

ELEMENTARY SCHOOL PERSONNEL'S PERCEPTIONS OF AND
RECOMMENDATIONS FOR MANAGING CHILD OBESITY:
A NATURALISTIC STUDY

A Dissertation

by

MARY ODUM DIXON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: Health Education

Elementary School Personnel's Perceptions of and Recommendations for Managing

Child Obesity: A Naturalistic Study

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Approved by:

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ABSTRACT

Elementary School Personnel's Perceptions of and Recommendations for Managing
Child Obesity: A Naturalistic Study. (August 2011)

Mary Odum Dixon, B.A., Erskine College; M.S., The Citadel

Co-Chairs of Advisory Committee: Dr. Buzz Pruitt
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This dissertation presents three separate studies investigating elementary school personnel's perceptions of and recommendations for managing child obesity. First, a systematic literature review will be presented with an assessment of the very limited current body of literature related to elementary school personnel's perceptions of child obesity to determine the direction of the second and third studies. The systematic review presents personnel's perspectives of (1) the extent of child obesity, (2) contributing factors of child obesity, (3) solutions for child obesity, and (4) barriers to overcoming child obesity.

Second, drawing upon the systematic review, a qualitative investigation of elementary school personnel's perceptions of and recommendations for managing child obesity will be presented. Utilizing an emergent design, data collection comprised one-on-one interviews with 31 elementary school personnel. A thematic analysis was employed on raw data and a socioecological model was utilized to explain emergent themes. Participating school personnel identified the home environment and parental factors as the leading factors contributing to child obesity. Personnel also emphasized

child control of dietary and physical activity choices, most notably within the home environment.

Third, a qualitative case study examining an elementary physical education (P.E.) teacher's perspectives of the impact of obesity on her obese students' experiences in her classroom will be presented. A narrative framework was employed, utilizing both thematic and structural analyses to examine the narratives elicited during the interview. The thematic analysis illuminated a participation refusal pattern of obese students within this P.E. teacher's classroom. The structural analysis highlighted the participating P.E. teacher's customized intervention for her obese students' participation refusals. The combination of thematic and structural methodologies resulted in a preliminary model of the behavioral impact of obesity in this P.E. classroom, which provided a more holistic view than either method alone.

Prior to this study, just seven studies had investigated elementary school personnel's perceptions of and recommendations for managing child obesity; only three of which were published in the past decade. Thus, this study is both timely and desperately needed. The valuable insights gained from participating elementary school personnel in this study provide a justification for their inclusion in future studies addressing child obesity.

DEDICATION

To the exceptional academic mentors who encouraged my pursuit of higher education, most notably, Mrs. Glenn Leath, Dr. John Showalter, Dr. Robyn Agnew, Dr. Josey Templeton, and Dr. Gary Wilson.

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CHAPTER I

INTRODUCTION

Child obesity is undoubtedly one of the most alarming public health concerns, currently, in the United States. It is alarming for many reasons, including: (1) the myriad health consequences associated with child obesity; (2) the epidemic growth of overweight and obese children in recent years; and, (3) the financial burden of obesity-related health care.

Obese children often suffer from both immediate and long-term weight-related health consequences. A recent edition of the CDC's *Public Health Grand Rounds* was devoted to the topic of child obesity. It reported that "America's obese children are at an alarmingly heightened risk for elevated blood pressure, cholesterol, diabetes, and becoming obese adults" (CDC, 2010a, p. 1). Additionally, child obesity is associated with psychosocial risks, cardiovascular disease, and asthma, among other health risks (CDC, 2010b). Obesity in childhood is associated with obesity in adulthood (i.e., obese children are likely to become obese adults), extending many weight-related health conditions into life-long consequences (Howard, 2007).

Obesity affects 17% of our nation's children and adolescents, nearly triple the rate of child and adolescent obesity just one generation ago (CDC, 2010a). This startling growth rate has catapulted the topic of child obesity into the national spotlight,

This dissertation follows the style of *Health Education & Behavior*.

prompting countless empirical investigations, interventions, public dialog, and even governmental campaigns. For example, “overweight and obesity” was identified as one of the ten *Leading Health Indicators* by Healthy People 2010 (Ogden, 2010), with subsequent objectives for Healthy People 2010 and proposed objectives for Healthy People 2020. Additionally, the 44th President of the United States, Barack Obama, recently underscored the importance of child obesity by declaring September 2010 National Childhood Obesity Awareness Month, and urging “all Americans to take action to meet our national goal of solving the problem of childhood obesity within a generation” (Obama, 2010).

The financial burden of obesity-related health care is currently estimated at \$150 billion dollars annually (Obama, 2010, p. 1). The CDC estimates approximately \$3 billion of this amount can be attributed to the financial cost of child obesity (CDC, 2010a). This substantial financial burden of obesity could have distressing economic consequences for future generations, especially given our nation’s current economy.

The current empirical evidence on child obesity lacks data from an important group of individuals who work closely with a large majority of the nation’s children: Public school personnel (e.g., teachers, school administrators, nurses, cafeteria managers). Public school personnel interact with students on a (weekday) daily basis throughout the school year. This considerable amount of time spent with students provides ample opportunity to observe student behavior and environmental influences on student behavior, namely, influences from the school environment.

Also, school personnel often become familiar with their students' families through direct interaction (e.g., parent teacher conferences) as well as indirect methods (e.g., student reports of familial events). Such interactions allow school personnel to gain insight (indirectly) into family influences and home environment influences on student behaviors. Thus, school personnel are in a unique position to observe (directly and indirectly) two most influential environments for children: School (through direct observation) and home (through indirect methods). Therefore, examining elementary school personnel's perceptions of, and recommendations for managing child obesity is likely to provide new – and useful – insight for the current empirical body of literature.

The purpose of this naturalistic study is to advance the scientific literature on child obesity by focusing on a population curiously absent from the literature: Elementary school personnel. While information gained from this study may be useful for other populations in other settings, generalization is not the objective; rather, the intent is to conduct a naturalistic inquiry examining public school personnel's perceptions of, and recommendations for managing child obesity bound by time and context. The overarching research question guiding this study is: What are elementary school personnel's perceptions of, and recommendations for managing child obesity?

To answer this guiding question, the current document contains three independent research endeavors that will: (1) Systematically review the current body of literature on elementary school personnel's perceptions of, and recommendations for managing child obesity (Manuscript 1); (2) qualitatively explore elementary school personnel's perceptions of, and recommendations for managing child obesity among a

sample of the nation's public school personnel (Manuscript 2); and, (3) qualitatively examine a P.E. teacher's perceptions of the experiences of overweight students in her classroom (Manuscript 3). Research questions corresponding to each manuscript include:

- Manuscript 1: What are elementary school personnel's perceptions of, and/or recommendations for managing child obesity as evident in the current published literature?
- Manuscript 2: To what extent do elementary school personnel perceive child obesity to be problematic? What are elementary school personnel's perceptions of contributing factors to child obesity?
- Manuscript 3: What are the perceptions of a P.E. teacher on the experiences of overweight elementary students in the P.E. context?

Because this dissertation utilized a journal article format, its flow varies from the traditional five-chapter dissertation format: Chapters II-IV were written as journal article manuscripts and are therefore self-contained works. A brief description of the chapters contained within this document follows:

- Chapter I: General overview and rationale for the dissertation project.
- Chapter II (Manuscript 1): A systematic literature review of the current empirical literature on elementary school personnel's perceptions of and/or recommendations for managing child obesity. This will represent the first journal article.

- Chapter III (Manuscript 2): Report of the naturalistic study examining elementary school personnel's perspectives of child obesity. This will represent the second journal article.
- Chapter IV (Manuscript 3): Report of the naturalistic study with an elementary school P.E. teacher and her views on the experiences of overweight children in the P.E. classroom. This will represent the third journal article.
- Chapter V: Discussion of overall project findings. This chapter will tie the journal articles together and include implications for the field of health education and future research endeavors.

CHAPTER II
ELEMENTARY SCHOOL PERSONNEL'S PERCEPTIONS OF CHILD OBESITY:
A SYSTEMATIC LITERATURE REVIEW

Introduction

The myriad health consequences and continued growth of child obesity – despite much attention from researchers, the public, and even the White House – underscore the need for further inquiry into this distressing topic. The current research literature on child obesity lacks data from elementary school personnel. While school personnel are commonly asked to participate in studies related to child obesity, their participation is typically to provide feedback about health curriculum content or implementation. Studies examining school personnel's perceptions of the prevalence and impact of child obesity, contributing factors to child obesity or potential solutions for child obesity are almost non-existent.

Elementary school teachers, administrators, and support staff work closely with our nation's children throughout the school year, becoming well acquainted with students and their families. This connection to students and their families puts school personnel in a unique position to gain insight on behaviors and behavioral influences related to child obesity. Knowledge of behaviors and influences on behaviors is critical for the understanding of any health-related behavior and subsequent intervention. Therefore, examining elementary school personnel's perceptions of child obesity – including student behavior and behavioral influence on their behavior – may provide

useful information for researchers to inform the current literature and improve upon current child obesity interventions.

Systematic literature reviews are an important element of research because they scientifically synthesize available knowledge into concise components for ease of review. Additionally, a synthesis of current published knowledge is useful in helping researchers draw conclusions across numerous studies and aid development of future research (Zhang & Goodson, 2011).

Purpose

The purpose of this systematic literature review was to qualitatively explore and describe the research literature on elementary school personnel's perceptions of and recommendations for managing child obesity. The overarching research question was: What are elementary school personnel's perceptions of child obesity?

Methods

A qualitative literature review was conducted with available published data on elementary school personnel's perceptions on child obesity. This category of literature review utilizes narrative description to synthesize data and develop conclusions across all included studies (Bowman, 2007).

Search Methods and Keywords

The electronic databases Medline, ERIC, and CINAHL were utilized to explore the available scientific literature pertaining to school personnel's perceptions of, and recommendations for managing child obesity. The systematic review of these three databases was the primary method for identifying relevant journal articles. Hand-

searches of reference lists of the articles that passed the abstract-level screening were also conducted. Electronic search terms included (1) elementary school, (2) obesity (overweight), and (3) elementary school personnel. Variations in and combinations of key words were employed (See Appendix A for full search).

Inclusion/Exclusion Criteria

To be included in the study, articles had to meet the following criteria: (1) Be published in English; (2) be published in a peer-reviewed journal; (3) empirically examine the topic of child obesity; (4) present data from children or schools in the United States; and, (5) empirically analyze school personnel's perceptions of and/or recommendations for managing child obesity. Additionally, because the database search took place on September 7, 2010, articles published after this date were not included.

The primary database search produced 208 articles from CINAHL, 115 articles from ERIC, and 39 articles from MEDLINE, for a total of 362 articles (before removing duplicates). Removal of 34 duplicate articles resulted in 328 articles from the primary database search. All 328 articles were then screened at the abstract level with questions corresponding to our 5 inclusion criteria:

1. Is the article published in English?
2. Is article published in a peer-reviewed journal?
3. Is the article's primary purpose to empirically examine the topic of child obesity?
4. Does the article present data from children or schools in the United States?
5. Does the article present and analyze elementary school personnel's perspectives on child obesity?

The third criterion eliminated the most articles from the review (n=161), followed by the fifth (n=96) and fourth (n=47) (see Figure 2.1). Articles not meeting the

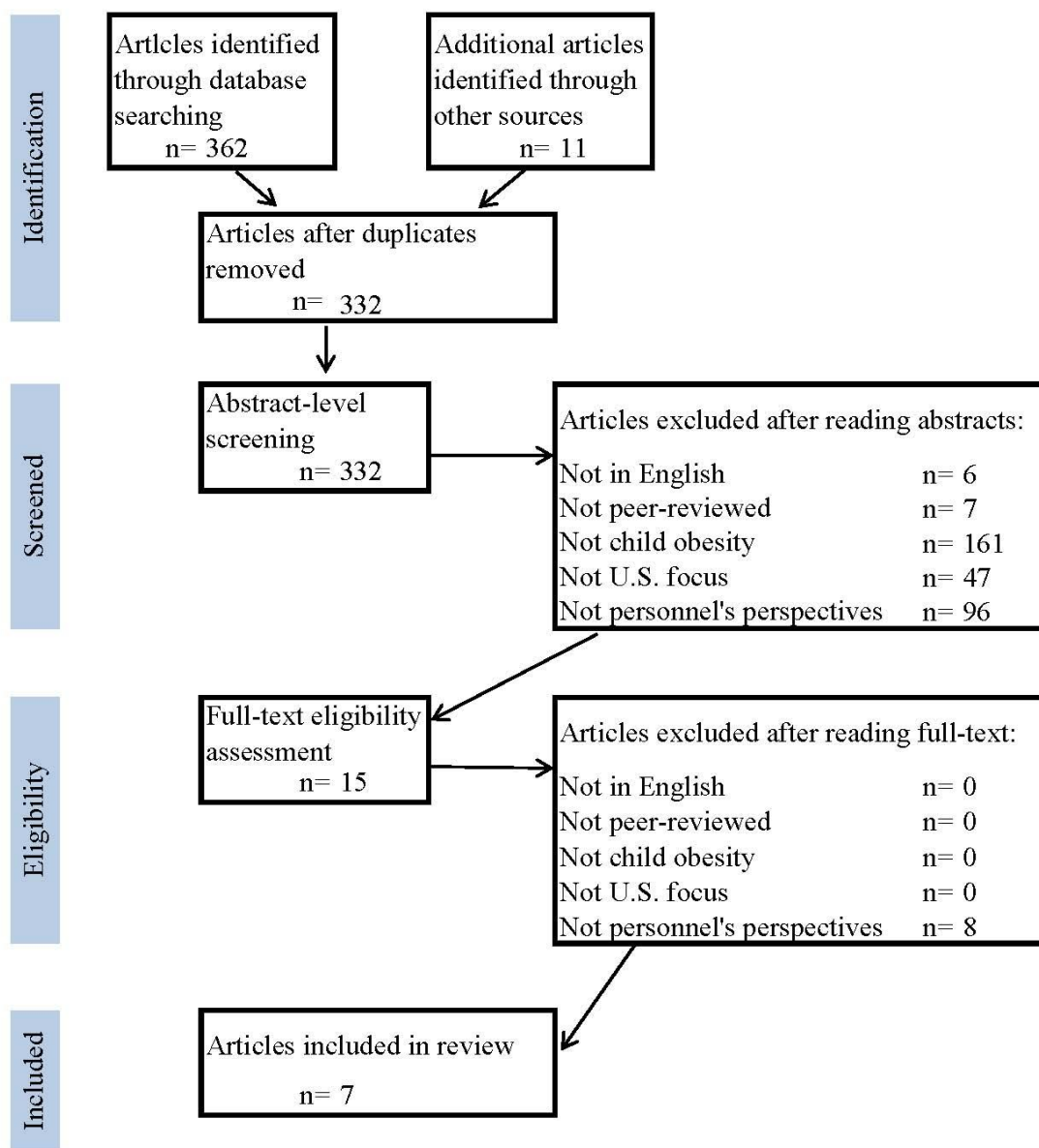


Figure 2.1. PRISMA Flowchart.

