted as both a desirable state and an unhealthy condition that should be avoided (Wolin & Petrelli, 2009). As far back as the ancient Paleolithic era, artifacts depict figurines that would be considered obese by today's standards. For example, the figurine of Venus of Willendorf represents an obese woman that signifies fertility and a bountiful harvest (Stern & Kazaks, 2009). The ancient Egyptians recognized obesity as a condition that needed treatment. Hippocrates, known as the father of medicine, wrote that risks associated with obesity included infertility, sleep disruptions, and mortality (Wolin & Petrelli, 2009). He also noted that overweight/obese people were more prone to death than thin people (Stern & Kazaks, 2009).

Over the centuries, attitudes, opinions and perceptions have oscillated and various viewpoints have been presented to help understand the prevalence of the overweight and obesity phenomena. The early thoughts of obesity in America were highly influenced by the puritanical religious philosophy that God intended the body to be perfect. Gluttony, an overindulgent eating practice, was viewed as a deadly sin and many religious perspectives connected morality and obesity (Luciano, 2001, Whorton, 1982). An individual's failure to achieve this ideal is the fault of the individual who must take responsibility and work for their body's vitality through diet and exercise (Whorton, 1982).

Conversely, in 19th century America, while people who were overweight and obese were sometimes linked with disease and a shorter life span, they were also viewed as being related to health, wealth, and attractiveness (Wolin & Petrelli, 2009). Many attitudes or thoughts of abstaining from food or drink did not receive a lot of emphasis, so dieting seemed abnormal for the time. Simultaneously, some health reformists viewed gluttons as greedy and excessive and promoted a lifestyle of health through resilience and denying excessive abundance (Wolin & Petrelli, 2009). For example, Grahamites, named after the health reformer Sylvester Graham, promoted a healthy diet and balanced appetite through the consumption of fruit, vegetables, and wheat bread they claimed left them feeling invigorated both spiritually and physically (Stern & Kazaks, 2009). Their goal was not necessarily to be thin or thinner but to be vigorous in their lifestyles.

During the early and mid-20th century in America, a proliferation of various dieting plans and treatments were promoted and the belief that an individual should have control of their weight was generated. Americans were influenced by media standards

(magazines, movies, etc.) for body appearance and ideal body weight. One of the catalysts behind the creation of ideal body weights were the life insurance companies (Stern & Kazaks, 2009). For example, New York Life Insurance examined data of 1,553 male policy holders considered at least 30% overweight and reported that the men had a 34.5% higher mortality rate than men of average weight (Wolin & Petrelli, 2009). However, ambiguity and the subjectivity of overweight status led to the need to create definitions and ways of measuring for classification based on an individual's age or build.

Another study by Metropolitan Life Insurance Company (MLIC) looked at 4 million policy holders and categorized them according to their height, weight and body frame size (small, medium, and large) (MLIC, 1942, 1943). It was reported that people who maintained their body weight at the average for 25 year olds, were found to have a longer lifespan (MLIC, 1942, 1943). This resulted in height-weight tables for men and women based on national averages of weight in relation to age, sex and height. The tables were published by Met Life and were called the "1942-1943 Metropolitan Height and Weight Tables" and were used widely for determining ideal body weights (MLIC, 1943). As a result of the use of the tables, MLIC found that the overweight US population is so common that it constituted a national health problem (MLIC, 1943).

In examining the mortality rates of policy holders from 1935-1954 it was determined that the lowest mortality was associated with lower-than-average weights (MLIC, 1959). As a result, the phrase "ideal weight" was replaced with "desirable weight" in the height and weight tables (MLIC, 1959). One criticism of the tables was that it did not necessarily account for heavier people living longer, or the lowest rate of illness or disease but simply the death rate. Consequently, the tables were revised again

by increasing the range of weights and were simply called “Height and Weight Tables” (MLIC, 1983).

The early creation of weight classifications were primarily spearheaded by the life insurance companies, and not by academic or medical experts (Stern & Kazaks 2009). Subsequently, due to the pervasiveness of the overweight and obesity epidemic in the United States, academic and medical research has flourished and as a result, factors that contribute to this condition have been explored. In fact, several organizations with an interest in obesity related issues have addressed and recognized obesity as a disease. These include: the National Institutes of Health, Social Security Administration, Centers for Medicare and Medicaid Services, The Obesity Society, American Association for Clinical Endocrinology, World Health Organization, Food and Drug Administration, and the Internal Revenue Service (American Medical Association 2013; American Society for Metabolic and Bariatric Surgery 2013; Stern & Kazaks, 2009). One reason this recognition was brought about is that research found obesity resulted from multiple causes and biochemical changes occurring in humans due to responses in environmental, food, and activity factors (American Society for Metabolic and Bariatric Surgery, 2013; Stern & Kazaks, 2009).

Most recently, the American Medical Association at its 2013 annual meeting adopted a policy recognizing obesity as a disease along with the complexities that will be required in prevention and treatment approaches (American Medical Association, 2013). One part of this policy asks for collaboration by organizations in the development and creation of family-oriented health and wellness programs identifying appropriate diet, nutrition, and physical activity education with desired weight management in the

treatment and prevention of the obesity epidemic (American Medical Association, 2013). Accordingly, from a societal perspective, employer-provided programs that address and incorporate these elements in their sponsored health and wellness programs promote a healthy lifestyle not only for employees but their families as well.

Wellness Defined

In 1947, health, in terms of wellness, was defined as an individual's "physical, mental, and social well-being, not merely the absence of disease" (World Health Organization, 1958, p. 1). Halbert L. Dunn in 1961, who is widely credited as being the "architect" of the modern wellness movement, defined wellness as "an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable" (p. 4). He saw wellness as a lifestyle approach for pursuing elevated states of physical and psychological well-being (Dunn, 1961). Anspaugh, Hunter, & Mosley (1995) contributed their perspective, stating, "Wellness is a composite of physical, emotional, spiritual, intellectual, occupational and social health; health promotion is the means to achieve wellness. Difficulty functioning in any of these areas has a negative impact on the others" (p. 206). Current wellness definitions look at individuals from a holistic perspective by considering wellness through lifestyle, mental, spiritual, and environmental dimensions. Consequently, people use these dimensions in an interactive process to become aware of, and make choices toward, a more successful existence (National Wellness Institute, 2014).

The Rise and Importance of Organizational Wellness Programs

This section begins with a historical perspective on organizational wellness programs including their intent, structure and expectations. Next, is a discussion on the

components of organizational wellness programs based on recommendations from public health initiatives. Information on organizational wellness programs as a business strategy and its impact on an organizations performance/productivity and outcome opportunities is presented.

Historical Perspective

Today's organizational wellness programs stem from executive fitness programs that were created in the years after World War II (Chenoweth, 2007). These wellness programs, initiated by business leaders, were typically restricted to upper management and therefore had little influence on health behaviors or healthcare provisions of most employees (Chenoweth, 2007; Pronk, 2009). Historically, early organizational wellness programs were characterized as "fun-oriented" and participation was voluntary, and there was no particular focus on the reduction of identified high-risk health factors (Chapman, 2007a). Interventions and activities were not customized and lacked options to address the major behavioral-related health risks and multimodal presentation (Chapman, 2007a). These programs were relatively basic and ordinarily produced a return-on-investment (ROI) of less than $1.00 for every dollar spent operating the program and typically lacked meaningful evaluation (Chapman, 2007a).

Subsequently, organizations adopted more conventional wellness programs which were "activity-oriented" (Chapman, 2007a). These wellness programs had greater emphasis on health and risk reduction, although the efforts were relatively broad and not personalized. They contained some generalized emphasis on health cost management, although not necessarily aimed at specific high-risk health factors (Chapman, 2007a). Modest incentives were utilized to encourage participation and formal evaluation was

generally weak. For every dollar invested in these programs the result was a $2.50 to $3.50 return (Chapman, 2007a).

Organizations currently approach wellness programs from a cost-benefit perspective that are "results-oriented" and exemplify a health and productivity management model (Chapman, 2007a). Goetzel et al. (2007) state that this model features incentives that are consistent with an organization's mission, goals and operations while simultaneously operating at multiple levels addressing individual, environmental, policy, and cultural factors in an organization. Targeting the most important healthcare issues and engaging and tailoring diverse components to the unique needs and concerns of individuals is of primary consideration (Goetzel et al., 2007; Mills, Kessler, Cooper, & Sullivan, 2007). Achieving high rates of engaged participation and reaching successful health outcomes while creating cost savings and meeting organizational objectives is a priority (Goetzel et al., 2007). These wellness programs are strongly focused on the reduction of identified high risk health factors and the management of healthcare costs (Chapman, 2007a). They are generally voluntary, but use financial and other incentives to promote participation. These programs are multi-component in nature addressing all major risks and interventions are highly targeted and individualized (Goetzel et al., 2007). They offer various modalities of operation and evaluation of the programs are frequently completed and reviewed based on clear definitions of success (Chapman, 2007a; Goetzel et al., 2007). For every dollar invested, these programs have typically averaged a $5.81 return (Chapman, 2005).

From the early days of executive fitness programs to today's multi-faceted wellness programs, support of worksite health has been tied to the fiscal health of an

organization (Prochaska, 2008). Organizations focus on the prevention screening process and the management of chronic conditions. Part of the solution is to implement programs that improve multiple behavioral risk factors of employees and their families (Prochaska, 2008; Pronk, Peek et al., 2004).

Organizational Wellness – Components of Worksite Initiatives

Organizational wellness programs provide an opportunity to support people's efforts to improve health and wellness and impact performance. Because poor health and wellness reduces productivity and increases health care costs, employers are becoming more aware of the need to address risk factors through workplace initiatives (Anderson, et.al. 2009, Thorpe, Florence, Howard & Joski, 2004). Healthy People 2010, initiatives set forth by the United States Department of Health and Human Services (USDHHS), were developed to provide guidelines for the improvement of Americans health and well-being over the first decade of the 21st century. One of the goals of Healthy People 2010 was for 75% of all worksites, regardless of size or industry, to develop comprehensive wellness programming (United States Department of Health and Human Services, 2000). Comprehensive wellness programming was defined as those programs that incorporated all of the five key elements outlined in Healthy People 2010: health education, support of social and physical work environments, integration, linkage, worksite screening and education (United States Department of Health and Human Services, 2000). *Health education* includes skill development and lifestyle behavior change, along with information dissemination and awareness building. *Supportive social and physical work environments* involve reinforcing healthy behaviors and implementing policies promoting health and reduced risk of disease. The *integration* of the wellness program into the

organizations structure and *linking/connecting* it to related programs (e.g. employee assistance programs) in conjunction with *screening and education* that are linked to appropriate medical care are essential components (Linnan et al., 2008, United States Department of Health and Human Services, 2000). Healthy People 2020 expanded the recommendations of organizational health and wellness interventions by emphasizing an ecological approach for health promotion and disease prevention. This ecological approach recommends looking at multi-level determinates such as personal, social, economic and environmental factors in the development of health and wellness programs (United States Department of Health and Human Services, 2011a).

Organizational Wellness Programs - A Business Strategy

Employees and their family's physical health can create a competitive problem for American organizations. Many Americans lead lifestyles that undermine their health, increasing employer costs and decreasing productivity (Edington, 2009; Edington & Burton, 2003). Organizations are engaging in wellness programs to improve the health of their workforce and reduce healthcare costs (Goetzel et al., 2010; Golaszewski, 2000). Offering wellness programs may be an efficient strategy in promoting health and wellness (Dishman, Oldenburg, O'Neal, & Shephard, 1998; Engbers, van Poppel, Paw & van Mechelen, 2005; Goetzel et al., 2010; Proper et al., 2003). Although comprehensive efforts to lower the risk status of those in moderate or high-risk categories should be made, the needs of currently healthy workers must be addressed as well to avoid increases in risk status (Edington & Burton, 2003; Merrill & Sloan 2014; Musich et al., 2003). As healthcare costs continue to escalate, the demand for wellness programs that

improve worker and their dependents health and provide a positive ROI is paramount (Goetzel & Ozminkowski, 2008).

The key for wellness programs is translating strategic and operational priorities into opportunities for wellness. Strategic planning for wellness creates a culture shift and a positive, healthy environment where employees like to work (Bryson, 2004; Edington, 2009; Loeppke et al., 2007). When employees know that their employer cares about their health and wellbeing it creates this culture shift. Developing and maintaining a culture of health is important as organizations are aligning employee and their dependents health with the business goals of the organization (Loeppke et al., 2007; Wellness Council of America, 2014a, 2014b). As such, a culture of wellness integrates such factors as norms, policies, benefits, and health promotion programs to reinforce positive health practices (Worksite Health International, 2011). This integrated approach focuses on engaging employees and being responsive to employees' interests (Goetzel et al., 2007). Organizations may create new wellness and health promotion strategies or adapt, modify or customize strategies to the demographics and health status of their workforce, available resources, or other factors (Green, 2006). Leaders of organizations view wellness programs as an investment in an organization's human capital recognizing that the health of an employee and their dependents is interdependent with the total health and productivity of the organization (Goetzel et al., 2007).

Organizational wellness programs have often been considered an attractive fringe benefit. A well designed and operational wellness program can be strategically important to an organization (Loeppke et al., 2007). The best programs improve the health and wellness of employees and their dependents which, in turn, contribute to lower healthcare

spending, improved productivity, and stronger organizational culture (Loeppke et al., 2007). Wellness initiatives are good for employees and the organization because healthier organizations deliver healthier performances (Berry, Mirabito, & Baun, 2010). Organizations are challenged to strategically invest in programs that have the greatest total value by lowering health risk, managing disease, and helping employees be more engaged in their work (Loeppke et al., 2007). Developing an organizational strategy for wellness programs makes sense by ensuring a strategic, integrated, needs-driven and outcome-oriented approach (Goetzel et al., 2007; Loeppke et al., 2007; O'Donnell, 2002). As a consequence, organizations attempt to manage costs and help develop employees through wellness education and reductions in absenteeism, disability, and presenteeism (Mahoney & Hom, 2006).

Pragmatically, organizations interested in improving the performance of their employees have a need to identify, understand, and target the aspects of wellness potentially leading to productivity loss (Hammond & Levine 2010; Stewart, Ricci, Chee, & Morganstein 2003). Performance enhancement to reduce this productivity loss can occur through the implementation of organizational members training and development through wellness programs (Stewart et al., 2003). Generally, training and development programs expand the capabilities of individuals so they will be able to perform many organizational roles effectively (Wilson, 2005). Development programs represent long-term investments and allow individuals to grow and change with the organization to benefit both (Wilson, 2005). Organizations obtain much-needed flexibility, whereas individuals benefit from personal growth and enhanced motivation (Wilson, 2005). Wellness training and development programs can significantly enhance an organizations'

effectiveness and can play an important role in building individual competence and commitment by addressing important individual needs (Wilson, 2005).

Organizational Wellness Programs – Performance/Productivity

Employee performance and productivity are core components of an organizations ability to be successful; as performance/productivity declines, organizations struggle to maintain profitability and growth (Collins et al., 2005). It is important to be aware of how direct and indirect costs impact an organization's health and performance. Research has documented that the indirect cost (i.e., absenteeism, and presenteeism) of poor health can be two to three times the direct medical cost (Boles, Pelletier, & Lynch, 2004; Burton et al., 2004; Edington & Burton, 2003; Goetzel et al., 2004). Research has also linked poor health status to lower work output (i.e., presenteeism); higher rates of disability, absenteeism, rates of injury, and more workers' compensation claims (Burton, Conti, Chen, & Edington, 1999; Goetzel et al., 1998; Hammond & Levine 2010; Musich et al., 2003; Wright et al., 2010).

While earlier research has shown that absenteeism has a substantial negative impact on organizational performance (Harrison & Martocchio, 1998), more recent studies suggest that unproductive workers who are present at work may have a more dramatic impact on costs (Collins et al., 2005; Hammond & Levine 2010). Interest in presenteeism research stems from the idea that solving the presenteeism/performance problem results in considerable savings and can serve as a competitive advantage for organizations (Hemp, 2004; Johns, 2009). One national survey estimated that sickness presenteeism costs organizations more than $150 billion annually and accounts for 71% of the total costs of lost productivity (Stewart et al., 2003). Costs associated with

performance-based work loss or presenteeism can greatly exceed the cost of absenteeism and medical treatment combined (Edington & Burton, 2003; Collins et al., 2005; Hammond & Levine, 2010). Further, total productivity loss, accounting for both health-related presenteeism and absenteeism, costs organizations three times what they pay for pharmacy and medical claims (Edington & Burton, 2003).

A literature review of 80 studies showed that presenteeism was at least as important as absenteeism to the relationship between health and productivity (Schultz, Chin, & Edington, 2009). In one study, every risk decreased through a wellness program, yielding a 9% reduction in presenteeism and a 2% reduction in absenteeism (Pelletier et al., 2004). Another study revealed that job impairment (i.e. presenteeism) represented 18% to 60% of the total health related costs for prevalent health conditions (Goetzel et al., 2004).

The effect of body mass index (BMI) has shown to be an important concern in an organization's productivity and health costs. Study findings indicate that overweight and/or obese employees can cost billions of dollars in additional healthcare costs (Goetzel & Ozminkowski, 2008). Each year over $40 billion in medical costs and lost productivity could be attributed to poor nutrition (Gates, Succop, Brehm, Gillespie, & Sommers, 2008). One study found that obese employees spend 77% more on medications than non-obese employees and 72% of those claims were for preventable health conditions (Sabin, 2006). Another study showed that for each unit increase of BMI (25-45) there is a 4% increase in medical costs and a 7% increase in pharmaceutical costs (Wang et al., 2006). Research findings demonstrated that individuals with moderate (≥ 30) to extreme (≥ 40) BMI experienced a 4.2% loss in productivity due to weight

related health problems (Gates et al., 2008). Once employees cross the BMI threshold of 35, presenteeism increases significantly (Gates et al., 2008).

Participation in an organization's wellness program has been shown to influence employees' self-rated productivity and performance. Mills et al. (2007) found that participation in organizational worksite wellness health promotion programs were related not only to decreased sick leave but also to higher self-rated performance, in effect, reduced presenteeism. Another study reported that improvements in employee health were related to increased self-rated productivity (Lenneman, Schwartz, Giuseffi, & Wang, 2011). Similarly, Pelletier et al. (2004) showed that employees who improved their self-rated health risk status had concurrent increases in self-rated productivity (in terms of combined measure of both absenteeism and presenteeism).

The results of Parks and Steelman's (2008) meta-analysis illustrated a correlation between employees who participated in an organizational wellness program and absenteeism rates: absenteeism decreased with wellness program participation. Participants in wellness programs also experienced greater job satisfaction (Parks & Steelman, 2008). In addition, other contributors should be considered as potential sources of productivity loss, such as an individual's home and personal life as a source of reduced functioning (Allen, Herst, Bruck, & Sutton, 2000). Demands at home, such as caring for dependents and financial worries, have been shown to lead to reduced performance in a person's work role (Allen et at., 2000; Altman & Akdere, 2008; Ayoko, Callen, & Hartel, 2003). By increasing wellness programs in the workplace, organizations can improve job performance and employee health (Pronk, Martison et al., 2004). Organizations could view employee wellness as a human capital development and

productivity strategy rather than strictly an exercise in healthcare cost management. Studies have shown that health and productivity are inextricably linked and that a healthy workforce leads to a healthy organizational bottom line (Loeppke et al., 2007).

Organizational Wellness Programs – Outcomes

Wellness programs are not limited to cost containment. They have the potential to lend themselves to team building, improving morale, job satisfaction and consequently, productivity (Aldana, 2001; Chapman, 2005; 2006; 2007b; Parks & Steelman, 2008). Leaders of organizations can gain a sense of when employees are satisfied with the organization because when an organization prioritizes employee and their family's wellness it demonstrates a willingness to provide for and enhance their quality of life (Chapman, 2007b). There are an increasing number of organizations implementing wellness programs to promote health enhancement outcomes (Ardell, 2008). Wellness programs explicitly seeking to boost personal and organizational effectiveness can have the potential for offering long term answers for promoting healthy lifestyles (Ardell, 2008, Schultz et al., 2009; Wellness Council of America, 2014a, 2014b).

Wellness programs, characterized by a health and productivity management model, focus attention on identification and reduction of specific risks or modifying behaviors (Aldana, 2001; Chapman, 2005; 2007b; Edington, 2001; Goetzel et al., 2007). Under this model, the emphasis is on outcomes as opposed to simply offering wellness activities for their own sake (Aldana, 2001; Chapman, 2005; 2007b; Edington, 2001; Goetzel et al., 2007). Organizational wellness programs are providing more effective ways to deliver information about how to improve health and wellness. Convenience, group support, existing patterns of formal and informal communication among

employees, and possible organizational behavior norms are potential advantages of worksite wellness programs over other approaches (Goetzel, 2005; Musich et al., 2003; Pate et al., 1995; Pratt, Macera, & Blanton, 1999; Wright et al., 2010).

Organizations are in a unique position to help employees improve health and maintain low-risk health status by implementing interventions that are specific to each worksite and the diverse needs of employees and their families (Musich et al., 2003; University of Michigan Health Management Research Center, 2008). Creating a work environment that supports optimal health and choosing appropriate interventions is a critical step in developing and delivering a results-oriented wellness program (Goetzel et al., 2007). The activities implemented in the wellness program should reflect the overall wellness goals, the interests of the employees, and the major health risks that are prevalent within the specific population (Goetzel et al., 2007). Using data to make the business case helps to generate continued support for comprehensive wellness programs (Goetzel, 2005; Loeppke et al., 2007). Research suggests organizations that implement wellness programs have shown the capability in reducing direct and indirect health related costs and have demonstrated a positive return-on-investment (Chapman, 2005; Parks & Steelman, 2008). Through enhancing employee health and reductions in absenteeism and presenteeism, the potential productivity improvements can be demonstrated for organizational effectiveness (Aldana & Pronk, 2001; Goetzel et al., 2004). Just as the most successful organizations have worked to optimize their levels of employee engagement, organizations are now turning their attention to employee wellness programs as a way to gain an emotional, financial, and competitive edge (Bryson, 2004; Friedman, 2005; Goetzel, 2001; Rath & Harter, 2010). Organizations that

focus on the wellness of their employees and their dependents have a significant advantage in attracting and retaining top talent. They can demonstrate how working for them leads to better relationships, more financial security, and improved physical health (Bryson, 2004; Friedman, 2005; Goetzel, 2001; Rath & Harter, 2010).

Conceptual Framework

This investigation used the perspectives of social ecology, social cognitive theory, and experiential learning to serve as the theoretical foundations for the research study. Several models of social ecology are outlined to illustrate and represent the social ecological paradigm followed by a synopsis summarizing elements of social ecology. A discussion of how learning and behavior are impacted through social constructs and their influences on individual self-efficacy are offered from the area of social cognitive theory. Several studies on how self-efficacy affects nutrition, planning/food involvement, dietary habits, physical activity and diet/exercise are presented. Because the employer-based family health and weight management program used in this study advocates experiential learning for wellness promotion, there is information presented on experiential learning's potential impact on self-efficacy, learning, and behaviors.

Social Ecology Model

The core theoretical foundations of social ecology were developed by Urie Bronfenbrenner (1979) in his seminal work *The Ecology of Human Development*. He conceptualized social ecology as a framework that assists in understanding human development and behavior and consists of multiple relationships and transactions within their physical and sociocultural environments. This model, using a systems approach, proposed multiple levels of influence which included the micro-, meso-, exo-, and

macrosystem levels. The micro-system incorporates interactions with an individual's immediate settings (e.g. family and social networks). The meso-system encompasses the interrelations among the settings in which an individual is involved (e.g. peer groups). The exo-system integrates the formal and informal social structures in which an individual is embedded (e.g. neighbors, workplace, and community services). The macro-system incorporates the cultural beliefs and values that influence the micro-system (e.g. attitudes and ideologies of the culture). These sub-systems affect behavior and imply a reciprocal causation between the individual and the environment.

McLeroy, Bibeau, Steckler, & Glanz Model

Advancing the work of Bronfenbrenner, McLeroy et al. (1988) proposed a health promotion behavioral model, emphasizing five levels of influence: intrapersonal, interpersonal, institutional, community and public policy. They posit that *intrapersonal* wellness interventions use strategies such as, educational programs, and support groups. Targets of these interventions should include an individual's characteristics including knowledge, attitudes, skills or intentions. *Interpersonal* wellness interventions apply strategies focusing on changing individuals' behavior through social influence, recognizing that these relationships are essential aspects of social identity. *Institutionally*, worksite wellness interventions provide opportunities to change organizational culture by strategically using wellness to be valued as part of the organizational ideology. The use of incentives, building social support structures and garnering upper management buy-in should be used to promote behavioral change. For worksite wellness, at the *community* level, wellness interventions should involve members from disadvantaged population and be culturally sensitive to effect behavior

changes. The *policy* level provides opportunities for organizations to adopt policies that strengthen their ability to meet the needs of its members. Together, these levels could serve as interdependent determinants to better understand health related behaviors and interventions that may be appropriate at each level.

Minkler's Integrated View

Subsequent work by Stokols (1992, 1996), Green, Richard and Potvin (1996), Richard, Potvin, Kishchuk, Prlic, and Green (1996), and Sallis and Owen (1997) further developed and refined the social ecological framework for health and wellness promotion. Overall, Minkler (1999) suggests they underscored a need to:

> (1) examine the cumulative effects of personal and environmental factors in designing health and wellness promotion programs; (2) take into account the linkages between various settings and levels and how change at one level affects others; (3) use a multidisciplinary perspective, integrating knowledge and methods from a variety of fields; and (4) look for and address the unanticipated consequences of intervention strategies. (p.132)

Davison and Birch Model

Davison and Birch (2001, as presented in Figure 1) proposed an "Ecological Predictors of Childhood Overweight" model that suggests there are multiple environmental levels of influence on child weight status such as the characteristics of the child, family and community. Further, the interaction of child risk factors, parenting styles, demographic and societal attributes can impact the weight status of a child. Child risk factors include their level and behavioral patterns of dietary intake, physical activity, and sedentary behavior. The model suggests that risk factors are moderated by child

characteristics of age, gender, and susceptibility to weight gain. This susceptibility is projected based on the number of overweight parents and the rate of growth of the child.

Parents are seen as social referents, or role models, in shaping children's dietary practices through their nutritional knowledge, the types of foods offered, modeling of appropriate eating habits and their preference for physical activity. Through observation and imitation, a child's preference of dietary intake and physical activity is established through repeated exposure to the parent's appropriate eating habits and physical activity.

The model proposes that ethnicity and social economic levels of the family and community can be predictors of a child's weight status. The hour's parents spend working impacts the time available to prepare meals and participate in physical activities and the ethnicity and social economic levels influence the types and diversity of foods available. The ability to participate in physical activities may be limited due to safe access to physical activity opportunities and recreational facilities.

Figure 1. Ecological Model of Predictors of Childhood Overweight

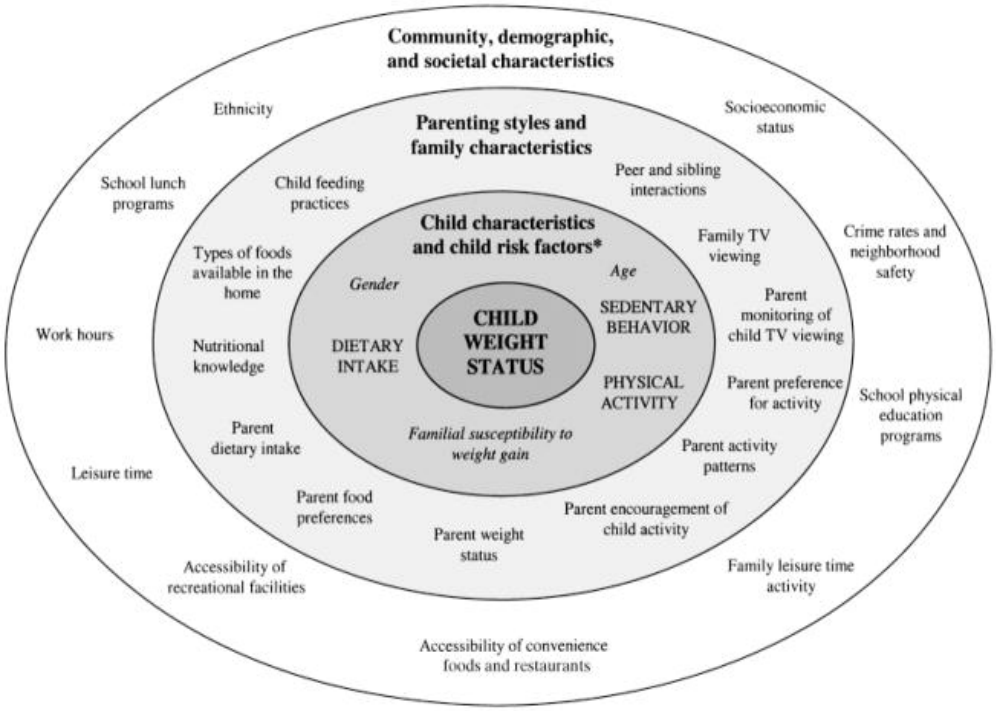

Figure 1. Child risk factors (shown in upper case lettering) refer to child behaviors associated with the development of overweight. Characteristics of the child (shown in italic lettering) interact with child risk factors and contextual factors to influence the development of overweight (i.e. moderator variables). From "Childhood overweight: a contextual model and recommendations for future research" by Davison, K.K., & Birch, L.L., 2001, *Obesity Reviews*, *2*, p. 161. Copyright 2001 by John Wiley and Sons. Reprinted with permission.

Social Ecological Paradigm - Synopsis

All of these social ecological models emphasize the importance of the interactions between people and their environments. The social ecological paradigm encompasses areas of influence on individuals such as: social, institutional, workplace, and cultural contexts within people's lives and makes connections. Interconnections made between

these environmental factors can have independent and/or joint effects on an individual's choices, behaviors, and wellness (Stokols, 1992, 1996). Further, social ecology also incorporates personal attributes, including: psychological dispositions, genetic heritage, and behavioral patterns (Stokols, 1992, 1996). These attributes, along with situational environmental factors create a dynamic interplay, both individually and in the aggregate, and can serve as predictors of the impact of health and wellness interventions (Stokols, 1992, 1996). These interrelationships are the foundation of the core principles and themes of social ecology. Thus, efforts to promote organizational worksite wellness programs must take into account the interdependencies that may exist among personal attributes, immediate and more distant environments. Consequently, organizational health and wellness promotion strategies will take into account intrapersonal, physical environment, organizational and cultural contextual factors that are likely to influence the effectiveness of health-promotive and wellness interventions (Allen & Allen, 1986; Bellingham, 1990; Gore, 1989; Stokols, 1996). The effectiveness of these wellness interventions are highly influenced and shaped by the receptivity and behavior of the individual.

Social Cognitive Theory

As behaviorism has evolved, modern behaviorists began to look at cognitive and social variables in understanding human behaviors (Gredler, 1997; Hergenhahn & Olson, 2005; Ormrod, 1995). This social learning has its roots in the behavioral approach because of the recognition of life experience in shaping behaviors (Gredler, 1997). Originally, social theorists were concerned with observable behavior (Ormrod, 1995). However, this limitation did not allow for the recognition that people plan their activities,

hold expectations about events, and interpret situations (Gredler, 1997). Further, cognitive theorists recognized that people not only learn ways of behaving from life experiences but also from thinking (Grippin & Peters, 1984; Hergenhahn & Olson, 2005). Social cognitive theory is a paradigm in which human functioning and behavior is explained based on personal competence and an individual's actions are influenced by self-regulation and the environment. Several factors contribute to this functioning: (a) cognition, (b) environmental events, and (c) behavior (Bandura, 1986). Cognition suggests that people are capable of thought, not mere reactions to the environment, and allows for internalization and the identification of desired outcomes with the ability to self-regulate behaviors. This cognitive ability uses previous learning and experiences to transform future actions. These experiences, cognitive characteristics and styles have an effect on the way individuals interpret things that happen to them (Wilson & Keil, 1999). Moreover, cognitive style determines, in part, the kinds of activities in which individuals choose to engage (Wilson & Keil, 1999).