Note: This flowchart was modified from the PRISMA 2009 Flow Diagram published by *The PRISMA Statement* (Moher, Liberati, Tetzlaff & Altman, 2009).

third criterion were often studies indirectly related to child obesity, such as a study of the recruitment and retention strategies for an obesity reduction program. In this case, the study's primary purpose was to investigate intervention strategies, not to investigate the phenomenon of child obesity. Articles not meeting the fifth criterion included articles that presented elementary school personnel's opinions on select interventions and/or curriculum related to healthy lifestyles, including obesity prevention, but not perceptions of child obesity, specifically.

The abstract screening phase reduced the number of articles to 15, and all 15 articles were then screened at the full-text level to assess eligibility. Seven articles met all 5 inclusion criteria and were included in the final review (Moyers, Bugle & Jackson, 2005; Price, Desmond & Ruppert, 1990; Price, Desmond & Stelzer, 1987; Price, Desmond, Ruppert & Stelzer, 1987; Schetzina, Dalton, Lowe, Azzazy, vonWerssowetz, Givens, Pfortmiller & Stern, 2009; Schetzina, Dalton, Lowe, Azzazy, vonWerssowetz, Givens & Stern, 2009; and Stang, Story & Kalina, 1997). These articles were organized into a chronological order and reviewed from oldest to most recent.

Data Abstraction

Data abstraction followed the Matrix Method (Garrard, 2007), which was specifically designed for systematically reviewing health sciences literature (see Appendix B for full matrix). Data of interest included authorship, the journal of publication, purpose, research questions, theoretical framework, personnel group, methodology, data analysis, and results. Elementary school personnel's perceptions presented in each included article were organized into one of four categories: (1) the

prevalence and impact of child obesity on elementary school children, (2) factors contributing to child obesity, (3) perceived solutions to child obesity, and (4) barriers to managing child obesity. Additionally, personnel's perceptions were further categorized by publication date and personnel group to examine potential differences among these subcategories.

Results

The seven reviewed studies were published in six different health journals (see Table 2.1). The *Journal of School Health* was the only journal to publish more than one article (n=2). The bulk of articles (71.43%) were published by duplicated sets of authors who co-authored more than one study included in the review. Three articles were authored by the same set of authors and two other articles were authored by another set of authors. Additionally, the majority of articles (n=4) were published between 1987 and 1997, with only three articles being published since, providing further evidence of a literature gap.

Table 2.1. Journal of Publication

Journal Name	Number of included articles	Percentage of included articles
Journal of School Health	2	28.57%
Health Education	1	14.29%
American Journal of Health Promotion	1	14.29%
The Journal of School Nursing	1	14.29%
Rural and Remote Health	1	14.29%
Family and Community Health	1	14.29%
Total	7	

Most studies focused on only one personnel group (n=6), did not present a theoretical framework (n=6), and employed quantitative methods (n=6). The elementary school personnel group most often represented in included studies was school nurses (n=3), followed by school administrators (n=2) (see Table 2.2). The single study that presented a theory used the Health Promotion Model. Of the six articles employing quantitative methods, 5 utilized purely quantitative and 1 used mixed methods. However, the portion of the mixed methods study relevant to this review only used quantitative methods; the qualitative portion focused on the perceptions of elementary school students and their parents.

Table 2.2. Personnel Group

Personnel Group	Number of articles	Percentage of articles
Principals	2	28.57%
School Nurses	3	42.86%
P.E. Teachers	1	14.29%
Teachers	2	28.57%

The systematic examination of presented perceptions of child obesity, organized into the four previously outlined categories (prevalence and impact, contributing factors, solutions, barriers), is presented next.

School Personnel's Perceptions of Prevalence and Impact

There was a notable increase in the belief that child obesity was becoming more prevalent between the earlier four articles (published between 1987 and 1997) and the

more recent three (published between 2005 and 2009). School personnel in the earlier time period believed that obesity was a health problem among children, but there was a discrepancy on the degree of prevalence by personnel position (i.e., school administrators versus teachers versus support staff). Price et al.'s three studies – with data collected in the late 1980's – reported principals (42%), school nurses (51%) and P.E. teachers (approximately two-thirds) strongly agreed that obesity among children was becoming more prevalent. The more recent studies, however, revealed an increase in personnel's perception of child obesity as a health concern: The majority of teachers (70%) in one study were “very or extremely concerned about child obesity in their school and community” (p. 278) while another study reported a nearly unanimous belief among school nurses (98.1%) that child obesity was becoming more prevalent. Only one study presented a belief that child obesity was not prevalent, in which personnel shared that there were only “one or two big kids” at their school.

Four studies measured school personnel's belief whether normal weight was important to child health. The data from the earlier studies revealed that the majority of principals (51%), school nurses (85%), and P.E. teachers (93%) strongly agreed that normal weight was important to child health. The more recent study with school nurses, published in 2005, presented a nearly unanimous agreement (97.2%) that healthy weight was important to child health. Additionally, three of these four studies (75%) reported that the majority of participating personnel did not believe children would outgrow their obesity: 56% of principals (1987), 74% of school nurses (1987) and 81.2% of school nurses (2005).

Four studies presented personnel's perceptions on child obesity's emotional, physical, and social impact: Two with only school nurses as participants, one with P.E. teachers, and one study with both administrators and school nurses. Personnel in all four studies reported that child obesity negatively impacted peer interactions, in the guise of peer rejection of overweight children. Additionally, the three studies including school nurses presented perceived negative health consequences of child obesity, and two studies with nurses, administrators, and classroom teachers highlighted the negative emotional effects.

School Personnel's Perceptions of Contributing Factors

Six articles (85.71%) presented personnel's perceptions of factors contributing to child obesity, five that employed quantitative methods and one that utilized qualitative methods. Of the five quantitative studies, three were conducted by the same set of co-authors and one was a replication of one of these three. The three co-authored studies examined the perceptions of principals, school nurses, and P.E. teachers, respectively, and the replication study was of the original school nurse study with another sample of nurses. Similar questions were asked of participants in these four related studies. Table 2.3 presents the contributing factors endorsed most frequently by participants from these four quantitative studies.

The remaining quantitative study and the sole qualitative study were conducted by the same set of co-authors and utilized classroom teachers as participants. The quantitative study reported two contributing factors of child obesity: (1) school food of poor nutritional quality and, (2) inadequate physical activity during school. The single

contributing factor presented in the qualitative study was that school policies guiding student selection of cafeteria foods, including the availability of a la carte items, did not promote healthy eating. The teachers in the qualitative study felt that a lack of vegetable or fruit requirement (policies) for students was adverse to child healthy food selection in the school cafeteria.

Table 2.3. Perceptions of Factors Contributing to Child Obesity

Publication Year	1987	1987	1990	2005
Personnel Group	Principals	School Nurses	P.E. Teachers	School Nurses
Poor Eating Behavior	88%	92%	92%	94.3%
Excessive caloric consumption	86%	91%	86%	94.3%
Sedentary lifestyle	59%	59%	82%	95.3%
Heredity	54%	56%	n/a	54.7%
Prevalence of machine-dispensed “junk food”	47%	52%	n/a	54.7%
Lack of parental concern	44%	49%	74%	75.5%
Low SES	27%	One-third or less	20%	50%
Cultural factors	26%	55%	23%	59.4%
Hormone problems	15%	One-third or less	12%	65.1%
Peer pressure	14%	One-third or less	17%	46.2%
<i>in utero</i> development of adipose hypercellularity	n/a	One-third or less	n/a	62.3%

The remaining quantitative study and the sole qualitative study were conducted by the same set of co-authors and utilized classroom teachers as participants. The quantitative study reported two contributing factors of child obesity: (1) school food of poor nutritional quality and, (2) inadequate physical activity during school. The single contributing factor presented in the qualitative study was that school policies guiding student selection of cafeteria foods, including the availability of a la carte items, did not promote healthy eating. The teachers in the qualitative study felt that a lack of vegetable or fruit requirement (policies) for students was adverse to child healthy food selection in the school cafeteria.

School Personnel's Perceptions of Solutions

Six of the seven included articles (85.71%) presented perceived solutions for child obesity, organized into one of two categories: (1) the role of the school, and (2) the role of school personnel.

Schools' Role

Principals in 1987 endorsed a comprehensive health curriculum with elements of nutrition and weight control education (77%) and the elimination of “junk food” vending machines in schools (71%) as potential solutions. Only a third of principals viewed weight control programs, and P.E. classes specifically for treating obesity, as potential solutions. In 2009, principals believed it was the school's role to offer weight-management services (66%). Principals most frequently endorsed assessment services, classroom curriculum on weight management, and referrals to outside health care providers.

School nurses in 1997 believed that schools should be involved in providing school-based obesity treatment programs and most frequently endorsed assessment services, classroom curriculum on weight management, individual counseling, and referrals to outside health care providers. However, the majority of nurses (77%) revealed that they wanted more training on the assessment and treatment of child obesity.

P.E. teachers strongly endorsed (91%) a comprehensive health curriculum, thought vending machines should be eliminated from schools (70%), and supported P.E. classes specifically for overweight students (50%). Classroom teachers were in favor of promoting a healthier diet within the school environment by eliminating school vending machines containing unhealthy foods and soft drinks (90%), providing mostly healthy foods and drinks during classroom parties (60%), and eliminating candy and unhealthy foods sold at school fundraisers (56%). They also endorsed the promotion of increased physical activity by providing students more opportunities to be active at school.

School Personnel's Role

Principals in the included 1987 study believed that school nurses (77%), school counselors (69%), and P.E. teachers (59%) were the school personnel who should play a major role in obesity prevention initiatives. In the 2009 study, however, principals believed that only school nurses should be in charge of these services (89%). School nurses in reviewed studies believed that schools should be involved in providing school-based obesity treatment programs and were nearly unanimously in agreement (96%) that school nurses should be in charge of schools' weight-management services.

Additionally, school nurses believed that all school nurses should be role models for children by maintaining a normal weight (77%). P.E. teachers in reviewed studies had similar views about their role in school-based obesity prevention efforts: 82% felt that only P.E. teachers and school nurses should be in charge of obesity treatment within schools, and strongly believed (88%) that P.E. teachers “should be role models by setting an example as one who maintains normal weight” (p. 29).

School Personnel’s Perceptions of Barriers

All four of the older studies presented personnel’s perceptions of barriers to overcoming child obesity. Approximately one in five principals in 1987 felt that parents would not support school-based obesity interventions and one in four believed the same about teachers. Additionally, principals believed schools were not prepared to implement interventions: Only 16% thought teachers had a sufficient background in health education, and a mere 1% thought schools were competently prescribing weight loss programs. The majority of principals (72%) did not believe that schools were an ideal place to prevent weight problems in children, and less than half (40%) thought that obese children were capable of losing “substantial” amounts of weight and fewer still (36%) believed that weight loss could be maintained. The top five barriers identified by principals in 1997 for implementing an obesity-prevention program in schools were (1) lack of training, (2) lack of materials, (3) lack of classroom time, (4) lack of funds, and (5) lack of staff time.

Only 40% of P.E. teachers in 1990 perceived the school as an ideal place to prevent child obesity, but the majority (62%) felt that parents would not support schools

treating obesity. Forty-one percent believed there was insufficient P.E. class time to improve students' physical fitness and that P.E. classes were not designed to impact life-long exercise habits. Fewer than half believed that obese children could lose a significant amount of weight, and maintain the loss, even with proper guidance, and two-thirds believed that they did not receive adequate preparation in college to design weight loss programs for obese children.

Nearly 60% of P.E. teachers strongly agreed that weight loss program design and counseling children and parents about weight loss was difficult; however, female teachers were more likely to report that designing exercise programs was difficult. Additionally, younger teachers were less likely report either task (program design, weight-loss counseling) as difficult or inconvenient and teachers with fewer years of experience were more likely to find weight-loss counseling professionally gratifying.

All three articles with school nurses presented perceptions on barriers to providing obesity-related prevention programs at school. One article, from 1997, presented four barriers: (1) lack of time (97%), (2) lack of training (53%), (3) lack of educational materials (42%) and, (4) lack of administrative support (29%). The other two articles were closely related; the more recent one (2005) replicated the earlier one (1987). Approximately one-fourth of school nurses in both 1987 and 2005 felt competent in prescribing weight loss programs for their students, but the number of nurses who felt incompetent rose from 17% in 1987 to 26.4% in 2005. The perceived difficulty of weight loss counseling rose from 71% (1987) to 86.7% (2005), and the perceived inconvenience of counseling students and their parents decreased 20%. The

majority of nurses in both studies felt that schools were not doing enough to help alleviate child obesity. Nurses in the more recent study perceived a lack of parental concern about child obesity as a barrier to school nurses' involvement.

The two most recent studies with classroom teachers included a sparse presentation of barriers to overcoming child obesity. One study did not present any barriers and the other mostly presented themes developed with teacher focus groups in combination with information from parent and/or student focus groups, which are not presented in this review. Barriers identified by teachers included time, teacher enthusiasm, school administration's support, parental support, unsafe community environment, standardized test expectations taking up designated physical activity time, and, consequently, not enough time devoted to Physical Education classes.

Discussion

The current empirical literature on elementary school personnel's perspectives on child obesity is extremely limited, as evident in the number of articles meeting the inclusion criteria for the current review (n=7). Furthermore, five of the seven articles were written by duplicate sets of authors, and one of the remaining two independently authored studies was a replication of one of the duplicate authored studies. The limited number of authors addressing the specific research questions presented in this systematic review speaks to the sparseness of the related literature.

Interestingly, quantitative methodologies dominated the included studies. A qualitative research design might be a better fit for eliciting personnel's perspectives on child obesity due to the 'emergent' nature of qualitative inquiry (Lincoln & Guba, 1985).

An emergent design allows flexibility in data collection by lifting the predetermined methodological constraints of the traditional, positivist research paradigm. Stated differently, naturalistic researchers may make value judgments about the quantity and quality of data being collected, as it is being collected, and adjust the data collection approach accordingly for data “richness”. This flexibility in data collection allows data to grow organically throughout a study, which is desirable when examining an unpredictable topic such as personnel’s perspectives.

Only one included article utilized a purely qualitative approach. However, it presented themes developed from focus group data from various stakeholder groups, including school personnel, parents, and students. The mixture of data from these three groups rendered the majority of the findings unusable for the current review because it was impossible to separate personnel’s perspectives from parents’ and students’ perceptions.

Theoretical frameworks were overwhelmingly missing from both the research design and data interpretation. Only one study presented a theory, and used it to guide both the research questions and methodological design. The other 6 studies did not present any theoretical framework, *at all!* This gross lack of theoretical frameworks to guide included studies is disturbing because theoretical thinking is essential to research endeavors in the field of health education and promotion. As Goodson (2010) explains, theoretical thinking provides a roadmap for research, builds scientific knowledge, guides the profession of health promotion, and is a professional responsibility and moral duty,

among other things. Theory use, therefore, should be obligatory in any research endeavor!

School Personnel's Perceptions of Prevalence and Impact

Given the growth pattern of child obesity in the U.S. over the past few decades (CDC, 2010a), it was not surprising to note that personnel in the more recent studies (2005-2009) perceived child obesity as more prevalent than their counterparts in the earlier studies (1987-1997). Taking an average of reported percentages across the studies, approximately 53% of participants in the earlier studies thought child obesity was increasing compared to 84% of participants in the more recent studies.

In the sole study reporting the belief that child obesity was not prevalent, the participating classroom teachers were hesitant to label children as overweight or obese, preferring the description, "a little chunky, but not obese". These personnel also made excuses for children who were overweight, saying, "They can't help it, we're all overweight". These findings were collected during a single focus group session, which may have influenced the opinions expressed, or perhaps represent the assessment of more vocal participants.

Not surprisingly, school nurses and P.E. teachers were more likely to strongly agree that normal weight was important to child health and less likely to believe children would outgrow obesity than school principals. The majority of all personnel groups believed child obesity negatively impacted emotional, physical, and social health, although school nurses' perceptions were mainly focused on health consequences while other personnel's perceptions were more focused on emotional and social consequences.

School Personnel's Perceptions of Contributing Factors

Personnel identified a range of contributing factors, including physical, behavioral, psychological, social, and familial. The two most commonly identified contributors across all personnel positions in included articles were behavioral: (1) *poor eating behavior* and (2) *excessive caloric consumption*.

School nurses in both older and more recent studies felt that poor eating behaviors and excessive caloric consumption were strongly related to child obesity. Additionally, the perception of school nurses in older and more recent studies was almost identical related to the link of heredity and vending machines to child obesity. On the contrary, school nurses in more recent studies identified sedentary lifestyles, a lack of parental concern, low socioeconomic status, hormone problems, and *in utero* development of adipose hypercellularity more frequently than did their counterparts from older studies. These discrepancies can be partially explained by the knowledge gained about child obesity between the older study (1987) and more recent study (2005).

School Personnel's Perceptions of Solutions

Nearly all of the included articles presented perceived solutions for child obesity, which were categorized as either the *role of the school* or the *role of school personnel*. The studies with school principals, administration and school nurses together and classroom teachers only presented solutions in the first category, the role of the school. The single study with P.E. teachers and one of the school nurse studies presented solutions falling into both groups. Within the *school's role*, classroom teachers focused on increasing physical activity and promotion of healthy diets while other personnel

groups focused on a more comprehensive health curriculum to be implemented at school. Within the *role of school personnel*, the P.E. teachers and school nurses both believed that they should be role models for their students by maintaining a healthy weight, a view not mentioned by the other personnel groups.

School Personnel's Perceptions of Barriers

Barriers to addressing child obesity were limited to the school environment in the included articles. Elementary school personnel were generally supportive of the idea of obesity interventions but were unsure of the support of colleagues and parents. This perceived lack of support may be detrimental to taking initiative in addressing child obesity. Stronger communication between stakeholders within elementary schools may be beneficial.

Participating personnel most commonly identified school nurses and P.E. teachers as the school personnel who should be in charge of school-based obesity interventions. School nurses felt that they should be in charge of weight-loss programs alone, while P.E. teachers felt that a collaborative effort between P.E. teachers and school nurses was best. However, both principals and school nurses felt that school nurses lacked training for designing and implementing weight-loss programs.

A substantial barrier reported by both P.E. teachers and school nurses was the perceived difficulty and inconvenience of designing and implementing weight-loss programs. Male P.E. teachers and younger P.E. teachers were less likely to report that designing exercise programs was difficult, findings that were not explained in depth. To explore the gender difference, an investigation of male and female P.E. teachers'

training, exercise and sport history, and perceived self-efficacy to design exercise programs for weight-loss is warranted. Additionally, the younger teachers' more positive attitude toward weight-loss programs is likely a generational and/or educational difference. An exploration of higher education P.E. pedagogical training and corresponding perspective changes could shed light on the difference between young teachers and their senior counterparts. Also, it may be easier for younger P.E. teachers to adjust and change their teaching approaches in the age of modern technology, where the instantaneous exchange of ideas is globally possible.

While some of their perceptions of child obesity shifted between the 1980's and 2005, school nurses' self-reported lack of competence in their ability to prescribe weight-loss programs to overweight children and their parents remained constant. Approximately three-fourths of school nurses did not report feeling competent in prescribing weight loss programs for their students during both time periods, yet they believed that school nurses alone should be responsible for school-based obesity prevention. If school nurses do play a large role in school-based obesity programs, but are not confident in their abilities to do so, the success of such programs may be in jeopardy.

Despite the fact that classroom teachers collectively spend more time with students than the other personnel groups, their perceptions of barriers to overcoming child obesity were scant. Granted, school nurses are experts on health and P.E. teachers on physical activity, but classroom teachers are experts on student behavior and since

they spend the majority of the school day with students, are in a great position to identify current barriers to overcoming child obesity.

Limitations

The current study only included articles with a primary purpose of presenting elementary school personnel's perceptions on child obesity. It excluded articles with middle and high school personnel participants. Additionally, articles with other primary foci (e.g. personnel's perceptions on child obesity curriculum) that might have included some perceptions on the health topic as well were also excluded.

Direction for Future Inquiry

Future studies should ask elementary school personnel for their perceptions of, and recommendations for managing child obesity. Given the current rise of child and adolescent obesity (CDC, 2010a), elementary school personnel should be targeted to help develop prevention programs within elementary schools. A variety of school personnel, including administration, teachers, and support staff, should be sought for diverse perspectives.

Specifically, the self-reported lack of competence among school nurses in prescribing weight-loss programs for elementary students should be explored for identifying causative factors and potential solutions to increase competence. The discrepancy between younger and older P.E. teachers' ratings of the difficulty and inconvenience of weight-loss counseling and exercise program design should also be investigated to identify underlying causes.

Conclusion

The current empirical evidence presenting elementary school personnel's perspectives on child obesity is meager. Given their expertise on child behavior and close contact with children and their families, elementary school personnel should be included in child obesity prevention initiatives from the very beginning of program design rather than just in the implementation and evaluation stages. The perceptions of school administration, teachers, and support staff should be investigated further for insights into contributing factors of child obesity, potential solutions for child obesity, and barriers for overcoming child obesity.

CHAPTER III
ELEMENTARY SCHOOL PERSONNEL'S BELIEFS ABOUT CHILD OBESITY: A
QUALITATIVE APPROACH

Introduction

Child obesity is certainly one of the greatest current health crises in the United States: child obesity rates have more than doubled and adolescent rates have more than tripled over the past 20 years (CDC, 2009). Overweight and obese children have a greater risk of numerous negative health conditions than their non-overweight peers (CDC, 2010b; Vivier & Tompkins, 2008). Additionally, overweight children have a heightened risk of becoming obese adults, extending their risk of life-long weight-related health consequences (Howard, 2007).

Researchers in numerous fields have investigated the effects of the school environment on child obesity. The role of school personnel's in addressing child obesity within the school environment has also been explored (Steele, Wu, Jensen, Pankey, Davis & Aylward, 2011). Additionally, elementary school staff's recommendations for managing weight-related issues at school have been addressed (Haines, Neumark-Sztainer, & Thiel, 2007). However, the current empirical evidence lacks data on school personnel's perspectives on child obesity, specifically: Their perceptions of the prevalence and impact of child obesity and the facilitating and inhibiting factors of child obesity are absent.

School personnel work closely with a large majority of the nation's children, providing "insider" expertise on this population. This direct access to students and their families is extensive, providing school personnel with direct knowledge of school influences and both direct and indirect knowledge about parental and home environmental influences on children. Such insider expertise is useful for "outsiders" (i.e., the authors of this study) to gain access to influences on children, namely influences on child obesity.

Community-based participatory research (CBPR) is one useful avenue to acquire the insider information school personnel possess, to expand the current literature on child obesity influences. In CBPR, community members and researchers contribute equally and in all phases of research, from start to finish, allowing for joint collaboration and ownership among "insider" and "outsider" experts. The current study was one component of a larger CPBR project involving the development, implementation, and evaluation of a customized obesity prevention program for 4th graders in select elementary schools in the Southwestern U.S. This study focused on the elicitation of "insider" experts' perceptions of the current state of child obesity in their schools and the facilitating and inhibiting factors of child obesity.

Research Questions

The overarching research question guiding this study was: What are elementary school personnel's perceptions of, and recommendations for managing child obesity? Specifically, perceived (1) pervasiveness of child obesity, and (2) contributing factors of child obesity were of interest for the current study.

Purpose

This study's purpose was to determine if elementary school personnel perceive obesity as problematic among school age children and, if so, to assess their input on various dimensions of this health issue. Interviews with school personnel sought insight into personnel's perceptions of (1) the prevalence of child obesity, (2) factors contributing to child obesity, (3) potential solutions for child obesity, and (4) potential challenges to reducing the incidence of child obesity. The current study only focuses on the first two areas, to allow for a thorough examination of the perceived prevalence of child obesity and its contributing factors.

Being one component of a CBPR child obesity prevention project, the findings of the current study were utilized in subsequent stages of the project, namely the development of a school-based obesity intervention program for 4th graders. Therefore, while the current study may stand alone as an individual research study, its overarching purpose was influenced by the larger CBPR project.

Theoretical Framework

A naturalistic approach provided the best fit for this study's purpose because it allowed for an 'emergent' research design not afforded by traditional research designs (Lincoln & Guba, 1985). An emergent design allows for flexibility in data collection by lifting the predetermined methodological constraints of the traditional, positivist research paradigm. Stated differently, naturalistic researchers may make value judgments about the quantity and quality of data being collected, as it is being collected, and adjust the data collection approach accordingly for data "richness". This flexibility in data

collection methodology is unique to naturalistic projects, and lets data grow organically throughout a study.

Additionally, emergent designs do not require *a priori* theory use because no *a priori* theory could possibly anticipate the many views and beliefs held by research participants (Lincoln & Guba, 1985). As a result, theory use in the naturalistic paradigm is much more varied than in the traditional paradigm. Goodson expanded this idea, explaining that theories play “a more dynamic role in qualitative research, moving beyond mere explanation (and prediction), to promoting critical social agendas, to *transforming* the world” (2010, p. 165, italics in original). Indeed, theories can be used in naturalistic inquiry (1) as a broad explanation of behavior, (2) as a theoretical lens guiding inquiry, (3) as an end-point for an inductive approach, or even (4) not be used (explicitly) at all (Creswell, 2003).

Waiting until data interpretation to introduce specific theories is a prerequisite for an emergent research design, and conducive to “rich” data collection (Lincoln & Guba, 1985). Theoretical frameworks employed during “earlier” stages of a study reduce the scope of inquiry by guiding (thereby limiting) what the researcher is looking for and, consequently, reduce the richness of data. For this reason, we employed a theoretical framework during data interpretation, as an end-point of an inductive approach. Bronfenbrenner’s ecological model of human development (1979) was employed as a guide for interpreting data, and for examining how the data “fit” into this existing framework.

Methods

Participants

Thirty-one elementary school personnel participated in this study. Nearly half of the participants were fourth-grade teachers (n = 15). The remaining were P.E. teachers (n = 4), cafeteria managers (n = 3), school counselors (n = 4), school principals (n = 2), school nurses (n = 2), an assistant principal (n = 1), and a life skills coach (n = 1).

The 31 participants represented five elementary schools in a rural Southwestern school district selected for a customized child obesity prevention program. This school district served approximately 8,000 elementary school students in 15 elementary schools. The ethnic distribution of students in the five targeted elementary schools in the district was 58.18% Hispanic, 30.24% Black, 11.18% Caucasian, 0.36% Asian or Pacific Islander, and 0.04% American or Alaskan Native.

Instrument

An interview protocol was developed for this project to obtain elementary school personnel's perspectives on child obesity. The interview format was semi-structured, allowing for both predetermined questions and follow-up questions in response to participant answers. Interview questions were open-ended to elicit insight from participants on the current state of obesity among school age children. The interviews educated personnel's perceptions of (1) the current state of child obesity, (2) contributing factors of child obesity, (3) potential solutions for child obesity, and (4) barriers to overcoming child obesity. Perspectives on all four topics were utilized in the

development of the aforementioned child obesity prevention program, but the current study is limited to perceptions of the first two topics.

Procedures

Participants were recruited by email invitation. Participation was voluntary and was compensated with a \$50 gift card to a local retailer. Participants selected either their respective school or the researchers' lab for the interview and were interviewed one-on-one by trained interviewers at their chosen location. Interviews were audio recorded with participant permission.

Data Analysis

Audio recordings were transcribed verbatim. The raw data were separated and categorized by recurrent or significant themes with the constant comparison method (Lincoln & Guba, 1985) by a three-member analytic team. To enhance the trustworthiness of this coding process, peer debriefing occurred throughout all stages of the analysis. Discrepancies among analyzers were discussed until a 100% consensus was reached.

Elementary school personnel's perceptions of child obesity were organized into the following categories: (1) prevalence of child obesity, (2) contributing factors of child obesity, (3) solutions for child obesity, and (4) barriers to overcoming child obesity. The current study focused only on the first two categories. Perceptions in these categories were further organized utilizing Bronfenbrenner's (1979) socioecological model, which includes four systemic levels of influence on human development: microsystems, mesosystems, exosystems, and macrosystems.