Environmental events contribute, enhance, or provide impediments to an individual's choices and courses of action based on the degree to which it affects human functioning. Environmental events are not a sole determinant of responses and have the potential to be altered. As Bandura (1986) stated "people create, alter, and destroy environments" (p.23). Behavior results through personal cognition, as impacted by the environment, with a person's ability to formulate actions based on their influence of the circumstances and sense of control of the situations. People also have the ability to self-reflect and adjust actions and behaviors accordingly based on ideas, judgments, and decisions (Bandura, 1986).

The acquisition of knowledge is obtained in many ways. With social cognitive theory, learning can occur through observation and the modeling process. Individuals can learn by watching other people act, observing what happens and then imitate the behavior (Bandura, 1986). Observational learning can occur without external reinforcement or without even performing the behavior (Bandura, 1986; Daloz, 1999; Mullen, 2005). Individuals can also learn behavior from reading or having something explained to them (Bandura, 1986; Daloz, 1999; Mullen, 2005). Any resulting behavior consists of internal motivational thought processes while interacting with the environment in a complex causal network (Bandura, 1986; Daloz, 1999; Mullen, 2005).

The modeling process suggests that to be successful several features need to be present for individual learning and subsequent behaviors to occur (Bandura, 1986). Bandura (1986) proposed the learning situation needs to engage the learner and the model may need to have novel and interesting delivery of information to garner the attention of the learner. The modeling/learning process suggests the individual needs to have the ability to retain information, retrieve it and subsequently act on the information that was learned. Once retention has been successful, the capacity of an individual to reproduce and actually perform a behavior through practice can lead to improvement and skill advancement. Finally, learning and performance need to be linked to motivational processes (Bandura, 1986). Unless motivated an individual will not produce learned behavior (Bandura, 1986). This motivation can come from external reinforcement or vicarious reinforcement based on the observations of rewards received (Bandura, 1986; Daloz, 1999; Mullen, 2005). Reinforcement may not be necessary for learning, but it may influence the actual performance of what has been learned (Grippin & Peters, 1984;

Hergenhahn & Olson, 2005). Bandura (1986) argued, “modeling influences teach component skills and provide rules for organizing them into new structures of behavior” (p. 49). Consequently, an individual’s actions may be enhanced or diminished based on the information garnered and through the observation of others achievements or performance.

The social cognitive framework takes the position of reciprocal interaction or reciprocal determinism (Bandura, 1986; Daloz, 1999; Mullen, 2005). Reciprocal interaction/determinism can be defined as a person's behavior that both influences, and is influenced by, personal factors and the social environment. This concept recognizes that the individual, environment, and behavior influence one another (Bandura, 1986; Daloz, 1999; Mullen, 2005). Further, Bandura (2004, as presented in Figure 2) proposed determinants of: self-efficacy, goals, behavior, facilitators, and impediments, with structural paths of influence in translating knowledge into effective health practices. Each of the factors serve as determinants and studying their interaction may provide a more comprehensive understanding of how people learn and their behaviors (Bandura, 2004). Self-efficacy is the focal determinant because it can directly affect and influence the other determinants and is foundational to personal change, human motivation, and action (Bandura, 2004).

Figure 2. Structural Pathways of Influence in the Sociocognitive Causal Model

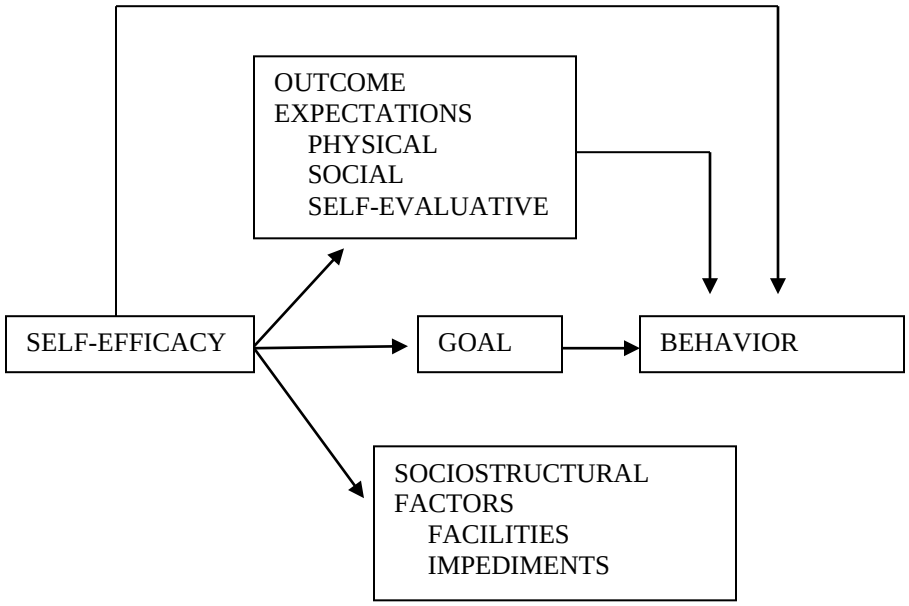

Figure 2. Structural paths of influence wherein perceived self-efficacy affects health habits both directly and through its impact on goals, outcome expectations, and perception of sociostructural facilitators and impediments to health-promoting behavior. From "Health Promotion by Social Cognitive Means" by A. Bandura, 2004, *Health Education & Behavior, 31*, p. 146. Copyright 2004 by SAGE Publications. Reprinted with permission.

Self-Efficacy. According to social cognitive theory, a person's perceived capability and sense of control over situations can affect and facilitate changes in behavior. This perceived capability to organize, manage situations, and execute courses of action has been identified as an individual's self-efficacy (Bandura, 1986, 1997). Self-efficacy is a cognition that can serve as a predictor of behavior and can influence how people think, feel, motivate themselves and act (Bandura, 1986, 1997). Thus, confidence in one's ability to organize and master situations constitutes self-efficacy. Self-efficacy is developed through mastery of experience, vicarious experience, social persuasion,

physiological and emotional status (Bandura, 1997). The achievement of successful performance requires that individuals develop and test out various behaviors and strategies over time (Bandura, 1997). Those individuals who are higher in self-efficacy are more likely to persist in an endeavor, while those who lack belief in their ability to be successful will abandon the challenge (Bandura, 1997). Stronger self-efficacy beliefs lead to more systematic approaches to problem-solving and greater persistence in attempts to formulate decisions that guide effective performance (Bandura, 1997; Gibson, 2004). Social cognitive theory is a commonly used theoretical framework in physical activity and healthy eating interventions promoting weight management (Cerin, Barnett, & Baranowski, 2009; Lubans, Foster & Biddle, 2008; Sharma, 2006).

Interventions are based on the premise that assisting individuals in developing their self-efficacy of healthy eating and physical activity will enable them to perceive fewer barriers and greater benefits from adopting more healthy behaviors. Self-efficacy levels can increase with experience, success, and rewards (Lox et al., 2010). Higher self-efficacy is associated with better adoption of behavior change and increasing self-efficacy is a key strategy to increasing specific health behaviors (Lox et al., 2010). Further, increased levels of self-efficacy and positive outcome expectations can result in self-regulatory modifications that assist in maintaining health behaviors (Anderson-Bill et al., 2011). These interventions may include specific dietary changes (e.g. reduction of calories from fat, and increase in fruit and vegetable intake) or increase in physical activity because self-efficacy could influence these behaviors and result in weight loss (Wingo et al., 2013). High dietary self-efficacy in adolescents has been found to be associated with lower consumption of foods high in fat, sugar, and a preference for more

unrefined foods including fruits and vegetables (Rinderknecht & Smith, 2004). Some research has shown eating self-efficacy to be a predictor of weight management behaviors during interventions and long-term maintenance of weight control (Ames, Heckman, Grothe, & Clark 2012; Bas & Donmez, 2009; Martin, Dutton, & Brantley, 2004).

Research has indicated correlations between weight management behaviors, self-efficacy and weight status (Gallagher et al., 2006; Linde et al., 2006; Wilson-Barlow et al., 2014; Wiltink et al., 2007). Reports suggest higher baseline levels of eating self-efficacy predict greater weight loss during treatment (Bas & Donmez, 2009; Linde et al., 2006). Palmeira et al. (2007) found that weight change was more prominent in theoretical interventions where self-efficacy was analyzed as a predictor. Conversely, other studies found significant correlations between increases in self-efficacy and weight change but there was no predictive ability of self-efficacy in long-term weight loss (Wingo et al., 2013). Furthermore, one study found an inverse predictive relationship between self-efficacy and weight loss; individuals with higher baseline self-efficacy scores lost less weight than those who started with lower self-efficacy scores (Martin et al., 2004).

Initially, individuals begin pursuing health goals with varying levels of self-efficacy and the successful pursuit of goals can enhance self-efficacy increasing the likelihood behavior change will be maintained (Batsis et al., 2009). Because of the complex nature of the overweight and obesity phenomenon research recommends that multifaceted programs include physical activity education, nutrition education, behavioral principles, and family engagement (Jelalian, Markov-Wember, Bungeroth, & Burmaher,

2007; Steele, Steele, & Hunter, 2009; Steele, Burns, & Whitaker 2012). Changes to eating self-efficacy have occurred during treatments and have improved over time where multidisciplinary programs have been used (Bas & Donmez, 2009; Martin et al., 2004).

Family-based weight loss treatment teaches participants to increase their ability to generate dietary coping strategies, such as eliminating tempting foods from the home, using portion control, distracting themselves with non-food activity and more generally coping with barriers and temptations (Wilfley et al., 2007). Adults who are better able to generate strategies for coping with tempting dietary situations may achieve greater weight loss (Carels, Douglass, Cacciapaglia, & O'Brien, 2004; Theim et al., 2012). Parents exert a substantial amount of influence over their children's health behaviors and self-efficacy has been found to mediate the relationship between parental factors and healthy eating among adolescents (Pearson, Ball, & Crawford, 2011) and between treatment factors (i.e., nutrition knowledge and self-regulation skills), healthy eating, and weight status (Wilson-Barlow et al., 2014).

Nutrition self-efficacy. Bandura (2004) posited that knowledge is a core determinant and a precondition for changes in health practices and lifestyle changes. For changes to occur knowledge is needed for understanding the risks of detrimental behaviors and the provision of new knowledge helps in understanding the benefits of the new behaviors and lifestyle changes. Nutrition education provides an opportunity for individuals to support and increase their nutrition knowledge and self-efficacy to make dietary changes. Understanding nutrition labeling on prepackaged foods provides an opportunity for people to enhance their nutrition awareness and improve self-efficacy. In the United States, nutrition labeling has been a requirement since 1990 with the passage

of the Nutrition Labeling and Education Act which mandated that prepackaged foods carry a nutrition label, and using the label is associated with nutrition knowledge and the perceived importance of a healthy diet (Campos, Doxey, & Hammond, 2011; Lewis et al., 2009).

Lewis et al. (2009) using a cross-sectional design took a representative sample of individuals with different chronic diseases (i.e. hypertension, high cholesterol, diabetes or at risk for diabetes, overweight, and heart disease) and studied the relationship between nutritional habits, use of nutritional food labels and adherence to dietary recommendations. Results found that individuals with chronic diseases were more aware of nutrition recommendations and used nutritional food label information to help guide their dietary decisions. Diabetic and at-risk for diabetes and overweight people reported higher usage of nutritional food labels and dietary recommendations. People with chronic diseases showed an increased interest in nutritional knowledge enhancing self-efficacy and demonstrated more favorable attitudes toward dietary information in using nutritional food labels.

Fitzgerald, Damio, Segura-Perez, and Perez-Escamilla (2008) examined associations between nutrition knowledge, nutritional food label use, and food intake patterns of a convenience sample of Latinas with (cases) and without (controls) type-2 diabetes. Findings indicated that participants with higher nutrition knowledge were more likely to use nutritional food labels in their selection for healthy foods which were lower in fat, sugar and sodium and higher in fiber. They were also more likely to pay attention to the information regarding nutritional food label serving sizes and would more frequently consume fruits and vegetables and have less intake of regular soft drinks and

sweets. Nutrition knowledge and self-efficacy scores were similar between cases and control groups, however participants within the cases (with diabetes) group who had higher nutrition knowledge and food label self-efficacy were more likely to use nutritional food labels. This was particularly true when members in the cases group had received educational information from a registered dietitian or diabetes educator.

Contento, Koch, Lee, Sauberli, and Calabrese-Barton (2007) evaluated the impact of a science education program that was designed to foster healthy eating, physical activity, and a healthy weight for middle school students. The program helps students understand interactions of personal behavior, the environment, and biology through the development of competence of self-regulatory cognitive skills. A pretest-posttest design was used and results found that following the nutrition education intervention, students increased fruit and vegetable intake and decreased consumption of sweetened beverages, packaged snacks, fast-food meals, had smaller portion sizes and increased their nutrition-related outcome beliefs and self-efficacy. Findings also showed a decrease in sedentary behaviors while outcome beliefs and overall self-efficacy were more positive. The researchers recommend that developing the competence of personal awareness of middle school age students can be effective in moderating physical activity and healthy eating behaviors.

McCaughtry, Fahlman, Martin and Shen (2011) used a quasi-experimental design with intervention and control groups to explore what effects nutrition education classes had on urban middle school students' nutrition knowledge, dietary self-efficacy and behaviors. The study used active and social learning, connecting prior knowledge to new learning, and to the participant's socio-cultural environments. Findings demonstrated

that intervention students significantly improved their nutrition knowledge about recommended servings of fruits, vegetables, grains, and the marketing on food packages. Intervention students enhanced overall self-efficacy and were more confident in their nutrition knowledge. They reported increased consumption of fruits and vegetables, eating less fat and healthier food at fast food restaurants however, students were not more confident in their ability to drink less soda.

Campos et al. (2011) conducted a systematic review to examine consumer use and understanding of nutrition labels and impacts on dietary habits. Study results suggest that nutrition label use is high among the general population but understanding the information on the labels and interpreting them can be difficult. Findings show that food labels are a good source of information and individuals who spend more time in the grocery store have a higher prevalence of reading these labels and selecting healthier food products. Educational interventions have shown promise in helping individuals understand nutrition labels. Nutrition label knowledge, nutrition education, meal planning, and knowledge of diet-disease relationships are associated with label use. The review revealed a consistent link between using nutrition labels and healthier diets. The researchers suggest that this association could be bi-directional in that nutrition labels may promote healthier eating and individuals with healthier diets are more likely to use nutrition labels.

Planning/food involvement self-efficacy. Planning and involvement in preparing and cooking food provides opportunities to enhance knowledge and an individual's awareness of their self-efficacy and affect their eating behaviors. Kreausukon, Gellert, Lippke, and Schwarzer (2012) examined a theory-based

psychological nutrition intervention that focused on perceived self-efficacy and dietary planning skills and its impact on fruit and vegetable consumption. Participants were young adults (university students) and were randomly assigned to the psychological intervention or an active control group. Analysis yielded a significant relationship with increased fruit and vegetable consumption and that self-efficacy, together with planning and intention supported behavior change. The researchers concluded that the nutrition intervention had a favorable impact on dietary behaviors. These results are similar to other findings in previous research studies that found an increase in fruit and vegetable consumption and behavior sustainability with the support of planning and self-efficacy (Luszczynska, Tryburcy, & Schwarzer, 2007; Kellar & Abraham 2005; Gratton, Povey, & Clark-Carter, 2007). Meal preparation, like family mealtimes, could provide the opportunity for family interaction where eating patterns and food preferences are modeled and developed. Involvement in food-related tasks such as participation in preparing home meals can increase a child's perception of his/her ability to perform these behaviors and improve self-efficacy (Larson, Story, Eisenberg & Neumark-Sztainer, D., 2006). Participation in this activity increases confidence in their ability to select and consume healthier foods and exposes the child to alternate food choices (Rollins, Loken, & Birch, 2011).

Children who engage in home meal preparation have demonstrated an increased interest in nutrition and vegetables (Chu et al., 2012). Further, meal preparation at home has been associated with healthy food intake and diet quality among adolescents and adults, with higher fruit, vegetable and micronutrient intake, and lower fat, fried food and

sugar-sweetened beverage intake (Larson, Perry, Story, & Neumark-Sztainer, D., 2006; Larson, Story et al., 2006; Rasmussen et al., 2006; Rollins et al., 2011).

Chu et al. (2012) examined the association between frequency of home meal preparation, fruit and vegetable preference, and self-efficacy for 5th grade students who assisted with home meal preparation. Results showed that self-efficacy increased with the increased frequency of meal preparation. Further, the involvement and frequency of assisting with home meal preparation is associated with higher self-efficacy in their preferences for fruits and vegetables and confidence in their ability to select and consume healthier foods. In addition, children and adolescents who ate meals more frequently with their families tended to have healthier dietary patterns (Larson, Neumark-Sztainer, Hannan, & Story, 2007; Staser et al., 2011).

Nothwehr (2008) gathered baseline data from surveys of adults from rural communities with a follow-up survey one year later to assess a variety of health behavior issues and links to the behavior change process. The researcher looked at how self-efficacy relates to the use of behavioral strategies (planning, meal buying/preparation, portion control, self-monitoring, cognitive and social interactions) and dietary intake. Results revealed a strong association between self-efficacy and the usage of behavioral strategies but no longitudinal association between self-efficacy and dietary intake. The author surmised that diet-related behavioral strategies are proximal and more sensitive to changes in self-efficacy. It was suggested, because there is a high prevalence of obesity in the United States, health interventions need to move beyond the individual to a broader, societal perspective and examine associations between social and environmental factors. Researching these factors, along with the use of diet-related behavioral

strategies, may lend itself in the development of health related interventions and programs.

Dietary self-efficacy. Poor food choices and irregular eating behaviors, such as skipping meals and the inappropriate consumption of dietary recommendations contribute to the current obesity epidemic (Katz, 2011). Adolescents have reported skipping breakfast more often (Phillips et al., 2004) and excessive consumption of saturated fat, sugar, salt and sweetened beverages, and inadequate intake of fruit, vegetables, whole-grains, calcium and iron (Larson et al., 2007). This type of behavior has short and long-term physiological and psychological consequences for children and adolescents (Reilly & Kelly, 2011). Evidence suggests this may be more prevalent in adolescents from disadvantaged backgrounds (Ball et al., 2009; Rasmussen et al., 2006).

Lubans et al. (2012) examined the utility of social cognitive theory, (structural pathways) in explaining dietary intake of adolescent girls from disadvantaged, low income communities. Self-efficacy was a strong correlate of dietary intake and was associated with dietary behavior. The researchers suggest it is important to distinguish between outcome expectations (the benefits of healthy eating) and outcome expectancies (the consideration of healthy eating to be of value to the person) because without expectancies it may be unlikely they will eat healthy. There was no relationship between outcome expectancies and energy intake from foods which could result in improper dietary consumption.

Theim et al. (2012), studied self-efficacy of overweight preadolescents' (7-12 years of age) and their parents in high-risk dietary situations, and how coping efficacy predicts preadolescents' and parents' weight outcomes. High risk situations are those

that predispose the participants (parent and child) to scenarios where the temptation or availability for consuming unhealthy or improper foods may be more prevalent. Coping strategies for both, parent and child improved from baseline to post weight loss treatment however, it was noted that older youth generated more strategies at baseline, primarily due to their social and cognitive development. Findings indicated an increase in parents' confidence during treatment appeared to have a positive influence and some predictive value while increases in confidence may have a "trickle down" effect on their child's ability to make appropriate nutritional and physical activity choices that affect child weight loss. Further, increasing parental self-efficacy decreased temptations and was a significant predictor of their own weight outcomes. The researchers posit that the findings continue to highlight the relevance of examining preadolescents' self-efficacy for healthy eating from a developmental socio-ecological framework. Parents' coping responses appeared most important in the study. The researchers suggest that parents support their children in making healthy eating choices while modeling a healthy level of dietary restraint within flexible guidelines. This may help accommodate special occasions or allow for smaller portions of favorite foods. These findings are similar with previous research that highlights the role parents play within family-based weight loss treatment (Anzman, Rollins, & Birch, 2010).

Physical activity self-efficacy. Understanding physical activity behavior can be examined by looking at activities an individual chooses to be involved with and how their behaviors and thoughts are affected (Havitz & Dimanche, 1997). This involvement can be viewed as a stimulus that may evoke a state of motivation or arousal toward an interest which is manifested in cognitive activity and overt behavior (Havitz & Dimanche, 1997).

Physical activity behavior can influence the development of an individual and has been described as a gradual process of finding meaning through self-understanding and improvement (Bedimo-Rung, Mowen, & Cohen, 2005; Godbey, Caldwell, Floyd, & Payne, 2005). This behavior can result in an individual becoming self-directed and self-regulated (Godbey et al., 2005). Consequently, individuals may define physical activity goals emanating from physical, mental, social, spiritual or aesthetic outcomes (Bedimo-Rung et al., 2005; Godbey et al., 2005). Behaviors provide an outlet where most physical activity occurs and experiences with different types allow for the experimentation to discover what activities will be lasting and enjoyable (Chow, 2007; Henderson & Ainsworth, 2002).

Involvement in physical activities has the potential to arouse attitudinal dimensions in an individual and typically implies an attachment of a high degree of personal relevance to a specific activity (Nichols, 2004; Skipton & Maynard, 2003). Involvement can also be an individual's personal connection to an activity, separate from participation (McIntyre & Roggenbuck, 1998). Attitudinal dimensions include attraction, centrality and self-expression (McIntyre & Roggenbuck, 1998; Wiley, Shaw, & Havitz, 2000). Attraction can be conceptualized as an individual's perceptions of importance and the pleasure derived through the activity (McIntyre & Roggenbuck, 1998; Wiley et al., 2000). Centrality recognizes the importance of the activity within the context of an individual's life (McIntyre & Roggenbuck, 1998; Wiley et al., 2000). An activity may be considered central if other aspects of an individual's life are organized around the activity (McIntyre & Roggenbuck, 1998; Wiley et al., 2000). Self-expression is the self-

representation or the impression that an individual wishes to convey to others through their involvement in an activity (McIntyre & Roggenbuck, 1998; Wiley et al., 2000).

Physical activity behavior also has implications with social and cultural influences. Engagement in diverse physical activities promotes connections between social networks and feelings of satisfaction (Low, Soloman, & Matthews, 2009). This social bonding suggests that an individual's social ties to activities are often shaped by the meanings derived from physical activity experiences (Kyle, Absher, Hammitt, & Cavin, 2006).Physical activities afford individuals opportunities to affirm their identities and to express their identities to those around them (Kyle et al., 2006). The lack of physical activity and increasing sedentary nature of the American population has prompted intervention treatments to include a focus on reinforcement of progress toward physical activity/exercise, making plans for physical activity/exercise, and providing education about physical activity/exercise.

Leary, Lilly, Dino, Loprinzi, and Cottrell (2013) in establishing a model for physical activity looked at parental influences on physical activity of seven to nine year olds. Findings suggest that increasing and maintaining child self-efficacy is important regardless of parental influences. However, there was a direct link to parental perception of child competence and child report of self-efficacy. Boys indicated self-efficacy was a strong predictor of physical activity while girls indicated parent's participation in physical activity was a predictor for their participation in physical activity. Increasing parental support and promoting parental role modeling of physical activity were important factors in increasing child self-efficacy of physical activity.

Williams and French (2011) performed a meta-analysis review of 36 experimental groups looking at the effectiveness of interventions that included lifestyle and recreational activities and their effect on self-efficacy and physical activity behavior. Findings suggest that "action planning ", where details of when, where and how the specific behavior is going to be performed, produced significantly higher self-efficacy and physical activity behavior scores. Likewise, successful performance of the behavior as a result of a specific goal or plan lead to improved self-efficacy, while individuals with higher self-efficacy were more likely to use better strategies and be more committed to reaching their goals. The authors also found that providing positive feedback, with praise or rewards enhanced self-efficacy even when progress towards a targeted behavioral goal may have been incremental or small. This strategy supports Bandura's (1997) view that personal performance successes, even when small, enhance perceived self-efficacy. Overall, the authors suggest that small advances in personal self-efficacy could subsequently impact physical activity behavior and providing reinforcement strategies could serve to maintain self-efficacy until mastery performance is achieved.

Diet/exercise self-efficacy. Byrne, Barry and Petry (2012) used data from a pre-post treatment intervention pilot study to evaluate the effects of pre-treatment diet and exercise self-efficacy with changes to self-efficacy during treatment with the relationship of weight loss success. At baseline both diet and exercise self-efficacies were unrelated to weight loss. During treatment, diet self-efficacy was not a significant predictor of weight loss conversely; exercise self-efficacy was significant. Findings also revealed a strong association between diet and exercise self-efficacies leading the researchers to

conclude that because of this relationship diet self-efficacy would have been significant in the attainment of weight loss if exercise self-efficacy had not been used in the analysis.

Wingo et al. (2013) conducted a randomized clinical trial testing the predictive qualities of dietary self-efficacy and exercise self-efficacy at two time points (6 and 18 months) after treatment. Participants were adults with either pre-hypertension or stage one hypertension that were not receiving anti-hypertension medication. They were randomly assigned to 1 of 3 groups to assess the effects of lifestyle interventions on blood pressure. One group was assigned to an advice-only 30-minute session; a second group was assigned to an intervention group consisting of established, traditional lifestyle recommendations; and a third group was provided established lifestyle recommendations plus a program for approaches to stop hypertension. Lifestyle recommendations consisted of suggested physical activity levels and dietary patterns for weight loss. Further, the study explored the relationship of self-efficacy on behavior and weight changes. Results indicated that baseline weight was correlated with dietary self-efficacy but not exercise self-efficacy. Participants who had a greater increase in self-efficacy had the most weight loss. There was; however, a decrease in the mean self-efficacy scores over time. It was suggested that there may have been an initial overestimation of self-efficacy beliefs because participants underestimated the difficulty in changing behavior.

Despite the decrease in scores weight loss was significant at 6 and 18 months. There was no relationship between change in dietary self-efficacy and fruit and vegetable or caloric intake at 6 or 18 months. At baseline, weekly minutes of physical activity/exercise self-efficacy was significant however, with a change in weekly minutes of physical activity/ exercise self-efficacy scores were not significant at 6 months, but

were at 18 months. The researchers posit that a path from self-efficacy to weight loss may be indirectly affected through the adoption of dietary and physical activity patterns that were described in the intervention. Consequently, a recommendation to explore factors between self-efficacy and the adoption of behaviors through specifically tailored lifestyle interventions may assist in long-term weight loss.

Experiential learning – enhancing self-efficacy. The Association for Experiential Education defines experiential learning as a process through which a learner constructs knowledge, skill, and value from direct experiences (Luckmann, 1996). Dewey (1938) commented that "all genuine education comes about through experience" (p. 13) and Lindeman (1961) stated that one of the highest values in education comes from the learner's experience. Experiences can be personal or environmental and learning from these experiences is a continuous process where knowledge is derived and practiced in the experiences of the learner (Kolb, 1984). Experiential learning is described as a cycle consisting of (a) a concrete experience, which is the basis for (b) observation and reflection, which is then organized or (c) assimilated into a theory, from which new hypotheses or implications lead to (d) active experimentation (Kolb, 1984). In other words, the learner first experiences a situation, then thinks about and learns from it, followed by integrating the new knowledge into the next situation.

Experiential learning involves interactions between the learner and the environment and is constructivist in nature (Kolb & Kolb, 2005). This constructivist approach builds upon or connects to prior knowledge (Kolb & Kolb, 2005; Dewey, 1938). Experiential learning contains three dimensions: content, incentive and social (Illeris, 2007). Content is composed of knowledge, skills, abilities and attitudes; while

incentives explain motivation, volition, feelings and emotions (Illeris, 2007). The social dimension accounts for the communication, cooperation and interaction in the learning process (Illeris, 2007). Beyond mere presence, how these dimensions are involved and the attention they are given are significant factors in experiential learning (Illeris, 2007). Illeris (2007) proposed that "experiential learning can be understood as learning in which the learning dimensions of content, incentive, and interaction are involved in a subjectively balanced and substantial way" (p. 92). If information is to be used effectively, it must be translated into the learners' way of understanding (Fink, 2003). If such translatability is not present, then the information may not be understood (Fink, 2003). Emotion as an affective domain in experiential learning has been foundational for learning to occur (Beard & Wilson, 2002; Dirkx, 2001). To positively interpret an experience, an individual needs to have confidence in their abilities, support from others and good self-esteem (Beard & Wilson, 2002). Negative experiences create distress learning, resulting in distorted outcomes (Beard & Wilson, 2002).

Experiences are a catalyst to defining individual lifestyle practices that are influenced by social and cultural norms (Usher, Bryant, & Johnston, 1997). Through these lifestyle practices/experiences, autonomy through self-expression and individuality can affect behaviors (Usher et al., 1997). Further, self-regulating capacities enable access to knowledge which in turn can create productive and empowered individuals through self-improvement and self-development (Usher et al., 1997). As a result of experiential learning, individuals can find social empowerment and transformation that is the basis for the acquisition of knowledge (Usher et al., 1997). Experiential learning actively involves participants, encourages independent and critical thinking, promotes interactions and

relationships, focuses participants' energies and keeps their interest (Luckmann, 1996), potentially enhancing a person's self-efficacy.

Parenting Style/Involvement in Family Health Behaviors

This section begins with how social ties and the social environment interact with the idea of parenting style and parental involvement and their roles in behavior changes and health outcomes. Golan and Weizman's (2001) model "Familial Approach to the Treatment of Childhood Obesity," is presented to demonstrate how interactions between the individual, family and environment can impact health. This is followed by several examples of family-based weight management/health behavior interventions. The concept of role modeling is introduced followed by several research studies involving how role modeling can influence the effects of family-based wellness intervention success.

Social Environment

Social ecology posits that an influence on an individual's behavior is their immediate settings such as their social and familial relationships. These relationships help to create, support, and maintain behaviors which can be beneficial and detrimental to an individual (Umberson, Croesnoe, and Reczek 2010). Social ties can have an effect physically, mentally and emotionally and can promote healthy behaviors and deter risky ones within the social network (Umberson et al., 2010). Family and particularly child health behaviors are strongly impacted by the degree of family collaboration and member involvement which supports the establishment of the social environment where the family members interact. The reciprocal nature of the adult-child relationship can affect health outcomes for both the child and parent (Gruber & Haldeman, 2009). Family

health behavior patterns are influenced by the dynamics of member participation, rules, encouragement and how and whether they engage in health promotion activities (Gruber & Haldeman, 2009). The social environment can facilitate healthy eating and physical activity by creating and demonstrating positive behaviors with the introduction of appropriate nutrition, diet, and physical activities within the family dynamics. This environmental setting provides the primary social learning milieu of children, where exposure to these healthy behaviors can be accepted and maintained (Gruber & Haldeman, 2009).

Parenting Styles

Parenting styles are significant in the family environment where knowledge, attitudes, and behaviors about the importance of establishing proper lifestyle practices and routines can be introduced and exhibited. Parenting styles present general patterns of behaviors and provide the emotional background for children where interpretations by the child include messages of responsiveness and demandingness of the parent (Rhee, Lumeng, Appugliese, Kaciroti, & Bradley 2006; Rhee, 2008). These interpretations set boundaries, responsibilities and levels of control in the parent-child relationship that can be associated with a child's health (Rhee et al., 2006; Rhee, 2008). There are four classic parenting styles (Maccoby & Martin, 1981) that have been identified in the parent-child interaction; (a) authoritative (respectful of child's opinion but maintains clear boundaries); (b) authoritarian (strict disciplinarian); (c) indulgent (permissive and without discipline); and (d) neglectful (emotionally uninvolved and does not set rules). Figure 3 presents classic parenting styles.