Results

All but one participant (n=30) considered overweight or obesity to be a problem among school aged children. When asked about the extent of child obesity, 28 participants felt that it was a “big problem” among their elementary students with declarations that obesity was “definitely” or “absolutely” a problem. Three participants voluntarily estimated that more than half of their student population was overweight or obese. While nearly all personnel were aware that the school district measured the prevalence of obesity among elementary school students, only one participant (a school principal) recalled the rate for her school. This principal shared that 58% of her school’s students were categorized as overweight or obese in the school’s most recent health report card (from the previous school year), and estimated a 15% increase for the current student population.

A 4th grade teacher of a bilingual classroom was the sole participant who hesitated to label child obesity as problematic for school-aged children. In response to the question, “Do you think that overweight or obesity is a problem among school-aged children?” the participant replied, “Not all students. There are some students that are kind of obese, there’s some students that do play sports and that are very active so I think it’s about half.” This teacher further elaborated that child obesity was less prevalent among the bilingual 4th grade students in his class than their non-bilingual peers: “I don’t think it’s much of a problem [child obesity] because they [bilingual students] do go to P.E. and [...] most of my kids are, they’re like doing soccer, playing soccer, really going outside so I don’t think it’s as much of a problem.”

The factors contributing to child obesity most frequently identified by participating elementary school personnel were: (1) the home environment, (2) poor nutrition, (3) child control of dietary choices, (4) child inactivity, and (5) the prevalence of entertainment electronics. These five contributing factors will now be explored.

Home Environment

Elementary school personnel believed that parents and the home environment had the largest impact on child obesity. Specifically, parents were overwhelmed and unprepared to create a healthy, active environment for their children, according to personnel. They also cited a lack of parental knowledge and education related to healthy lifestyle habits and parental time constraints due to hectic work schedules as the leading causes of unhealthy diets and inactivity of children *within the home environment*:

A lot of parents around here really don't know. They work all the time and so they really don't know what research says about what these foods are doing to their child, all they know is its cheap, it's what I can afford, so I get it. Its gonna keep them full – *4th grade teacher*

[There's] not a lot of parental involvement [at home]. A lot of our kids go home and they're there by themselves and money is left for them to go to the store...they are bring[ing] things back like...the big chips and the candy and the soda – *4th grade teacher*

You know, every once in a while you might see them [children] out walking or riding their bike or whatever, but most of the time they're inside playing video games and eating [...] very unhealthy foods 'cuz no one's there to watch 'em [at home] – *school principal*

Parents nowadays are working parents and a lot of times its fast food on the go, easy suppers for the kids especially with both parents working – *P.E. teacher*

Because of their [parents'] time schedules, they are picking up fast foods, kids are snacking on junk food and making that [junk food] their meals instead of eating a well-balanced diet – *school nurse*

Personnel also perceived that parents' income affected the home environment and child obesity rates. They believed that money played a role in nutrition and physical activity. For example, a number of respondents shared that low-income families can't afford to purchase healthy foods, so they buy cheaper, unhealthier foods. Additionally, personnel believed a lack of money limited physical activity options for their students: Low-income families can't afford extra-curricular activities for their children so these children are often left home alone while parents work, and are left to make nutritional and activity decisions for themselves.

Personnel also perceived that some parents of overweight children are in denial about their child's weight and do not respond well to school personnel's inquiries about, or offers of help with their child's weight. Multiple participants mentioned negative reactions of parents to the weight report cards sent home at the end of the school year. The weight report cards contain the BMI of children and are sent home to increase parental awareness of their child's weight. Personnel voiced their concerns about some obese children whose parents did not want the school's input on healthy lifestyles for their children, and did not perceive obesity as a health problem for their children.

Poor Nutrition

The majority of personnel (n=22) identified poor nutrition as a leading contributor to child obesity. Specifically, personnel identified a lack of home cooked meals, not eating healthy breakfasts, and an increased consumption of sugary foods, junk foods, processed foods, canned foods, sodas, and fast food as contributing to children's unhealthy diets. The prevalence of fast food was especially prominent:

What I see is a lot of my kids in fast food restaurants – *school principal*

McDonalds is like a play land to them [children]; it's fun and cool to go to McDonalds and Burger King – *4th grade teacher*

Fast food is a problem. [During] our lunch program, we have parents that will come to eat with their children and bring in the fast food – *school counselor*

Personnel overwhelmingly believed that the home environment contributed to the poor nutritional diets of children. Only two participants felt that school cafeteria foods were contributing to their students' unhealthy diets; the majority felt that their schools were doing a good job at improving the nutritional quality of food served on campus. One participant identified cafeteria workers serving overweight students extra portions and the second participant felt that school cafeteria breakfasts contained too much sugar:

[The] cafeteria lady sometimes will give kids extras...these kids are the ones that are already overweight – *assistant principal*

As for the school, I think, the food they give them [children] here is – in the morning for breakfast – it [has] too much sugar, jellies and syrups and things that are too sweet – *4th grade teacher*

Child Control of Diet

Child-focused control of dietary choices emerged as a prominent theme, despite the lack of questions specific to control issues in the interview process. Participants felt that children had the power to decide what foods are purchased and what they consumed in myriad circumstances, and identified both school and home environments as places where children exert control over food selection:

Parents are buying what the kids want, rather than what may be healthy for them – *4th grade teacher*

And when parents are working, you know, kids go home alone and so they go straight to the cabinet and pull whatever is easiest and tastes best
– *school principal*

When we give the kids apples and bananas and stuff they throw it away [in the school cafeteria] – *4th grade teacher*

I just know from what they bring in for lunch to eat along with their [school] lunch and sometimes they won't even touch their [school] lunch and eat all the junk that they brought from home – *4th grade teacher*

Child Inactivity

The majority of school personnel (n = 19) identified inadequate physical activity as a key contributor to child obesity. They thought children led “sedentary lifestyles”, engaged in “too little exercise” and were, in general, “just not active at all”. Additionally, personnel perceived a decrease in child activity levels from previous generations:

A lot of kids are just not being as active as they used to [be] – *school principal*

Just not as active as they were a long time ago – *4th grade teacher*

A school nurse summed up fellow participants’ perspectives by stating, “[children] are becoming like couch potatoes at an early age of watching television and [...] they are just not getting enough physical activity”. Personnel perceived that child inactivity was partially due to children not wanting to engage in physical activity, particularly outdoor activities:

Kids don't want to exercise – *4th grade teacher*

Children prefer to stay here inside the classroom, to spend their recess here – *school counselor*

[Children] wanna be inside playing, doing that [playing on computers and video games] instead of going outside and playing – *4th grade teacher*

“They don’t even get physical exercise at home and when you mention physical exercise, the kids cringe... – *school counselor*

They don’t want to go outside in the heat or the elements [to play] – *school nurse*

Electronics

School personnel reported that technology played a major role in the inactivity among elementary school children, namely televisions, computers, and gaming systems. They believed that children engaged in physical activities less frequently because of an increased access to entertainment-focused electronics. Personnel painted a picture of children remaining indoors, sitting in front of computer and television screens, rather than actively playing outdoors:

Fewer kids are going to the parks and playing and riding their bikes. [The] computer age has taken over; [Nintendo] DS, guitar hero, taking up their time – *P.E. teacher*

Fewer kids are going to the parks and playing and riding their bikes [because of technology] - *P.E. teacher*

They sit and play video games all day long – *cafeteria manager*

[There are] too many electronics [...] keeping kids inside and keeping them stuck to their T.V. playing their video game” – *school principal*

Children often preferred to play video games or play games on the computer over physical activity at school and home. When given the option between a physical activity and a sedentary activity, personnel believed children choose the latter. However, many children are left unsupervised at home while their parents work, and parents therefore instruct their children to remain inside for safety reasons. Thus confined indoors and left

to their own devices, children entertain themselves by playing video games and watching television:

Kids are having to stay home without their parents. They are being instructed to stay in the house, so they sit in front of televisions and computers and they don't get out a play and exercise and run around and get physical activity – *school nurse*.

“The [children] that do go home by themselves, they're usually not allowed to leave the house so they sit in front of the T.V., eating chips and playing video games” – *school principal*

Discussion

Using a CBPR approach, we explored elementary school personnel's perceptions of the prevalence of child obesity and its facilitating factors. We employed a qualitative approach because it allowed for flexibility in data collection not inherent in traditional research methods. Consequently, our investigation of participants' perspectives was not constrained by a rigid, predetermined methodology; rather, the data were allowed to “grow” organically, resulting in richer findings.

We sought personnel input for the formative stages of our obesity prevention project. The current study explored personnel's perceptions of the prevalence of child obesity in their schools and their perceptions of factors contributing to child obesity. We will incorporate the findings from this study in subsequent research projects, namely the aforementioned customized obesity prevention program.

Consistent with previous authors, we see the value in socioecological frameworks for “translating research findings to interventions designed to promote larger systemic changes affecting children's health” (Steele, Wu, Jensen, Pankey, Davis & Aylward, 2011, p. 134). We utilized Bronfenbrenner's ecological model (1979) to

organize and interpret our results. This model contains four interrelated systems affecting human development: micro-, meso-, exo-, and macro-systems (see Table 3.1).

Table 3.1. Systematic Levels within Bronfenbrenner’s Ecological Model

Microsystem:	“a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics” (p. 22)
Mesosystem:	“comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work, and social life” (p. 25)
Exosystem:	“one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or affected by, what happens in the setting containing the developing person” (p. 25)
Macrosystem:	“consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture of the culture as a whole, along with any belief systems or ideology underlying such consistencies” (p. 26)

Source: Bronfenbrenner (1979)

At the individual (child) level, our results show that personnel perceived child inactivity, unhealthy child diet, and child control of physical activity and food decisions as facilitating factors of child obesity. Dietary and activity habits are widely associated with weight, but the identification of child control these two major lifestyle decisions is less common.

School personnel's strong indication of the home environment and parental factors as contributors to child obesity fit within Bronfenbrenner's microsystemic level. This finding supports previous literature on environmental correlates of obesity with a similar ethnic population. Elder, Arredondo, Campbell, Barquero, Duerksen, Ayala, Crespo, Slymen & McKenzie (2010) reported a high correlation between home and parental variables and child weight but no significant correlation with school and community variables.

Our sample of school personnel identified parents as the most influential facilitators of child obesity. Multiple participants cited that parental time constraints due to hectic work schedules led to unhealthy child diets. Because parents work late and don't have time to prepare "home cooked" meals for their families, faster food options are selected. The resulting unhealthy diet of fast foods and processed foods contributes to child obesity. Additionally, as many parents don't get home from their multiple jobs in time to eat with their children; dietary choices are often left up to the children. Such family feeding practices have been linked to overweight in children in previous studies (Birch & Fisher, 2000; Stang, Rehorst & Golicic, 2004; Spruijt-Metz, Lindquist, Birch, Fisher & Goran, 2002).

From a health education standpoint, parental denial about their overweight children's weight status and the association of weight and health is concerning. Previous research has found that parents who recognize that their overweight child's weight is a health problem were more likely to be ready to make changes for their child (Rhee, DeLago, Arscott-Mills, Mehta, & Davis, 2005). Parents who do not recognize the

connection between their child's weight and health status could benefit from weight-related health education. Personnel's perception of a lack of parental knowledge and education of healthy lifestyles may partially explain parents' denial. Therefore, to have successful school-based child obesity prevention programs, educational programs for parents of obese or at risk children should be included.

Only one factor fell within Bronfenbrenner's exosystem level: technology. Personnel felt strongly that the overuse of entertainment electronics led to decreased physical activity among children, which contributed to obesity. Personnel's identification of technology as a contributor to child obesity, namely video games and television, is consistent with previous research. The association of watching television and children's unhealthy food preferences has previously been reported (Harris & Bargh, 2009). Also, Park (2008) found that children and adolescents are at a higher risk for obesity if they spent more time playing video games.

What is not known, however, is whether children left home alone increase the amount of time spent playing video games, watching television and using computers recreationally. Future studies could examine the relationship between the amount of unsupervised time a child has and screen time with entertainment electronics.

Limitations

Qualitative methodologies are inherently constrained by time and context; therefore, results are not generalizable. However, the subjective experience of participants was accessible only through qualitative methods, and a transfer of ideas is possible to other populations in other settings. While our sample of participants was

relatively diverse in terms of job position within our included elementary schools, our population was limited to one school district in a single geographical location and therefore may reflect a selection bias. Additionally, because of the voluntary nature of participation, results may be biased by perspectives of personnel willing to participate as compared to those who declined to participate.

Conclusion

Although researchers have explored the facilitating and inhibiting factors of child obesity, very few studies have included elementary school personnel's perceptions on the issue. This study served to assess personnel's perceptions of the prevalence of child obesity and contributing factors of child obesity. The strategy of including school personnel in the modification efforts of school-based obesity prevention programs is consistent with CBPR approaches, and yielded useful information which may not have been uncovered using traditional research methodologies.

Of perhaps most import, personnel emphasized the effect of the home environment, including parental factors, on child obesity. This suggests a need for a home/parental component in school-based obesity prevention programs, a finding consistent with the current literature (Golan & Crow, 2004). Additionally, the control children exert on dietary choices in both home and school environments was identified as a major contributor to child obesity. Further exploration of this control is both warranted and necessary to fully understand the complexity of this dynamic and its potential link to child obesity.

Our results have significant implications for schools and school health professionals, namely targeting home and parental factors in school-based obesity prevention programs. Given the influential nature of parents and the home environment on child weight, the impact of weight-related interventions may depend on the successful incorporation of both factors.

CHAPTER IV
AN ELEMENTARY PHYSICAL EDUCATION TEACHER'S PERCEPTIONS OF
THE EXPERIENCES OF OBESE CHILDREN IN HER CLASSROOM:
A CASE STUDY

Introduction

Increased physical activity and healthier diets are widely endorsed recommendation for combating child obesity. Given that children spend a significant amount of time at school, the school setting has repeatedly been targeted for child obesity prevention programs, many involving increased physical education. Physical Education (P.E.) teachers, therefore, play a crucial role in school-based obesity prevention efforts. As such, P.E. teachers are valuable resources for researchers investigating the current effects of obesity on student performance in the P.E. setting.

Surprisingly, P.E. teachers' perceptions on weight-related barriers of children in the P.E. classroom are absent in the current empirical literature. The current study addressed this literature gap by focusing on one P.E. teacher's narratives about overweight students in her classroom. A P.E. teacher was thoughtfully recruited because the P.E. classroom is academically unique in that students are evaluated on more than cognitive performance; they are also assessed on physical performances. The added physical element may be more difficult for overweight children than for non-overweight children.