Figure 3. Parenting Styles

	High expectations for self-control	**Low expectations for self-control**
High sensitivity	**Authoritative:** Respectful of child's opinions, but maintains clear boundaries	**Permissive:** Indulgent, without discipline
Low sensitivity	**Authoritarian:** Strict disciplinarian	**Neglectful:** Emotionally uninvolved and does not set rules

Figure 3. Parenting style defined by 2 dimensions of (a) demands for maturity or self-control and (b) sensitivity and emotional involvement. From "Parenting Styles and Overweight Status in First Grade," by K.E. Rhee, J.C. Lumeng, D.P. Appugliese, N. Kaciroti, and R.H. Bradley, 2006, *Pediatrics, 117,* p. 2048. Copyright 2006 by the American Academy of Pediatrics. Reproduced with permission.

These parenting styles create the emotional climate within the family environment and are important factors that can facilitate how children perceive the level of family social support in the adoption of health behaviors. The most positive outcomes of child weight status have been found with the authoritative parenting style (Rhee et al., 2006). These positive outcomes may have resulted because of the dynamic engagement and/or involvement of parents which allows the child to be more receptive to parental directives and contributes to child competence and self-regulation (Twiddy et al., 2012). Rhee et al. (2006) found that children of authoritarian parents were almost five times as likely to be overweight than authoritative parents. Further, because authoritative style promotes self-

regulation children may have more confidence in their ability to adopt beliefs and attitudes that promote health behaviors and weight management.

Hughes et al. (2011) conducted an observational study of different parenting styles to look at differences in the emotional climate created by parents during dinner and the use of behavioral feeding practices. Reports demonstrated that permissive, indulgent parenting styles made few demands for their child to eat and were less negative and intrusive. These parents also showed emotional detachment and minimal involvement during the meal. Authoritarian parents were significantly more intrusive and along with neglectful parenting styles displayed a more negative environment during mealtime. The use of verbal prompts to eat more frequently, reasoning, and positive comments about food were used by authoritarian and authoritative parents thereby having a positive effect on the child's eating behavior. Authoritarian parents engaged in practices such as disapproving and scolding their child as well as hurrying their child to eat which negatively affected the child's eating behavior. The researchers concluded that parental styles have a crucial role during mealtimes and the creation of the emotional climate can impact the child's eating behaviors both positively and negatively.

Parental Involvement

While parenting styles create the emotional climate of the family environment, parental involvement can help demonstrate and shape nutritional, diet and physical activity behaviors. As Urie Bronfenbrenner, the originator of the social ecology framework, posited that the introduction of interventions during a child's development needs to include the child's family because without family involvement any progress that is made is likely to disappear when the intervention is discontinued (Bronfenbrenner,

1974). Other researchers have concurred with this perspective, particularly when implementing interventions involving obesity related health behaviors. As Lindsay, Sussner, Kim, and Gortmaker (2006) stated,

> Parents play a critical role at home preventing childhood obesity…by better understanding their own role in influencing their child's dietary practices, physical activity, sedentary behaviors, and ultimately weight status, parents can learn how to create a healthful nutrition environment in their home, provide opportunities for physical activity, discourage sedentary behaviors…intervention programs can use parental involvement as one key to success in developing an environment that fosters healthy eating and physical activity among children and adolescents. (p. 179)

The family provides the primary social learning environment where parents have the opportunity to communicate, demonstrate and provide motivation where attitudes and health behaviors can change to benefit the family. The family environment provides opportunities to introduce and expose children to food choices, eating habits, and options for physical activities (Gruber & Haldeman, 2009). This is especially relevant if obesity is inherent within the family. A child who is obese between the ages of 10 and 13 has an 80% chance of becoming an obese adult and if one parent is obese, a child has a 50% chance of becoming obese whereas if both parents are obese there is an 80% chance the child will become obese (American Academy of Child and Adolescent Psychiatry, 2011). Parental support and direct involvement by at least one parent can improve a child's short and long-term weight management and improve outcomes (Eckstein et al., 2006; Epstein,

1996; Neumark-Sztainer, Wall, Story, & van den Berg, 2008). Obese parents who participate in obesity treatment interventions with their children have shown a tendency to have positive changes for both, although the effects seem to be longer lasting for children (Wrotniak, Epstein, Paluch, & Roemmich, 2004). Weight management interventions targeting only one family member are unrealistic and detrimental if other members are exhibiting contradictory behaviors. Hence, the creation of a healthy family weight environment by encouraging healthy lifestyle changes is important. Research on family-based obesity interventions suggest they should be multi-dimensional including nutrition, eating and physical activity components (Golan and Weizman 2001; Golley et al., 2010; Twiddy et al., 2012; West et al., 2010; Young, Northern, Lister, Drummond, and O'Brien 2007).

Golan and Weizman's model (2001). Golan and Weizman's (2001, as presented in Figure 4) model the "Familial Approach to the Treatment of Childhood Obesity" suggests that a change in child weight status is influenced by parental cognition and behavioral change, environmental changes, and role modeling. The first component, cognition includes enhancing parental knowledge about nutrition, the ability to understand information on food labels impacting the planning and preparation of balanced meals and the awareness of the benefits from participating in physical activity. This enables parents to provide healthier food choices, promote healthier eating habits, and demonstrate the importance of physical activity. An aspect of this model is the significance of increasing parental self-efficacy by helping parents acknowledge the role they play in imparting healthy eating habits and physical activity behaviors to their child/children, particularly when there are barriers or obstacles present. The model

suggests that, as authority figures, parents need to reframe their parental role and recognize the responsibility of establishing the conditions that promote their child/children's health. The importance of constructive functioning as a parental authority is viewed as a determinant in the establishment and enforcement of guidelines for appropriate dietary habits and physical activity behaviors.

The second component of the model addresses environmental changes, rather than individual changes, that are essential in promoting a healthy lifestyle. Practicing regular routines involving mealtimes and the allocation of appropriate portion sizes helps to establish parameters as an environmental mechanism which influences the dietary intake of individuals. Demonstrating opportunities for leisure time and physical activities, as opposed to passive/sedentary behaviors, can promote and enhance this healthy lifestyle.

Parental role modeling, the third component, assists in establishing the environment in which eating and physical activity behaviors occur. The parent has a significant influence on their child/children's health and wellness by creating opportunities for experimentation through social learning by imitation and observation of the parents. Parents provide a major social learning environment where proper actions when dealing with or overcoming obesity can be demonstrated through modeling appropriate parental decisions and behaviors.

Figure 4. Familial Approach to the Treatment of Childhood Obesity

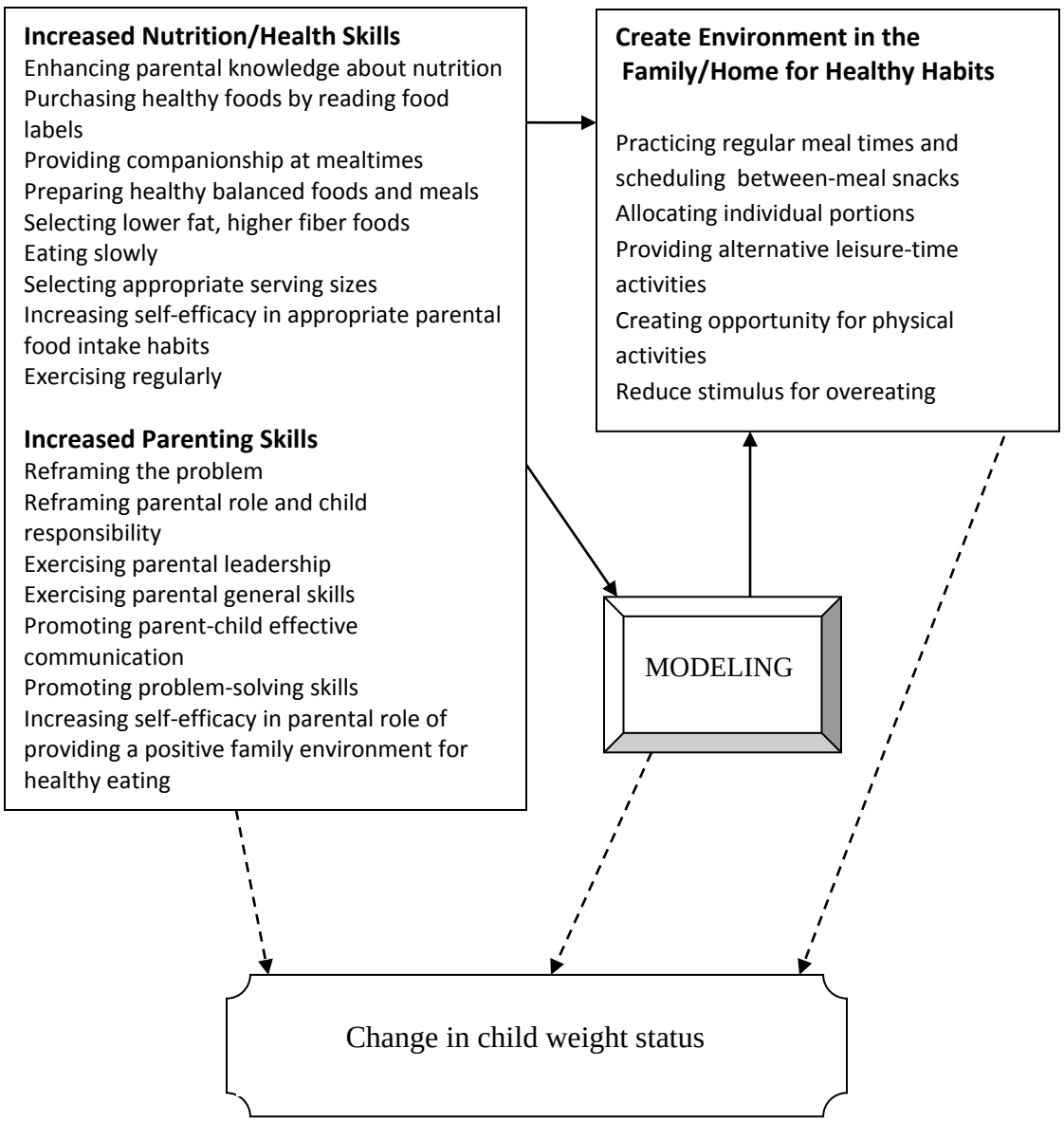

Figure 4. A conceptual model for the management of family healthy lifestyles and child weight status. Emphasis is placed with the parents as the facilitators for this weight change. From "Familial Approach to the Treatment of Childhood Obesity" by Golan, M., & Weizman, A., 2001, *Journal of Nutrition Education*, *33*, p. 104. Copyright 2001 by Elsevier. Reprinted with permission.

Family-based weight management/health behavior interventions – examples. Twiddy et al. (2012) conducted a qualitative research study to explore the views of participants who were part of a community child weight management program aimed at disadvantaged overweight/obese children. The program is presented by trained health professionals and encourages families to focus on how to regulate eating behavior, while preventing weight cycling and binge eating. There is a focus on active lifestyle and emotional wellbeing with activities making links between thoughts and emotional responses that contribute to overeating behaviors. Sessions include healthy eating information and ways to reduce sedentary behavior and increase physical activity levels. Parents are part of the program and are shown how to identify and support progress of their child/children. Interviews were used to collect data from the parent and child to identify lessons learned from their involvement in the program.

Findings indicated that the parents and children had different goals for their involvement in the program. Consequently, weight loss interventions need to identify the goals of the participants and their purpose for participation, otherwise weight loss efforts may be minimized. Parents felt discomfort in denying foods their children wanted and struggled with consistency because they did not want to make weight an issue and withholding desired foods could have negative interpretations by the child. Families who had success felt both parent and child were jointly responsible and dedicated to the program. Facilitators commented that engagement in the program, as a family endeavor, contributed to their success. Consensus from successful families indicated that the child had to be motivated and take a leading role and saw parents in a supportive role. Parents saw motivation as internal to the child not socially constructed or maintained. In

addition, priority for the parents was the child's psychological well-being, such as increased self-confidence, whereas children wanted to lose weight. The researchers concluded that it is important to address parental and child beliefs about obesity, understand the purpose and expectations of all participants, and acquaint participants of the required time commitments to achieve weight management.

West et al. (2010) evaluated the effects of an intervention on parenting and child weight-related behaviors. The intervention taught parents how to rearrange the family environment, encourage healthy behavior and how to prevent and manage weight-related problem behavior. Results found a reduction in body mass index (BMI) of children during the duration of the intervention and at follow-up (one year) BMI had reached clinically significant reductions. Further, three children achieved healthy body size at the follow-up assessment. Twenty-five percent of parents reported weight-related problem behaviors such as, children eating too much, watching too much television, and complaining about doing physical activity were occurring less frequently during the intervention and were clinically significant at follow-up. Parental belief and confidence (self-efficacy) that they could manage weight-related behaviors increased for 20% of the parents during the intervention and 40% reported increased self-efficacy at follow-up. Thirty-three percent of parents reported the use of more effective parenting practices (i.e. giving clear instructions, and consistent responses to misbehavior) and 14% showed clinically significant decreases in using less effective practices (i.e. giving in to child's demands, and getting into arguments with the child). The researchers concluded the intervention improved parenting skills and confidence and reduced child body size after the intervention and at follow-up.

Golley et al. (2010) used a systematic literature review to see the effectiveness of parental interventions that contained improvement techniques of nutrition, dietary and activity patterns of children. The review indicated that effective interventions had features where parents had a higher degree of involvement with parent-led implementation and participation. Behavior change techniques such as using goal setting, barrier identification, and monitoring were found to be beneficial over the duration of the behavior change process. Further, targeting energy intake and/or the density of food choices was an important element. Interventions that were supported by ecological/environmental or behavior change theory seemed to be the most effective. However, translating the theoretical basis into a practical design is essential for the interventions to be effective, particularly for relapse prevention. Findings also indicated that it is more important to focus on a few targeted areas or a range of complex inter-related behaviors instead of a multitude of nutrition and activity behaviors. Prioritizing intervention content will maximize its effectiveness.

Edwardson and Gorley (2010) examined, through a systematic review of cross sectional and longitudinal research, parental influences on the intensity of youth physical activity. The review separated youth into two groups: child (6-11 years old) and adolescents (12-18 years old). To facilitate physical activity for six to eleven year olds, direct parental involvement (actual participation) needs to occur. Children of this age indicated that if they perceived their mother or father to be physically active they were more likely to engage in physical activity. Also, broader support such as providing transportation and encouragement were necessary for those children who participated in organized physical activities. Along with parental encouragement, support and

transportation, adolescents reported positive parental attitudes towards physical activity were important to them. Both groups reported parental role modeling, where parents can and are active, was central to their physical activity with the fathers activity levels influencing adolescents overall physical activity. The researchers concluded that educating parents, particularly fathers of how their actions through role modeling and support can influence youth physical activity participation is essential in an intervention design.

Berry et al. (2014) examined the results of a randomized controlled trial intervention program on weight (BMI), adiposity, health behaviors, and self-efficacy for low income, ethnic minorities. Participants were overweight or obese children (2^{nd} to 4^{th} grade) with their overweight or obese parents. The experimental group received a two phase nutrition and exercise education intervention program designed to increase self-efficacy and improve health behaviors while developing skills in goal setting, problem solving, and conflict resolution. Data was collected at pre-intervention, 3 months after phase 1, 12 months after phase 2, and 18 months (6 months after phase 2). Results indicate that there was no significant reduction in the BMI percentile for children. Experimental group parents demonstrated a significant decrease in BMI whereas control group parents showed an increase in BMI. Children decreased their consumption of soda to less than one glass per day and increased their dietary knowledge while parents increased nutrition and exercise knowledge. Parents also consumed more water and unsweetened beverages. There was little effect on parent and children's exercise habits. At 18 months, children's self-efficacy for eating or exercise was not significant; however, parents did demonstrate improved self-efficacy with eating in social circumstances but

not in emotional eating or exercise self-efficacy. The researchers concluded that eating self-efficacy may be easier to change than exercise self-efficacy but it is an important part of behavior change and interventions may need to take more time with this construct. Recidivism rates are high with weight loss and interventions that treat the entire family may be a better approach for success.

Siwik et al. (2013) used a mixed methods research design to collect data on a healthy lifestyle change intervention. Quantitative data were measured at baseline and every 3 months for up to 15 months and qualitative data was collected, via interviews, at 12 to 18 months and again at 18 to24 months. The intervention was designed where participants made informed choices related to nutrition, television viewing, intake of sugar-sweetened beverages, fast food, and physical activity. The concept of the intervention was to allow participants to modify their individual lifestyles in relationship to their goals. The intervention targeted third through fifth grade (8 to 11 years old) children with a BMI above the 85th percentile and their parents.

Intervention results showed that children decreased their BMI and became less sedentary and physical activity of children increased using higher intensity activities. Interviews at 12 to 18 months suggested that behavior change was lasting and children who avoided vegetables will now willingly eat them and soda consumption was now replaced with water. Children increased participation in organized activities and had more enjoyment of physical activity. Parents reported they were enthusiastic and felt their roles were more clearly defined. Interviews at 18 to 24 months revealed that more than half the families' maintained new behaviors and children were on new growth and physical activity trajectories. Parents commented there was a shift in family dynamics

and a shared belief that supporting an environment of new approaches enhanced parenting skills. There was a sense that new knowledge and enhanced self-efficacy contributed to improved healthy lifestyle choices.

Role Modeling

Role modeling is a parenting practice where parents can indirectly influence their children's health behaviors through their personal attitudes and actions that are observed by the child (Bandura, 1977a, 1986). Tibbs et al. (2001) defined parental modeling as "a process of observational learning which the behavior of the parents acts as a stimulus for similar behavior in his or her child" (p. 1). Modeling can enhance or diminish a child's understanding of health behaviors by the parent's social responses and through their engagement and adoption of nutrition, dietary and physical activities and helps to develop children's attitudes, values, and preferences toward health and lifestyle behaviors (Rhee, 2008; Draxten et al., 2014; Van Lippevelde et al., 2013). Role modeling is also a resource used by children to develop their confidence to perform these behaviors (Bandura 1977a, 1986, 1997; Wright et al., 2010). Family interventions may be enhanced with the inclusion of role modeling because it lends itself to a form of indirect social support that encourages children with the adoption of these behaviors (Wright et al., 2010). Consequently, these social factors contribute to a more comprehensive understanding of nutritional, dietary, and physical activity actions of children and families.

Parental Role Modeling Health Behavior Based Interventions – Examples

Draxten et al. (2014) examined the associations between parent and child reports of parental role modeling of fruit and vegetable consumption at snack and dinner time

and whether parental role modeling was associated with children meeting recommended daily servings of fruits and vegetables. Utilizing both parent and child reports of role modeling, results indicate similar perceptions from parent and child, although only statistically significant for fruit and green salad at dinner. Parental role modeling of fruit at snack time were more likely to have children who met dietary guidelines for fruit and vegetable consumption. Children were more likely to meet recommended fruit and vegetable consumption when they reported parents who role modeled vegetable consumption at snack and dinner time. Children reported being aware of some of their parents eating behaviors and on occasion reported similar behavior. Consumption of fruits and vegetables was very low at snack time and 23% of children met the recommended consumption of fruits and vegetables. The authors commented that the study demonstrated that increasing healthful dietary habits among children may increase with parental role modeling of fruits and vegetables at snack time and salad at dinner.

Van Lippevelde et al. (2013) investigated the associations with children's (10 to 12 years old) fruit and soft drink consumption with family related factors (i.e. parental modeling, parental self-efficacy, availability, allowance and drinking together). Frequency and parental role modeling had a positive association and were strong predictors and correlates for the volume of family consumption; the more the parents drank the more the children consumed. Fruit and soft drink intake were positively associated with family factors of parental modeling, availability, and drinking together. Low parental self-efficacy of sticking to the rules and parental allowance created problems for soft drink consumption and were associated with the children's soft drink intake. Availability was associated with children's intake of sugar sweetened drinks. The

researchers conclude that family-based interventions which focus on family related factors target specific behaviors and that parental role modeling and family consumption are related to dietary intake.

Wright et al. (2010) utilized qualitative data to assess how parental role modeling and parental social support affects physical activity of 10 to 14 year old children from minority, low income families. Focus groups of children participants were used to establish and analyze data in reference to role modeling and social support. Findings suggest that role modeling activities happened infrequently; however, parents provided emotional support for their children's activities. Females received more negative support such as having to go outside to play with a sibling, while boys received more tangible support although both wanted to have more tangible support for physical activity. Boys showed a priority for sports-related activities and preferred being active with their fathers rather than being on their own. Girls wanted sports and recreational activities although more wanted an opportunity to be involved in organized sports. A majority of participants lived in female lead single parent households and wanted their parents to be more directly engaged in their physical activities. The researchers concluded that parents are key players in encouraging and providing opportunities for their children's physical activities and parental role modeling and social support are important elements in program design.

Berge et al. (2012) conducted focus groups using multiple (26) families with multi-family members (8 years and older) to gather information and explore what family members thought were important perceptions and factors for healthy eating and physical activity. More specifically, they gathered data on what challenges, successes, and suggestions families have in helping younger family members improve healthy eating

and physical activity. Challenges families encountered were time constraints, accessibility, and stage of youth development. Time constraints included such things as parents' working hours, busy schedules and obligations. Accessibility challenges revolved around cost, location, and safety barriers. Families found it challenging to find activities to do for adolescent age and younger children together. Individual and family investments were identified as important for families to succeed with improving healthy eating and physical activity. They felt the individual and family needed to invest and contribute in health behaviors as a team to be successful and supporting other family members when trying new things was helpful for success. Suggestions for improving family member healthy eating and physical activity were to involve the whole family in creating meal and activity decisions, making it part of the family routine and having fun while doing it. Parental role modeling, in conjunction with recognizing positive feelings of being healthy, were vital elements if families were to be successful. Families identified the possibilities of partnerships with community entities and organizations that can contribute to healthy lifestyles for the entire family.

Organizational Wellness Programs – Examples

Many organizations have offered wellness programs to their employees and have examined biometric data as outcomes of their wellness programs. Examples from Florida Power and Light, Dow Chemical Company and a Western School District are used to illustrate these outcome measures. In addition, an example from IBM is presented to look at how an organization-provided wellness program that includes a family component impacts family health behaviors.

Florida Power and Light

Partnership for Prevention (2009) reported on the FPL (Florida Power & Light) Group WELL Steps to Success (STS) obesity program. The program was developed to help employees reduce body weight, prevent further weight gain, make better food and physical activity choices to improve blood lipids and blood sugar. The mission of the program was to provide an integrated experience that would lead to improved health and well-being through the following: an initial physical exam to assess the employee's health; one-on-one counseling sessions with the dietitian, fitness specialist, and behavioral coach to provide assessment and goal setting; group sessions to provide social support; and follow-up contact to provide motivation and engagement. Outcomes reveal that participants averaged a 4% BMI decrease with 41% lowering total cholesterol, and 69% lowering their blood glucose to less than 100 mg/dL.

Dow Chemical Company

Goetzel et al. (2010) evaluated the Dow Chemical Company obesity prevention intervention, "Lighten UP Program" to study the effects of employee overweight and obesity rates and associated health risks using biometric and behavioral measures. The program was designed to evaluate an environmental/social-ecological intervention program at 12 worksites (5 high-intensity, 4 moderate-intensity, and 3 control groups) to prevent and manage overweight and obesity. All sites received a core set of individual-based health programming with moderate sites getting additional environmental prompts and point-of-choice messaging to encourage healthy food choices and physical activity. High-intensity sites received the same elements as the moderate sites along with additional components meant to influence organization culture and leadership

commitment to employee health – which included setting management training and objectives on health related topics, sending achievement reports to corporate offices, and incorporating health behaviors as a part of managements goals. Employee health was considered an important business objective and leadership was held accountable for employee's engagement in health promotion programs. Results found that average weight and BMI was unchanged at the intervention sites but had increased 1.3 pounds and 0.2 BMI point values at the control sites over two years. Intervention subjects experienced greater net improvement with blood pressure and total cholesterol readings than control group subjects with effects being more pronounced at the high-intensity sites. Blood glucose levels increased for both the intervention and control groups. There was a significant net reduction with nutritional behavioral risk factors at the moderate and high-intensity intervention sites and a net reduction of poor physical activity at the high-intensity locations.

Western School District

Merrill and Sloan (2014) evaluated the effectiveness of a worksite health promotion program, based on social cognitive theory, in decreasing health risks of employees of a school district in the western United States. The study looked at five areas that are known to be risk factors for obesity – BMI, glucose, total cholesterol, systolic and diastolic blood pressure. Many of the participants, especially those who were higher risk at baseline, were able to reduce their high risk status to lower risk categories. BMI scores for both men and women were higher than national averages at baseline with men three points and women one point higher. A large percentage of participants lowered their BMI, systolic and diastolic blood pressure, glucose and total cholesterol.

Participants who were overweight at baseline were 14% more likely and those who were obese at baseline were 26% more likely to lower their BMI compared to those of normal weight. Average systolic blood pressure increased for men but decreased for women while the average diastolic blood pressure decreased for both men and women. Overall, there were some participants who transitioned to higher risk categories but the numbers were small and the program intervention effectively improved biometric scores over the course of one year.

IBM Children's Health Rebate

Sepulveda, Lu et al. (2010) reported using an observational study on the IBM Children's Health Rebate program. IBM launched an action-oriented, web-based health and wellness program for parents and children and offered a $150 cash rebate as an incentive for participating and completing the program. The program had four focus areas: (a) adequate physical activity, (b) consistent healthy eating, (c) appropriate screen time, and (d) positive parental role modeling. In the inaugural year more than 22,000 employees participated with approximately 11,000 completing the requirements for the rebate. To be eligible for the rebate participants needed to complete an online family inventory identifying current eating and physical activity patterns. Once the inventory was completed, the family set action goals such as preparing healthy meals together or engaging in family physical activities. After 12 weeks the family completed the inventory again. Study findings indicate that two-thirds of employees reported that their children were exercising more or maintaining appropriate physical activity levels. Fifty-nine percent of children and 64% of adults improved body weight or maintained a healthy weight. There was a reduction in screen time and healthy eating and physical activity

behaviors showed improvement. Children eating a healthy breakfast and dinner increased by 12% while family involvement with choosing, preparing, and eating healthy meals together increased by 8% after the intervention. Children's physical activity levels over five days per week increased 16% and participating in physical activities, as a family, five or more days a week increased 17%. There was a reduction in screen time for both parent and child and improvements of healthy snack intake and children's fruit and vegetable consumption. The authors concluded that adult role modeling and co-participation in family-focused activities can promote behavior change and participants revealed that family-centered collaborations were the most valuable.

CHAPTER III

METHODS

Purpose of the Study

The aim of this study was to explore parental perceptions of self-efficacy, role modeling and factors considered important by parental participants that help contribute to positive family health practices from an employer-provided family wellness initiative in promoting health and weight management. The study used a two-phase mixed methods sequential design (Creswell, 2009). During the first phase, biometric and survey questionnaire (from parents) data that were collected by the organization as part of an employer-provided family weight management program were examined to look for relationships between parental perceived capability (self-efficacy) and role modeling of nutrition, eating habits, physical activity, and any correlations with biometric data of BMI, cholesterol, glucose and blood pressure. During the second qualitative phase, program documents were reviewed and semi-structured interviews were conducted with parental participants (informants) to explore their personal experiences with self-efficacy and role modeling of family health and weight management issues and their views with factors that help contribute to positive family health practices. Multiple cases, from within the employer-provided family wellness program, were selected using purposeful sampling to probe and gain a better understanding of the quantitative results and the parents' perspectives.

Research Questions/Hypotheses

For the first, quantitative phase of the study, the guiding research questions are: (a) what is the relation between parental perceived capability (self-efficacy) of weight

management factors (i.e., nutrition, eating habits and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure? and (b) what is the relation between parental role modeling of weight management behaviors (i.e., nutrition, eating habits and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure? Specifically, the hypotheses are:

$H_{1a:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{1b:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{1c:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2a:}$ There will be significant statistical relationships between parental role modeling of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2b:}$ There will be significant statistical relationships between parental role modeling of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2c:}$ There will be significant statistical relationships between parental role modeling of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure.

For the second, qualitative phase of the study, the guiding research question is: What factors are considered important by parental participants that help contribute to positive family health practices in an employer-provided family health and weight management program? With sub questions: (a) how do parental participants view their perceived capability (self-efficacy) for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity? and (b) how do parental participants view their use of role modeling for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity?

Research Design

This study used a mixed methods design that used both quantitative and qualitative data within a single study (Creswell, 2009; Tashakkori & Teddlie, 2003). The combination of methods complement and allow for a more complete analysis of the complex issue of factors parental participants consider important for family success in an employer-provided family health and weight management program. With quantitative research, variables are established based on theories as to how phenomena occur and hypotheses and research questions are created. The variables are assigned numeric data and are typically measured with survey instruments or questionnaires. The resulting data from these instruments are used to determine a frequency of relationships and allows for a degree of predictability between the variables (Creswell, 2009).

Alternatively, qualitative research is “an inquiry process of understanding” where the researcher develops a “complex, holistic picture, analyzes words,” and “reports detailed views of informants” (Creswell, 1998, p.15). Case studies are used to investigate

phenomena within its real-life context and rely on multiple sources of evidence with the convergence of data (Yin, 2003).

A mixed methods approach uses both quantitative and qualitative techniques and strategies in a way that the data collection and results are complementary (Green, Caracelli, & Graham, 1989; Tashakkori & Teddlie, 1998). Researchers choose approaches utilizing variables and units of analysis which are most appropriate for finding answers to the research questions (Tashakkori & Teddlie, 1998). The researcher uses these results to develop a more comprehensive understanding of the phenomena of interest.

In designing a mixed methods study, three issues need consideration: priority, implementation, and mixing (Creswell, 2009; Creswell, Plano Clark, Guttman, & Hanson 2003). Priority refers to which method, either quantitative or qualitative, is given more emphasis in the study (Creswell, 2009; Creswell et al., 2003). Implementation refers to whether the quantitative and qualitative data collection and analysis comes in sequence, chronological stages, or concurrently and mixing refers to the phase in the research process where the data bases are merged (Creswell, 2009; Creswell et al., 2003).

This study used a mixed method sequential design for collecting, analyzing, and mixing both quantitative and qualitative data to explore and understand the research questions more completely (Creswell, 2009). Implementation of the study consisted of two phases. In the first phase, quantitative information was examined using biometric and survey (from parents) data that were collected as part of the employer-provided family weight management program. Analysis was conducted with the goal of identifying the predictive power and frequency of relationships of the selected variables;

parental self-efficacy and role modeling of behaviors, which may theoretically impact biometric measures and family weight management. The analysis and results assisted in connecting and purposefully selecting informants for the second phase of the study. In the second phase, a qualitative multiple case study approach, consisting of several cases from within the organizations family wellness program, was used to collect text data through semi-structured interviews with parental participants to help explain what factors parental participants consider important for family success in an employer-provided family health and weight management program.

Further, the researcher explored the parental participants' perspectives on their perceived capability (self-efficacy) and role modeling in respect to nutrition, eating habits, and physical activity for successful family health and weight management. The rationale for this approach was that quantitative data and results provide a general picture of the research problem, while the qualitative data and its analysis will explore the participants' views and personal experiences in depth. The quantitative and qualitative methods were connected at the beginning of the qualitative phase while selecting the participants for the case study analysis. The results of the two phases are mixed during the discussion of the outcomes for the whole study. A visual model of the procedure for the sequential mixed method design of this study is presented in Figure 5.

Figure 5. Sequential Design

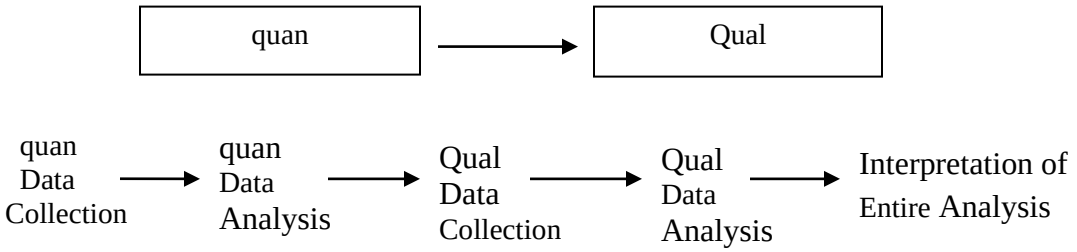

Figure 5. Illustrates the outline of data collection and analysis for the sequential design of the study. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (p.209) by J.W. Creswell, 2009, Thousand Oaks, CA: SAGE Publications. Copyright [2009] by SAGE Publications, Inc. Books. Adapted with permission.