Purpose

Our purpose was to investigate if overweight elementary students faced weight-related challenges in one elementary P.E. classroom. To this end, we sought to elicit narratives from an experienced P.E. teacher about child obesity's impact on her students. Additionally, we explored the use of multiple narrative data analytic methods on the same raw data to determine whether a combination of analyses revealed unique findings as opposed to a single analysis technique.

Narrative Framework

We selected a narrative framework for multiple reasons: (1) storytelling is a natural communication method; (2) narrative analytic methods are varied and provide insight into both *what* is said and *how* it is said; and (3) narratives are useful for identify problems.

Storytelling is a natural communication method for humans; it is how we “make sense of our experiences, how we communicate with others, and through which we understand the world around us” (Merriam, 2009, p. 32). Stories (narratives) pass along traditions from generation to generation; they are the “coin and currency of culture” (Bruner, 2002, p. 16). We invited our respondent to share stories about the experiences of overweight elementary students in her P.E. classes so that we could access the ‘currency of culture’ related to child obesity’s impact on overweight elementary students in the P.E. setting. Thus, our respondent was able to share her experiences – namely, her perception of the experiences of her overweight students – via the familiar communication method of storytelling.

Narratives also provide researchers with data that can be studied in larger “chunks” than in some other qualitative methods. Analyzing intact stories provides researchers the opportunity to study not only the content of data, but also the form, the structure in which the stories are told. Merriam explains that narrative analyses have an “emphasis on the stories people tell and on how these stories are communicated – on the language used to tell the stories” (2009, p. 202). The current study utilized two analytic techniques: A thematic analysis to investigate the content and a structural analysis to evaluate the form and structure of the narratives. The multiple lenses through which the data was filtered strengthen the richness of data interpretation. For example, the thematic analysis focused on *what* was said while the structural analyses considered *how* it was said.

Additionally, narratives are useful for identifying problems, as Bruner (2002) observed: “Great narrative is an invitation to problem finding, not a lesson in problem solving. It is deeply about plight, about the road rather than about the inn to which it leads” (p. 20). Our intent was to identify potential weight-related problems faced by overweight elementary students in P.E. classes to inform the empirical literature and future research and intervention endeavors.

Respondent and Context

Our respondent, Laotha¹, has 15 years of teaching experience: Seven years as a high school teacher and coach and eight years in her current role as the sole P.E. teacher in an elementary school. Laotha is a youthful, single, Caucasian woman in her early

¹ All names used in the article are pseudonyms.

forties with a Bachelor's degree. She is remarkably self-aware about her influence on her students and extremely self-reflective about her teaching pedagogy. During the interview, the interviewer commented that Laotha appeared to continuously reflect upon her teaching strategies in an effort to improve her approach for every class, and Laotha wholeheartedly agreed:

Oh goodness yes! Because I know I have a lot of improvement to make. There's not a unit [lesson] that goes by that I think, 'oh shoot! this would work better', or 'this would work better'. And, my goodness, if something's not working in the class it's not the kids, it's me. If they're not successful, it's not because of something that they're not doing, it's because I'm not setting it up right or I'm not giving them the leads that they need, because you know our curriculum—except in the case of maybe that tumbling unit though – a couple of those things are really difficult for those really overweight kids, but with the exception of that everything in our [standardized testing requirements] can be met by every kid as long as they're given the opportunity. So, it's just my job to make that you know available to 'em.

Laotha's elementary school is located in a rural school district in the Southwest United States. The school serves approximately 500 students from Kindergarten to 5th grade, all of whom participate in Laotha's P.E. classes. The ethnic distribution of students in the school is: 64.4% Hispanic, 24.2% Black, and 11.4% Caucasian.

Methods

The interview guide approach (Patton, 1990) was utilized to provide a flexible framework for an interview. In other words, the interview protocol served as a starting point for the interview, not an end-point. In addition to the open-ended questions from the interview protocol, ad hoc questions were asked in response to ideas that arose during the interview. Laotha was also invited to share stories beyond questions asked

and to follow-up on any of her previous responses at any point of the interview. The interviewer explained that she (Laotha) is the expert on the given topic, and encouraged Laotha to share any relevant information beyond the questionnaire.

Procedures

The interview was conducted face-to-face after school hours at Laotha's school, at her request. The interview was audio recorded with Laotha's permission and she was compensated with a \$50 gift card to a local retailer. Laotha selected her school's library as the most convenient and comfortable location for the interview. Field notes were taken by the interviewer before, during, and after the interview to supplement the transcription and data analysis processes.

The audio recorded interview was transcribed into a verbatim transcript with cleaned speech (Riessman, 1993). The clean version of the transcription directs the reader's attention to what a participant said rather than how they said it; to the content of the stories rather than the "disfluencies, pauses, breath intakes, [and] lexical sounds" (Riessman, 1993, p. 40) inherent in human communication. A cleaned version was chosen because it did not detract from Laotha's responses and stories, but provided a direct connection to her lived experience.

It bears mentioning that *no* transcription accurately captures the full communication of any interview. Transcriptions "certainly exclude the gestures, gaze, and other nonverbal aspects of communication that carry meaning in conversation" (Riessman, 1993, p. 40). The field notes supplement this gap to a degree (e.g., the nonverbal communication noted during the interview process was added to the

transcription; but, naturally, the end result is still not fully representative of the actual interview environment and communication).

Data Analysis

We reviewed the raw data from Laotha's interview to establish the best way to divide our data into distinct narratives. We divided the data into 14 narratives, one for each student Laotha discussed. Typically, Laotha told a complete story from start to finish, but on occasion she would refer back to a story and provide more insight on a particular student. We handled these cases by adding the supplemental data shared later in the interview to the already established narrative of that child, so that there is one narrative for each child discussed. With the 14 distinct narratives defined, we conducted a preliminary examination with various analytic techniques to determine which analyses ultimately provided the most insightful interpretation. We found two methods used collectively provided the best interpretation of the data: (1) Lincoln & Guba's constant comparison method (1985) and, (2) Labov's structural analysis (1972, 1982).

We used the constant comparison method (typically used with Grounded Theory techniques) to separate and categorize recurrent or significant themes, across the 14 stories Laotha recounted about overweight students. We then compared and contrasted the prevailing themes across all 14 stories in search of overarching patterns.

We employed Labov's analysis to make sense of how Laotha told stories, to identify how she put stories together. The Labovian lens allowed us to analyze whole narratives, which helped us to see things we didn't see with the thematic analysis alone. Namely, it enabled us to identify the structural breakdown of the narratives; to

categorize the narratives by the Labovian elements (abstract, orientation, complicating action, evaluation, resolution, coda) without breaking up the data. While the structural analysis illuminated some new ideas, it also reinforced themes from the thematic analysis, highlighting the usefulness of using these two complementary analyses together for our data.

Interpretations

Our interpretations are presented in three sections: (1) Theoretical framework, (2) thematic analysis, and (3) structural analysis.

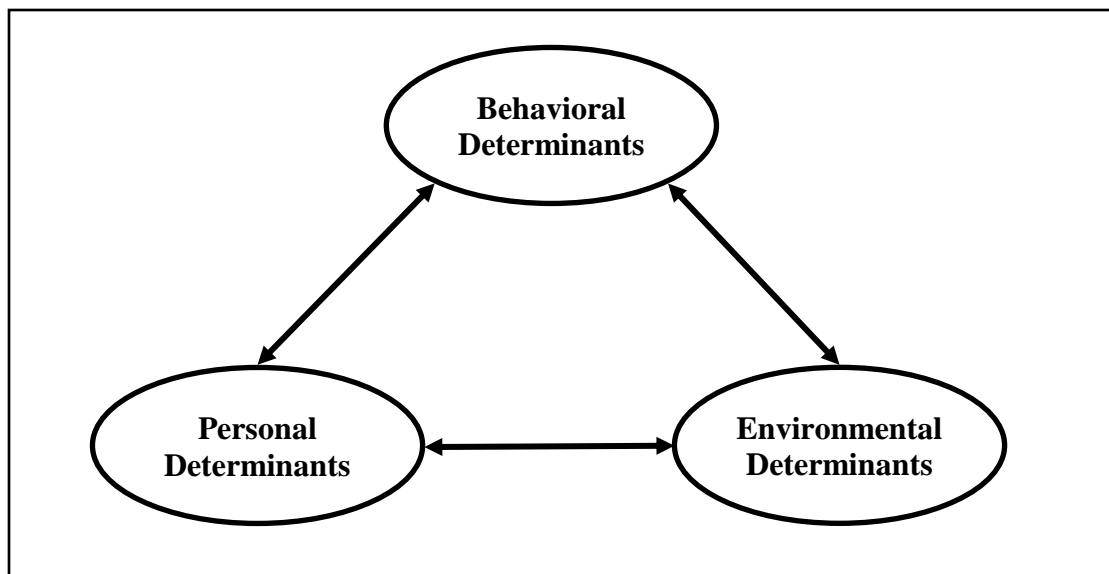


Figure 4.1. Reciprocal Determinism in the Casual Model of Social Cognitive Theory.

Theoretical Framework

We utilized Albert Bandura's (1977) social cognitive theory (SCT) to inform our exploration of Laotha's narratives. SCT espouses a model of causation in which personal, environmental, and behavioral determinants reciprocally interact, *each affecting the other*, as illustrated in Figure 4.1. Laotha's stories about the experiences of overweight children in her P.E. classroom contain elements of all three determinants in an interactive cycle. For example, consider the narrative about Riley, one of Laotha's overweight students:

Laotha: I had one student [who] totally refused to do the unit [P.E. lesson], at all, during class. And so what I had to do was, I made an arrangement with [his] parent for him to come after school and do the unit just with me. And just to try with me. And once I got him into the skills and rolling, and doing some of the jumps, then he was okay to join the class the next week. But that first week, he refused to do it, just because he was embarrassed and it was difficult for him. But when he worked with me after school and saw that, really, hey, I really can do this, then we were okay...

Interviewer: Did he give you any reasons why he wouldn't want to try the activity in class, why he was embarrassed?

Laotha: Because, 'I don't want everybody looking at me' and 'I can't'. 'I can't' was the biggest, and 'I don't want everybody looking at me'; those were the two biggest... I told [Riley]; 'listen, Honey, nobody's looking at you, they're worried about doing their own, you know? They're not worried about you... He was just afraid that his buddies, cause he was one of the tough guys, so, 'clearly, I'm not going to embarrass myself in front of my buddies', you know? And, so, he was convinced that that was going to be the stereo and he was going to lose some status. Keeping him after school was the good thing to do there just because we got him into a position where he knew he wasn't going to be embarrassed or defaced in front of his friends.

This example highlights the reciprocal determinism among Riley's beliefs, behavior and environment. As Laotha shared, the "biggest" reason Riley initially refused to attempt the assigned P.E. task in the classroom was his lack of confidence in his

ability to successfully complete it, his lack of *self-efficacy* to complete the given P.E. task (Bandura, 2004). This lack of self-efficacy (personal determinant) contributed to his decision not to participate in class (behavioral determinant), partially because it triggered a fear of peer judgment and loss of status (personal determinants): “clearly, I’m not going to embarrass myself in front of my buddies”. The daunting P.E. classroom with peer spectators (environmental determinant) provided further incentive for Riley’s participation refusal. These three reciprocally interacting determinants all contributed to Riley’s refusal to participate in the P.E. activity during class.

Laotha facilitated Riley’s participation by wisely changing one of the determinants, the environment. By working with Riley in a setting without classmates, Laotha successfully removed his second “biggest” rationale for refusal: “I don’t want everybody looking at me” and worked with him in the more comfortable environment *until his self-efficacy was increased*, and he was in a “position where he knew he wasn’t going to be embarrassed or defaced in front of his friends.” In this new environment, Riley was willing to attempt previously formidable P.E. tasks, which increased his self-efficacy for the tasks and gave him the confidence to attempt the activity in the classroom setting alongside his peers.

Reciprocal determinism demonstrates the power of the interaction of behavioral, personal, and environmental determinants on human behavior. Each of Laotha’s 14 narratives provided clear evidence of the power of reciprocal determinism on the behavior of her overweight students, which is why we used the framework for our analyses.

Thematic Analysis

The theoretical framework of reciprocal determinism's influence on human behavior was utilized throughout our thematic analysis. As we used Lincoln & Guba's (1985) constant comparison method, three major themes arose from Laotha's narratives: (1) Overweight elementary students' self-efficacy to perform P.E. tasks; (2) overweight elementary students' fear of peer rejection; and, (3) Laotha's constructive manipulation of determinants to encourage participation of overweight students. These emergent themes were present to some degree in all of the stories we analyzed.

Theme #1 Overweight Elementary Students' Lack of Self-Efficacy to Perform P.E. Tasks

The first theme was overweight elementary students' lack of self-efficacy to perform select P.E. tasks. Self-efficacy is a key personal determinant affecting the behavior of overweight elementary students in Laotha's P.E. classes. A lack of self-efficacy was evident in all of the stories Laotha told about overweight students encountering difficulties with P.E. curricula. Laotha shared the most commonly used excuse by overweight students to shirk P.E. activities was some variation of "I can't". She described numerous situations when overweight students initially balked at even attempting an assigned P.E. task because of a lack of confidence in their ability to successfully complete that task. In particular, excuses were made more often for activities that involved gymnastics or running (e.g., basketball, soccer, track). Some excuses given by students, as recounted by Laotha, included "I can't do it, because I've never done that before. I just can't"; "I can't run! I can't run!"; "I'm no good at this

game”; “I can’t do it because I’m bigger, I can’t run as fast and when I do run, I’m gonna fall and slip.” Laotha revealed that although normal-weight students attempted to get out of particular P.E. tasks on occasion, overweight students were much more likely to avoid P.E. activities and were also more likely to “struggle with that attitude over and over - [the attitude of] ‘I can’t’ and ‘I won’t’ and ‘no’”. These variations of “I can’t” confirm a lack of self-efficacy (personal determinant) to perform given P.E. tasks among overweight students.

Interestingly, Laotha reported overweight students’ lack of self-efficacy only for performing new P.E. tasks; not for previously attempted ones. We had anticipated resistance to previously attempted P.E. activities that resulted in failure (i.e., inability to complete the activity) or a traumatic experience (e.g., injury or being made fun of by peers). However, previous failures did not emerge in the data. We were left wondering, why are overweight students lacking confidence to try new P.E. activities more often than normal-weight students?

Theme #2: Overweight Elementary Students’ Fear of Peer Rejection

The second theme was overweight elementary students’ fear of peer rejection. This fear of peer judgment, driven by the need for social acceptance, manifested as a refusal to participate (behavioral determinant) in given P.E. activities and was present in all of the stories Laotha shared about the experience of overweight students in her classes: “It all goes back to social acceptance.” The fear of peer rejection among overweight elementary students is indicative of a need of social acceptance (personal determinant). Overweight students were more likely to express a fear of being ridiculed

by classmates (personal determinant) than their normal-weight counterparts.