Research Site

Access to the research location, a not-for-profit healthcare business located in southeastern United States, was created due to the academic and working partnership between Florida International University (FIU) and the organization. The organization provides healthcare and wellness services at multiple sites in the southeastern United States and wellness programs are designed for the community as well as employees of the organization. While traditional wellness programs focus on the individual, the organization introduced a family weight management program for employees and their families by including the family as an integral component in making healthy behavior changes. Participants of the program come from diverse backgrounds and economic levels and this diversity provides an opportunity to explore multi-cultural perspectives while the participants are dealing with the commonality of family weight management issues. The organization promotes the philosophy that employees and their families are

their most valued resource and develop programs by creating and nurturing an environment where they can enhance their physical and emotional well-being by incorporating similarities and differences. Consequently, this may provide the organization with additional knowledge and insight into more inclusive and diverse programs. The establishment of a wellness program, has and continues to be, a priority for the organization in an effort to attract and keep employees and their families healthy in their wellness initiatives by educating them on assuming responsibility for their own health while providing literature, programs, staff resources and other materials to assist and support employee and family health and wellness efforts (L. Holzwarth, personal communication. May 8, 2014).

Implementation of wellness programs occurs for many reasons such as building morale and loyalty to the organization, the enticement of new employees, the creation of a more pleasant working environment, supporting employee and family health goals, and reductions in long-term health costs (Goetzel & Ozminkowski, 2008; Harter & Agrawal, 2012; Loeppke et al., 2007). Because the organization's employee and dependents' health insurance is offered through a self-insured program provided by the organization, management recognizes that unhealthy employees and dependents increase costs for the organization and individuals as a result of productivity loss, absenteeism, and medical costs, to name a few examples. Accordingly, the organization has adopted the mission to improve the health and wellness of employees, families of employees and the individuals they serve. The purpose of employee wellness is to develop programs that create the healthiest workforce in America (L. Holzwarth, personal communication, May 8, 2014). Consequently, the organization continually strives to find innovative and creative

programs to address the needs of the employees, their families, and those affected by the organization.

Program Design

With the prevalence of obesity and overweight being a growing trend (Ogden et al., 2012; Wang et al., 2008), the organizations wellness staff recognized that employees and their families were also dealing with family obesity concerns and introduced a family health and weight management program as an organizational health and wellness initiative to help improve the health of their employees families. The premise of the program is that to be successful in managing overweight and obesity within families, the issue(s) needs to be addressed as a family. The program provides educational material on nutrition, eating habits, physical activity and parental role modeling with special emphasis on addressing overweight and obese dependents of employees between the ages of 8 and 12 years.

The program is an 8-week course that consists of classes that meet once a week for two and a half hours in a meeting room at one of the organizations hospitals. Organizational wellness staff consisting of a registered dietitian, a family therapist, and an exercise physiologist teach the program classes. Each class is designed to improve health and wellness through nutrition education, physical activities, stress management, and behavior change(s). In addition, participants are issued pedometers and are encouraged to maintain different logs (i.e. food, physical activity, and screen time) to be used for discussion(s) at future classes. Further, additional "homework" is assigned, such as, recording hunger/satiety scale numbers, doing family activities together, and reading food labels. The organization's staff collected biometric data from the parents and

child/children at two different times (beginning of the program and four weeks after the program ends). The biometric screenings consist of: age, height, weight (BMI), cholesterol, glucose, and blood pressure. Prior to the collection of any biometric data, a consent and release form is signed. At the beginning of each class a dinner is served that represents an appropriate balanced meal and at the end of each class a giveaway is provided to the participants. The following provides an overview for each class.

Class 1 – Introduction: During the introductory class, participants are introduced to staff and talk about the definition of health and wellness, as well as the expectations and purpose of the program. From the onset, parental participants are informed of the importance of modeling proper health and wellness behaviors for their child/children. Verification of the consent and release form is completed and initial biometric data is collected from the parent(s) and child/children. Each succeeding class has a general theme that is used for discussion and educational purposes. Giveaway: Pedometer and walking DVD.

Class 2 – Physical Activity/Play: A discussion on the importance of exercise and how to make time to be physically active is the focus of the second class. Different types of physical activity are presented and ways to log and maintain physical activities are demonstrated, particularly the importance of outside play. A nutritional activity on how to count servings of fruits and vegetables is presented and a homework assignment of participating in family physical activities together is given. Giveaway: Toys (for active play) and children's DVD (encouraging physical activity).

Class 3 – Healthy Food Selections: An introduction on how to make healthier food choices and selections using the MyPyramid (prior to June 2011) and MyPlate (after

June 2011) as a guide is provided to the participants during the third class. MyPyramid and MyPlate are nutrition guides published by the United States Department of Agriculture. MyPyramid was designed to educate consumers about a lifestyle consistent with the January 2005 Dietary Guidelines for Americans. MyPlate depicts a place setting with a plate and glass divided into five food groups consisting of sections of approximately 30% grains, 30% vegetables, 20% fruits and 20% protein, accompanied by a smaller circle representing dairy, such as a glass of low-fat/nonfat milk or a yogurt cup. Explanations as to the different types of foods and their effects on the body are provided. The homework assignments include creating meals using MyPyramid and MyPlate and family activities such as grocery shopping as a family. Using the pedometers, a physical activity goal is created and is to be completed by the next class. Giveaway: Copy of MyPramid and MyPlate.

Class 4 – Role Modeling: During the fourth class, how to be a good family member and good team member are discussed as it relates to the importance of role modeling healthy choices and behaviors. Parents and children are then split into groups where appropriate level discussions on role modeling take place. An exploration of "emotional eating" is overviewed with the parents and the consequences of such behaviors. Homework is given to hold a family meeting to discuss the roles in the house and the importance of working as a team. Using the pedometers, a physical activity goal is created and is to be completed by the next class. Giveaway: Tai Chi DVD.

Class 5 – Food Portions: Lessons are given on food portion control by measuring, visualizing and understanding the meaning of portions during the fifth class. Food label reading is introduced as a means of educating the participants on the terms used on the

labels and what the information on food labels represents. A nutritional activity is assigned for homework where the participants use measuring cups at least three times per week to help in understanding portion size and what the portions look like visually. Using the pedometers, a physical activity goal is created to be completed by the next class. Giveaway: Measuring Cups.

Class 6 – Stress Management: During the sixth class, participants are introduced to the concept of using physical activity for stress management and how stress can result in poor eating habits. The use of a hunger/satiety scale to determine hunger and alternative positive choices in dealing with stress are offered to participants. A nutritional activity is assigned for homework where participants are to use the hunger/satiety scale to determine hunger and the families are to help each other identify positive choices when dealing with stress. Using the pedometers, a physical activity goal is created to be completed by the next class. Giveaway: Yoga DVD.

Class 7 – Communications: A discussion on how to communicate as a family when dealing with eating habits, nutrition, and physical activity issues or concerns while helping each other through change is the focus of the seventh class. The significance of changing habits and behaviors is highlighted and the value of having communication with each other while dealing with "breaking" negative or bad behaviors is emphasized. Using the pedometers, a physical activity goal is created to be completed by the next class. Giveaway: Today I Cards (reference to changing behaviors).

Class 8 – Relapse Prevention: During the final class a discussion on relapse prevention and a reiteration on helping and working together as a family is underscored. Staff asks participants to take a symbolic pledge to help each other with nutrition, eating

habits and physical activity. A homework assignment, using the pedometers, of a physical activity goal for each week for the next six weeks is created. Giveaway: Nutrition in the Fast Lane and Weight Watcher Books.

Follow-up: Four weeks after the program ends a final set of biometric data were collected from the parent(s) and child/children. The organization's wellness staff sent survey questionnaires to past parent (adult) participants of the family weight management program to identify areas of weakness or concern of program components. Particularly, the survey asked questions referencing parental self-efficacy and role modeling of nutrition, dietary habits, and physical activities since these are foundational areas of the program. The survey also solicited feedback from the parental (adult) participants with the intention of using the results to assist with the organization's wellness program development efforts.

Participants

Employees and their families were recruited into the program through a volunteer application with no cost to or remuneration for the participants. Part of the application process asks participants to explain why involvement in the program is important for their family. The applicants and their families are asked to commit to attending all the classes in the program.

Procedures

The researcher completed the organizations requirements to gain access to biometric information, program materials and the parental participants for interviews. An informed consent document that asked parental participants to allow the researcher to gain access to their information as part of program participation was signed by the parent

participants. The informed consent stated that the participants have certain rights and an acknowledgement of these rights if they agreed to be in the study. A copy of the informed consent form was given to the participants to keep for future reference. Participants in the study were given information as to the scope of the research project and offered confidentiality. Those participants selected for individual interviews were assigned a pseudonym, which was used in the description and reporting of the results. The researcher collaborated with the organization's wellness staff to gain access to program documents and biometric information on the participants. Each participant was assigned an identifier that permitted the merging of survey questionnaire data and interview text data with the participant's health and personal data. The final merged data set in the analysis does not contain individual identifiers. Only the researcher has access to the merged data. Participants were informed of the potential that the study results may be shared with the academic, professional, and healthcare communities; however, the ability to trace any responses or information to individuals will not be possible. Interview recordings and transcripts are being kept in a locked file cabinet in the researcher's home office and will be disposed of after an appropriate time period. Original biometric data and program documents will remain with the organization's wellness program staff.

Phase I – Quantitative Data Collection

Independent Variables

Parental self-efficacy nutrition, parental self-efficacy eating habits, parental self-efficacy physical activity, parental role modeling nutrition, parental role modeling eating habits, and parental role modeling physical activity are the independent variables. These

variables were identified through literature related to personal, social, environmental and familial research associated with family weight management (Davison & Birch, 2001; Golan &Weizman, 2001) and were part of the programs' data collection from the participants.

As part of the family health and weight management program, the organization's wellness staff collected these data via survey questionnaires designed for the program. Survey questionnaires were given to the parents and used for scoring of the independent variables: parental self-efficacy (nutrition, eating habits, and physical activity) and parental role modeling (nutrition, eating habits, and physical activity). The survey questionnaire contained items of different formats: asking for one option or all that apply, multiple-choice, self-assessment items measured on a Likert-type scale and open-ended response questions. The questionnaire consisted of 80 questions which were organized into 8 sections: demographics, parental self-efficacy nutrition, parental self-efficacy eating habits, parental self-efficacy physical activity, parental role modeling nutrition, parental role modeling eating habits, parental role modeling physical activity, and an open-ended question.

Demographics. The first section of the survey asks the participants to provide answers to demographic questions. Information pertaining to involvement of food choices and physical activities, preparation of meals, educational level, and family income was included. Some questions in this section of the survey have an "other" option to provide an additional answer that may not be provided.

Parental self-efficacy - nutrition. The second section of the survey asked questions regarding parental self-efficacy of nutrition which are measured on a 10-point

Likert-type scale from “not at all confident” to “totally confident.” Questions are prefaced with the statement: “How confident are you that you can understand and/or use…” followed with subsequent questions such as: “the nutrition facts panel?” and “the recommended serving size?”

Parental self-efficacy - eating habits. The third section of the survey asked questions regarding parental self-efficacy of eating habits which are measured on a 10-point Likert-type scale from “not at all confident” to “totally confident.” Questions are prefaced with the statement: “How confident are you that you can stick to a healthy diet…” followed with subsequent questions such as: “when you are feeling restless or bored?” and “when you are preparing meals for others?”

Parental self-efficacy - physical activity. The fourth section of the survey asked questions regarding parental self-efficacy of physical activity which are measured on a 10-point Likert-type scale from “not at all confident” to “totally confident.” The questions are prefaced by the statement: “How confident are you that you can stick to participating in physical activity four (4) or more times a week…” followed by questions such as: “when you are feeling tired?” and “when you are feeling under pressure from work?”

Parental role modeling - nutrition. The fifth section of the survey asked questions regarding parental role modeling of nutrition which are measured on a 5-point Likert-type scale from “never” to “always” with a demarcation value at each point on the scale. The questions are prefaced with the statement: “How often does your child/children observe you…” followed by questions such as: “using the nutrition facts panel?” and “using the recommended serving sizes?”

Parental role modeling - eating habits. The sixth section of the survey asked questions regarding parental role modeling of eating habits which are measured on a 5-point Likert-type scale from "never" to "always" with a demarcation value at each point on the scale. Each question is prefaced with the statement: "How often does your child/children observe you…" followed by questions such as: "preparing meals at home?" and "eating fruits and vegetables?"

Parental role modeling - physical activity. The seventh section of the survey asked questions regarding parental role modeling of physical activity which are measured on a 5-point Likert-type scale from "never" to "always" with a demarcation value at each point on the scale. The questions are prefaced by the statement: "How often does your child/children observe you…" followed by questions such as: "use physical activity for relaxation or stress relief?" and "walking/biking around the neighborhood?"

Open ended question. The last section of the survey, section eight, provides an opportunity, using an open-ended question, for the participants to share any additional information regarding their experiences with the program.

Dependent Variables

For this phase of the study, the researcher used the parent participant's biometric data that was collected as part of the program. Biometric data are key components in creating health risk appraisals which help in understanding an individual's level of risk and susceptibility to potential health problems. This risk profile can assist in determining courses of action and help reduce or change the negative outcomes associated with poor biometric readings. In this study, biometric readings for BMI, cholesterol, glucose, and blood pressure were used as the dependent variables. The organizations wellness staff

collected biometric data from the parents at two different times (beginning of the program and four weeks after the program ends). The biometric screenings consist of: body mass index (BMI), cholesterol, glucose, and blood pressure.

Body mass index (BMI). Body mass index (BMI) for adults is a general measure of an individual's overall body fat. It is an index consisting of a weight-to-height formula to classify the status of an individual. This formula takes a person's weight in kilograms, divided by the square of his/her height in meters (kg/m^2). A BMI that is greater than or equal to 25 is considered overweight and a BMI that is greater than or equal to 30 is obese (Centers for Disease Control and Prevention, 2014c).

Cholesterol. Cholesterol is a waxy, fat-like substance the human body needs and if too much is in the blood, it can build up on the walls of arteries and lead to heart disease and stroke. *Low-density lipoprotein* (LDL) cholesterol makes up the majority of the body's cholesterol. LDL is known as "bad" cholesterol because having high levels can lead to a buildup in the arteries and result in heart disease. *High-density lipoprotein* (HDL) cholesterol absorbs cholesterol and carries it back to the liver, which flushes it from the body. High levels of HDL, or "good" cholesterol, reduce the risk of heart disease and stroke. *Cholesterol ratio* is calculated by dividing the total cholesterol number by HDL. For example, if a total cholesterol number is 200 and HDL cholesterol is 50; total cholesterol ratio is 4:1. A cholesterol ratio at or below 5:1 is advantageous, with the ideal cholesterol ratio at 3.5:1 (National Institutes of Health 2014a).

Glucose. Glucose is a type of blood sugar that comes from carbohydrates in foods, the main source of energy used by the body. Glucose levels between 70 and100 milligrams per deciliter (mg/dL) are considered normal. Fasting glucose levels of 100-

125mg/dL can be a type of pre-diabetes, which increases the risk for diabetes; and a level of 126 mg/dL and higher most often means a diagnosis of type-2 diabetes (National Institutes of Health 2014b).

Blood pressure. Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps blood. Blood pressure is measured as systolic and diastolic pressures. Systolic refers to blood pressure when the heart beats while pumping blood. Diastolic refers to blood pressure when the heart is at rest between beats. Blood pressure numbers are written with the systolic number above or before the diastolic number, such as 120/80 mmHg (the mmHg is millimeters of mercury which are the units used to measure blood pressure). Figure 6 shows normal blood pressure numbers for adults. It also shows which numbers put an individual at greater risk for health problems. Prehypertension means that an individual is at risk of hypertension, unless steps are taken to prevent it. Categories for blood pressure levels in adults are measured in millimeters of mercury, or mmHg (National Institutes of Health 2014c).

Figure 6. Blood Pressure Categories and Readings for Adults

Category	Systolic (top #)		Diastolic (bottom #)
Normal	Less than 120	*And*	Less than 80
Prehypertension	120–139	*Or*	80–89
High blood pressure			
Stage 1 Stage 2	140–159 160 or higher	*Or* *Or*	90–99 100 or higher

Figure 6. Presents guidelines for normal, prehypertension, and high blood pressure for adults. From "Blood Pressure Measurement," by The National Institutes of Health, 2014, adapted and retrieved from http://www.nlm.nih.gov/medlineplus/ency/article/007490.htm

Phase I - Quantitative Data Analysis

Analysis was based on data from the respondents who completed the survey questionnaires and biometric data collection. Data was entered in Statistical Package for Social Sciences Software (SPSS) version 23 for statistical analysis. Characteristics were analyzed using descriptive statistics including frequency, mean, and standard deviation. Pearson correlation coefficients were calculated to examine the association between variables. An alpha level of .05 (one-tailed) was used in all the hypothesis tests. Linear regression analysis was used to further test the unique contribution of the independent variables in predicting the dependent variables. An alpha level of .05 was used in the regression analysis. Further, a paired samples repeated measures *t* test (alpha level .05, one tailed) was used to examine the significance of the mean differences of the biometric measures. The results of the analysis are reported in the form of a discussion.

Phase II – Qualitative Data Collection

While suggestions for sample sizes in qualitative research vary, researchers have recommended when conducting research that is concerned with understanding the point-of-view of participants, a sample size of at least 6 (Morse, 1994) with recommendations of 12 (Guest, Bunce, & Johnson, 2006) to a range of 5 to 25 (Creswell, 1998) be used as a guide during data collection. The objective in determining the number of informants to interview is to reach data saturation - a point during data collection when information that is obtained becomes redundant (Bogdan & Biklen, 2007). Guest, Bunce, and Johnson (2006) concluded their data saturation occurred after 12 interviews because they were chosen based on shared criteria and studied using a similar level of interview structure. Because the informants for this study have participated in the same employer-provided

family health and weight management program they have this shared experience. Additionally, this study used a similar level of structure for conducting the interviews with the informants. Consequently, based on the conclusions and recommendations of these researchers, this study used purposeful sampling to utilize 12 informants for data collection.

Purposeful sampling procedures are a non-probability method that relies on the judgment of the researcher to select informants, while focusing on particular characteristics of a population of interest (Patton, 1990). For this study, a purposeful sample implied intentionally selecting individuals to learn and understand in more depth what factors help contribute to positive family health practices from an employer-provided family health and weight management program. Further, the researcher explored the parental participant's (informant's) perspectives on self-efficacy and role modeling with respect to nutrition, eating habits, and physical activity for successful family health and weight management. The researcher used maximum variation sampling techniques to capture a range of perspectives including cases that were more extreme to those more typical (Patton 1990). This allowed the researcher the opportunity to compare sample cases and to look for diverse variations and reveal important patterns with the basic principle of gaining greater insight to help identify common themes and differences (Miles & Huberman, 1994; Patton 1990).

The researcher utilized multiple cases and perspectives from individuals, who participated in the same employer-provided family health and weight management program, which represent the complexity of the phenomena for the research. The purpose for choosing the multiple case study strategy was to help explore and describe

real-life interventions that may be too complex for experimental strategies alone (Yin, 2003). Due to the sequential design of the study, the selection of the informants for the qualitative phase occurred after the results were analyzed from the quantitative phase. The researcher examined the survey questionnaire scores and statistical analyses results from the quantitative phase and targeted participants willing to be interviewed and contribute their perspectives using the following guide:

- 1 participant who reflects high scores from the self-efficacy nutrition sub-scale.
- 1 participant who reflects high scores from the self-efficacy eating habits sub-scale.
- 1 participant who reflects high scores from the self-efficacy physical activity sub-scale.
- 1 participant who reflects low scores from the self-efficacy nutrition sub-scale.
- 1 participant who reflects low scores from the self-efficacy eating habits sub-scale.
- 1 participant who reflects low scores from the self-efficacy physical activity sub-scale.
- 1 participant who reflects high scores from the role modeling nutrition sub-scale.
- 1 participant who reflects high scores from the role modeling eating habits sub-scale.
- 1 participant who reflects high scores from the role modeling physical activity sub-scale.
- 1 participant who reflects low scores from the role modeling nutrition sub-scale.

- 1 participant who reflects low scores from the role modeling eating habits sub-scale.
- 1 participant who reflects low scores from the role modeling physical activity sub-scale.

The primary method of collecting data was through phone interviews ranging from 30 to 42 minutes. An interview protocol was established that used semi-structured questions, with follow-up and probing questions as necessary, based on informant responses. The informant was introduced to the researcher and informed that the interview was being recorded with his/her consent. The interview protocol included documenting the date of the interview with the informant given a thank-you for his/her willingness to engage in discussion. Each of the informants were given disclosure as to the scope and sequence of gathering information.

Informants were offered assurance of confidentiality and their names would not be revealed in the transcription; a pseudonym was given to all informants. Follow-up and additional probing questions were generated based on the informants' responses and was used to garner more in-depth detail and elaboration on comments of the informant. At the completion of the interview a final thank you statement to acknowledge the informants' time and sharing their experiences was offered. The interview was conducted to explore and gather experiential narrative material that may serve as a resource for developing a richer and deeper understanding of what factors they consider important for family success. Further, narrative data was gathered from their perspectives on self-efficacy and role modeling with respect to nutrition, eating habits, and physical activity for successful family health and weight management. This deeper and richer

understanding helps to explain the meaning of events and interactions of the informants (Bogdan & Biklen, 2007; Van Manen, 1990).

An important component to qualitative data collection is the concept of converging lines of inquiry (Yin, 2003). This type of inquiry uses multiple forms of evidence and this study used data triangulation during the collection process in support of the accuracy of the findings and conclusions. In addition to the interviews, the researcher gathered information from program documentation such as: the statements on program applications of the participants and families desire to be involved in the program and the response to the open-ended question that was presented on the survey questionnaire.

Phase II – Qualitative Data Analysis

The constant comparative method is an inductive data coding process used for categorizing and comparing qualitative data for analysis purposes and was used in this study for developing an understanding of the informant's perceptions of their experiences. It is a process used by the researcher in which new data is compared to previously collected data to form, enhance, confirm, or discount ideas (Bogdan & Biklen, 2007). Through the inductive analysis process categories, patterns, and themes emerge from the data instead of being imposed before the data was collected (Patton, 1990). This method of analysis used the words and descriptions from the informants to find patterns and break them down into units and then code them into categories (Lincoln & Guba, 1985). As Maykut and Morehouse (1994) comment "words are the way that most people come to understand their situations; we create our world with words; we explain ourselves with words; we defend and hide ourselves with words" (p. 18), consequently, "the task of the researcher is to find patterns within those words and to present those

patterns for others to inspect while at the same time staying as close to the construction of the world as the participants originally experienced it" (Maykut & Morehouse, 1994 p. 18).

Creating and developing categories from text data were derived from the informants' language with the goal of conceptualizing their experiences, statements, and worldview while simultaneously, the researcher identified categories that are significant to the study's focus-of-inquiry for organizing the data (Lincoln & Guba, 1985). The process of constant inquiry leads to both descriptive and explanatory categories (Lincoln & Guba, 1985). These categories underwent content and definition changes as additional units of data were gathered and were refined over the analytical process (Taylor & Bogdan, 1984). Categories should be meaningful as the data is understood in context for internal evaluation but also for external comparison, particularly when a category is adopted and reflects some distinction, either conceptual or empirical based on a criteria or criterion in which it is distinguished or compared (Dey 1993).

As Taylor and Bogdan (1984) summarized:

> In the constant comparative method the researcher simultaneously codes and analyzes data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model. (p. 126)

For this study, the first step of the qualitative data analysis process began with completing a verbatim transcription of the interviews. After the recorded interview was transcribed, informants had the opportunity to review, and if necessary, suggest

corrective action on the contents of the interview they felt were inaccurate or non-representative of their responses. Subsequent steps for analysis included: (a) preparing the transcripts for reading; (b) reading through the transcripts, program documentation and other sources of data and recording general thoughts; (c) open coding of the data, looking for topics and descriptive wording and creating labels and categories; (d) generating a description of the setting and informants which were then aggregated into similar categories and coded into themes; (e) constructing the themes into narrative form; and (f) interpreting the meaning of the data by asking what was learned (Creswell, 2009). Data analysis required detailed descriptions rich in perspective in which the case presents itself by situating it within context and specific situations (Merriam, 1998).

This study consisted of multiple cases and used cross case synthesis for analysis (Yin, 2003). Each case was individually analyzed for themes; then all the cases were analyzed for commonality or variations. The researcher interpreted the meaning of the patterns and reported the findings of the research (Lincoln & Guba, 1985). A visual data display is shown and represents the evolving framework and the relationships with the data in Figure 7.

Figure 7. Visual Model of Qualitative Data Analysis

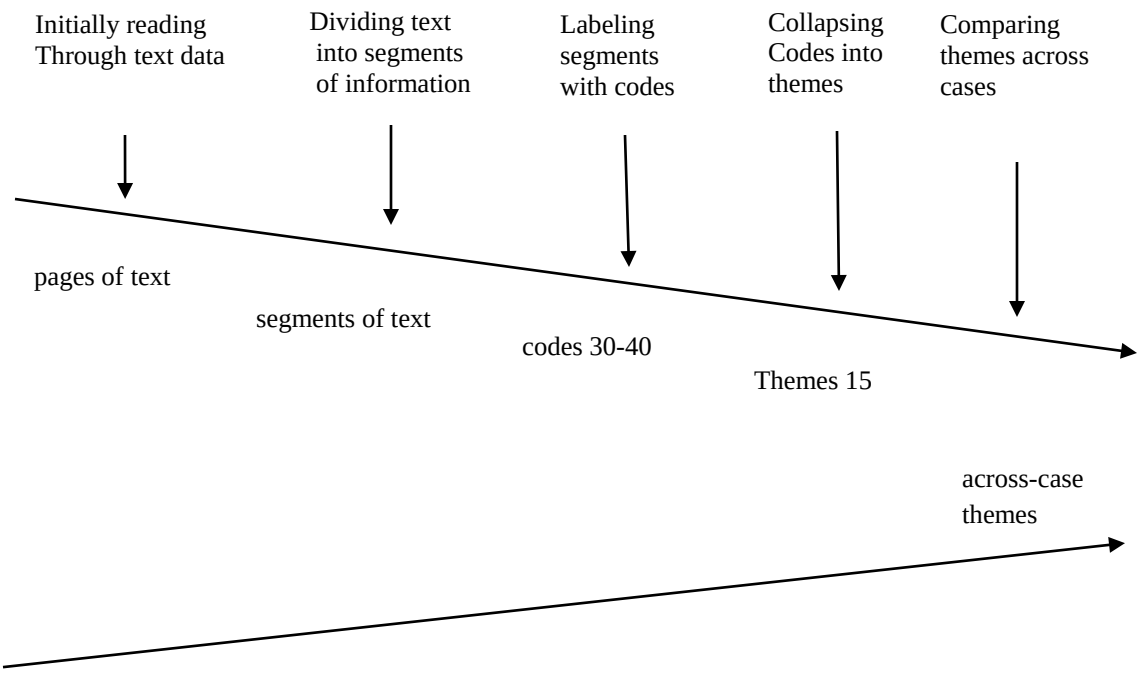

Figure 7. A visual model in the iterative process for analyzing the data for themes and for comparison between cases. *From Creswell, John W., Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, Loose-Leaf Version, 5th Edition, © 2015. Reprinted by permission of Pearson Education, Inc., New York, New York.
*Citation format per publisher/copyright holder request.

Phase II – Reliability and Validity

This study used multiple validity strategies to assess the accuracy of the findings. The utilization of data triangulation (i.e. interviews, application statements, program documents) promoted convergence while establishing themes. Member checking, where the researcher gets feedback from the participants to see if responses or descriptions are accurate were used. The researcher presents rich, thick description and direct quotes from informants that were obtained during the interviews. The researcher's self-

reflection about how his interpretations of the findings are shaped assisted with open and honest narrative. Establishing reliability in qualitative research is a process where procedures are established to demonstrate that the researcher is consistent in their approaches and to document the steps used in a study (Yin, 2003). A process of verification, by checking transcripts for discrepancies and errors during transcription, was utilized. Constantly comparing data within the codes that were established helped prevent erroneous or incidental shifting of the meaning and definition of the codes. The awareness and acknowledgement of the researcher's role and potential biases enhance the studies' credibility and trustworthiness.

Role of the Researcher

The researcher brings to the study over 23 years of work experience with multiple county park and recreation organizations in various positions from entry level to department head. During this time, I developed and implemented many health and wellness initiatives that looked at adult and childhood obesity concerns. Program evaluation is an important tool that was utilized in making changes and improvements in the program curricula. The current research study presents similarities with past health and wellness obesity initiatives, except that this wellness program is offered by a healthcare organization to employees and their families. Possible biases, based on past experience with these types of programs, have the potential to influence the researcher's perspectives. The researcher bracketed, that is put aside personal thoughts and feelings about the potential outcomes of the research (Merriam, 2002). The researcher self-reflected on past experiences of outcomes and bracketed his thoughts prior to beginning and throughout the study. This critical self-reflection of the researcher's assumptions

was important in understanding the relationship and possible effects or direction that the researcher may have had on the investigation and with the phenomena of family health and weight management programs. Maintaining reflexivity allowed the researcher to be mindful of personal connections and to help set aside prejudgments, biases, and any preconceived ideas about the research study.

The researcher made initial contact with the organization's director of health and wellness programming to explore possibilities of using the family health and weight management program for dissertation research. Preliminary proposals were discussed, submitted, and permission was obtained from the organization's staff to proceed with the design for the research. Because access to protected health information covered under the Health Insurance Portability and Accountability Act (HIPPA) would occur, the researcher attended a HIPPA training and volunteer orientation program that was sponsored by the organization. In addition, the researcher completed the National Institutes of Health (NIH) human subjects course "Protecting Human Research Participants"; and the organizations two requisite courses from the Collaborative Institutional Training Initiative (CITI): "Conflicts of Interest" and "Social/Humanistic/Behavioral Research". Further, CITI courses for FIU "Health Information Privacy and Security (HIPS) for Clinical Investigators", "Social/Behavioral Research Course on Human Subjects", and "Biomedical Research Course on Human Subjects" were completed. All FIU and the organizations regulations, policies, and procedures were followed when conducting this research study. The researcher acted in accordance to, and with the approval of, the Institutional Review Boards of FIU and the organization.

Summary

The researcher initiated this study with the intent to explore and analyze what factors may contribute to the success of an employer-provided family health and weight management program. Program participants voluntarily enrolled in the employer-provided program because of questions or concerns they had in reference to their families' health and weight management issues. The researcher used biometric data that was previously collected by the organization from the parents who were in the program, along with surveys and other program documents that were completed by the families. The researcher used a sequential two-phase approach for data collection and analysis.

During the quantitative phase, the researcher examined survey questionnaires that were completed by the parents and program materials that the organization obtained from the families for data collection. The researcher analyzed the data using statistical techniques and looked for any significance of the results.

In the qualitative phase, the researcher served as the primary instrument for data collection and data analysis. The researcher used a semi-structured interview format to collect data from participants who were willing to share their experiences and used the collected data to look for codes and develop themes that emerged. As the primary instrument for data collection and analysis during the qualitative phase, the researcher approached the study in an open and non-judgmental way and established a level of confidence and trust with the informants. Informants were made to feel comfortable and an acknowledgement that honest responses to questions will not have any repercussions toward the informant. The participants in this study assisted the researcher in gaining a

better understanding of what is important to them when an employer and/or organization is developing or implementing family health and weight management initiatives.

CHAPTER IV

RESULTS

This chapter presents the results of the study and will be organized by providing the quantitative results (phase 1) first, followed by the results for the qualitative section (phase 2), second. For phase 1, a discussion of descriptive statistics of the participants and variables are communicated followed by the hypotheses for phase 1. To examine the hypotheses, correlation and linear regression analyses were conducted to look for relationships and predictability between parental perceived capability (self-efficacy) and role modeling of nutrition, eating habits, and physical activity with biometric data of BMI, cholesterol, glucose and blood pressure. Additional analysis, via a paired *t* test, was used to investigate whether attending the family health and weight management program helped reduce the participant's biometric readings.

For phase 2, participant descriptions, with selection criteria, are presented followed by a discussion with the use of the constant comparative method for developing an understanding of the informants' perceptions of their personal experiences with self-efficacy and role modeling of nutrition, eating habits, and physical activity along with family health and weight management issues and their views with factors that help contribute to positive family health practices. The emerging themes are reported and displayed.

Quantitative (Phase I) - Results

Descriptive Statistics

Thirty-seven parents (adults) responded to the survey with approximately 35.2% (n = 13) fathers, 59.5% (n = 22) mothers, and 5.4% (n = 2) grandmothers. Demographic

information of parent participants (i.e., highest level of education, and family income; and family involvement factors, most often shops for food, most often prepares meals, and most often participates in physical activity with children) were collected. The organizational staff used the survey to collect data for the independent variables; self-efficacy and role modeling of nutrition, eating habits, and physical activity from the parents (n = 37) and also collected the biometric variables; BMI, cholesterol, glucose, and blood pressure (systolic and diastolic) of the parents (n = 37) at the initial class and at follow-up four weeks after the program ended. The following sections provide information of the demographic and family involvement factors and are presented in a table. Separate tables illustrating the means and standard deviations of the variables is also provided.

Highest level of education of parent. A frequency analysis indicated that 18.9% (n = 7) received a high school diploma, 18.9% (n = 7) had some college, 18.9% (n = 7) received Associates Degree, 29.7% (n = 11) achieved Bachelor Degrees, and 13.5% (n = 5) attained a Masters Degree.

Most often shops for food for family meals and most often prepares meals for child(ren). A frequency analysis for both of these factors indicated that mothers most often shopped for food and prepared the family meals approximately 81.1% (n = 30) of the time, with fathers shopping and preparing meals 18.9% (n = 7) of the time. In general, the analysis indicated that those who shop for food for family meals are the ones who prepare the food.

Most often participates in physical activity with child(ren). A frequency analysis indicated that mothers most often participated in physical activity with their

child(ren) approximately 64.9% (*n* = 24), with fathers 29.7% (*n* = 11), and other siblings participating 5.4% (*n* = 2) of the time. Table 1 provides a frequency table of demographic and family involvement factors examined in this study.

Table 1

Frequency Table of Demographic and Family Involvement Factors

Category	Variable	*f*	Percent
Participant	Mother	13	35.2
	Father	22	59.4
	Grandmother	2	5.4
Highest Level of Education – Parent	High School Graduate	7	18.9
	Some College	7	18.9
	Associates Degree	7	18.9
	Bachelors Degree	11	29.7
	Masters Degree	5	13.5
Family Income	Under $25,000	1	2.7
	$25,001-$35,000	7	18.9
	$35,001-$45,000	8	21.6
	$45,001-$55,000	5	13.5
	$55,001-$65,000	4	10.8
	$65,001-$75,000	1	2.7
	Above $75,000	11	29.7
Most Often Shops for Food for Family Meals	Mother	30	81.1
	Father	7	18.9
	Grandmother	0	0.00
Most Often Prepares Meals for Child(ren)	Mother	30	81.1
	Father	7	18.9
	Grandmother	0	0.00
Most Often Participates in Physical Activity with Child(ren)	Mother	24	64.9
	Father	11	29.7
	Sibling	2	5.4
	Grandmother	0	0.00

As part of the family health and weight management program, the organization's wellness staff collected, using survey questionnaires designed for the program, to gather data for the independent variables: parental self-efficacy (nutrition, eating habits, and physical activity) and parental role modeling (nutrition, eating habits, and physical activity). The survey questionnaire contained items requiring self-assessment items measured on a Likert-type scale. Each of the variable scores was individually summed to get a total score for each of the independent variable subscales. Table 2 provides the means and standard deviations of the independent research variable subscales.

Table 2

Means and Standard Deviations of the Independent Research Variables

Variable (subscales)	*M*	*SD*
Self-Efficacy Nutrition	116.54	17.63
Self-Efficacy Eating Habits	76.73	16.05
Self-Efficacy Physical Activity	57.78	18.97
Role Modeling Nutrition	52.92	8.07
Role Modeling Eating Habits	34.89	5.08
Role Modeling Physical Activity	29.43	7.64

For this study biometric readings of BMI, cholesterol, glucose, and blood pressure were used as the dependent variables and were collected by the organization's wellness staff as part of their program at two different times: beginning of the program (initial) and four weeks after the program ended (follow-up). Table 3 provides the means and

standard deviations of the dependent (biometric) research variables at the two different time points.

Table 3

Means and Standard Deviations of the Dependent (Biometric) Research Variables

	Initial		Follow-Up	
Variables	*M*	*SD*	*M*	*SD*
BMI	32.10	6.45	30.80	6.06
Cholesterol	175.59	29.92	170.49	28.30
Glucose	103.59	43.27	102.62	26.56
Systolic	124.76	17.75	123.22	16.19
Diastolic	78.97	9.75	76.92	9.07

Testing the Research Hypotheses

The first set of research hypotheses (H_{1a}, H_{1b}, and H_{1c}) examined the relation between parental perceived capability (self-efficacy) of weight management factors (i.e., nutrition, eating habits and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure. The second set of research hypotheses (H_{2a}, H_{2b}, and H_{2c}) examined the relation between parental role modeling of weight management behaviors of (i.e., nutrition, eating habits and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure. All biometric data used in the analysis were collected at four weeks after the program ended. Pearson correlation coefficients were calculated to analyze the significance of the association between variables.

Correlation analysis for H_{1a}. Hypothesis H_{1a} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between nutrition self-efficacy and the biometric measures. The results of the correlation analysis presented in Table 4 show that nutrition self-efficacy and BMI (r = -.33, p < .05) have a negative and statistically significant relationship. The correlations between nutrition self-efficacy and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. In general, the results suggest that if participants claimed to have higher nutrition self-efficacy scores, they tended to have lower BMI.

Table 4

Correlations between Nutrition Self-Efficacy and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Nutrition	Correlation[a]	-.331*	.202	-.060	-.088	-.061
	Sig. (1-tailed)	.023	.116	.362	.303	.359

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.
*Correlation is significant at the 0.05 level (1-tailed).

Correlation analysis for H_{1b}. Hypothesis H_{1b} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between eating habits self-efficacy and the

biometric measures. The results of the correlation analysis presented in Table 5 show that eating habits self-efficacy and BMI (r = -.28, p < .05) have a negative and statistically significant relationship. The correlations between eating habits self-efficacy and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. In essence, the results suggest that if participants indicated they have higher eating habit self-efficacy scores, they tended to have lower BMI.

Table 5

Correlations between Eating Habits Self-Efficacy and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Eating Habits	Correlation[a]	-.275*	.184	-.053	.110	.013
	Sig. (1-tailed)	.050	.138	.378	.303	.469

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.
*Correlation is significant at the 0.05 level (1-tailed).

Correlation analysis for H_{1c}. Hypothesis H_{1c} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between physical activity self-efficacy and the biometric measures. The results of the correlation analysis presented in Table 6 show that physical activity self-efficacy and all the biometric measures had no statistically significant relationships.

Table 6

Correlations between Physical Activity Self-Efficacy and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Physical Activity	Correlation[a]	-.159	-.034	-.005	.069	.047
	Sig. (1-tailed)	.173	.421	.489	.343	.391

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.

Correlation analysis for H_{2a}. Hypothesis H_{2a} stated there will be significant statistical relationships between parental role modeling of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between nutrition role modeling and the biometric measures. The results of the correlation analysis presented in Table 7 show that nutrition role modeling and all the biometric measures had no statistically significant relationships.

Table 7

Correlations between Nutrition Role Modeling and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Nutrition	Correlation[a]	-.200	.166	-.019	.060	-.070
	Sig. (1-tailed)	.118	.163	.454	.363	.340

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.

Correlation analysis for H_{2b}. Hypothesis H_{2b} stated there will be significant statistical relationships between parental role modeling of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between eating habits role modeling and the biometric measures. The results of the correlation analysis presented in Table 8 show that eating habits role modeling and BMI (r = -.40, p < .05) have a negative and statistically significant relationship. The correlations between eating habits role modeling and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. Overall, the results suggest that if participants indicated they had higher eating habit role modeling scores, they tended to have lower BMI.

Table 8

Correlations between Eating Habits Role Modeling and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Eating Habits	Correlation[a]	-.396*	.102	-.120	.048	.015
	Sig. (1-tailed)	.008	.273	.240	.388	.465

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.
*Correlation is significant at the 0.05 level (1-tailed).

Correlation analysis for H_{2c}. Hypothesis H_{2c} stated there will be significant statistical relationships between parental role modeling of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure. Pearson correlation coefficients were computed between physical activity role modeling and the biometric measures. The

results of the correlation analysis presented in Table 9 demonstrate that physical activity role modeling and all the biometric measures demonstrated no statistically significant relationships.

Table 9

Correlations between Physical Activity Role Modeling and Biometric Measures

					Blood Pressure	
		BMI	Cholesterol	Glucose	Systolic	Diastolic
Physical Activity	Correlation[a]	. 017	.022	.205	.160	.205
	Sig. (1-tailed)	.459	.448	.112	.172	.112

Note. All biometric measures that were used in the correlation analysis were collected at four weeks following completion of the program.
[a]Pearson correlation coefficients were used to calculate correlation significance.

Linear Regression Analyses

The independent variables (i.e., physical activity self-efficacy, nutrition role modeling, and physical activity role modeling) showed no association with the biometric dependent variables, and as a result fitting a linear regression equation to this data would not provide useful additional information. However, correlation analysis did show an association between BMI and the variables: nutrition self-efficacy, eating habits self-efficacy, and eating habits role modeling. Based on this association, linear regression analysis provides an opportunity to investigate a linear regression equation that predicts BMI from nutrition self-efficacy, eating habits self-efficacy, and eating habits role modeling scores.

Nutrition self-efficacy – BMI regression analysis. A bivariate linear regression analysis was conducted to evaluate the prediction of BMI from the nutrition self-efficacy scores. The regression equation for predicting BMI is:

Predicted BMI = -.11 Nutrition self-efficacy + 44.06

The 95% confidence interval for the slope, -.225 to -.002, does not contain the value of zero and therefore nutrition self-efficacy is statistically significant as related to predicting BMI. The correlation between nutrition self-efficacy and BMI was -.33. Thus, participants who had higher nutrition self-efficacy scores tended to have lower BMI. Approximately 11% of the variance of BMI was accounted for by its linear relationship with nutrition self-efficacy (R^2 = 10.89%).

Eating habits self-efficacy – BMI regression analysis. A bivariate linear regression analysis was conducted to evaluate the prediction of BMI from the eating habits self-efficacy scores. The regression equation for predicting BMI is:

Predicted BMI = -.104 Eating habits self-efficacy + 38.772

Results of the regression analysis indicate the 95% confidence interval for the slope, -.228 to .021 does contain the value of zero. Therefore, eating habits self-efficacy scores are not statistically significant in predicting BMI.

Eating habits role modeling – BMI regression analysis. A bivariate linear regression analysis was conducted to evaluate the prediction of BMI from the eating habit role modeling scores. The regression equation for predicting BMI is:

Predicted BMI = -.472 Eating habits role modeling + 47.281

The 95% confidence interval for the slope, -.849 to -.096, does not contain the value of zero and therefore eating habits role modeling is statistically significant as related to

predicting BMI. The correlation between nutrition self-efficacy and BMI was -.396. Thus, participants who had higher eating habits role modeling scores tended to have lower BMI. Approximately 16% of the variance of BMI was accounted for by its linear relationship with eating habits role modeling (R^2 = 15.68%).

Additional Analyses – Paired Sample Repeated Measures *t* Test.

To further examine the data, a paired-samples *t* test was conducted to compare the biometric measures of BMI, cholesterol, glucose, and blood pressure (systolic and diastolic) from parent participants at two different time points: T1= initial recording and T2 = follow-up recording.

Biometric measure – BMI. There was a significant difference in the measures for initial BMI (M = 32.10, SD = 6.45) and follow-up (M = 30.80, SD = 6.06) measures; $t(36) = 6.37$, $p = .000$. These results suggest that, statistically, attending the organizational family health and wellness program may help reduce participants' BMI.

Biometric measure – cholesterol. There was a significant difference in the measures for initial cholesterol (M = 175.86, SD = 29.92) and follow-up (M = 170.49, SD = 28.30) measures; $t(36) = 1.91$, $p = .032$. These results suggest that, statistically, attending the organizational family health and wellness program may help reduce participants' cholesterol.

Biometric measure – glucose. There was not a significant difference in the measures for initial glucose (M = 103.59, SD = 43.27) and follow-up (M = 102.62, SD = 26.56) measures; $t(36) = .199$, $p = .422$. These results suggest that, statistically, attending the organizational family health and wellness program may not help reduce participants' glucose.

Biometric measure – systolic. There was not a significant difference in the measures for initial systolic (M = 124.76, SD = 17.75) and follow-up (M = 123.22, SD = 16.19) measures; $t(36) = .853$, $p = .20$. These results suggest that, statistically, attending the organizational family health and wellness program may not help reduce participants' systolic portion of blood pressure.

Biometric measure – diastolic. There was a significant difference in the measures for initial diastolic (M = 78.97, SD = 9.75) and follow-up (M = 76.92, SD = 9.07) measures; $t(36) = 1.899$, $p = .033$. These results suggest that, statistically, attending the organizational family health and wellness program may help reduce participants' diastolic portion of blood pressure.

Qualitative (Phase II) – Results

The purpose of this phase of the study was to explore parental perceptions of what contributes to positive family health practices from an employer-provided family wellness initiative in promoting health and weight management. Families were recruited into the employer-sponsored program through a volunteer application process. Parents had an opportunity to provide narrative feedback with their experiences when completing surveys about the program. The survey results were used to help select participants for this phase of the study. The primary method of collecting data was through phone interviews which ranged from 30 to 42 minutes, with parental participants (n = 12). The interviews were conducted to explore and gather experiential narrative material that served as a resource for developing a richer and deeper understanding of what factors they consider important for family success in their employer-provided family health and weight management program. Further, their perspectives on self-efficacy and role

modeling with respect to nutrition, eating habits, and physical activity for successful family health and weight management were gathered in narrative form. In addition, the volunteer applications used for their admission into the program and survey questionnaire documents were reviewed to explore why involvement in the program was important for their family.

Participants

Participants in this phase of the study were parents who had attended a family wellness initiative in promoting health and weight management that was sponsored and conducted by their employer. A purposeful sample was used to intentionally select individuals to learn and understand in more depth, what factors help contribute to positive family health practices and explore the parental participant's (informant's) perspectives on self-efficacy and role modeling with respect to nutrition, eating habits, and physical activity for successful family health and weight management. Due to the sequential design of the study, the selection of the participants for the qualitative phase occurred after the researcher examined the survey questionnaire scores and targeted participants willing to be interviewed and contribute their perspectives using the following guide:

- 1 participant who reflects high scores from the self-efficacy nutrition sub-scale.
- 1 participant who reflects high scores from the self-efficacy eating habits sub-scale.
- 1 participant who reflects high scores from the self-efficacy physical activity sub-scale.
- 1 participant who reflects low scores from the self-efficacy nutrition sub-scale.

- 1 participant who reflects low scores from the self-efficacy eating habits sub-scale.
- 1 participant who reflects low scores from the self-efficacy physical activity sub-scale.
- 1 participant who reflects high scores from the role modeling nutrition sub-scale.
- 1 participant who reflects high scores from the role modeling eating habits sub-scale.
- 1 participant who reflects high scores from the role modeling physical activity sub-scale.
- 1 participant who reflects low scores from the role modeling nutrition sub-scale.
- 1 participant who reflects low scores from the role modeling eating habits sub-scale.
- 1 participant who reflects low scores from the role modeling physical activity sub-scale.

Participant Demographics

There were 12 interview participants consisting of 10 women and two men. Of the 12 participants, two were single, eight were married, and two were divorced. Their education levels were comprised of one with a Master's degree, five with Bachelor's degrees, two with Associate's Degrees, and four with High School Diplomas. The families ranged from one to three children per household, with ages ranging from 5 to 14 years old. Table 10 depicts a description of the participants, family status, and selection criteria used in this phase of the study. Pseudonyms were given to participants and are used to protect and maintain their confidentiality.

Table 10

Description of Participants, Family Status, and Selection Criteria

Participants Pseudonym	Marital Status	Child(ren) & Ages	Education Level	Selection Criteria
Landry (Female)	Married	Boys 11, 13	Associates Degree	Reflected higher nutrition self-efficacy scores
Skyler (Female)	Married	Boy 13 Girl 9	Bachelors Degree	Reflected higher eating habits self-efficacy scores
Parker (Male)	Divorced	Boy 13 Girl 8	Bachelors Degree	Reflected higher physical activity self-efficacy scores
Phoenix (Female)	Single	Girl 14 Boy 8	High School	Reflected lower nutrition self-efficacy scores
Justice (Female)	Married	Boy 14 Girls 10, 12	Associates Degree	Reflected lower eating habits self-efficacy scores
Emory (Female)	Married	Boy 11 Girl 14	Bachelors Degree	Reflected lower physical activity self-efficacy scores
Emerson (Male)	Married	Boys 10, 12	Bachelors Degree	Reflected higher nutrition role modeling scores
Hayden (Female)	Married	Girl 13	Bachelors Degree	Reflected higher eating habits role modeling scores
Jessie (Female)	Married	Boy 11 Girl 13	Masters Degree	Reflected higher physical activity role modeling scores
Riley (Female)	Divorced	Boy 9 Girl 12	High School	Reflected lower nutrition role modeling scores
Sage (Female)	Single	Boys 5, 8 Girl 11	High School	Reflected lower eating habits role modeling scores
Peyton (Female)	Married	Boys 10, 11 Girl 8	High School	Reflected lower physical activity role modeling scores

Data Collection Protocol

A semi-structured interview protocol was established that used open-ended questions, with follow-up and probing questions as necessary, based on informant responses. The participant was introduced to the researcher and informed that the interview was being recorded with his/her consent. The interview protocol included documenting the date of the interview, with the participant given a thank-you for his/her willingness to engage in discussion. Each of the participants was given disclosure, as to the scope and sequence of gathering information. Informants were offered assurance of confidentiality and that their names would not be revealed in the transcription; a pseudonym was given to all participants. At the completion of the interview a final thank you statement to acknowledge the participants' time and sharing their experiences was offered.

After the recorded interviews were transcribed, informants had the opportunity to review or member check (where the researcher gets feedback from the participants to see if responses or descriptions are accurate) was used. The participants had the opportunity to suggest corrective action on the contents of the interview they feel are inaccurate or non-representative of their responses (Lincoln & Guba, 1985). Once feedback was received, the transcripts were prepared for reading, along with the program documentation. After the first two transcripts were read, open coding was then used to look for topics and descriptive wording while creating labels and categories (Creswell, 2009). The categories were identified relevant to the explored areas of interest based on the research questions for this phase of the study. Categories emerged and were developed for each identified area of interest.

The constant comparative method, an inductive data coding process used for categorizing and comparing qualitative data for analysis purposes, was used for developing an understanding of the participant's perceptions of their experiences. This process allows new data to be compared to previously collected data to form, enhance, confirm or discount ideas (Bogdan & Biklen, 2007; Taylor & Bogdan, 1984). Subsequently, each interview was individually analyzed to look for categories of commonality or variations in each area of interest. The categories were then aggregated and constructed into emerging themes.

The next section reports the emerging themes and is supported with verbatim narrative as described by the participants. Each narrative is presented to get a deeper and richer understanding of the lived experiences of the participants while trying to help understand and explain the meaning of events and interactions of the informants. Participant's who provided the narrative are identified by the pseudonym name given to the participant. Additionally, during the interviews participants repeated and reiterated narrative data found in other program documents used for data triangulation. Consequently, this redundancy lead the researcher to present this narrative using the data collected during the interview to eliminate presenting duplicate information. Table 11 identifies the emerging themes for each of the areas of interest.

Table 11

Themes Emerging from Semi-Structured Interviews

Explored Areas of Interest	Themes
Factors Contributing to Positive Family Health Practices	1. Parental Leadership 2. Balanced Lifestyle 3. Awareness of Family Health History
Nutrition Self-Efficacy	1. Nutrition Facts Paradox 2. Leverage Technology
Eating Habits Self-Efficacy	1. Increase Knowledge of Options 2. Proactive Planning/Experimentation
Physical Activity Self-Efficacy	1. Reciprocal Family Motivation 2. New Challenges
Nutrition Role Modeling	1. Child Interaction 2. Alternate Food Choices
Eating Habits Role Modeling	1. Family Involvement 2. Visual Presentation/Demonstration
Physical Activity Role Modeling	1. Enjoy the Activity 2. Parental Encouragement

Factors Contributing to Positive Family Health Practices Themes

Parental leadership. As previous research has suggested (Davison & Birch, 2001; Draxten et al., 2014; Golan & Weizman, 2001; Gruber & Haldeman, 2009), the family provides the primary social learning environment where parents have the opportunity to communicate, demonstrate, and provide motivation where attitudes and health behaviors can change to benefit the family. The family environment provides opportunities to introduce and expose children to food choices, eating habits, and options

for physical activities (Gruber & Haldeman, 2009). Several participants indicated they thought that the parent was responsible for introducing and taking a leadership role for their families' health and wellness. As Skylar suggests, parental leadership, when it comes to food and physical activity could be a negative thing for children, so parents need to present it in a positive way:

> I think it starts with the parents, I think that's important, I mean the kids usually hop on board. I think that it is great that parents are really aware, not in a way that it is obsessive, but as a parent I am cooking healthy food. I don't have to make a big deal about it, but you know, I am careful what ingredients I put in the food and how I cook it, you know, without giving them a complex, you know. It is a delicate thing with kids…I think that it affects it a lot, yeah, I think they see us moving and if it is part of our lifestyle we go for bike rides, for walks and it is natural for them to go out to the park, to go outside and it becomes natural not something that you have to do but you are not used to doing. The same thing with eating, yeah, reading the food labels I suppose it depends on the age of the kids, but you know they know to look at the labels of what you are cooking. I think it starts with the parents.

Justice offered her point-of-view with an example of a family with parents providing an improper leadership role:

> I think the parents should research the food and because the parents buy the food, you know, the kids are going to eat whatever is there in the house. So I think the parent is the one who is responsible to look at the labels and keeping that child eating right…I think it is very important that parents are in control of the food in the house and the labels and what's good for them and what's not good for them… they eat what you eat, they eat what you cook. For example, my friend makes 16 stuffed peppers for dinner for four people, she makes four pork chops per person for supper. Like, it is terrible, and they are all overweight and they are very lazy and they don't exercise and it is appalling to me, you know, what's wrong with one pork chop a baked potato and a vegetable, what's wrong with your meal having more vegetables not so much fat, you know what I mean, just monitor that as a parent because your kids eat whatever you make.

Jessie promotes a positive and proactive leadership role for the parents:

> I am very controlled on what I eat and I pay attention to what my portions are, so they see that. I mean, they kind of understand that it is important; eating healthy is important.

Further, Jessie states:

> They just know that I set the example. They see what healthy food is and how much I eat and the proportions and the different things along the lines like that. Again, I think it is just that I set the example. The stuff at the grocery store that isn't healthy stays at the store and isn't in the house…setting a boundary/limit on what they can have….I'm not saying they can't have it, it would be about how much of it they actually should have. This is enough; just that much...the parent has to be the one that is going to have to enforce it. You can have all the people in the world tell you what you should do, but if you don't believe in it, and take an active part in it, imparting it to the family isn't going to work.

Jessie also provided an example of her personal struggles and setbacks with weight loss and used her parental leadership role to be witnessed by her children:

> I started Weight Watchers Program and lost 55 pounds. So very regimented, ate only what was on my plate, very, very regimented and exercised and lost all the weight. It took me probably about 6 months to lose it, it was about 10 pounds a month, to lose it. And then I had an injury, and kind of gained a little bit of it back, and then I just refocused myself and I have lost about 25 pounds over the last year of what I had gained back. So my kids have seen the weight loss and they have seen what healthy eating and exercise can do… they see what I eat and they have seen the progress, and they have seen how hard it can be, and they see the exercise, so they see me doing it all of the time…my oldest son is very conscience about it too. He is always careful about what he eats, he is an exerciser. He has seen me do it so many times, and he knows what to do.

Emerson suggests a more subtle and guiding role for parents to take in family leadership health practices:

> I think like a role would be like, guidance – probably, be better as more of guidance, as opposed to like the total domination kind of thing. Like, you must be this, you have a start. I think it was always better anytime that we adopted healthier habits that was more of a gradual, less pressured kind of thing, as opposed to like, listen you guys have got to stop eating this right now. That's what you always like – all I want to do is think about grabbing Doritos because someone told me I can't eat Doritos.

Landry communicates the importance of integrating and establishing leadership roles early and on a consistent basis:

> So we're a very active family. My husband and the boys play football. My husband was a football player growing up and I was a track runner. So activity

> and diet and exercise have always been important in the family. And the kids run, they played t-ball, they play soccer, so that was one of the things that was always important in our family life is that we were always active and that helped with the healthy part.

Parker advises that children will follow the lead of their parents, whether positive or negative:

> I mean, I would like to see the health of both my children improve to some degree…but I mean like anything else it's, I feel to be honest with you, you need to lead by example. And if the kids see me eating unhealthy or me doing something unhealthy, like any other child they are going to say, if my dad can do that, there is no reason why I can't do that. So I need to lead by example, and I have done that over the years, and I will continue to try to do that with my children also.

Balanced lifestyle. Not only did parents feel they needed to take a leadership role in their family pursuits of positive family health practices, they also suggested that there needed to be a balanced lifestyle approach for their family to be successful. This balanced lifestyle includes finding and demonstrating to their children that positive health practices should be a lifetime endeavor. Parents recognized different areas where they instill and establish choices and behaviors for their families. Hayden commented:

> I feel that there are different areas of your life that you are successful, and that may be work ethic, and the ability to maybe complete, whether it be school or college or maintaining friendships and exercise and nutrition are another layer of success…and you can carry that through your life and pass that on to your own children. I do think it is a way to measure success in your life. And those people who can't maintain that, who do suffer from weight gain or obesity their entire life, it is a struggle for them. It probably started at a very young age and they were-- they weren't educated, they didn't know and they didn't understand and they were exposed to poor models who taught the things that weren't appropriate and now they are struggling to get to success in that area in their life.

Justice suggested that parents are lead players when it comes to showing their children both the positive and negative consequences of establishing this balanced lifestyle:

> It all revolves around the parents to help their child…I think it is important for the parents to get involved in their lives…and show them this, you know, you are going to be healthy, and that gives them self esteem so they are positive… showing kids the future, showing the kids okay, if you take this road, this is probably going to be your ending result in the future, showing the kids a more positive way of living…showing them what the consequences are in the future. They don't see them now when they are young, when they are older they can see, you know, as they progress in adulthood so I think showing kids different ways and different future lives of themselves will kind of make them aware of what they are going to be when they grow up.

Parker also supported the idea of establishing healthy balanced lifestyles:

> Development of healthy lifestyles you know…it would just be a notion of self – for myself and my children, to be able to demonstrate different abilities that children need, not only to make them successful in one sport that they are participating in, but also to make them a healthier individual…knowing which foods are healthy and which ones aren't, I think that has to do with half of the battle because a lot of people don't know exactly what is healthy and what's not healthy. I think that's the biggest part of it. It's just knowing, just need to know what the difference is.

One participant suggested that avoiding fads and short sighted trends would be important for their family's success. Skylar commented:

> I think it involves the whole family, educate on what you are eating, how to exercise healthy, how to move, how important it is to move. I think getting at a healthy weight and being able to maintain it and not feeling like you are starving, being able to enjoy the food you like, you know, learning, learning how to eat them correctly I guess…I am not like a real trender, I don't really believe in like, fad diets and stuff like that. I just think, just eating healthy and enjoying things. On fad diets people really get into trouble, they eat all meat, or no meat and I think it screws up the body.

Hayden also looked at the importance of being positive and providing lifelong influences:

> I need to be positive and encouraging. And particularly have to have a good understanding of what is a true way of lifestyle eating not just these fad diets. And it has to be like a lifelong thing. And they have to know that, they will try to identify the reasons why people over eat or don't exercise.

Jessie had similar thoughts:

> Like when you see some of those programs that you are going to lose x amount of weight in 30 days, like that is a good goal, but if you don't change your eating habits you are not going to be able to sustain the weight. You have to learn how to eat. It might be nice to lose all that weight but you have to condition yourself for the long term weight loss, not just a quick fix.

Emerson looked at balance from a consistency perspective:

> Success to me would probably be like everybody is healthier, more natural balanced diet, and getting more regular physical activity. I think that would be the most success, not anything that is like a marker or anything, but consistency within that. You seem to have times where we get more involved in it and then it kind of fades out, then we get back into it and it fades out, that kind of thing.

Awareness of family health history. Parents indicated that being aware of the influence and possible predisposition to chronic health problems because of family genetics was a concern. Participants thought that, for their families to be successful they needed to have an understanding and to take appropriate steps to help mitigate this potential influence. As Emory put forward:

> My concern is that because both my parents are diabetics and both of them have different diabetes, one is 2 and one is 1, both of them kind of have high cholesterol and both my parents have high blood pressure. My youngest brother is also diabetic. So that was my main concern. I don't want to implement it to my lifestyle as well as my children's lifestyle so I went head on to all the programs that is possible for both myself and for my family…I wanted to not fall into, even though they say that, it is in your genes but I try not to get there because my parents were I guess diagnosed in their either late forties or early fifties with these issues…so I didn't want to go through those issues that my parents go through.

Riley shared her concerns about how her family's eating habits may put her family at risk for diabetes since it seems to run in the family:

> I am diabetic, my parents are diabetic, my children are not overweight and very active, and however, our eating habits are really bad. I am overweight and I have other health issues, just starting because of the diabetes that I still do not have under control…so in order to try and prevent them from being diabetics we as a family did more activities as well and help making healthier choices.

Peyton stated her concerns about conditions prevalent with her family:

> Diabetes, high blood pressure, high cholesterol runs in my family…the men in my family all have heart attacks and die at an early age.

Parker comments on his worry that his daughter may be inclined to be overweight due to his weight status:

> Since I've been a heavier guy my whole life we are constantly thinking about that stuff and looking at magazines and different articles to do the right thing. My daughter is somewhat overweight, a little bit, and that's an area her mom and I have both been working on…she's been through different family practices and/or doctors to see what the issue is. And the next step that her mother and I are planning on taking is setting up an appointment to see a dietician.

Landry takes the perspective that even though genetics may predispose a person to certain health conditions, individuals can be practical, by learning new health practices in a world of changing new medical care:

> I think that the health part that is health training and health practices are always changing. I don't think that you can never learn enough about it. You know when you get older, I know bodies change and health needs change and I think that going forward is, that every family should be able to repossess different aspects of life and health that way.

Nutrition Self-Efficacy Themes

Nutrition facts paradox. Parents recognized nutrition facts labels provide important information and can be used as a guide to gather information to enhance their personal knowledge and confidence with food selection choices. However, some parents indicated that even though they are aware of food labels providing this valuable information they do not always use them because they find they are difficult to understand or think they are misleading.