Additionally, overweight students were more likely to refuse to participate (behavioral determinant) because of this fear.

Some variation of “I don’t want everybody looking at me” was regularly used by overweight students to evade a new or difficult P.E. task, and was the second most common evasion excuse she heard from overweight students. Overweight students were afraid of losing social acceptance if they attempted unsuccessfully to complete a P.E. task in front of peers. Contrary to this fear of peer ridicule, Laotha believed her students do not discriminate against the weight of their classmates, given the fluidity of relationships when students were doing activities together, she explained:

The kids really don’t care about their weight at all if they’re helping out, if they’re participating. It really is amazing; kids are kinda a little blind in that area because they’re all so many different sizes. I mean, in the same grade, I have a 5th grader that’s really small for his age and then I have one who looks like he’s going into 8th grade. So they’re so many different sizes. And so those little guys are really good about not discriminating, be it weight or color or anything else, really. They’ll talk about each other’s mamas but they don’t discriminate. As long as they’re playing, and having fun, then we really don’t struggle with that kind of thing. But the struggle comes when they’re not doing what they’re supposed to do. Or, if we’re doing stations, I’ll have little people come tell me, ‘Hey, Sophie’s not doing so-and-so’ or ‘Sophie won’t ...’ you know? So, they’ll tell on the bigger kids if they’re not participating.

Interviewer: Would they do that if another ‘little person’ wasn’t participating?

Oh yeah, Anybody. I know everything [laughing] because they’re gonna tell. They’re gonna tell to me. If they think I don’t see it, they’re gonna let me know. [laughing]. Yeah, it’s not just the big kids that get told on. But, it’s more prevalent just because they’re usually the ones that are not putting forth a lot of the effort. Just because, I think they are scared that they’re not going to be able to do it as well.

Laotha felt this fear of peer rejection was misdirected; she identified that the issue begins when peers see a classmate not participating in required activities. The underlying motive of a peer “telling on” those not participating (regardless of weight) is fairness: Every classmate *should* be participating and when one does not s/he attracts the attention of and is “called out” by peers. Because overweight children were more likely to refuse to participate in Laotha’s classroom, they were singled-out more often than their normal-weight counterparts: “Yeah, it’s not just the big kids that get told on. But, it’s more prevalent just because they’re usually the ones that are not putting forth a lot of the effort.”

Regardless of why overweight students were singled-out in the P.E. classroom, social acceptance was a powerful personal determinant influencing behavior. The fear of being watched, judged and embarrassed was enough to deter participation in many situations. Ironically, non-participation drew the very unwanted negative attention and peer judgment that they so desperately sought to avoid.

Theme #3: Laotha’s Constructive Manipulation of Determinants to Encourage Participation of Overweight Students

Our third major theme was rooted in the way Laotha reacted to participation refusal of overweight students: A constructive manipulation of determinants in an attempt to facilitate their engagement. Given the reciprocal nature of determinants of human behavior, an impact on just one determinant may influence a change in other determinants and, consequently alter human behavior. Laotha typically focused on environmental and personal determinants when handling situations with students.

Consider the story of “D.K.,” a fourth grade girl who was overweight and dreaded running. D.K. dreaded running so much she successfully evaded her required 1-mile run test for two weeks: The first week with a complaint of knee pain and the second week by wearing her house shoes to school. Laotha recognized D.K.’s obvious resistance to running, but did not want to force her to complete the 1-mile run test with threats of a failing grade. Rather, Laotha (1) encouraged D.K. during the two weeks of nonparticipation in an attempt to increase her self-efficacy (personal determinant) and, (2) set a more manageable goal of jogging the first lap and then walking the rest of the mile (environmental determinant):

Laotha: She ran – she jogged the first lap until she got to me, which was about a fourth of a mile, which is significant for her, and she did jog it, the first one [lap]. After that, she only jogged the last part when I was yelling, “Come on! You’re almost done! Run!” And then she ran the last 50 yards.

Interviewer: How did she feel when she finished?

Laotha: Much better. Now, after she finished, that was a great teaching moment because I said, “D.K., look, you got it in–” I think she ran it in like 18:39 or something like that. It was not a great time, but for her it was a huge accomplishment, so yeah, we celebrated. I was like, “Look at what you did!” and “This is great! You broke your record today! Look on your card!” We have running cards that we punch every time you run, and usually she goes two or three laps only. This day because of her mile run by the end she had done her four, which was almost the mile, and then that fifth one, which completed the mile, so she had five! And so I said, “You set a new record today!” And so she was smiles and I said, “D.K., do you see how that feels? I want you to remember how this feels today because this is the way it feels every day in P.E.! If you’ll do your best, if you’ll really try, this is the way it feels.” You know? She said, “Ok.” You know she’s good, but it did not transfer immediately over. But the good news is that I can use that time to point back and say, “Ok, remember D.K.? Remember right then? Remember how you felt? Let’s try that again today.”

Laotha’s approach was reflective of human agency (a key tenet of SCT), which is the belief that people “play a part in their self-development, adaptation, and self-renewal

with changing times” (Bandura, 2001, p. 2.) An agentic perspective of human behavior supports the principle that people can intentionally exert control over their own actions (Bandura, 2007), that people are not mere products of their environment, but active, intentional contributors. Laotha intentionally supported D.K’s realization of human agency by allowing her to “play a part in their self-development” and be active, intentional contributor of her actions and environments with use of constructive manipulation of determinants rather than utilizing forceful techniques.

Pattern of Behavior

During the thematic analysis, a pattern of behavior emerged associated with overweight students’ refusal to participate in Laotha’s P.E. classes (see Figure 4.2). The pattern of refusal started when an overweight student was afraid of being embarrassed and/or had a low self-efficacy for a given physical activity (personal determinants). Consequently, a refusal to participate ensued (behavioral determinant). When peers noticed the non-participation, they became upset (step 3), said something to the non-participating pee and/or said something to Laotha (step 4). Being called out by peers was embarrassing for the non-participating student (step 6), which reinforced the original fear of embarrassment, thus continuing the cycle.

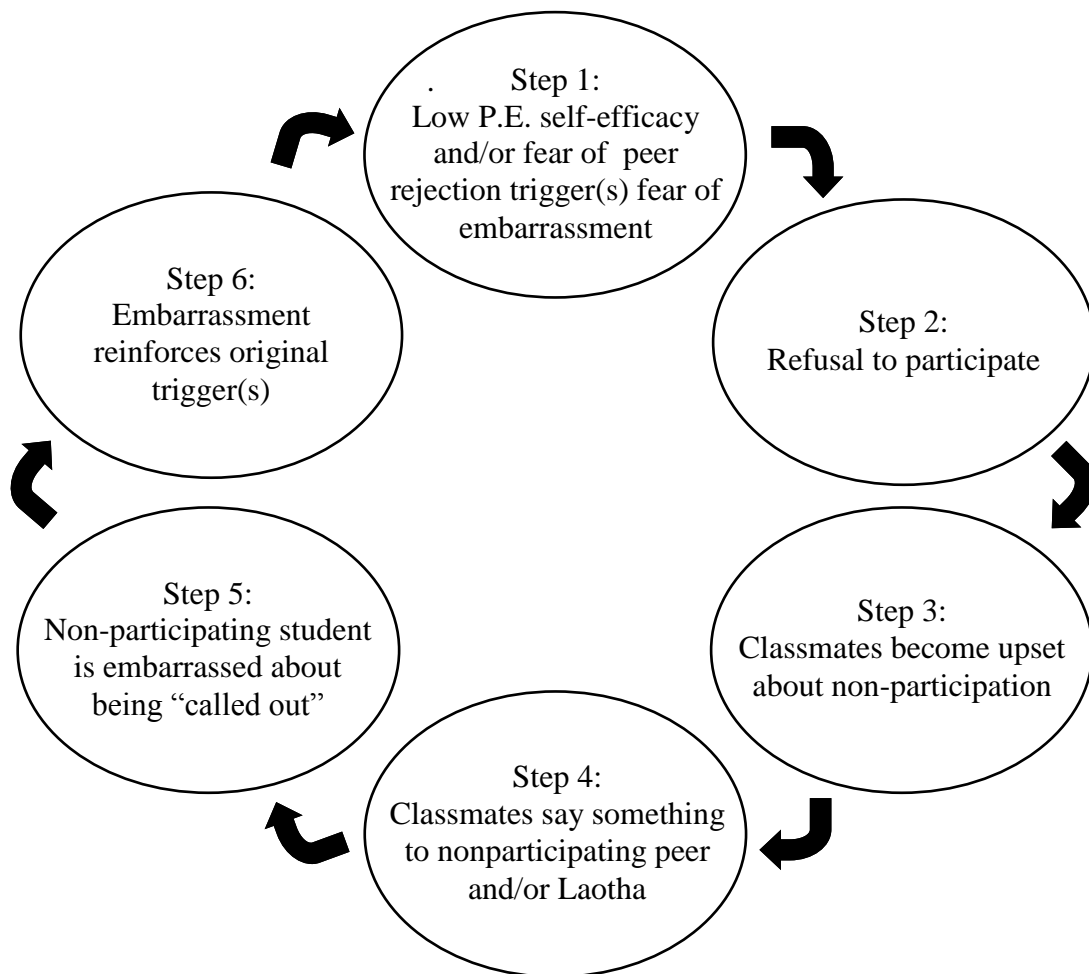


Figure 4.2. Pattern of Overweight Student Behavior in the P.E. Classroom.

Structural Analysis

We utilized Labov & Waletzky's (1997) six elements (*abstract, orientation, complicating action, evaluation, resolution, coda*) as a guide for organizing Laotha's narratives for the structural analysis. We categorized the bulk of her stories as *complicating action*, but noticed two distinct foci in this element: (1) the struggles of her overweight students that led to their nonparticipation and, (2) Laotha's subsequent manipulation of determinants to encourage participation. The distinctiveness of these

two subsections led us to separate *complicating action* into two categories, *complicating action* to denote student action and *intervention* for Laotha's action (Tables 4.1 & 4.2).

Intervention identified Laotha's customized approach to overweight student refusals to participate and how her intervening did or (on occasion) did not influence subsequent participation. The *intervention* always came after *complicating action* and typically led to a *resolution* and/or *coda*. In the story of Zelda, the *intervention* led to a constructive *resolution*: "She did finally attempt" (Table 4.1, line bb).

In the narrative about Nathan, the *resolution* wasn't as positive: "I put Nathan in time out for a minute and talked to him again" (Table 4.2, line kk). Still, Laotha had not given up hope for Nathan: Her narrative ended with a realistic, yet hopeful, *coda*: "We'll have to deal with that problem on another day because we did not solve that one today" (line ll). This *coda* is what Bruner (2002) labeled "a retrospective evaluation of what it all might mean (...) and returns the hearer or reader from the there and then of the narrative to the here and now of the telling" (p. 20).

By focusing on *how* Laotha structured her stories rather than just *what* she recounted, we discovered that (1) Laotha's stories were intently focused on her students (2) Laotha downplayed her role in student participation successes and, (3) Laotha's interventions were vital for but did not predict student participation.

Laotha consistently kept the focus of her narratives on her overweight students; their fears, their interaction with other students and with her, and their responses to her interventions. The *complicating action* section nearly always comprised the bulk of

Table 4.1. The Story of Zelda: Labov & Waletzky's (1997) Structural Categories**Abstract**

a (I)* *Can you think about of about a particular child, and an example with gymnastics?*

Orientation

- b Sure, let's call her "Zelda!" [laughing].
- c Zelda was struggling with the forward role
- d and she was a 4th grader.
- e Not obese, but overweight.

Complicating Action

- f And she would not try it; she just refused to try.
- g So, she would stand against my whiteboard while the other classmates are going.
- h She did this during that whole class period
- i after I even talked to her repeatedly, just asked her to try whatever,
- j and there was no going.
- k So after class - when everybody else was getting their drink - I just pulled her to the side
- l and I said, 'okay, let's fix it. What can we do?'
- m And what I found out
- n from talking to Zelda
- o was that one thing was in her group there were no other people as big as she was, or even close.
- p The ones in her group were mostly some smaller ones,
- q there were a couple of ones that were regular sized
- r but she didn't want them to be looking at her.

Intervention**

- s So, what I did was, for the next class, I just switched her and put her in another row
- t before she came in, so it wouldn't even be noticeable to this student [Zelda],
- u I told her which row to go in and
- v she sat in a different row with a different team and
- w in that row there was a young man and another young lady
- x that sat one in front and one behind her

Evaluation

- y that were not quite as big a she was
- z but they were some of my bigger kids, too.

Resolution

- aa So, when she saw them trying and going,
- bb she did finally attempt.
- cc It still took us, what [counting] one, two, three, four stations
- dd for her to try it,
- ee but she was more willing
- ff when she was surrounded by others that were not just tiny and flipping and, you know, going crazy.

*Interviewer

***Intervention* was an addition to Labov & Waletzky's (1997) six elements

Table 4.2. The Story of Nathan: Labov & Waletzky's (1997) Structural Categories**Abstract**

a (I)* *how do 'normal-weight' kids react to overweight kids in your P.E. classes?*

Orientation

b today we had a little soccer time
c and Nathan was not playing with his team,
d he was just standing at one end of the field by the goalies.

Intervention**

e So, I walked over there
f and said, 'You know, Nathan, buddy, you're not helping your team.
g Your team needs ya, you know?' (...)
h And I said, 'Alright, Nathan, buddy, we've got to get in there,
i you've got to help your team.
j Because, your team's looking back and you're back here and they need ya!' (...)

Complicating Action

k But he said, 'I ain't playing in this game.
l I'm not good at this game.
m I don't wanna play this game.'

Intervention**

n As so I went with the whole,
o 'Honey, in Math class, we have to do math whether we like math or not.
p We have to do it.
q And then we learn that we like math cause it's fun.'
r I said, 'you gotta play the soccer game to figure out you like it.
s It really is fun! You know?
t Get up there with you team.'