Emory provides an example when trying to determine sugar content in a product:

> I wanted to know, the word sugar is sugar, the labels you know they don't have that word, they have different types of words that are sugar and that's something I don't know…You know they have these long words and I am trying to figure out

> if this is sugar product, is it good or bad, is it something that we are not supposed to have and is it something toxic. So if the labels were much better to understand…when they put ingredients we don't, I don't know exactly what it is.

Riley contributes her beliefs on the use of nutrition labels:

> I understand them, I am not saying I follow them, but yes, I understand them. Labels are very misleading, everything says natural, natural, natural but natural does not necessarily mean natural. Honestly, I just think there is too many labels, too many choices and I think you have to educate yourself. And again, if it comes in a box, it is not natural and it is got to have something that's artificial or it is something that is not healthy for you.

Phoenix commented on how she describes label use:

> I read nutrition labels on occasion. I am not 100% confident that that's what I live by…I really don't follow the guidelines, like, for example, I think that you should have like, your veggies and fruits whatever, if you look at that, it might be higher in fat but if it is better for my body like the protein and stuff…I look at food labels but I really don't think that, like if I look at fat, is fat a lot, I do not believe that that is going to make you obese. There are good fat and bad fat and it is the way you are looking at food labels, I would not tell them make sure that there is 20 grams of fat, you know. I think it depends upon the actual food, like if I am eating peanut butter, you have a lot of proteins in it.

As Jessie observes about nutrition labels:

> Sometimes I think that the food labels are a little overwhelming, there are a lot of numbers there and you don't always know which ones to look at…there are too many numbers…they are hard to understand…if you don't have a baseline of understanding they are hard to understand. I mean adults don't always know what they are looking for.

Hayden articulated what she sees as one of the problems:

> I think that one of the problems is, it will be a bag and it will be 12 ounces, but the serving size is based on 8 ounces, so it is deceiving. You have to do one and a half so I think that is sometimes deceiving. I mean, I know, the reasons they do it like that, but I wish they would just go and base it on, what if you eat the entire pack, what would it be, so, especially with a single size serving of things. You know that kid is going to eat the whole thing, so we are trying to teach children at a young age, I think we need to make it as easy as possible for them.

Peyton stated her concerns about how labels may be misleading:

> I sometimes look at the label because I won't buy something if the first ingredient is sugar… food labels are tricky because things are sometimes labeled as different words…some things are stated as organic but without the sticker the products are not FDA certified organic.

Leverage technology. While some of the participants may question their capacity to fully utilize and understand the information on the nutrition facts label on foods, others have found different ways to enhance their confidence when they are making food choices for their families. One method is to utilize technology to help with food selection and potential substitute options. Emory commented on how she uses technology to enhance her understanding of the information on food labels and to look for alternative food choices:

> I am the one who makes sure that I buy the right food. I even dial into an app that you have on your smartphone, or something, Fooducate or something, I think it is Fooducate, like educate but with food in front, and then that quickly scans, like anything that you purchase in the supermarket and it is a great deal, I mean if it is a good product to buy it is an "A", if it is not, it gives you options on what you can buy that is an "A". It helps me shop better. Most of the time I would think that turkey ground beef was healthier but then I found it was supposed to be turkey breast ground beef. And then I would think that fat free would be better but it is not because it has the hidden sugar that nobody knows about.

Emory further describes how her children now use the app when looking at food labels:

> My son likes to refer to the apps and then he likes to look for food that he likes and enjoys. So he is always getting the app to make sure it is a good healthy product before he purchases so he likes to do the shopping...I recommend that app, because that was what my son likes a lot and my daughter too, it helps them when they go do the grocery shopping and it gives them alternatives, you know, options and use, and it tells them in detail of what it consists of. Nowadays it is technology and they use the phone for everything, you know, so once they scan the bar on whatever product they pick up on the grocery store they see that's not a good grade, they look up why factors, they look up what are the other alternatives, which one is better, that's what they are into.

Riley also describes how an app helps her gain a better understanding of the information on food labels:

> I also have an app, Fooducate. Sometimes, when I am not understanding what I look at, I just press the app and I scan it to see what it comes back. Because things that I actually read that I thought were healthy for instance, you know, the yogurts that I was buying my son have a grade of "D" and it says all natural, but it is full of food coloring.

Emerson mentions how he uses technology to learn and answer questions about food content:

> When we would have questions on something, I am like, let's look it up, see what that means…we looked something up the other day. There was something we looked up the other day because he was asking me about the – can't remember what it was now. We look up so much – it is a good example of learning…so I try to give him options and show – especially nowadays it's a lot easier to look things up using the internet and smartphone, if you're wondering about them, as opposed to just kind of let it hang in the air.

Eating Habits Self-Efficacy Themes

Increase knowledge of options. When parents were asked how they overcome situations that challenge their confidence or ability to maintain a healthy diet, one of the responses was to increase their knowledge of options to help minimize unhealthy dietary consumption. While participants' awareness can come from enhancing their knowledge from their individual educational pursuits, others commented that getting information from health education programs helps in being more aware of different ingredients and recipes that can assist them in being more confident in their food consumption choices. Parker describes his thought process when looking to increase his confidence to make food selection choices:

> I understand nutritional value. And if I don't, I do research to get the right answers that I'm looking for, if I don't know when I am there at that moment. I Google and start that way, I ask a question to the phone or call, I have a friend who used to be a dietician. I mean I have quite a lot of options to turn to if I need to and if I have questions with regards to nutritional value…I mean when I do get a chance to actually go and be able to purchase products at a local convenience store, supermarket, or whatever, I do look at the labels. I try to make healthier

> choices just for the ability to introduce my children to healthier choices with meals…So when I do have the opportunity to do that, that option is offered for my children. So looking at the ingredients, looking at the labels is important factors when I am choosing what I am going to be getting my children and what I am going to be getting to make them a healthier meal.

Landry looks to professional sources to help her confidence:

> We have a nutritionist at the Y, and that's one of the things I have been tossing around, is going to her, and asking for 'can you show me or help me exactly what this means and what exactly should I be looking for?'…I do try to keep up with it, but I think you get to the point where you just need that extra help and somebody else to say, hey this is the way to do it…I know our doctor, our family physician has also given us diets and literature. So that's another avenue that we have taken as well.

Hayden provides what she has done to help build her confidence in understanding nutrition:

> I took a nutrition class and that taught me understanding carbohydrates and the difference between counting calories versus counting carbs, looking at why so much fiber per day is important and low fat and low sodium. So all of those things, I think that's where it started and then those are a lot of different things I looked at over the years as a self-teaching tool that I used.

While trying to understand and build confidence in improving her ability to improve eating habit self-efficacy, Phoenix sought out advice from a nutritionist and provided her reasoning:

> If someone could explain to me what is needed in your food, like your meals. like nutrition wise, you know, that teach you portion control, and it is not really about labels that's why I am kind of, if someone taught me what's it all about, what's your guidelines for that, that I would probably understand that more and would probably use it more.

Sage's reasoning was similar to Phoenix's questions:

> Since no one ever really tells you what is the best, I mean they tell you should have four vegetables a day, that doesn't really tell me portion sizes or what does that consist of.

Sage also contributes her experience in increasing her knowledge and confidence:

> I was at Weight Watchers with my mom- I just did it with her, she was so confident to do it, like, they had a chart, they never said, like, I saw something that - never have a potato with something, like, a starch with something else. That would be nice to know if you shouldn't put two types of foods together because it doesn't maximize your metabolism. So I just -- the more you know which foods are better grouped together, would make me more successful and that's just my thought process.

Justice also provides the steps she has taken to improve her ability to overcome the obstacles she was encountering with heating habits:

> I did the nutritional thing at the hospital and also at the gym, they help you out, there with nutritional things because I do have, a one on one and they do help me that way too, because they give me advise on certain foods that burn fat quicker, you know what I mean, the proteins and things like that to stay away from which doesn't burn quick, especially when you are trying to lose the weight.

Proactive planning/experimentation. Several participants indicated that they try to take preventative measures to assist them in overcoming obstacles that may reduce their ability to be successful with their eating habits. Several parents thought that this begins by proactively planning for what is accessible in the home. As Skylar remarked, one way that helps her:

> Is that you keep healthy stuff in the house, you have the ingredients that you like to cook, a lot of vegetables, a lot of beans, a lot of lentils, you know, whole grains.

She also describes how she experiments with new healthy food choices:

> I think we started eating salmon, we never had salmon before, you know. So you just put yourself in an environment where you can learn new things. I mean, I myself, really I get really good books and articles and I read stuff.

Phoenix also agreed with limiting accessibility in the home:

> I think you should have like, a family nutrition program, like I personally, don't have a lot of junk food in my house, we eat, like, healthy food as a family.

Justice thinks parents should be taking precautionary measures by having the right food accessible in the home:

> I think the parents should research the food and because the parents buy the food, you know the kids are going to eat whatever there is in the house. So I think the parent is the one who is responsible to look at the labels and keeping that child eating right. I think it is very important that the parent is in control of the food in the house and what's good for them and what's not good for them.

Emory says it is important to plan ahead for meals:

> I do it every morning every day, you know, I do my groceries before going to work so I have the groceries for the week at work, so what I am going to eat for breakfast. I already have it planned out.

Emory talks about how she and her daughter are helping the family build confidence by experimenting with food choices:

> My daughter, she prepares the salad for everybody and it is awesome, because I guess, she has different recipes that she gets online. She makes different types of salads and even my mother who never eats salads enjoyed it. She would make salads and she would put different dressing and different things and everybody enjoyed it.

Skylar talks about what she does to help her ability to stick to healthy choices:

> It is going to be a little, take a little, just like enjoy that crispy or have a taste of the cake, instead of a huge chunk of it, or something like that, and also have something to eat, a little bit beforehand so that you are not starving. We have vegetables, I always have, I like crunchy vegetables and stuff, so I will bring that. If you know, it is, like bring like, a pot luck, I will bring like the celery and carrots things that you can enjoy crunching on.

Physical Activity Self-Efficacy Themes

Reciprocal family motivation. According to the participants, motivation for taking part in physical activity comes from the parents, but it can also come from their children because there is a mutual form of support that is created when families are involved in activities together. This form of support develops and provides a way to help

the family overcome barriers that may inhibit their ability to perform physical activities. Emory illustrates how her children provide motivation with their family physical activity pursuits:

> It impacted them a lot because I basically said it is for me, and they are doing this, they wanted to help me out, because they saw how I was getting and they didn't want to see me get like grandma and grandpa. So they were like my motivators and they were like you could do this and we are gonna do it too, we don't want to be sick and I know it is in the genes…I know they push me like I pushed them. They know that I can do so much…when I went to DC, my daughter knows I enjoy walking so she said we are going to go here and we are going to go there, I put on my sneakers and we like walked from 8:00 in the morning and we are home like 7:00 in the night. They were pushing me and I was doing it.

Skylar suggests completing physical activities motivates her because it affects her outlook and gives her confidence to try new things:

> Everything functions better when you are physically active. I mean, I guess our heart, it is better for our heart if you are lean and have no extra fat, and all that physically, I feel better if I am healthier and I am active I feel better and the family support when we to activities together reinforces the health benefits, not to mention it is fun doing things with the family...my family motivates me, I think that it is good, that's true, it does help, at least it is in your mind, it is a motivation, you know, feel like, you know, it is good for you…I mean it is like, I think, the more I do the more I get in shape and the more confident I am you know, I could do this or that.

New challenges. Participants thought that seeking out new challenges would help them be more confident in their quest to enhance their ability to participate in different or alternate activities. They looked to these new challenges as an opportunity to build on their current comfort levels and to challenge them to try something new. Emerson points out some examples of things he may like, along with his family, to try to help build confidence:

> And also look for maybe one that is maybe a little bit more challenging as far as getting the family together outdoors and doing stuff. Like trying to, maybe get them to go kayaking or hiking together as a family. Something like, that.

> Especially when you're doing a family program and it is slightly more goal oriented. Maybe like – because it always seems like beneficial towards me when I'm working towards something. Like the family might try to run a 5K and try to get the whole family to complete the whole 5K in a certain amount of time or something like that. That might be something more interesting too as far as like working towards something as opposed to just getting healthy because we should…but I've also done where I've been in a training mode, I've done an Iron Man, I've done a marathon. Yeah that kind of stuff where you have to really buckle down and get serious about it. I've also done times where those warrior dashes and stuff like that, where it's like let's just go do it and have fun…yeah there's tons of classes out there that I would like to try. Like cross fit and that kind of stuff. And I don't think I would be intimidated to not try them.

Landry says modifying goals to fit new challenges helps with her confidence:

> I think that one of the modifications to a program might be a goals section. Like I know that you have exercise goals, one of the program modifications might be if this is what your goal is, try this type of deal. Again they have to be ever changing…setting goals helps me feel as if I can accomplish new things.

Jessie communicated she thought setting goals that were sustainable to meet new challenges would help her build confidence to reach desired outcomes:

> I mean, if the goal is weight loss, I want to see they are going to get to that goal. Or if the goal is like an exercise program, I want to see what the outcomes are…make sure that there is a good outcome…and when I achieve an outcome that helps build my confidence.

Hayden expressed her desire to try new challenges when asked what would help build her confidence:

> I am sure there is something I could learn or all of us could learn. I mean, I know there is always new things that are coming out, I think I would really, yes, I would enjoy learning some new activities that I have not been exposed to…when I try new things I feel, my, a sense of self-confidence improve.

Phoenix also suggests new opportunities are a good way to build belief in yourself:

> Just having the opportunity to do an activity, there are opportunities out there to do activity, I think that's good, I like to do that, I think that we should try new things…because it would boost your confidence actually if you try something new and you can do it and you like it and that can make you probably more eager to continue.

Nutrition Role Modeling Themes

Child interaction. Parents posited having an interactive relationship with their children about nutrition provided an opportunity to have dialogue and communicate to them about the importance of making good choices. Using both the planning and preparation stages for food presents an occasion for the parents to model an appropriate process for their children to use when making their own choices. As Emory advises:

> I show them by, you know, when I take them to a grocery shopping and I show them the different labels, different stuff that they can purchase, when I cook the food I tell them that I used everything natural like real onions, real pepper, real everything, nothing bottled up. I show them how to make it and you know, what you can do with it, like you can do different things with ground beef I can do some spaghetti, with the ground beef I can do the hamburger patties with the ground beef which is healthier than turkey breast ground beef better than the other meat.

Parker describes how he uses their time explaining food choices:

> I mean I try to talk to her about different things and tell her that's not good for you honey or you might want to try this instead of that. My son is the same way. He is to a point where I can explain it to him. I tell him this is what you want to do, this is how you want to eat. I think it's just a matter of me trying to educate him more. When I cook for them I try to definitely make them a nutritious meal when they're with me. When they are with me, when I'm purchasing the items, I definitely try to discuss it with them and the nutritional value. I try to explain it to them, mostly to my daughter, because she is kind of heavier. And my son is kind of over the years stretched out. But my daughter I try to more often just kind of by explaining to her, 'honey look at this. This is what you don't want, the saturated fats. You want to keep it like this and stuff like that'…so just repetitiveness, explaining to her, what the difference is, what is, the nutritional value and why she would want to eat healthy etc. And they know that this is of nutritional value and this is why we're doing it…we're trying to get you to be more on the health track.

Landry describes her approach:

> I would probably take them shopping with me, and have them pick out one of their favorite foods. And then we'll just go over the nutrition label together. And then maybe look for different alternatives and explain why one is better than the other.

Hayden suggests the importance of starting early when her children were young:

> I would, just like, at a very young age, taught our kids to read labels, so they learned that growing up. So they are very into understanding what information is on a food label…if I am unsure what the content is, because it is new or I want to try something else, I teach them about certain size and maybe look at fat, carb, sodium. And try to stay within, like I call it like a diabetic diet. So if you look at trying to even out your day and not eating a lot of one area…I feel the knowledge is power, so the more you know about what you are putting in your body and how you are nourishing yourself and taking care of yourself from a nutrition standpoint, the better off you are…when we go grocery shopping, or when we get home, and we are making something, if they are unclear of what's in it I'll show them how to read serving size and how it will be an appropriate serving size based on the box, and then relate that to what they should have for the day.

Jessie prefers to use analogies to help her children make better choices:

> Well it's like explaining to them the amount of sugar in there and like, telling my daughter, like, when she doesn't like to go to the dentist because she has a cavity, I'm like well trying to give them examples. Like the example of candy has a lot of sugar and is sweet and if you don't want to have cavities, cut out the sugar. So it's kind of like, that kind of helped her along the lines of understanding, because she didn't like having the cavities. I would like give them an example, if you do this, that can cause cavities which she kind of understood that. She is kind of at that age, so, she is starting to recognize certain things and how she wants to look. Well if we kind of change a little bit of our eating habits, or if you watch what you eat, that might not become an issue.

Alternate food choices. Based on the ingredient content of food, parents point out it is imperative that their children understand that there are alternative food choices. These choices are recognized by children based upon the parents' willingness to make alternate food choices and what those choices are. Emory discussed several changes her family has made with food choices:

> Everything is completely changed. From regular bread to whole wheat bread, from regular meat to ground turkey, fish and chicken. We shifted from 2% milk to skimmed milk, almond milk or soy milk. From regular, you know, once a weekend going to McDonald they will be going to Subway now, you know, healthier changes.

As Landry comments:

> With the boys and their diets I try to limit the amount of sugar and fat they are putting into their bodies…I do tend to go towards the healthier side, you know, whether or not they enjoy the fact that I am buying them organic cookies rather than Oreos, probably not so much…I don't eat and I don't make them eat organic all the time. But you know, there is definitely a time and a place and it's something I try to limit...my husband and I probably eat a lot healthier because we are at the age where we need to eat a little bit healthy and watch. I know that there have been times when the younger one will reach for a banana or an apple rather than a donut, which is always a good sign. So I think we are making an impact…I think once they understand what they are putting into their bodies, and how it helps fuel them, that they might make different choices.

Hayden suggests that there is new information about nutrition being discovered regularly:

> I think that everyday there is a new things that are discovered about nutrition and the ever changing science behind it. And the way food is being presented to us and that we need to stay on top of that and talk about it, what are best way, the best choices.

Further, Hayden identifies her approach when situations occur when good alternate choices may be limited:

> I think like when we do go somewhere to a picnic or family get together, we do try to make something that's healthy to take along. So a lot of time we try different salads and take them along. And that, I think teaches them that, that's a healthy alternative when they go places, plus it is introducing a tasteful thing that is good for you, and to other people.

Justice advises to get food as fresh as possible:

> I try to get as much fresh as I can, I go to the local fresh fruit market and vegetable market because they are fresher and there are less preservatives, obviously because there are a lot of farmers around here, and a lot of it comes from the farm, a lot of meat comes from the farm, we raise cows, we get eggs at a local egg store. So a lot of stuff is homegrown because we live around homegrown and we have the supply to do that.

Justice also proposes variety as a way to improve food choices even when similar foods are chosen:

> There are so many things that you could put into the salad to make it fun and good and not all healthy food is bland, you know what I mean. You put the grilled chicken on the sandwich and make it really amazing or tacos on salads, we would go to all different kinds of chopped salads with chili on top, so they see different ways of making it so it is not the same dish every single time, they are not like, oh no, it is chili again, no not at our house it is what kind of chili are we making today. So you got to keep a variety of healthy foods going so that it doesn't become boring for them.

Eating Habits Role Modeling Themes

Family involvement. Involving the family provides occasions and opportunities for parents to educate and explain to their children proper eating habits. This also allows the children to get hands-on and a better appreciation for making the right choices for food selection, preparation, and consumption. Landry recommended children have the chance to experience this process:

> When we go to the farmers market, they like coming and picking up the fruits. When they do come to the grocery store, they get to pick-they help me pick out what we are having for dinner. Or before we go to the grocery store, I ask them what kind of meals are you guys looking at this week? Do you want this and this? And they help me with my list planning and that kind of stuff…I think that it occurs when they see the bigger picture. When they are able to pick up a box of cookies and read the label and say, this isn't maybe the better choice. Product "A" is not the right choice, maybe product "B" might be the better choice based on the labels. I think that it is also important that they know exactly how, this is going to sound silly, how to cook things to, you know-it's all relative. Like my boys help me in the kitchen, they love to cook, which is an important aspect of eating once they knew how to cook, they were more willing to eat it because they made it.

Parker takes these occasions to help educate his children:

> Letting them know the difference between, just in general, eating a salad compared to let's go get a pizza for dinner. Just explaining to them the nutritional values, how it's going to be better for them in terms that they're going to understand what their age is. Not really throwing a lot of big words out or anything. Just explaining to them the good sides of taking in these foods and the negative sides of it and vice versa…most of the time when I have a sit down meal with them and I offer something healthy, there isn't much of a repercussion for

> my kids. When the opportunity is there, they do welcome it with somewhat open arms.

Skylar recounts a time when this was educational for all of them:

> I think it is always good to cook as a family. My son was in a hospitality program and he had to make a pineapple carrot cake or something and we made this thing and we could not believe the amount of fat and sugar, we said no wonder carrot cake tastes good…with the oil and butter, you know, if we weren't cooking that together okay, we would never know that.

Hayden's perspective:

> We always try to eat together, even if it is a little late which we don't like to do. We feel it is important compared to not eating together at all…by doing yourself and not overeating, eating as a family, portion control…buying a lot of fruits and vegetables and lean meat and seafood.

Sage likes the interaction and hopes involving her family with the choices they make will carry-on with her children:

> You are participating in it together and they are seeing what I am doing and it is teaching them what the right way to eat is, and the right way to be healthy and then of course hopefully they will learn that and use it when they are older.

Visual presentation/demonstration. To help their children understand portion sizes, and what the appropriate size of servings of food should look like, parents mentioned utilizing visual aids in helping to demonstrate to their children what suitable portion sizes should look like. Some mentioned more detailed techniques while others relied on more basic analogies. Nevertheless, they felt it was valuable for their children to be able to relate portion size to something they could comprehend. In explaining this to her children Emory states:

> Portion sizes they basically say that if your platter is divided into three, the larger side of the half would be basically vegetables or salads, and the other half, you cut in half and the portion would be the size of a deck of cards for a meat, either fish or chicken, and the other part of the other half would be basically your carbs…if

> you are gonna do like a tablespoon that's the size of your thumb so you know exactly that's the tablespoon you can get a like an oil or something on your fish.

Riley illustrates her position by involving the children:

> I think the actual trying the different foods and having the kids actually measure out, you know, serving size versus us just serving them, and having smaller plates and just showing the young children how to calculate the serving size and the different food options.

Phoenix expresses:

> I was always taught that you should have, like the size of your hand, like your fist like portions on your plate, if that makes sense to you. Usually, I am confident as far as I have my kids take the scoop or spoonful of whatever food it is.

Hayden in describing her comprehension of appropriate portion sizes uses a visual to help in her understanding of what they should look like:

> So usually we use the rule of thumb, you know, the size of your fist and twice on your plate per meal. What portion size is and we would usually say that certain foods are free, like lettuce and green vegetables. And we feel good about that…I think that if there was a plate that sort of divided where you could dish something out and it would…match your quantity. It would be nice to actually have a plate that had that kind of thing where the quantity would be filled out for you. That would be helpful.

Justice recommends making it fun for the child:

> There are so many ways to present healthy food for a young child, you can make, you know, octopus out of a banana, you know anything, healthy food like, make it fun for the kid.

Physical Activity Role Modeling Themes

Enjoy the activity. Parents identified the belief that imparting to their children that physical activity can and should be fun was important. Without the element of fun it becomes much more difficult to stay physically active and your desire to want to stay active is diminished. Parents recognized their role as facilitators and as role models for their children. As Hayden proposed:

> I try to teach my child to enjoy the activities she chooses to participate in, and just being introduced, and understanding that the longer you stay physically active in your life, that the healthier you will be, and that will contribute to a longer healthier life.

Skylar advised the key to staying physically active is to find something you will do:

> The key is, I saw this thing on TV once and I thought it was so cute, the lady was saying what's the best exercise, everybody was saying this and that and the other, and she said it is the thing that you will do and I thought that's so true. You could say you want to run or you should run everyday or this or that, what is the one you are gonna do? I think it is finding something that you enjoy, like, we like bike riding, we don't have a built in pool but we put up a pool, that thing for me is the best thing, I love to swim…yeah, and they were involved with things on their own as well. We would bike, we walked, probably bike, walked and swim were the main things we did together. We would just throw a ball I mean it is not really burning a lot of calories or something. We just would enjoy going out and you know.

Emory acknowledges it is essential to do activities you enjoy:

> I like to walk a lot so my activity is basically cardio, walking. I tried, it is not like that I haven't tried, I tried doing aerobics, Zumba. I am active when it comes to walking, I am not fast or active with the running and aerobics and the Zumba…I have heard the theory of no pain, no gain, but it ain't working for me…I enjoy walking more and it is less painful for me. I was looking into a swimming class, that's cardio, that's moving all your body muscles in the water and I am not hurting myself in the water.

Landry believes finding different kinds of activities helps peek interests:

> When we do activities together they enjoy it, they like the family aspect of it…one person picks and then the next and we have modified it to the fact that if it is something that you choose, we all have to do it. We don't have to do it for hours, but you have to at least try it.

Peyton states physical activities need to be fun to keep her children's attention:

> Programs and activities need to be fun and upbeat, you know, keep everyone's attention…I have boys with DD and ADHD so physical activities and the programs they are in needs to keep their attention.

Jessie comments that she hopes having fun leads to her children wanting to continue

physical activities:

> We do different thing together. Like we will get together and play family wiffle ball in the back yard or play basketball on the court in the front yard, we try to do things like that. We find fun things to do. My daughter is just now starting field hockey, so she is learning how to be a goalie for field hockey. My son was very active in baseball, so we do a lot of drills in our back yard, so we are very active together… I hear that the more you get involved with them and their activities the more likely that they are going to want to continue them. They are happy that you are taking an active part in it, so it like becomes a family thing.

Parental encouragement. Parents felt that encouraging their children to participate in physical activities was essential to their children's health. This encouragement can come from participating in activities with them but also from providing access or cheering for them at an activity or event. Providing this source of importance facilitates to their children that physical activity should be looked upon in a positive and beneficial way. Phoenix provides her position:

> I believe that there should be physical activity period. I do not like sitting around doing nothing. So I do have my children, I give them opportunities to play sports in school and outside activities. I workout and whenever I do, my two, they want to do it as well. I tried to explain to them that they need to have physical activity. so that your body works like it is supposed to, so when I do, they usually follow… I think if my kids see me active they will be active. If I sit around and watch TV and eat junk food they will follow. It is like me being the cheer coach and me being involved in their activities with them is to set a good example…so, me coaching is teaching them, well, I guess, it kind of makes them like being out and being active because they see me teaching so they would probably want to do the same. That's what I have done with my kids to throughout their life I have always been involved in their sports and tried it with them so I think that it gives them motivation.

Hayden submits their family encouragement comes from how they model their own behavior:

> We both my husband and I come both from very competitive, naturally competitive family, so for example when we go away for a weekend, we are constantly playing something. So whether it be wiffleball or kickball or basketball, bocce ball or volleyball or whatever it is. Our families are constantly doing some physical activity like that. So I would say we just model how you would act.

Emory disclosed that she didn't want her children to be restricted as her:

> I was always the encouragement for them. I told them whatever sports is fine there was no, like, do this or do that. I didn't want them to be limited like me.

Parker shows his encouragement:

> I always try to stress to them the importance of being physically active, be on your feet. Don't be sitting around watching television all day. Don't be on your phone. I mean when I am with them, if I go for a run, I will either have them on their bikes, so they can take their scooters with me. And I try to keep them when they are with me as physically active as they can.

Landry identifies her support for her children's physical activities:

> I find that they're more willing to come with me when I go "Oh, I'm going swimming, do you want to come?" or they will come and shoot baskets. If they know we are someplace doing something, they'll follow us and find a physical activity for themselves…but they know that we support and will help them with whatever activity they want. Basketball is one, baseball is another. So there are different areas for them to excel at. It doesn't have to be-I know none of them are going to run a mile, which is fine. But they do know that no matter what the physical activity that they choose, they need to participate in that and we will help them with whatever tools they need to excel in whatever they choose.

Hayden discusses how they use sports as a means for learning responsibility:

> Both my husband and I played three sports in high school and both played collegiate sports. And then all three daughters play sports. Always had organized sports in our life, and even their off season they will run and ride bike and do things to keep themselves active. Not only exercise but social activity, to be part of something, learn responsibility.

Sage likes the interaction along with the social aspect of physical activity:

> They have to participate in some sort of physical activity. And I do not let them sit and play on the iPad all day, they have to be constantly outside playing when it's nice out, they cannot be just sitting and watching TV all day. I don't let them just sit around and do nothing…I try to exercise and they have exercised with me and we just walk when it is nice out and they ride bikes a lot and I walk with them when they ride bike. So we are always doing things together in that respect…with physical activity, with it being in groups, they do actual sports, so I am big fan of doing sporting events because they get their physical activity but you also get the social aspect.

Summary

This chapter provided a comprehensive review of the results for the study. In the first phase, results indicated that there was a statistically significant correlation between BMI and nutrition self-efficacy, eating habits self-efficacy and eating habits role modeling. Additional analysis showed that nutrition self-efficacy and eating habits role modeling were statistically significant predictors of BMI. Further, analysis revealed that statistically, attending the family health and weight management program may help participants reduce their BMI, cholesterol, and blood pressure diastolic readings. In the second phase of the study, themes emerged to answer the research questions as to what factors parental participants consider important that help contribute to positive family health practices. Themes also emerged that help address the research questions of the parents' perceptions of how self-efficacy and role modeling in reference to nutrition, eating habits and physical activity can affect families success with health and weight management. The next chapter provides further discussion on the results and recommendations for organizations that are considering providing family health and weight management programs.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

This chapter provides an overview of the study including the purpose, a discussion of the results with related literature and implications for theory. Also included are proposed recommendations for practice for organizations who may be considering the design, development, and implementation of family health and wellness programs.

Summary of the Study

The prevalence and causes of obesity and overweight conditions of Americans is influenced by a range of social and environmental factors (French et al., 2001; O'Brien et al., 2007; Sallis & Owen 2002). Parents are an integral part of the social learning environment where children's eating habits and physical activity are influenced by family and parental modeling of behaviors (Davison & Birch, 2001; Golan & Crow, 2004; Ihmels et al., 2009. Increasing parental self-efficacy is important because it improves and promotes confidence in being role models for their children (Bandura, 1997; Golan & Weizman, 2001). Physical health problems associated with obesity include increased risk of diabetes and heart disease, increased blood pressure, elevated cholesterol levels, and other negative health consequences (Ahmad et al., 2010; Freedman et al., 2007). Poor health of employees and their family can translate into significant expenses to individuals and businesses because organizations pay over one-fourth of health care costs due to an employee's personal and family health problems (Begley, 2012; Edington & Burton, 2003; Pelletier et al., 2004).

In response, organizations are in a unique position and can play a critical role in fighting the obesity and overweight epidemic by helping employee families develop healthy lifestyles by providing wellness interventions that are specific to their diverse needs. When organizations are designing, developing, and implementing wellness training programs it is essential to consider what parents find important for their families success.

The purpose of this study was to explore parental perceptions of self-efficacy, role modeling, and factors considered important by parental participants that help contribute to positive family health practices from an employer-provided family wellness initiative. The study used a two-phase mixed methods sequential design (Creswell, 2009). During the first phase, biometric and survey questionnaire (from parents) data that were collected by the organization as part of an employer-provided family health and weight management program, were examined to look for relationships between parental perceived capability (self-efficacy) and role modeling of nutrition, eating habits, physical activity, and any correlations with biometric data of BMI, cholesterol, glucose, and blood pressure. During the second qualitative phase, program documents were reviewed and semi-structured interviews were conducted with parental participants to explore their personal experiences with self-efficacy and role modeling of family health and weight management issues and their views on factors that help contribute to positive family health practices.