Complicating Action

u And the other guys were playing, playing, playing,
v didn't even see me chatting with him.
w But I left and went back over just kinda in the middle and watching everything
x and I saw one of my little guys go back and say, 'Come on in! We need you!'
y You know, whatever he's saying to him (...)
z And then the little guy, let's call him "Zeek",
aa Zeek turns around and looked at me and goes [throws hands in the air].
bb (I) *Like, what's up??*
cc Yeah. [as if to say] 'You know, he's not even helping me out! What's going on?'
dd And so I just said, 'Go play, go play.'
ee And, so I just left him [Nathan] there for another few minutes (...)
ff he did scoot up,
gg and he did kick a ball that would come to him
hh but he did not approach,
ii he did not assert himself. (...)

Evaluation

jj So, it's not happening (...) it did not improve from that point.

Resolution

kk I put Nathan in time out for a minute and talked to him again.

Coda

ll We'll have to deal with that problem on another day,
mm because we did not solve that one today.

*Interviewer

** *Intervention* was an addition to Labov & Waletzky's (1997) six elements

Laotha's narratives; she highlighted her students not unlike a protagonist in a novel. For example, in the story of Zelda (Table 4.1), Laotha portrayed Zelda as the lead character while barely acknowledging her vital role of environmental manipulation that ultimately led to Zelda's attempt of the P.E. activity.

Laotha unfailingly made light of her role in student decisions to participate: She always gave students credit for their decisions to participate, framing it as a student success, not her own success. However, she readily accepted responsibility whenever students refused to participate and immediately took action to engage their participation. The *intervention* sections (focused on Laotha's action) were much shorter than the *complicating action* sections that highlighted student action.

Looking across all 14 narratives, it was clear that Laotha's interventions were purposeful, constructive, and customized for each student. She worked with students in after-school settings (Riley), modified their goals to initiate action (D.K.), changed seating order in the classroom (Zelda), and highlighted the importance of team work (Nathan) to encourage participation, among other techniques. It was apparent that Laotha's interventions were vital for student participation, but students did not always respond to the first or even multiple interventions. Therefore, her interventions were a vital part of but did not predict student behavior.

Pattern of Behavior after Intervention

The structural analysis highlighted Laotha's customized *intervention* for each nonparticipating student in an attempt to break the cycle of refusal to participate (presented previously in Figure 4.2). Laotha's customized interventions typically

occurred after classmates said something to and/or about their non-participating peer (see Figure 4.3). During her intervention (Step 5), Laotha manipulated at least of the reciprocal determinants (behavioral, personal, or environmental) to encourage participation; she never used forceful methods to induce behavior. This approach allowed the student to take ownership of the decision to participate; therefore, *the decision that led to breaking the cycle was ultimately up to the student*. If the student's refusal continued (step 6), s/he remained in the cycle. However, if s/he decided to participate, the embarrassing situation was diffused; her/his self-efficacy improved, and s/he was more likely to participate in the future, because previous behavior predicts future behavior reciprocal determinism.

How many attempts it took a student to break the cycle varied, if it was ever broken. Some children broke it on the first try (e.g., Riley, Zelda); some needed multiple interventions (e.g., D.K.); and others still had not broken the cycle, yet (e.g., Nathan). We failed to detect any difference in Laotha's interventions to explain the direction and/or speed of students' cycle breaking decisions.

Conclusion

Our parallel use of thematic and structural methodologies provided richer, more in-depth insight than the application of either method alone. Our thematic analysis illuminated a behavioral pattern of student participation refusals while the structural analysis emphasized Laotha's responsive intervention and focus on her students. Together, these analyses provided a clearer, more holistic snapshot of overweight

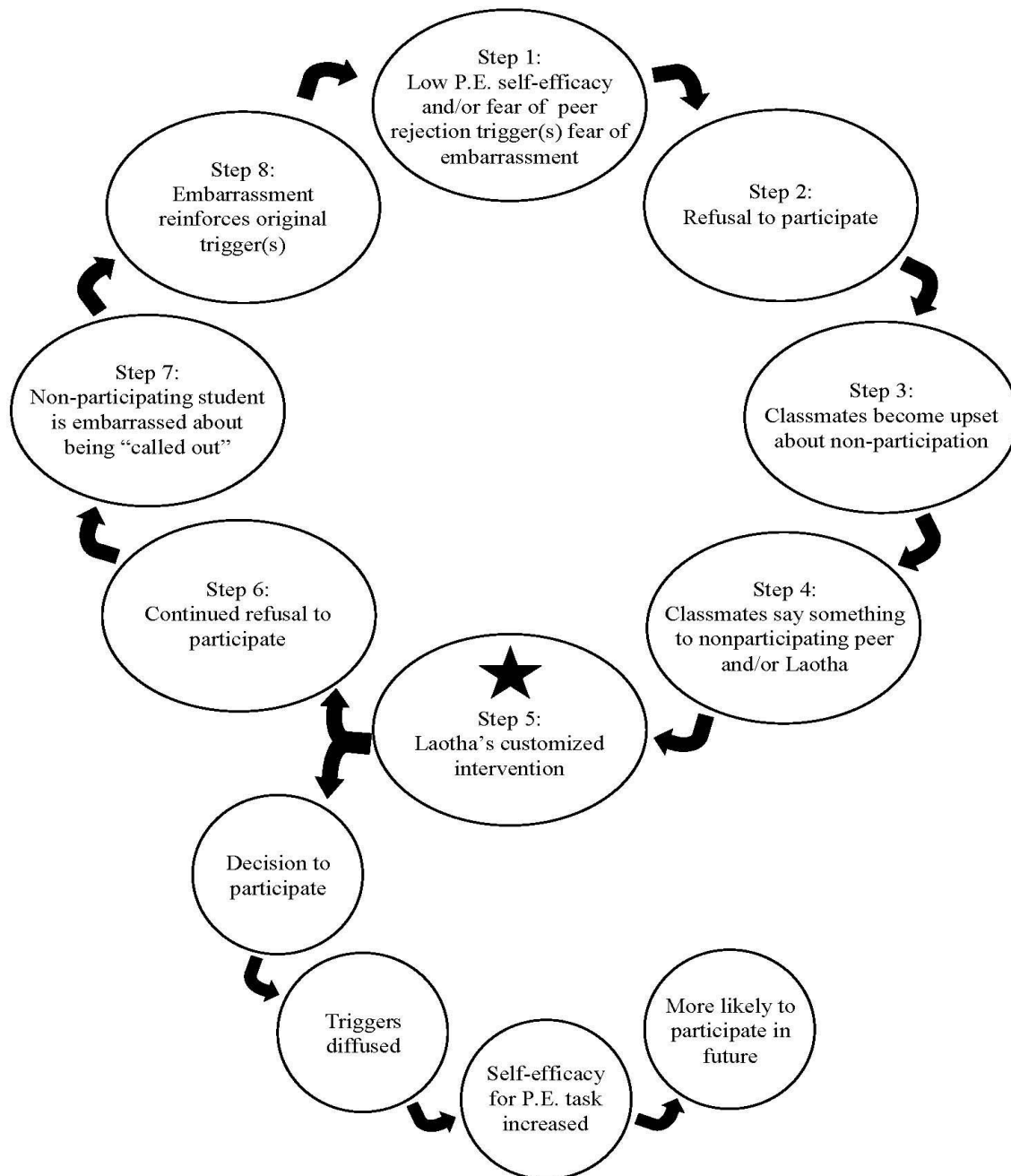


Figure 4.3. Pattern of Overweight Student Behavior after Intervention.

students' experiences in Laotha's classroom and what triggered participation or refusals to participate.

Overweight students encountered personal (self-efficacy; fear of peer rejection), behavioral (previous behavior) and environmental determinants (watchful peers) that led to the avoidance of new P.E. tasks more often than their normal-weight classmates. Our thematic analysis highlighted the reciprocal nature of these three determinant's influence on participation decisions among overweight elementary school students and Laotha's manipulation of a determinant – most often an environmental one – in response to participation refusals. Our structural analysis was congruent with our thematic discoveries and highlighted how Laotha dealt with the challenges the P.E. classroom by addressing her students' needs with individually-customized interventions.

CHAPTER V

CONCLUSION

The overarching purpose of this study was to empirically examine elementary school personnel's perspectives on child obesity. More specifically, personnel's perceptions on (1) the prevalence and impact of child obesity, (2) factors contributing to child obesity, (3) solutions for overcoming child obesity, and (4) barriers to overcoming child obesity were investigated. To this end, three independent studies were conducted: (1) a systematic literature review exploring all four of the above topics; (2) a qualitative examination of personnel's perspectives, exploring the first two topics above; and (3) a qualitative case study focused on the first topic, specifically, the impact of child obesity on overweight children in one elementary school P.E. classroom.

Systematically reviewing the current literature (manuscript 1) highlighted the fact that, prior to this study, research presenting elementary school personnel's perspectives on child obesity was meager. Previous child obesity investigations with personnel characteristically focused on personnel's evaluations of school-based child obesity prevention programs and health curricula, but almost never investigated their perceptions of child obesity, specifically. Just 7 previous studies examined personnel's perspectives on child obesity, and only 3 of these were published in the past decade. Therefore, this study served to fill this literature gap by investigating personnel's perceptions of facilitating and inhibiting factors of child obesity.

The inclusion of elementary school personnel in this naturalistic inquiry (manuscript 2) provided unique insight on child obesity. Most notably, the emphasis on the control children exert on dietary choices within both the home and school environments emerged as a prominent theme. Further exploration of child-centered control in these two contexts is warranted to gain an understanding of this dynamic and its potential link to child obesity.

Personnel also emphasized role of the home environment and parents as a both facilitating factor of child obesity and a barrier to overcoming child obesity. One implementation of these findings is the inclusion of parental and home environmental components in school-based obesity prevention programs. If parents and the home environment are so influential to child weight, as other research has corroborated (Golan & Crow, 2004), school-based interventions would be remiss to ignore these environments in obesity interventions. Moreover, if parents and the home environment are, in fact, *contributing* to the incidence of child obesity, any obesity prevention program *must* address these contributing factors to be successful.

The qualitative case study illustrated that the combined thematic and structural methodologies, in this case, resulted in richer findings than the application of either method alone. The thematic analysis highlighted a behavioral pattern of overweight students' refusal to engage in various P.E. activities during class while the structural analysis illuminated the P.E. teacher's impact via her customized intervention to refusals of participation. The combination of methods resulted in a more holistic snapshot of the

impact of child obesity in this P.E. teacher's classes. A preliminary model of the behavioral impact of obesity among students in these classes was presented.

Elementary school personnel should be included more often in child obesity research, especially an investigation their perceptions of facilitating and inhibiting factors, and intervention components to address them. Given the generally untapped nature of this topic, the use of qualitative methodologies is encouraged for an exploration unimpeded by the inherent theoretical constraints of quantitative research designs. Furthermore, a variety of qualitative methods – as well as a varied combination of qualitative methods – is suggested for the collection of richer data.

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APPENDIX A

CINAHL database search (in EBSCO)

	Query	Limiters/Expanders	Results (# articles)
S7	S4 not S5	Limiters - English Language; Peer Reviewed Search modes - Boolean/Phrase	178
S6	S4 not S5	Search modes - Boolean/Phrase	207
S5	(MH "Africa+") or (MH "Asia+") or (MH "Australia+") or (MH "Europe+") or (MH "Indian Ocean Islands+") or (MH "Pacific Islands+") or (MH "Central America+") or (MM "Latin America") or (MH "South America+") or (MH "West Indies+") or (MH "Canada+") or (MM "Greenland") or (MM "Mexico")	Search modes - Boolean/Phrase	466912
S4	S1 and S2 and S3	Search modes - Boolean/Phrase	357
S3	((MH "School Health Nursing") or (MH "Nutrition Services+") or (MH "Food Services+") or (MH "Food Service Department") or (MH "Dietetics")) or (dietitian* or nutrition*) or (counsel* or nurse*) or (teacher* or principal* or adminstrat* or faculty or educator*) or (cafeteria and (manag* or worker*)) or (personnel or stakeholder*) or (staff* or employee* or worker*))	Search modes - Boolean/Phrase	538291
S2	(MH "Schools, Elementary") or (school* and (elementary or primary))	Search modes - Boolean/Phrase	7946
S1	((MH "Obesity+") or (MH "Body Weight Changes+") or (MH "Thinness") or (MH "Body Image+") or (MH "Waist-Hip Ratio") or (MH "Body Mass Index")) or (obes* or overweight* or weight)	Search modes - Boolean/Phrase	95719

ERIC database search (in EBSCO)

	Query	Limiters/Expanders	Results (# articles)
S5	S1 and S2 and S3	Limiters - Peer Reviewed; Language: English Search modes - Boolean/Phrase	110
S4	S1 and S2 and S3	Search modes - Boolean/Phrase	559
S3	((((DE "School Nurses" or DE "Dietetics") or (DE "Dining Facilities")) or (DE "School Counselors")) or (DE "Elementary School Teachers")) or (DE "Principals")) or ((dietitian* or nutrition*) or (counsel* or nurse*)) or ((teacher* or principal* or adminstrat* or faculty or educator*)) or (cafeteria and (manag* or worker*)) or ((personnel or stakeholder*) or (staff* or employee* or worker*)))	Search modes - Boolean/Phrase	599481
S2	DE "Elementary Schools" or (school* and (elementary or primary))	Search modes - Boolean/Phrase	227821
S1	((DE "Obesity" or DE "Body Weight") or (DE "Body Composition")) or ((obes* or overweight* or weight))	Search modes - Boolean/Phrase	6856

Medline database search (in EBSCO)

	Query	Limiters/Expanders	Results (# articles)
S8	S6 not S7	Search modes - Boolean/Phrase	32
S7	(MH "Africa+") or (MH "Asia+") or (MH "Australia+") or (MH "Europe+") or (MH "Indian Ocean Islands+") or (MH "Caribbean Region+") or (MH "Central America+") or (MM "Latin America") or (MH "South America+") or (MM "Mexico") or (MH "Canada+")	Search modes - Boolean/Phrase	1634470
S6	S2 and S4 and S3	Search modes - Boolean/Phrase	70
S5	S2 and S4	Search modes - Boolean/Phrase	2319
S4	AB (teacher* or nurse* or principal* or adminstrat*) or AB (cafeteria and (manag* or worker*)) or AB (personnel or stakeholder*)	Search modes - Boolean/Phrase	217683
S3	AB (elementary or primary) and school*	Search modes - Boolean/Phrase	11542
S2	(MH "Obesity+") or AB (obes* or overweight)	Search modes - Boolean/Phrase	145801
S1	(MH "Obesity+")	Search modes - Boolean/Phrase	99354

APPENDIX B

Matrix of 7 included studies, their design, and their findings.