The guiding research questions for the quantitative phase were: (a) what is the relation between parental perceived capability (self-efficacy) of weight management factors (i.e., nutrition, eating habits and physical activity) and biometric data of BMI,

cholesterol, glucose, and blood pressure? and (b) what is the relation between parental role modeling of weight management behaviors of (i.e., nutrition, eating habits and physical activity) and biometric data of BMI, cholesterol, glucose, and blood pressure? Six hypotheses were tested to examine the research questions:

$H_{1a:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{1b:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{1c:}$ There will be significant statistical relationships between parental perceived capability (self-efficacy) of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2a:}$ There will be significant statistical relationships between parental role modeling of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2b:}$ There will be significant statistical relationships between parental role modeling of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure.

$H_{2c:}$ There will be significant statistical relationships between parental role modeling of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure.

Discussion - Phase I

Correlation coefficients were used to test the significance of the association between the variables. The independent variables: physical activity self-efficacy, nutrition role modeling, and physical activity role modeling showed no association with the biometric dependent variables. Further, the independent variables: nutrition self-efficacy, eating habits self-efficacy, and eating habits role modeling indicated no association with the biometric variables except for BMI. The hypotheses are explored further in the next section.

Hypothesis H_{1a}

Hypothesis H_{1a} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure. Results of the correlation analysis show that nutrition self-efficacy and BMI have a negative and statistically significant relationship. The correlations between nutrition self-efficacy and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. In general, the results suggest that if participants claimed to have higher nutrition self-efficacy scores they tended to have lower BMI. This finding is similar to other research that suggests that increasing coping efficacy and building confidence resulted in significant weight loss for participants (Theim et al., 2012). In that study, an increase in coping abilities resulted in a decrease in temptation in high-risk dietary situations thereby helping to reduce participants' BMI at a two year follow-up assessment (Theim et al., 2012). Other researchers recommend building confidence (nutrition self-efficacy) with health education that utilizes nutrition label use to increase an individual's knowledge

and ability to cope and understand information on the labels to help reduce BMI (Loureiro, Yen, & Nayga, 2012). In their study, Loureiro et al. (2012) found 74% of women read the information on nutrition labels while 58% of men regularly read nutrition labels. The associated impact for women who read the labels was a BMI of 1.49 points lower than those women who do not and men who read labels had a difference of .12 points of a lower BMI than those who did not feel as confident in reading the nutrition labels (Loureiro et al., 2012). These findings suggest that for changes to occur, knowledge is needed for understanding the risks of detrimental behaviors and the provision of new knowledge helps in understanding the benefits of the new behaviors and lifestyle changes. Nutrition education provides an opportunity for individuals to support and increase their nutrition knowledge and self-efficacy to make dietary changes. Understanding nutrition labeling on prepackaged foods provides an opportunity for people to enhance their nutrition awareness and improve self-efficacy.

Hypothesis H_{1b}

Hypothesis H_{1b} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure. Results of the correlation analysis show that eating habits self-efficacy and BMI have a negative and statistically significant relationship. The correlations between eating habits self-efficacy and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. In general, the results suggest that if participants indicated they have higher eating habits self-efficacy scores, then they tended to have lower BMI. This finding is similar to other research. In a study, researchers found increasing diet self-

efficacy scores from pre- to post-treatment was associated with greater weight loss and improved BMI (Martin et al., 2004). Other studies have also found that increases in diet self-efficacy scores from pre- to post-treatment are associated with greater weight loss and BMI improvements (Bas & Donmez, 2009; Warziski, Sereika, Styn, Music, & Burke, 2008). In a cross sectional survey of four groups, two male and two female (age ranges 25-44 years, and 45-64 years), results indicated better perceived eating habits were associated with lower BMI in all groups except the 25-44 year old women (Plourde, Nolin, Receveur, & Ledoux, 2010). Other research has looked at the associations between body mass index and health-related self-efficacy including food patterns and dietary education and found that individuals with weak health/eating self-efficacy were associated with a higher BMI (Ovaskainen et al., 2015).

Conversely, one study showed no significant relationship with changes in dietary self-efficacy and BMI/weight loss reductions (Byrne et al., 2012). In a study that explored a dietary intervention in obese participants (with and without type 2 diabetes) to increase their confidence in making dietary changes, the only significant association was with HDL cholesterol readings. BMI, glucose, and blood pressure all had reductions in readings from baseline at a two-year follow-up; however, the changes were not significant (Golan et al., 2012). Further, one study has showed, unexpectedly, that higher healthy eating habits self-efficacy was associated with greater BMI (Clum, Rice, Broussard, Johnson, & Webber, 2014). Overall, and in concurrence with Lubans et al. (2012), it is important to distinguish between outcome expectations (the benefits of healthy eating) and outcome expectancies (the consideration of healthy eating to be of

value to the person) because without expectancies it may be unlikely they will eat healthy.

Hypothesis H_{1c}

Hypothesis H_{1c} stated there will be significant statistical relationships between parental perceived capability (self-efficacy) of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure. The results of the correlation analysis show that physical activity self-efficacy and all the biometric measures had no statistically significant relationships. Physical activity self-efficacy has been shown to be an important component of weight loss and weight loss maintenance in overweight and obese women (Teixeira et al., 2010). Associations with higher BMI have correlated with lower exercise self-efficacy and lower weight loss self-efficacy (Delahanty et al., 2002) and research has shown that lower self-efficacy for physical activity/exercise is associated with greater BMI (Clum et al., 2014). Changes in physical activity/exercise self-efficacy are significantly associated with BMI/weight loss (Byrne et al., 2012).

While others have found that improving physical activity self-efficacy beliefs were associated with corresponding weight loss/BMI behaviors during active treatment, research has also found over time these associations can diminish (Linde et al., 2006). Researchers investigating an intervention group that used cognitive assessments to enhance participants' confidence and to improve perceptions of physical activity found that improving physical activity behavior of the participants had pronounced and significantly lower BMI, blood pressure, and cholesterol (Aldana et al., 2005).

Hypothesis H_{2a}

Hypothesis H_{2a} stated there will be significant statistical relationships between parental role modeling of nutrition and biometric data of BMI, cholesterol, glucose, and blood pressure. The results of the correlation analysis show that nutrition role modeling and all the biometric measures had no statistically significant relationships. Nutrition/food label use can impact an individual's health and weight status. Information on nutrient content of foods does not necessarily affect dietary behavior. Food choices are influenced by many factors and awareness of diet and health relationships are important motivational factors for dietary behavior (Arsenault, 2010). Modeling of nutrition label use may have tertiary affects. One study showed that label users gained less BMI than non-users, although the difference was only significant among non-Hispanic White females. The study estimated the potential economic impact from the reduced BMI of non-Hispanic white women was $166 billion over a 20 year period, due to lower mortality risk, reduced medical expenditures, lower absenteeism, and increased productivity (Variyam & Cawley, 2006).

Research on a comprehensive educational and behavioral program for a healthy lifestyle focused on nutrition education and parental modeling. Two groups were examined, parents-only group and parents-children group. A statistically significant negative correlation was shown between permissive parenting style and changes in BMI in both groups. Also, at the end of intervention the treatment effect was statistically significant with regard to the parents-only group with a decrease in BMI (Golan, Kaufman & Shahar, 2006). While there is research that looks at different types of nutritional knowledge and consumption there appears to be limited research that directly

ties this knowledge between parental role modeling and other biometric measures. This void lends itself to possible areas of future research.

Hypothesis H_{2b}

Hypothesis H_{2b} stated there will be significant statistical relationships between parental role modeling of eating habits and biometric data of BMI, cholesterol, glucose, and blood pressure. The results of the correlation analysis show that eating habits role modeling and BMI have a negative and statistically significant relationship. The correlations between eating habits role modeling and cholesterol, glucose, and blood pressure (systolic and diastolic) tended to be lower and not statistically significant. Overall, the results suggest that if participants indicated they had higher eating habits role modeling scores, they tended to have lower BMI. One study demonstrated significant BMI reductions as well as biometric reductions (Schwartz, Powell, & Keifer, 2013). In a wellness program for Hispanic families that consider behavior change and parental role modeling the first line of prevention and treatment of obesity and metabolic syndrome, the program aimed to improve nutrition and physical activity behaviors. The program engaged the entire family with information on healthy lifestyles, health conditions (obesity, heart disease, diabetes, and metabolic syndrome), healthy food choices, grocery shopping, and food demonstrations. Results revealed substantial improvement in health outcomes, with statistically significant reductions in weight, BMI, glucose, blood pressure, and cholesterol, from pre- intervention to post- intervention and/or pre-intervention to one- year follow- up. Average weight at annual follow-up was reduced by 2.84 pounds and BMI reduced by 1.9% (Schwartz et al., 2013).

Hypothesis H_{2c}

Hypothesis H_{2c} stated there will be significant statistical relationships between parental role modeling of physical activity and biometric data of BMI, cholesterol, glucose, and blood pressure. The results of the correlation analysis show that physical activity role modeling and all the biometric measures had no statistically significant relationships. Thorndike (2010) reported in her review of worksite interventions that there are limited studies that have looked at physical activity and health outcomes such as cholesterol and blood pressure and those that have are inconclusive of positive effects. Research has examined habitual physical activity modeling behaviors and found scores were not significantly related to BMI and perception of weight status and associated health risks (Hoffmann, Tug, & Simon, 2014). Nevertheless, child-caregivers' BMI and habitual physical activity scores are significantly associated with the risk of their children being overweight. This significant positive association with their child being overweight included parental BMI and low parental habitual physical activity scores (Hoffmann et al., 2014). As reported while establishing a model looking at parental influences and role modeling, boys indicated self-efficacy was a strong predictor of physical activity while girls indicated parents' participation in physical activity was a predictor for their participation in physical activity (Leary et al., 2013)

A recent systematic review with a meta-analysis looked at the effect of exercise physical activity on cardiovascular risk factors and observed significant improvement in measures of body composition including reduction in body weight and BMI as well as total cholesterol (Pattyn, Cornelissen, Eshghi, & Vanhees, 2013). The lack of physical activity and increasing sedentary nature of the American population has prompted

intervention treatments to include a focus on reinforcement of progress toward physical activity/exercise, making plans for physical activity/exercise, and providing education about physical activity/exercise. As part of interventions it is important to include improvement and maintenance of biometric readings as they may provide incentive for individuals to perform physical activity behaviors.

Additional Analysis

As part of this study, and to further examine the variables that showed statistically significant relationships with the correlation analysis, additional analyses were conducted to explore linear regression models. The regression analysis looked at predicting BMI from nutrition self-efficacy, eating habits self-efficacy, and eating habits role modeling. The results indicated that BMI was predictable from nutrition self-efficacy and eating habits role modeling scores. The eating habits self-efficacy scores were not statistically significant in predicting BMI. Additionally, a paired-samples *t* test was conducted to compare the biometric measures of BMI, cholesterol, glucose, and blood pressure (systolic and diastolic) from the parent participants at two different time points: T1=initial recording and T2=follow-up recording. The results indicated that, statistically, attending the organizational family health and wellness program may help reduce participants BMI, cholesterol, and diastolic blood pressure. There was not a significant difference in the measures for glucose or systolic blood pressure.

Research has examined associations between nutrition knowledge, nutritional food label use, and food intake patterns. Findings indicated that participants with higher nutrition knowledge were more likely to use nutritional food labels in their selection for healthy foods which were lower in fat, sugar and sodium and higher in fiber (Fitzgerald et

al., 2008). Research has indicated correlations between weight management behaviors, self-efficacy, and weight status (Gallagher et al., 2006; Linde et al., 2006; Wilson-Barlow et al., 2014; Wiltink et al., 2007). Reports suggest higher baseline levels of nutrition/eating self-efficacy predict greater weight loss during treatment (Bas & Donmez, 2009; Linde et al., 2006). Byrne et al. (2012) reported changes in diet self-efficacy across treatment appear to be even stronger predictors than baseline levels. Palmeira et al. (2007) found that weight change was more prominent in theoretical interventions where self-efficacy was analyzed as a predictor. Wingo et al. (2013) conducted a randomized clinical trial testing the predictive qualities of nutritional dietary self-efficacy and exercise self-efficacy at two time points (6 and 18 months) after treatment. The study explored the relationship of self-efficacy on behavior and weight changes. Results indicated that baseline weight was correlated with nutritional dietary self-efficacy but not exercise self-efficacy. Participants who had a greater increase in self-efficacy had the most weight loss. There was; however, a decrease in the mean self-efficacy scores over time (Wingo et al., 2013).

Other research using repeated measures tests to examine biometric readings have shown various results. Berry et al. (2014) examined a nutrition and exercise education intervention program for family weight management and found a significant reduction in parent BMI from pre-post readings. In their study, Racette et al. (2009) conducted a study on improving dietary habits and increasing physical activity to reduce risks for developing cardiovascular disease and enhancing overall health. The authors explored opportunities for wellness at two worksites, one with an intervention and one with assessments only, to look at the effects on cardiovascular disease after 1 year.

Subsequent repeated measures analysis revealed that improvements were made with BMI, systolic and diastolic blood pressure, and cholesterol. Changes in glucose were not statistically significant (Racette et al., 2009). Researchers have demonstrated clinical impacts from community lifestyle education programs that looked at intensive diet and lifestyle modification. Aldana et al. (2005) found significant mean changes in systolic and diastolic blood pressure, glucose, and cholesterol while BMI and glucose were not significant from baseline to six week follow-up.

Worksite wellness programs also have investigated the benefits of chronic disease prevention and biometric results. Milani and Lavie (2009) assessed a health risk intervention and the findings revealed significant improvements for diastolic blood pressure and HDL cholesterol. BMI and systolic blood pressure were not significant from baseline to after intervention (Milani & Lavie, 2009). Other research has found opposite results with BMI and systolic blood pressure being significant (Gemson, Commisso, Fuente, Newman, & Benson, 2008). More recent studies have found pronounced improvements. Goetzel et al. (2010) using a quasi-experimental research design, with two levels of intervention intensity and a control group found significant differences in blood pressure (systolic and diastolic) and cholesterol values while intervention participants maintained their weight and BMI compared to the control sight participants who gained 1.3 pounds and increased their BMI by 0.2 over two years. Blood glucose levels increased for both the intervention and control groups (Goetzel et al., 2010). In an investigation of the effectiveness of a health promotion program at a school district, findings indicate that 46% of participants lowered BMI, 34.7% lowered systolic blood pressure, 56.3% lowered diastolic blood pressure, 65.6% lowered blood

glucose, and 38.6% lowered total cholesterol. All of the biometric scores were significant reductions except for the glucose readings (Merrill & Sloan, 2014).

The effect of body mass index (BMI) has shown to be an important concern in an organization's productivity and health costs. Study findings indicate that overweight and/or obese employees can cost billions of dollars in additional healthcare costs (Goetzel & Ozminkowski, 2008). Further, based on the findings of this research where BMI was the only dependent variable that had an association with the independent variables when compared to other studies where significance was obtained with other biometric variables, it is proposed that the effectiveness of intervention appears to be based on the study population, techniques used in the intervention, and readings at baseline. Having an understanding of these differences may assist in the approaches used to help modify behaviors that may have an effect on the biometric readings. Consequently, biometric readings can play a role in an individual's ability to perform and be productive.

Research findings have demonstrated that individuals with moderate (≥ 30) to extreme (≥ 40) BMI experienced a 4.2% loss in productivity due to weight-related health problems (Gates et al., 2008). Once employees cross the BMI threshold of 35, presenteeism increases significantly (Gates et al., 2008). Improvements in employee health are related to increased self-rated productivity (Lenneman et al., 2011). Similarly, Pelletier et al. (2004) showed that employees who improved their self-rated health risk status had concurrent increases in self-rated productivity (in terms of combined measure of both absenteeism and presenteeism).

Discussion - Phase II

For the second, qualitative phase of the study, the guiding research question was: What factors are considered important by parental participants that help contribute to positive family health practices in an employer-provided family health and weight management program? With sub questions: (a) how do parental participants view their perceived capability (self-efficacy) for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity? and (b) how do parental participants view their use of role modeling for successful family health and weight management when describing aspects of nutrition, eating habits, and physical activity?

This phase of the study provided an opportunity to explore with the participants what they consider important to be successful with their family health and weight management efforts. Gathering the narrative data helps bring forth nuanced and more detailed information that the participants were willing to share and to gain a deeper understanding of what is significant to them and their perspectives. The primary method of collecting data was through phone interviews that were conducted to explore and gather experiential narrative material that served as a resource for developing a richer and deeper understanding of what factors they consider important for family success in their employer-provided family health and weight management program. There were 12 interview participants consisting of 10 women and two men. Of the 12 participants, two were single, eight were married, and two were divorced. Their education levels were comprised of one with a Master's degree, five with Bachelor's degrees, two with Associate's Degrees, and four with High School Diplomas. The families ranged from

one to three children per household, with ages ranging from 5 to 14 years old. Each interview was transcribed, coded using the constant comparative method and individually analyzed for themes.

The constant comparative method, an inductive data coding process used for categorizing and comparing qualitative data for analysis purposes, was used for developing an understanding of the participants' perceptions of their experiences. This method allows new data to be compared to previously collected data to form, enhance, confirm, or discount ideas (Bogdan & Biklen, 2007; Taylor & Bogdan, 1984). Subsequently, each interview was individually analyzed to look for categories of commonality or variations in each area of interest. Categories were identified relevant to the explored areas of interest based on the research questions and were developed for each identified area of interest with sub-themes emerging within each category. In addition, program documents (i.e., open ended question from the surveys and applications for entrance into the program) were analyzed for themes; then cross-case synthesis was used to analyze all the cases for commonality and variations. Several themes emerged and in the next section they are discussed with related literature.

Factors Contributing to Positive Family Health Practices

Parental leadership. Parents recognized the important role they play in establishing their family's habits and expectations that lead to a healthy lifestyle. Parenting leadership is significant in the family environment where knowledge, attitudes, and behaviors about the importance of establishing proper lifestyle practices and routines can be introduced and exhibited. Parenting leadership can generate patterns of behaviors and provide the emotional background for children where interpretations by the child

include messages of responsiveness of the parent (Rhee et al., 2006; Rhee, 2008). Golan et al. (2006) posited that parents largely control the child's eating environment, provide companionship at meal times, promote family meals and are encouraged to model healthy food selection, decrease sedentary behavior, and increase physical activity. In this leadership role, children look to their parents for cues as to the challenges and successes they may have with their own health goals. Parents in this particular study took part in a specific health and wellness program to improve biometric readings and weight management outcomes.

In this study, results from phase one revealed significant reductions of BMI, cholesterol, and diastolic blood pressure measures. These improvements may provide incentives for the parent to develop leadership styles that the children can see as beneficial not only to the parent but also for themselves. Parenting can be linked to self-regulatory skills and improvement in parental leadership style with parents providing clear and firm direction for their children with moderate discipline using warmth, reason, and flexibility. There is verbal give-and-take where parents are assertive, but not intrusive or restrictive (Golan et al., 2006). This research study revealed parents acknowledged it was their responsibility to include the entire family in their wellness efforts because focusing on select but not all members is unrealistic and detrimental if other members are exhibiting contradictory behaviors. Hence, the creation of a healthy family environment through parental leadership should encourage healthy lifestyle changes.

Balanced lifestyle. Parents in this study appeared to comprehend their responsibility in setting a balanced lifestyle approach for the family's health and

wellness. Creating this balanced social environment may not only have a strong influence on the health choices their children make today, but also on the lifestyle preferences they may adopt in the future. Within the family social environment, parents felt it was important to present consistent information and avoid short-term, unrealistic health behavior patterns. Social ties in this environment can have an effect physically, mentally and emotionally which can promote healthy behaviors and deter risky ones within the social network (Umberson et al., 2010). Family, and particularly child, health behaviors are strongly impacted by the degree of family collaboration and member involvement with a balanced lifestyle which supports the establishment of the social environment where the family members interact. The reciprocal nature of the parent-child relationship can affect health outcomes for both the child and parent. These outcomes may look at biometric, such as BMI, and other health measures.

As the results from phase one of this study demonstrated, there is a predictive link between BMI and nutrition self-efficacy and eating habits role modeling. Knowing that these predictive affiliations exist may encourage families to adopt health behavior patterns that assist them with maintaining an appropriate balanced lifestyle. Family health behavior patterns are influenced by the dynamics of member participation, rules, encouragement, and how and whether they engage in health promotion activities (Gruber & Haldeman, 2009). The social environment can facilitate healthy eating and physical activity by creating and demonstrating positive behaviors and a balanced lifestyle with the introduction of appropriate nutrition, diet, and physical activities within the family dynamics. This environmental setting provides the primary social learning milieu of

children, where exposure to these healthy behaviors can be accepted and maintained (Gruber & Haldeman, 2009).

Awareness of family health history. Several participants had concerns about how their family history may influence or have an effect on their children as well as themselves. Family history of obesity and genetics predispose certain risks to family members and how parental perception may affect decisions based on this knowledge. Research shows that parental obesity increases the likelihood of their children being obese by two to five times (American Academy of Child and Adolescent Psychiatry, 2011; Whitaker et al., 1997). This is especially relevant if obesity is inherent within the family. A child who is obese between the ages of 10 and 13 has an 80% chance of becoming an obese adult (American Academy of Child and Adolescent Psychiatry, 2011). If one parent is obese, a child has a 50% chance of becoming obese whereas if both parents are obese there is an 80% chance the child will become obese (American Academy of Child and Adolescent Psychiatry, 2011). While genetics may increase susceptibility of obesity and other health risk factors, interactions with environmental influences also contribute to family health (American Academy of Pediatrics, 2003).

Parents can take a proactive role by assuming responsibility for their family's food environment, physical activities and creating opportunities to mitigate the potential influence the genetic factors may place on their families (Draxten et al., 2014; Wright et al., 2010). Creating preventative and progressive family environments that help mitigate this influence can improve biometric health conditions. As indicated by the results from phase one of this study, the participants were able to lower their BMI, cholesterol, and diastolic blood pressure readings.

Nutrition Self-Efficacy Themes

Nutrition facts paradox. Nutrition information has been mandatory on pre-packaged foods in the United States since the Nutrition Labeling and Education Act of 1990. Study participants indicated that the information on the nutrition labels provide facts to help them make better choices; however, even though they acknowledged nutrition information is important, understanding them is confusing and misleading. Research has found that nutrition label use is prevalent; however, interpreting information on the labels is difficult (Drichoutis, Lazaridis, & Nayga, 2006). Researchers have reported nutrition labels are an important source of information and most people could locate nutrition information but had difficulties with percent, daily value, and information on the food labels (Campos et al., 2011).

Researchers suggest a way to develop a better understanding is through frequent label reading and better education to enhance nutrition knowledge are related to comprehension skills (Campos et al., 2011). Nutrition label knowledge, nutrition education, meal planning, and knowledge of diet-disease relationships are associated with label use. A review revealed a consistent link between using nutrition labels and healthier diets (Campos et al., 2011). Developing new knowledge helps in understanding the benefits of the new behaviors and lifestyle changes. Nutrition education provides an opportunity for individuals to support and increase their nutrition knowledge and self-efficacy to make dietary changes. Understanding nutrition labeling on prepackaged foods provides an opportunity for people to enhance their nutrition awareness and improve self-efficacy. As was suggested in the first phase of this study, enhancing the frequency of use and the ability to comprehend nutrition labels has been shown to reduce BMI.

Developing the competence of personal awareness of nutrition information may be effective in moderating food choices and healthy eating behaviors.

Leverage technology. Parents seem to appreciate having access and the ability to use their smartphone apps to assist them in decision making and enhancing their knowledge of food product content. In a 2012 survey of three thousand people in the United States, 85% owned mobile phones with 53% being smartphones. In addition, 19% had downloaded an app to specifically manage their health (Direito et al., 2014). In a review of 40 apps, researchers found 30 targeted physical activity, while 6 were for dietary behaviors and 4 that combined physical activity and dietary behaviors (Direito et al., 2014). Several areas emerged from the content and the purpose of the apps such as to provide instruction to the user, prompt self-monitoring of behavior, prompt identification as a role model, and to initiate role modeling or demonstrate the behavior (Direito et al., 2014). Smartphone applications have the potential to help people make healthier lifestyle choices and have the potential to increase self-monitoring and role modeling as a strategy for changing health behaviors. Mobile technology can help assist in a comprehensive lifestyle and with successful weight management by providing advantages with persistent interactivity, personal engagement, and the potential to make healthy choices more accessible.

Using technology to increase personal knowledge and confidence aligns with the findings of the first hypothesis from phase one that found correlations between nutrition self-efficacy and BMI. Smartphone technology may offer a more accessible, cost effective way of delivering nutrition interventions and several apps enable users to scan barcodes of packaged foods and receive immediate interpretive information with a list of

healthier alternatives, which are used to determine healthier options (Eyles et al., 2014). Health and wellness apps are available direct to the public, and as result may become routine for individuals to access this information. Researchers using a cross sectional design looked at how mobile apps may be a tool to encourage physical activity and a healthy lifestyle (Dallinga, Mennes, Alpay, Bijwaard, & de la Faille-Deutekom, 2015). They found that app use was positively related to feeling better about themselves, feeling like an athlete, and losing weight. For participants who were 16 km runners, app use was positively related to eating healthier and reporting a higher chance of maintaining the physical activity. They also found that app users often encouraged others to engage in running compared to non-app users (Dallinga et al., 2015). This finding could be useful for families as parents may encourage their children to participate in physical activity. As a practical application, app use could be a stimulus because it provides an easy and accessible tool to promote physical activity.

Eating Habits Self-Efficacy Themes

Increase knowledge of options. As the parent participants recommended, it is essential that they are able to increase their knowledge and confidence leading to stronger self-efficacy beliefs to find better alternatives when selecting and consuming their food options. Participants identified this knowledge enhancement can come from various sources. This aligns with Bandura's (1997) proposal where stronger self-efficacy beliefs could lead to more systematic approaches to problem-solving and a greater persistence in attempts to formulate decisions that could guide these possible food alternatives. Developing self-efficacy of healthy eating may enable families to perceive fewer barriers and greater benefits from adopting more healthy behaviors.

Further, increased levels of self-efficacy and positive outcome expectations may result in self-regulatory modifications with food options that assist in maintaining health behaviors (Anderson-Bill et al., 2011). Ultimately, these food options may include specific dietary changes (e.g. reduction of calories from fat, and an increase in fruit and vegetable intake) that could assist and influence these behaviors and result in successful health and weight management (Wingo et al., 2013). As presented in phase one of this study, increasing knowledge of proper eating habit behaviors has a connection to establishing and improving biometric readings, particularly BMI.

Proactive planning/experimentation. The parent participants felt that it was valuable for them to take the initiative and be proactive in their planning efforts. Planning, preparing, and cooking food provides opportunities to enhance knowledge and an individual's awareness of their self-efficacy that could affect their eating behaviors. Kreausukon et al. (2012) examined a theory-based psychological nutrition intervention that focused on perceived self-efficacy and dietary planning skills and its impact on fruit and vegetable consumption. Analysis yielded a significant relationship with increased fruit and vegetable consumption and that self-efficacy, together with planning and intention, supported behavior change. Other findings in previous research studies found an increase in fruit and vegetable consumption and behavior sustainability with the support of planning and self-efficacy (Gratton et al., 2007; Luszczynska et al., 2007).

Planning, experimentation, and preparation of meals has been associated with healthy food intake and diet quality among adolescents and adults, with higher fruit, vegetable and micronutrient intake and lower fat, fried food, and sugar-sweetened beverage intake (Rollins et al., 2011). This association of healthier dietary consumption

through planning and experimentation lends itself with the results from phase one that indicated a significant relationship with eating habits self-efficacy and BMI.

Physical Activity Self-Efficacy Themes

Reciprocal family motivation. Parent participants seemed to enjoy and were proud that they were able to enjoy the reciprocal support and motivation they received from family members. Parents felt this inspired them, which in turn lead them to feel they could stimulate other family members to be active and participate in diverse family physical activities together. Although this study found no correlation between physical activity and biometric readings from phase one, other research has found that mutual support helps families engage in physical activities together (Linde et al., 2006). Engagement in diverse physical activities promotes connections between social networks and feelings of satisfaction (Low et al., 2009). This social bonding and mutual or reciprocal motivation suggests that an individual's social ties to activities are often shaped by the meanings derived from physical activity experiences (Kyle et al., 2006). This mutual motivation lends itself to building confidence for both the parent and child. Increasing both parent and child support and promoting parental role modeling of physical activity could be an important factor in increasing family self-efficacy of physical activity.

New challenges. Parental participants thought challenging themselves to experience new physical activities would benefit them by enhancing their confidence. Most participants recommended creating new goals that are demanding but yet reachable. The goals need to be appropriate and guided by realistic expectations by taking an active part in planning the appropriate steps necessary for satisfactory completion. Research on

planning for new goals and challenges suggest that action planning, where details of when, where, and how the specific behavior is going to be performed, produced significantly higher self-efficacy and physical activity behavior scores (Williams & French, 2011). Likewise, successful performance of the behavior as a result of a specific goal or plan could lead to improved self-efficacy, while individuals with higher self-efficacy may be likely to use better strategies and be more committed to reaching their goals (Williams & French, 2011).

Physical activity behavior can influence the development of an individual and has been described as a gradual process of finding meaning through self-understanding and improvement (Bedimo-Rung et al., 2005; Godbey et al., 2005). This behavior can result in an individual becoming self-directed and self-regulated (Godbey et al., 2005). Consequently, individuals may define physical activity goals emanating from physical, mental, social, spiritual, or aesthetic outcomes (Bedimo-Rung et al., 2005; Godbey et al., 2005).

Achieving outcomes may provide incentives to pursue other, more difficult goals that may serve as a catalyst to continually build confidence while attempting new challenges. While this research found no relationship with physical activity self-efficacy and biometric readings from phase one, trying new challenges may be important because research has shown reductions in BMI and weight loss can diminish after a while and the new challenges may invigorate healthy behaviors that may have been reduced over time.

Nutrition Role Modeling Themes

Child interaction. Parents creating environments for child interaction may foster the development of nutrition awareness and healthy eating behaviors. Creating this

positive parental role modeling environment that promotes the parent-child interaction may provide a better method for improving their children's eating patterns (Scaglioni, Salvioni, & Galimberti, 2008). Whereas this study found no significant relationships between nutrition role modeling and biometric readings from phase one, the possibility of tertiary effects on their children may still be relevant with the parents modeling of these behaviors.

Children who interact in planning and preparation of meals have demonstrated an increased interest in nutrition and vegetables (Chu et al., 2012). Meal preparation, like family mealtimes, could provide the opportunity for family interaction where eating patterns and food preferences are modeled and developed. Interactions in food-related tasks such as participation in preparing home meals can increase a child's perception of his/her ability to perform these behaviors (Larson et al., 2006). Participation in this activity may increase confidence in their ability to select and consume healthier foods and exposes the child to alternate food choices (Rollins et al., 2011).

Alternate food choices. Poor food choices and irregular eating behaviors, such as skipping meals and the inappropriate consumption of dietary recommendations contribute to the current obesity epidemic (Katz, 2011). Parent participants pointed out situations where they could model and provide direction for alternate food choices, which was a key strategy they used. This was especially useful where high-risk situations presented themselves. High risk situations are those that predispose the participants (parent and child) to scenarios where the temptation or availability for consuming unhealthy or improper foods may be more prevalent. Research findings have indicated an increase in parents' confidence and ability to find alternate food choices appear to

have a positive influence on health and weight management (Theim et al., 2012). Further, the predictive value increases with confidence and may have a "trickle down" effect on their child's ability to make appropriate nutritional choices (Theim et al., 2012).

This proposition would be similar to the findings in this study from phase one that indicated significant relationships between parents' confidence of nutritional choices and BMI. This trickledown effect may have positive consequential results for the families in selecting healthier food choices. Parental responses are important in supporting their children while making alternate food choices and modeling a healthy level of dietary restraint. This is similar with previous research that highlights the role parents play within family-based weight loss treatment (Anzman et al., 2010).

Eating Habits Role Modeling Themes

Family involvement. Parental role modeling and family involvement of eating habits provide an occasion where parents can stimulate their children's interest in appropriate eating behaviors. Time invested with the involvement of educating and explaining to their children proper eating habits can be imperative for family success. Parental role modeling and involvement have shown to have a positive association and are strong predictors for the volume of family consumption (Van Lippevelde et al., 2013). Research has indicated that increasing healthy dietary habits among children may amplify with parental role modeling of fruits and vegetables at snack time and salad at dinner (Draxten et al., 2014). Research has shown individual and family investments are identified as important for families to succeed with improving healthy eating (Berge et al., 2012).

Individual and family involvement contributes to eating habit behaviors and as a team, families are more successful when supporting other family members particularly when trying new things to help them be successful (Berge et al., 2012). Families who have success have both parent and child jointly responsible and should be involved as a family endeavor (Twiddy et al., 2012).

As this study has shown significant associations between eating habits role modeling and BMI, the opportunity for parents to incorporate role modeling into their family environment can be beneficial. Parental support and direct involvement by at least one parent can improve a child's short and long-term weight management and improve health outcomes (Eckstein et al., 2006; Epstein, 1996; Neumark-Sztainer et al., 2008). Behavior change techniques by using family involvement as a means for goal setting, barrier identification, and monitoring may be beneficial over the duration of the behavior change process. Targeting energy intake and/or the density of food choices can be an important element.

Visual presentation/demonstration. Parents thought it was important to utilize information that could be presented to children in a way that was understandable so their children could comprehend the meaning of what they were trying to show or demonstrate. Their recommendations were to use cues or prompts to which their children could readily relate. People tend to misperceive portion size and as a result portion distortion occurs (Lucas, 2008). Portion distortion reflects an incorrect assessment of what constitutes an appropriate portion size (Rizk & Treat, 2015). Research shows that the size of a single portion is overestimated (Lucus, 2008) and in one study, 186 adults

overestimated the recommended portion sizes of six foods by 28–71% (Faulkner et al., 2013).

Children's eating behavior takes place within the various environments in which they consume meals and snacks (Hodges et al., 2013). Because children are not always capable of procuring and preparing their own foods, the selection and amount of food choices relies mainly with the parents. This presents parents with opportunities to model and visually demonstrate to their children proper portion size and ways to visually see what is appropriate.

Because this study demonstrated a significant connection with role modeling of eating habits and BMI, parents can help minimize weight concerns for their children by showing proper ways to establish portion control. Strategies to get portion size under control may include measuring portions at home, using smaller plates, cups, and bowls or use a divided plate. Also, take food from a larger package and placing it in individual packages for future consumption. Whatever strategy is used, parents have an opening to promote methods of showing their children proper measurement techniques and provide a pathway that allows their children to make healthy eating choices.

Physical Activity Role Modeling Themes

Enjoy the activity. Parental participants suggested that if a physical activity is fun and enjoyable the chances of continuing are much greater than if it is something they are not looking forward to doing. They indicated for them to be role modeling an activity it needs to peak some interest and have some value that they find appealing. It was important for them to allow different members of the family the opportunity to select

their choices that the family could do together, thereby potentially exposing other family members to alternative activities.

Although this study revealed no significant relation with parents' role modeling of physical activity and biometric readings from phase one, the prospective outcomes of having fun and enjoying the activities in which they are participating have the capability of provoking continual physical activity behaviors. Providing a variety of activities through involvement, while enjoying the physical activities, has the potential to arouse attitudinal dimensions that may imply an attachment of a high degree of personal relevance to a specific activity (Nichols, 2004; Skipton & Maynard, 2003). Enjoying and engaging in diverse physical activities promotes connections between social/family networks and feelings of satisfaction (Low et al., 2009). This social bonding suggests that an individual's social ties to activities are often shaped by the meanings derived from physical activity experiences (Kyle et al., 2006).

Physical activities afford individuals opportunities to affirm their identities and to express their identities to those around them (Kyle et al., 2006). Making activity decisions part of the family routine and having fun while doing so may help improve family member physical activity. Research has concluded that adult role modeling and co-participation in family-focused activities can promote behavior change and that family-centered collaborations are valuable (Sepulveda, Lu et al., 2010).

Parental encouragement. According to the parental participants, encouragement for their children is provided in various forms. Parents looked at encouragement as a way to stimulate their children into participating in the physical activities. Research suggests parental encouragement can be viewed as a stimulus that may evoke a state of motivation

or arousal toward an interest which may manifest in cognitive activity and overt behavior (Havitz & Dimanche, 1997). Parental encouragement of physical activity behavior can influence the development of an individual and has been described as a gradual process of finding meaning through self-understanding and improvement (Bedimo-Rung et al., 2005). Parents are key players in encouraging and providing opportunities for their children's physical activities and parental role modeling and social support (Wright et al., 2010). Parents that simultaneously model and encourage their children to participate in physical activities provide a means for their children to explore and accept the benefits that these behaviors may induce.

Even though this study did not show any significant relation between role modeling physical activity and biometric readings from phase, one role modeling may have secondary repercussions. Role modeling can be a resource used by children to develop their confidence to perform these behaviors (Bandura 1977a, 1986, 1997; Wright et al., 2010). This behavior may result in an individual becoming self-directed and self-regulated. Consequently, individuals may define physical activity goals emanating from physical, mental, social, or aesthetic outcomes (Bedimo-Rung et al., 2005; Godbey et al., 2005). Behaviors provide an outlet where most physical activity occurs and experiences with different types allow for the experimentation to discover what activities will be lasting and enjoyable (Chow, 2007).

Implications for Theory

The research in this study was informed by social ecological theory (Bronfenbrenner, 1979; McLeroy et al., 1988; Stokols, 1992, 1996) and social cognitive theory (Bandura, 1977a, 1986, 1997). These theories emphasize the importance of

interactions between people and their environments and the connections and linkages between the workplace and other influential areas such as social, institutional, and cultural contexts within peoples' lives. The social ecological paradigm has its foundation in these core principles and themes (Stokols, 1992, 1996) and social cognitive theory looks at cognition and environmental factors to explain human behaviors (Bandura, 1986, 1997).

From this perspective, the objectives of a worksite wellness program would be designed incorporating participant insights, meaning, and understanding of their environments and the influences that they may have on their family's ability to be successful. Program format would allow, and even encourage, learning that involves an individual to reorganize experiences to make sense of stimuli from the environment. Knowledge acquisition from the program would be promoted in different ways to assist with participant problem solving and behavioral change. Success for participants would be based on their perceptions of program accomplishment and not strictly based on observable behavior.

Characteristics of a successful worksite wellness program would incorporate flexible planning based on social ecology models (Stokols, 1996). The flexible planning characteristic allows for continuous review and adjustments as necessary, throughout an intervention instead of being determined from the beginning. This continuous review allows providers of wellness programs to better understand program deficiencies and take corrective action. To be successful, designers and providers of health and weight management programs need to be aware of situational definitions and subjective meanings of those involved in the wellness program and the unique circumstances,

interactions, interrelationships, and the complex nature of the social context in which the program is taking place. Evaluating health outcomes could be accomplished with the development of multiple strategies to determine the success of the program. These multi-method strategies will include linking measures of participants' health along with organizational effectiveness, productivity, and cost-effectiveness to the program evaluation(s).

Using theoretical perspectives of learning concepts, designers, and implementers of wellness programs need to approach the planning process with the understanding that there are many determinants that affect program success. Building employee buy-in, acceptance, and involvement in the program is critical. A program that actively involves participants where they play a role in the wellness experience creates the opportunity for goal setting. Participants that experience involvement which they find meaningful in a personal way can help programs become successful. Giving people the chance to interact and succeed with the wellness program can greatly enhance feelings of self-efficacy and the participants can clearly see the value of completing the activity. The complex interplay of experiences between the personal, organizational, environmental, and cultural factors will determine the success of a worksite wellness program.

Recommendations for Practice

The confluence of increasing healthcare costs and the worsening status of employees and their family's health can threaten organizational viability; thereby, increasing the need to improve their health status and consequently, performance. One of the goals of a family health and weight management program would be to deliberately design a challenging environment that balances with participating family's characteristics

and invites active engagement. Programs need to be designed and structured that require individuals to take initiative, make decisions, and assume responsibility for their success. Participants who voluntarily engage in a complex environment that challenges them and that they find personally satisfying would receive the most benefit.

Meaningful involvement occurs when participants play a role in the activity that contributes to achieving an individual's goal(s). Individual goals need to be aligned with a level of skill that is adequate for a specific task. If a participant's skill level is not adequate, then anxiety, characterized by a sense of fear and apprehension, could occur. Designers need to create programs to help reduce this perception of risk and uncertainty. Allowing participants to balance their skills and the challenge may lead them to feel a sense of improved competence, accomplishment, and personal satisfaction. When participants are allowed to share their experiences, challenges or struggles, a sense of camaraderie can occur. By utilizing spontaneous opportunities for learning, the possibility to learn from natural consequences, mistakes, and successes would be important.

The content of a family health and weight management program will need to foster the fulfillment of individual meaning in conjunction with shared values of the organization along with the utilization of collaborative learning where members jointly consider real-life problems or issues. These social inter-relationships in an atmosphere of shared responsibility, cohesion, and trust may be created which communicates beliefs that participants can succeed at the tasks presented to them. Organizations designing and implementing family health and weight management programs should adapt the program

to the organization's culture to achieve compatibility and meet the expectations of the participants.

Conclusions and Implications for Future Research

This research study makes a contribution to the literature by exploring and gaining a more thorough understanding through personal experiences of what factors parents consider important for family health and weight management and recommending what organizations may want to consider in helping to align their health and wellness programs with the employees' and their families, needs, issues, and concerns. As a result of the findings, participants may be inclined to continue participating in wellness programs because the employer provides opportunities to assist families in their efforts to build confidence (self-efficacy) and demonstrate role modeling behaviors. The correlations and predictive results in phase one may help substantiate the benefits of participating in the program. Further, findings from phase two indicated that the parent participants acknowledged their role as leaders in creating environments that assist their families in establishing healthy behaviors and voluntarily engaged in this program because it provided assistance and projected them in the right direction for their family to be successful with health and weight management concerns. The results of this study indicate organizational initiatives may want to consider tailor-designing programs to provide opportunities to support employee and family health particularly, when they are linked with and reflect the overall wellness goals, prevalent health risks, and interests of the participating family's.

While nutrition education and demonstrating role modeling behaviors provides an opportunity for individuals to support and increase their nutrition knowledge and self-

efficacy to make dietary changes and consumption, there appears to be limited research that directly ties this knowledge between parental role modeling and other biometric measures. This void lends itself to possible areas of future research.

This study found no correlation between the biometric measures and self-efficacy physical activity and role modeling physical activity. This finding was unexpected and may be due, in part, to the length of the program and the time duration that had passed when the biometric data was collected. Participants may have been challenged to make lifestyle physical activity changes in the 12 week time period. Having the confidence and the ability to role model behavior changes with physical activity may take longer than the time parameters this study covered. This result lends itself to future research that may use a longitudinal design to cover a longer time interval than was accounted for in this study. The results of a longitudinal design may help inform areas of participants concerns such as relapse prevention and what may be the most beneficial length of a program. During the interviews participants recommended introducing different types of relapse prevention techniques and strategies earlier in the program because they felt it could be beneficial to them while adopting life-long healthy lifestyle behaviors.

Further, a recommendation of using a pre-post experimental design to capture changes and the effectiveness of the intervention may provide valuable and additional information compared to the post-only design used in this study when analyzing all the data for phase one. Expanding the research study parameters to include the children's' biometric readings and their confidence to engage in healthy behaviors may help provide insight as to the relationships and correlations they may have with parental biometric readings, confidence, and parental role modeling.

Throughout the data collection and analysis of phase two of this study parents recommended and understood the importance of taking a proactive role by assuming responsibility for their family's food environment, physical activities and creating opportunities to engage their children. Interspersed during the interview dialogue were comments about the significance of incorporating a fun and enjoyable component into wellness programs that would be incorporated into all facets of the program design. This fun and enjoyment through experimentation and positive collaborations and support from both family and wellness staff were determined by the parents to be valuable and assisted in promoting connections with the organization and the family. The fun and enjoyment component appeared to enhance collaborations and acted to provide a stimulus to evoke motivation toward positive healthy behaviors. Future research may want to explore more specific elements that elicited this fun and enjoyment and how this can be encased throughout program content.

Although this study did not look directly at the relationship of education level and the scores on the subscales of the survey questionnaire, from a cursory observational review there appears there may be patterns developing and a positive relationship between education level attained and the scores. Future research may want to include these variables as a direct outcome measure for analysis.

Because this study used a secondary data source for the biometric readings the researcher was not directly involved and was reliant upon the organizations' wellness staff for the accuracy of this information. There is the possibility of inconsistency in the manner in which the reading(s) were obtained. For example, glucose readings can be closely and fairly instantaneously affected by the type of dietary consumption of an

individual. Future research studies may want to include a more structured protocol where factors such as type of food and length of time the food was consumed prior to the glucose reading being taken are included in the research design of other studies.

Future research on organizational family health and wellness may want to look at the relationships between biometric measures and productivity variables such as presenteeism and absenteeism. These productivity measures may want to include self-rated productivity and the relationship with biometric readings as well as measures linked to organizational performance where biometric data can be associated with the return-on-investment.

Summary

This sequential two-phased mixed methods study used data during the first phase analysis that was previously collected information from an employer-provided family wellness initiative where biometric readings of BMI, cholesterol, glucose, and blood pressure from parents had been gathered. Additionally, parental perceptions of nutrition, eating habits, and physical activity related to self-efficacy and role modeling had previously been obtained via a survey questionnaire. After examining the biometric readings as dependent variables and their relationship to the nutrition, eating habits and physical activity scores related to self-efficacy and role modeling, this study indicated that there were significant correlations between BMI and nutrition self-efficacy, eating habits self-efficacy, and eating habits role modeling. Additional analysis showed that nutrition self-efficacy and eating habits role modeling were significant predictors of BMI. Further analysis revealed that, statistically, attending the family health and weight

management program may help participants reduce their BMI, cholesterol, and blood pressure diastolic readings.

During the second phase, multiple individual cases (parents) were selected for interviews using purposeful sampling based on their scores reflecting high and low ranges on the self-efficacy and role modeling subscales from the surveys. Interviews were conducted with parental participants to explore in-depth, (a) their personal experiences with and perspectives of self-efficacy and role modeling of family health and wellness issues and (b) their views concerning factors that help contribute to positive family health practices. In addition, program documents (i.e. open ended question from the surveys and applications for entrance into the program) were reviewed.

Data collected during the interviews illustrated that the parent participants overwhelmingly acknowledged their role as leaders in creating environments that assist their families in establishing healthy behaviors. While they also indicated they needed to be actively involved, either directly or through encouragement, they also appreciated the reciprocal nature in which the family members support each other. These types of situations create opportunities where the family can explore and attempt new challenges together that may help them lead healthier lifestyles. The parents revealed it is important for their families to seek out these opportunities and participating in this particular employer-sponsored family health and wellness program, was one they sought out and voluntarily engaged. They further commented the program provided assistance and projected them in the right direction in their family's ongoing endeavors to be successful in their family's pursuits to be healthy.

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Appendix 1

Informed Consent

ADULT CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Exploring Parental Perceptions of Self-Efficacy, Role Modeling, and Factors Contributing to Family Health Practices from an Employer-Provided Family Weight Management Program: A Mixed Methods Study

PURPOSE OF THE STUDY

You are being asked to be in a research study. The purpose of this study is to explore parental participant's perceptions of self-efficacy, role modeling, and factors considered important by parental participants that help contribute to positive family health practices from an employer-provided family wellness initiative in promoting health and weight management.

NUMBER OF STUDY PARTICIPANTS

If you agree to be in the study you will be 1 of approximately 120, parent and child participants.

DURATION OF THE STUDY

Some participants may be asked to be interviewed about their experiences with family weight management issues which are anticipated to take 1 to 1½ hours. Participants not selected for interviews will require no additional time other than what has been completed, or will be completed, as part of the organization's family health and wellness program.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things: allowing the researcher to access biometric data and program documents that were gathered as part of your involvement in the program. Biometric data (BMI, cholesterol, glucose, and blood pressure) from parents and child/children participants and program documents (surveys, participants application into the program and their purpose/objectives for participation, internal nutrition and fitness surveys that were part of the program, and screening results collected by the organization's wellness staff) will be used as part of the study. Some participants may be asked to be interviewed about their experiences with family weight management issues, self-efficacy, role modeling, and participation in the program. Participant information (telephone numbers and e-mail addresses) will be used to contact and schedule interviews. Interviews will be scheduled at the convenience of the participants and will be held in a private conference room that will be provided by the organization's wellness staff. Interviews are anticipated to take 1 to 1½ hour(s) and will be recorded.

RISKS AND/OR DISCOMFORTS

There are no additional risks associated with your participation in the study.

BENEFITS
No direct benefits can be promised to you for participating in this study. Your participation will provide valuable information that may help provide recommendations for enhancing the organizations family wellness program(s).

ALTERNATIVES
There are no known alternatives available to you other than not taking part in this study. However, any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

CONFIDENTIALITY
The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Each participant will be assigned a unique identifier (for program documents) and a pseudonym (for the interview). Research records will be stored securely and only the researcher team will have access to the records. However, your records may be reviewed for audit purposes by authorized University or other agents who will be bound by the same provisions of confidentiality.

COMPENSATION & COSTS
You will not receive any compensation for your participation in this study. You will not be responsible for any costs to participate in this study.

RIGHT TO DECLINE OR WITHDRAW
Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. Your withdrawal or lack of participation will not affect any benefits to which you are otherwise entitled. The investigator reserves the right to remove you without your consent at such time that they feel it is in the best interest.

RESEARCHER CONTACT INFORMATION
If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Kurt Vargo at [redacted] or [redacted]

IRB CONTACT INFORMATION
If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. I understand that I will be given a copy of this form for my records.

_____	_____
Signature of Participant	Date
_____	
Printed Name of Participant	
_____	_____
Signature of Person Obtaining Consent	Date

Appendix 2

Employers Survey Questionnaire used for Self-Efficacy and Role Modeling Scores

Section I. Demographic Information

Please circle your response or complete other (H) as appropriate.

1. **What is your relationship with the child/children who participated in the [redacted] Program?**

   A. Father D. Grandfather G. Sibling
   B. Mother E. Aunt H. Other: _____
   C. Grandmother F. Uncle

2. **Who <u>most often</u> is responsible for getting (shopping for) the food needed to prepare the meals for the child/children who participated in the [redacted] Program?**

   A. Father D. Grandfather G. Sibling
   B. Mother E. Aunt H. Other: _____
   C. Grandmother F. Uncle

3. **Who <u>most often</u> prepares the meals for the child/children who participated in the [redacted] Program?**

   A. Father D. Grandfather G. Sibling
   B. Mother E. Aunt H. Other: _____
   C. Grandmother F. Uncle

4. **Who <u>most often</u> participates in physical activity(s) with the child/children that were involved in the [redacted] Program?**

   A. Father D. Grandfather G. Sibling
   B. Mother E. Aunt H. Other: _____
   C. Grandmother F. Uncle

5. What is your highest level of education completed:

A. Did not Graduate High School
B. High School Graduate
C. Some College
D. Associate's Degree
E. Bachelor's Degree
F. Master's Degree
G. Doctorate Degree
H. Other: _____

6. What is the family income of the participants in the [redacted] Program?

A. Under $25,000
B. $25,000-$35,000
C. $35,000-$45,000
D. $45,000-$55,00
E. $55,000-$65,000
F. $65,000-$75,000
G. Above $75,000

Section II.
A number of situations are described below that address your knowledge and understanding of the information on food nutrition labels.

Rate your degree of confidence by recording a number of 0 to 10 using the scale given below.

0	1	2	3	4	5	6	7	8	9	10
Not at all Confident					Moderately Confident					Totally Confident

Please circle your confidence level based on the scale above.

How confident are you that you can understand and/or use …..

7.	the nutrition facts panel?	0	1	2	3	4	5	6	7	8	9	10
8.	the list of ingredients?	0	1	2	3	4	5	6	7	8	9	10
9.	the recommended serving size?	0	1	2	3	4	5	6	7	8	9	10
10.	the information about calories?	0	1	2	3	4	5	6	7	8	9	10
11.	the information about calories from fat?	0	1	2	3	4	5	6	7	8	9	10
12.	the information about total fat?	0	1	2	3	4	5	6	7	8	9	10
13.	the information about transfat?	0	1	2	3	4	5	6	7	8	9	10
14.	the information about saturated fat?	0	1	2	3	4	5	6	7	8	9	10
15.	the information about cholesterol?	0	1	2	3	4	5	6	7	8	9	10
16.	the information about sodium?	0	1	2	3	4	5	6	7	8	9	10
17.	the information about protein?	0	1	2	3	4	5	6	7	8	9	10
18.	the information about carbohydrates?	0	1	2	3	4	5	6	7	8	9	10
19.	the information about fiber?	0	1	2	3	4	5	6	7	8	9	10
20.	the information about sugars?	0	1	2	3	4	5	6	7	8	9	10
21.	the information about vitamins and minerals?	0	1	2	3	4	5	6	7	8	9	10

Section III.
A number of situations are described below that can make it hard to stick to a healthy diet.

Rate your degree of confidence that you can stick to a healthy diet, by recording a number of 0 to 10 using the scale given below.

0	1	2	3	4	5	6	7	8	9	10
Not at all Confident					Moderately Confident					Totally Confident

Please circle your confidence level based on the scale above.

How confident are you that you can stick to a healthy diet…..

22. when you are feeling restless or bored?	0	1	2	3	4	5	6	7	8	9	10
23. during the holidays?	0	1	2	3	4	5	6	7	8	9	10
24. when you are feeling upset or tense over job- related matters?	0	1	2	3	4	5	6	7	8	9	10
25. when you are eating at a friend's house?	0	1	2	3	4	5	6	7	8	9	10
26. when you are preparing meals for others?	0	1	2	3	4	5	6	7	8	9	10
27. when eating out at a restaurant?	0	1	2	3	4	5	6	7	8	9	10
28. when you are angry, annoyed or depressed?	0	1	2	3	4	5	6	7	8	9	10
29. when you are on vacation?	0	1	2	3	4	5	6	7	8	9	10
30. when upset over family matters?	0	1	2	3	4	5	6	7	8	9	10
31. when faced with appealing unhealthy foods in the supermarket?	0	1	2	3	4	5	6	7	8	9	10
32. when at a recreational and sport event where unhealthy fast foods are served?	0	1	2	3	4	5	6	7	8	9	10
33. when lots of high fat, high caloric foods are available in the home?	0	1	2	3	4	5	6	7	8	9	10
34. when you want some variety in your diet?	0	1	2	3	4	5	6	7	8	9	10

Section IV.
A number of situations are described below that can make it hard to stick to physical activity.

Rate your degree of confidence, in your ability to stick to physical activity, by recording a number of 0 to 10 using the scale given below.

0	1	2	3	4	5	6	7	8	9	10
Not at all Confident					Moderately Confident					Totally Confident

Please circle your confidence level based on the scale above.

How confident are you that you can stick to participating in physical activity four (4) or more times a week … *(Examples may include riding a bike, playing a sport, walking, jogging, etc. for 30 minutes/day).*

35. when you are feeling tired?	0	1	2	3	4	5	6	7	8	9	10
36. when you are feeling under pressure from work?	0	1	2	3	4	5	6	7	8	9	10
37. during bad weather?	0	1	2	3	4	5	6	7	8	9	10
38. while experiencing personal problems?	0	1	2	3	4	5	6	7	8	9	10
39. when you are feeling depressed or anxious?	0	1	2	3	4	5	6	7	8	9	10
40. during and after a vacation?	0	1	2	3	4	5	6	7	8	9	10
41. when you have too much work to do at home?	0	1	2	3	4	5	6	7	8	9	10
42. when visitors are present?	0	1	2	3	4	5	6	7	8	9	10
43. when there are other interesting things to do?	0	1	2	3	4	5	6	7	8	9	10
44. when you do not have the support of your family or friends?	0	1	2	3	4	5	6	7	8	9	10
45. when you have other time commitments?	0	1	2	3	4	5	6	7	8	9	10

Section V.
A number of situations are described below that your child/children may observe regarding the information on food nutrition labels.

Rate your degree of observation by recording a number of 1-5 using the scale below.

1	2	3	4	5
Never	Rarely (1-2 days per week)	Sometimes (3-4 days per week)	Frequently (5-6 days per week)	Always (daily)

Please circle the degree of observation based on the scale above.

How often does/do your child/children <u>observe you…</u>

46. using the nutrition facts panel?	1	2	3	4	5
47. reading the list of ingredients?	1	2	3	4	5
48. using the recommended serving sizes?	1	2	3	4	5
49. using the information about calories?	1	2	3	4	5
50. using the information about calories from fat?	1	2	3	4	5
51. using the information about total fat?	1	2	3	4	5
52. using the information about transfat?	1	2	3	4	5
53. using the information about saturated fat?	1	2	3	4	5
54. using the information about cholesterol?	1	2	3	4	5
55. using the information about sodium?	1	2	3	4	5
56. using the information about protein?	1	2	3	4	5
57. using the information about carbohydrates?	1	2	3	4	5
58. using the information about fiber?	1	2	3	4	5
59. using the information about sugars?	1	2	3	4	5
60. using the information about vitamins & minerals?	1	2	3	4	5

Section VI.
A number of situations are described below that your child/children may observe regarding eating habits.

Rate your degree of observation by recording a number of 1-5 using the scale below.

1	2	3	4	5
Never	Rarely (1-2 days per week)	Sometimes (3-4 days per week)	Frequently (5-6 days per week)	Always (daily)

Please circle the degree of observation based on the scale above.

How often does/do your child/children <u>observe you….</u>

61. preparing meals at home?	1	2	3	4	5
62. eating low fat snacks?	1	2	3	4	5
63. eating fruits and vegetables?	1	2	3	4	5
64. drinking regular soda, or non-diet beverages?	1	2	3	4	5
65. eating prepackaged foods (i.e. frozen dinners)?	1	2	3	4	5
66. eating meals in front of the television?	1	2	3	4	5
67. eating when you are bored?	1	2	3	4	5
68. eating when angry, stressed, or in other negative moods?	1	2	3	4	5
69. eating foods you want your child/children to eat?	1	2	3	4	5

Section VII.
A number of situations are described below that your child/children may observe regarding physical activity.

Rate your degree of observation by recording a number of 1-5 using the scale below.

1	2	3	4	5
Never	Rarely (1-2 days per week)	Sometimes (3-4 days per week)	Frequently (5-6 days per week)	Always (daily)

Please circle the degree of observation based on the scale above.

How often does/do your child/children <u>observe you….</u>

70. talk about participating in a sport or being physically active?	1	2	3	4	5
71. say that you are too tired to do something physically active?	1	2	3	4	5
72. use physical activity for relaxation or stress relief?	1	2	3	4	5
73. trying new physical activities?	1	2	3	4	5
74. doing moderately active housework/yardwork?	1	2	3	4	5
75. participate in structured (organized) physical activity (i.e. team sports, recreation league, etc.)?	1	2	3	4	5
76. participating in unstructured physical activity (i.e. walking, biking, etc.)?	1	2	3	4	5
77. walking/biking around the neighborhood?	1	2	3	4	5
78. walking/biking to a public park?	1	2	3	4	5
79. participating in physical activity at an exercise/fitness facility?	1	2	3	4	5

Section VIII.
Please list any additional comments about your participation in the [redacted] Program:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

80. To help get a better understanding of the participant's experiences in the [redacted] program, we would like to conduct follow-up interviews from a few of the participants. Would you be willing to be interviewed to share your experiences regarding your participation in the [redacted] program?

Yes No

Thank you for taking the time to complete this survey. The information will provide valuable feedback and help with program development.

Appendix 3

Interview Guide

INTERVIEW GUIDE FOR PARENTAL PARTICIPANTS OF THE EMPLOYER-PROVIDED FAMILY HEALTH AND WEIGHT MANAGEMENT PROGRAM

Introduction – *(scripted text for all interview participants):*

Hi, I am Kurt Vargo, and FIU doctoral student and I am conducting research with the participants from your employers' family health and weight management program. I want to thank you for taking the time to participate in this research study. This interview will require approximately 1 hour of your time, be in a semi-structured format, and recorded. All of your answers are private and will not be shared with anyone, unless required by law. A list of questions will be used as a guide for the interview. We do not expect any harm to you by being in the study. Your participation in the study is voluntary. You may discontinue/stop the interview process at any time; if you wish to do so please let me know. If you have any questions throughout the process, please feel free to ask them at any time. You will not receive any direct benefit from being in the study; however, your participation will provide valuable information on the subject of family health practices and/or weight management.

Introductory and Family Health Practices Questions:

1. Can you please tell me about your experiences with any family health practices and/or weight management issues for yourself, and with your child or children?

2. Can you tell me why you and your family may participate in programs to improve family health practices?

3. Can you describe for me what you would consider success to be for your family with health and weight management?

4. Describe for me what factors you find to be important in helping contribute to positive family health practices for your family to be successful.

5. Describe what you consider to be important information, knowledge, and/or demonstrations you may receive in a program that could help enhance your family's ability to be successful in dealing with health and weight management.

6. Describe for me what you consider the role of program staff to be in enhancing your family's ability to be successful with family health practices.

7. Tell me how you think your use of nutrition (for example, food labels), eating habits and physical activity behaviors impact your child/children?

Nutrition Questions:

Parental Self-Efficacy:

8. Describe your approach and confidence in reading food nutrition labels.

9. Describe your approach and confidence in understanding appropriate portion sizes.

10. What do you think would be helpful to you in gaining the confidence so you are comfortable in your understanding and knowledge of the information on food nutrition labels (including appropriate portion sizes)?

Parental Role Modeling:

11. Describe how you demonstrate (show) your child or children the use of food labels.

12. Describe your experiences in how your child/children observe or are involved in the reading of food nutrition labels with you.

13. Describe some of the barriers you encounter when trying to model or implement proper nutrition label use for your child/children.

Eating Habits Questions:

Parental Self-Efficacy:

14. Describe your approach and confidence with sticking to a healthy diet.

15. Describe your approach and thought process when situations arise that may make it difficult to stick to a healthy diet.

16. Describe what you feel could help build your confidence in your knowledge and understanding of healthy eating habits?

Parental Role Modeling:

17. Describe how you demonstrate (show) your child or children proper eating habits.

18. Describe your experiences in how your child or children observe or are involved in healthy eating habits with you.

19. Describe some of the barriers you encounter when trying to model or implement proper eating habit behaviors for your child or children.

Physical Activity Questions:

Parental Self-Efficacy:

20. Describe your approach and confidence with physical activity.

21. Describe your approach and thought process when situations arise that may make it difficult to stick to physical activity?

22. Describe what you feel could help build your confidence in your knowledge and understanding of physical activity?

Parental Role Modeling:

23. Describe how you demonstrate (show) your child or children proper physical activity behaviors.

24. Describe your experiences in how your child or children observes or are involved in physical activity behaviors with you.

25. Describe some of the barriers you encounter when trying to model or implement proper physical activity behaviors for your child or children.

Final Questions

26. Do you think that participation in a family health program can help open communication and interaction with your child or children about nutrition, eating habits, and physical activity? If yes, how? If not, why not?

27. Do you have any recommendations, suggestions, or ideas that you would like to share in the design and development of family health and weight management programs?

VITA

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PUBLICATIONS AND PRESENTATIONS

Hill, K., Hoyte, J., Meeker, C., & Vargo, K. (2010). Review of book – *Challenging the Professionalization of Adult Education: John Ohliger and contradictions in modern practice. International Journal of Lifelong Education,* 29, 510-512.

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Labadie, A.L.R., Lieberman, I.J., Vargo, K., & Flamion, O. (2012). The use of literature to combat bullying. In M.S. Plakhotnic, S.M. Nielsen, & D.M. Pane (Eds.), Proceedings of the 11th Annual College of Education & GSN Research Conference (pp. 91-98). Miami: Florida International University.