Authors	Theoretical Framework	Sample	Study Design	Findings
Price, Desmond and Stelzer (1987)	Not present	Principals N = 222	Quantitative	<p><u>Prevalence and Impact</u></p> <ul style="list-style-type: none"> • 42% “strongly agreed” that child obesity was “becoming more prevalent” (p. 368) • 51% believed that normal weight was very important to child health • 56% did not believe obese children would outgrow their obesity • 44% “strongly disagreed” that bulimia and anorexia were more serious problems than obesity in their schools (10% strongly agreed) <p><u>Contributing Factors</u></p> <ul style="list-style-type: none"> • Poor eating habits (88%) • Excessive caloric consumption (86%) • Sedentary lifestyle (59%) • Lack of self-control (59%) • Psychological problems (57%) • Heredity (54%) • Prevalence of machine-dispensed “junk food” (47%) • Lack of parental concern (44%) • Low SES (27%) • Cultural factors (26%) • Hormone problems (15%) • Peer pressure (14%) <p><u>Solutions</u></p> <p>Schools’ role:</p> <ul style="list-style-type: none"> • Comprehensive health curriculum (77%) • Eliminating “junk food” machines from school campuses (71%) • Special low calorie meals available during lunch hours • Specific referral plans to physicians regarding obese children • Weight control programs and PE classes for treating obese children <p>School personnel who should play a major role within a school obesity program:</p> <ul style="list-style-type: none"> • School nurses (77%); School counselors (69%); PE teachers (59%); Elementary School Teachers (24%)

Price, Desmond, Ruppert and Stelzer (1987)

Not present

School Nurses

N=222

Quantitative

MANCOVA and Stepwise Discriminant Analysis

Barriers

- 28% believed schools to be an ideal place for obesity prevention, yet only 1% reported schools to be “very competent” in such programs
- Perceived non-support of teachers among a quarter of principals
- Perceived insufficient background among teachers to implement such classes (16% felt teachers had “sufficient” background in health education)
- 46% felt most physical education classes are not designed to produce life-long exercise habits that could assist in controlling weight.
- Perceived lack of parental support (20%)
- “...only 40% believed that with proper guidance most obese children could lose substantial amounts of weight, and only 36% thought formerly obese children could maintain weight loss.” (p. 368)

Prevalence and Impact

- 85% “strongly agreed” normal weight is very important to child health
- 51% believed child obesity was becoming more prevalent
- 74% did not think most obese children would outgrow their obesity (1% strongly agreed they would outgrow it)
- 48% strongly agreed that obese children appear to have more medical problems than non-obese children.
- 44% strongly agreed that alleviating childhood obesity is more important to health than alleviating obesity in adulthood (12% strongly disagreed)
- 73% strongly agreed that childhood obesity is a significant cause of peer rejection (4% strongly disagreed)
- 37% strongly agreed that childhood obesity is more amenable to treatment than adult obesity (17% strongly disagreed)
- Only 21% strongly agreed that with proper guidance most obese children are able to lose significant amounts of weight (14% strongly disagreed)
- Only 25% strongly agreed that with proper guidance former obese children are able to maintain their weight loss (9% strongly disagreed)

Contributing Factors

- Poor eating behavior (92%)
- Excessive caloric consumption (91%)
- Sedentary lifestyle (59%)
- Heredity (56%)
- Cultural factors (55%)
- Prevalence of machine-dispensed ‘junk food’ (52%)
- Lack of parental concern (49%)
- Low socio-economic status (one-third or less)
- Peer pressure (one-third or less)

- *In utero* development of adipose hypercellularity (one-third or less)
- Hormone problems (one-third or less)

Solutions

None presented.

Barriers

- How competent do you feel you are in prescribing weight loss programs for children? (very competent vs. not competent) 25% strongly agree; 17% strongly disagree**
- Designing programs and counseling children and their parents about weight loss is difficult. 71% strongly agree; 3% strongly disagree**
- Counseling children and their parents on weight is inconvenient. 19% strongly agree; 31% strongly disagree**
- Counseling children and their parents on weight loss is professionally gratifying. 30% strongly agree; 16% strongly disagree**
- Schools are not doing enough to help alleviate childhood obesity. 65% strongly agree; 6% strongly disagree**
- "These beliefs may be related to the reason why only 70% of nurses indicated they would recommend weight loss to all children who are obese. Fifteen percent recommended treatment only to children (or parents of) who requested help, and 13% only recommended weight loss to children with a health problem affected by their obesity." p. 334

Price, Desmond and Ruppert (1990)

Not present

P.E. Teachers
N=321

Quantitative
MANCOVAS,
T-tests and Chi-square analysis

Prevalence and Impact

- Approximately 2/3 of participants thought child obesity was becoming more prevalent
- Approximately 2/3 of participants thought child obesity was a significant cause of peer rejection

Contributing Factors

- Poor eating habits (92%)
- Excess calorie consumption (86%)
- Sedentary lifestyle (82%)
- Lack of parental concern (74%)
- Cultural factors (23%)
- Low socioeconomic status (20%)
- Peer pressure (17%)
- Hormone problems (12%)
- "Female teachers were more likely than male teachers to believe that poor eating behaviors and psychological problems play a major role" p. 28
- "younger teachers (<40 years of age) were more likely to believe that a sedentary lifestyle plays a major role" p. 28
- "The fewer the number of years as a teacher, the more likely the teacher were to believe that cultural factors play a major role" p. 28

Solutions

- 88% believed that “they should be role models by setting an example as one who maintains normal weight.” P. 29
- 82% believed P.E. teachers were “one of the two primary school personnel who should play a major role in treating childhood obesity” (school nurses the other) p. 29
- 91% thought comprehensive health curriculum with nutrition and weight control should be available via schools and classes focused on lifelong fitness should be provided
- 70% thought schools should offer low calorie lunches and eliminate junk food in machines and provide weight control programs
- One-half supported P.E. classes specifically for overweight children
- Younger teachers were “more likely to believe parents would be supportive of schools becoming a place for the treatment of childhood obesity” p. 30

Barriers

- Two of three did NOT believe that only children who are likely to succeed in a weight loss program should take part in an intervention
- Half believed failure to lose weight would reinforce a child’s belief that there is little chance to lose weight
- Fewer than half believe that most obese children can lose significant weight with proper guidance and would be able to maintain the loss
- No significant difference in perceptions was found between sexes, level of education or years as a teacher. “However, one difference was found to be significant ($p < .01$) by age. Those who were less than 40 years of age were less likely than those 40 years of age or older to believe obese children will outgrow their obesity” (p. 28)
- 2/3 believed they were not adequately prepared in college to design weight loss exercise programs for obese children.
- 58% strongly agreed designing exercise programs for weight loss and counseling children and their parents about weight loss was difficult
- 1 in 5 found counseling children and parents on weight loss an inconvenient task
- 41% believe there is not adequate time in the classroom to help children improve physical fitness and that PE classes are not designed to provide life-long habits and exercise patterns.
- Females were more likely to report that exercise programs are difficult to design.
- “younger teachers were less likely to report that counseling children and their parents on weight loss was inconvenient or that designing weight loss problems were difficult” p. 29
- “Teachers with fewer years of teaching were more likely to report they found counseling children and their parents on exercise programs for weight loss professionally gratifying” p. 29
- 62% were not certain parents would support schools as a place to treat obesity
- Only 40% perceived schools as an ideal place to prevent child obesity

Stang, Story and Kalina (1997)	Not present	School Nurses	Quantitative. Chi-square analyses and cumulative frequency distribution	<p><u>Prevalence and Impact</u> Being overweight affects:</p> <ul style="list-style-type: none"> • A child's emotional health (93.5% of principals and 98.3% nurses) • Social interaction (93.7% principals and 98.3% nurses) • Physical health (90.4% principals and 96.6% nurses) <p><u>Contributing Factors</u> None presented.</p> <p><u>Solutions</u></p> <ul style="list-style-type: none"> • School nurses should be in charge of the school's weight-management services. (89% of administrators and 96% of school nurses agree) • More training in assessment/treatment of obesity for nurses (77% of nurses want) • School-based weight-management services (80% of nurses; 66% of principals), including: <ul style="list-style-type: none"> • Screening/assessment services (62.7% nurses; 58.9% principals) • Additional PE classes/programs (36.9% nurses; 32.6% principals) • Classroom curriculum on weight management (75.4% nurses; 77.8% principals) • Individual counseling (59.4% nurses; principals N/A) • Have health care providers from the community provide services within the school (26.6% nurses; 32.6% principals) • Referrals to community health care providers (68.0% nurses; 61.9% principals) <p><u>Barriers</u> Nurses:</p> <ul style="list-style-type: none"> • Lack of time (97%) • Lack of training (53%) • Lack of educational materials (42%) • Lack of administrative support (29%) <p>Principals:</p> <ul style="list-style-type: none"> • Lack of training (49%) • Lack of materials (42%) • Lack of classroom time (40%) • Lack of funds (40%) • Lack of staff time (34%)
Moyers, Bugle and Jackson (2005)*	Explicitly presented: <i>Health Promotion Model</i>	School Nurses N=106	Correlation Coefficients and Spearman's Rho	<p><u>Prevalence and Impact</u></p> <ul style="list-style-type: none"> • Normal weight is important to health of children (97.2% agree/strongly agree) • Childhood obesity becoming more prevalent (98.1% A/SA) • Most obese children will outgrow obesity (81.2% disagree/strongly disagree) • Alleviating C.O. Is more important than obesity in adulthood (59.5% A/SA)

*Replicated
Price, Desmond,
Ruppert and
Stelzer (1987)
study with
school nurses.

- C.O. is a significant cause of peer rejection (85.8% A/SA)
- Obesity plays a major role in the development of:
- Hypertension (95.3%)
 - Type II diabetes (94.3%)
 - Coronary heart disease (89.6%)
 - Stroke (80.2%)
 - Stress (74.5%)
 - Osteoarthritis (67%)
 - Colon cancer (50%)

Contributing Factors

- Poor eating behaviors (94.3%)
- Excessive caloric consumption (94.3%)
- Sedentary lifestyle (95.3%)
- Heredity (54.7%)
- Cultural factors (59.4%)
- Prevalence of machine-dispensed “junk food” (54.7%)
- Lack of parental concern (75.5%)
- Low SES (50%);
- Peer pressure (46.2%);
- In utero development of adipose hypercellularity (62.3%);
- Hormone problems (65.1%)

Solutions

- *School nurses' role:* To be role models by maintaining normal weight (86.8%)
- Schools' role:
 - Comprehensive health curriculum with nutrition and weight control should be available in every school (93.4%)
 - Should eliminate “junk food” machines (97.7%)
 - Should offer special low-calorie lunches (77.3%)
 - Should offer on-site weight control programs (53.8%)
 - Should offer PE classes especially for over-weight students (66%)

Barriers

- Perceived lack of parental concern resulting in a barrier to school nurses taking a more active role in child obesity prevention and treatment
- Perception that schools are not doing enough (70.8%)
- Lack of perceived obligation to counsel parents of obese children concerning health risks of obesity (only 39.6% felt obligated)
- Lack of recommending weight loss program for all obese children:
 - 24.5% only recommend weight loss programs for all obese children
 - 32% only recommend weight loss programs for children with a health problem affected by their obesity

- 51.9% only recommend weight loss programs for children/parents who ask for help
- 34% do not recommend weight loss programs, at all

Perceived competencies and barriers in providing treatment for childhood obesity:

- Felt competent in recommending weight loss programs for children (26.4% A/SA and 26.4% D/SD)
- Counseling parents and their children about weight loss is difficult (86.7% A/SA) but not inconvenient (51.9%)
- Found counseling personally gratifying (39.6%)

Success of child obesity programs doubted:

- 53.8% believed that with proper guidance most obese children can lose weight
- 57.5% believed they can maintain the weight loss
- 42.4% believed that childhood obesity was more amenable to treatment than adult obesity

Schetzina, Dalton, Lowe, Azzazy, vonWerssowitz, Givens and Stern (2009)	Not present	Teachers N = 23	Qualitative Multistage interpretive thematic process
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Prevalence and Impact

- "Teachers believed that child overweight was not prevalent in their school, citing only 'one or two big kids'. Teachers seemed hesitant to label children as overweight/obese. One teacher said, 'He's a little chunky, but not obese', and that 'they can't help it, we're all overweight'." (p. 7)
- "Teachers perceived that overweight children have low self-esteem, get picked on, and do not participate in gym activities" (p. 8)

Contributing Factors

- "Teachers reported that students were only expected to have three items on their cafeteria tray, and the school policies about selection of these items (i.e., students are not required to choose a fruit or vegetable) and purchase of a la carte items did not promote healthy eating." (p. 4)
- Teacher did not think the school's 45 minutes of PE per week was enough time. "Teachers described pressures to meet expectations for standardized test performance as interfering with time for physical activity" (p. 7)
- "According to teachers, sitting quietly all day and not having any physical activity makes children tired and unable to concentrate" (p. 7)

Solutions

- "Teachers recommended opening the gym after school, establishing a walking trail on school grounds and a daily fitness program with incentives for students" (p. 8)
- "One teacher suggested that students 'exercise to music'." (p. 8)
- "Many teachers were also in favor of students having pedometers to help them become more aware of their activity level." (p. 8)
- "Teachers also agreed that encouraging healthy snacks could be beneficial to students." (p. 8)

Schetzina, Dalton, Lowe, Azzazy, vonWerssowitz, Givens, Pfortmiller and Stern (2009)	Not present	Teachers N=40	Quantitative
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Barriers

- "...one teacher stated that the community does not have a safe place for children to play; others cited lack of parent involvement in promoting physical activity through sports participation" (p. 8)
- "Teachers were worried that time, teacher enthusiasm, and administrative and parental support could be barriers to implementing an overweight intervention program. One teacher dais, 'There's going to be parents who complain about [the program], they complain about anything'." (p. 8)

Prevalence and Impact

"More than 70% of teachers said that they were very or extremely concerned about child obesity in their school and community" (p. 278)

Contributing Factors

- "More than 97% of teachers considered the food that students consumed at school as being fair, poor, or very poor in nutritional quality" (p. 278)
- All teachers believed that their students had too little or far too little physical activity during school" (pp. 278-279)

Solutions

- Include 30 minutes of physical activity every day at school (98%)
- Do not reduce physical activity at school to focus on academics (95%)
- Schools should do more regarding teaching students about healthy lives, diets, and physical activity (92%)
- Ban vending machines with soft drinks, candy, and unhealthy foods (90%)
- Classroom parties should include "mostly healthy foods and drinks" (about 60%)
- Ban the sale of candy and unhealthy snacks from school fundraisers (56%)

Barriers

None presented.

VITA

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