

Education Program on Role Modeling Healthy Eating for Montessori School Teachers

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Spring 2017

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Abstract

Obesity, disordered eating, and poor food choices are persistent points of concern for children in the United States. A method to combat these issues is providing children with role models that emulate healthy eating behaviors. Many studies have focused on the impact of parents as nutrition role models but useful data on the impact of teachers and school support staff is lacking. The purpose of this study was to develop, implement, and evaluate an interactive lesson for the teachers and classroom assistants at Valley Forge Kinder House on the importance of positive role modeling for healthy eating. The goal was to increase the participant's knowledge of the importance of role modeling healthy eating behaviors and to give them strategies on how to be positive role models for their students. Nine participants attended with six eligible to participate in the study. All participants were female and appeared to be between 35 and 60 years of age. A PowerPoint presentation was designed for the study by the researcher and participants also received a one page handout created by the United States Department of Agriculture. Results showed a 23.65% increase in mean score. Three participants had improved scores and three participants had the same score on the pre and post-test. This low cost intervention proved the hypothesis that the teacher and classroom assistance would have a positive increase in score from the pre-test to the post-test.

Chapter I:

Introduction

Statement of the Problem

The problems of childhood obesity, disordered eating and poor food choices have been persistent points of concern for children in the United States. A multitude of interventions to combat these problems have been undertaken, and include regulation changes to school meal programs, exercise promotion campaigns, and interventions to increase consumption of fruits and vegetables (Evans, Christian, Cleghorn, Greenwood & Cade, 2012). These programs have been instituted on national, state and city-wide levels and can become costly when more individualized attention is given to the child, parents or staff member (Wu, Cohen, Shi, Pearson & Sturm, 2011).

Childhood obesity has been on the rise since the 1980s, with some figures estimating its incidence has tripled since this time. Lakshman, Elks and Ong's 2012 review of the rise of childhood obesity in the US and internationally states there has been an increase in obesity in children of all ages, and this alarming trend includes a growing number of preschool age children. Obese children have been shown to have higher incidences of musculoskeletal disorders, asthma and early puberty along with sleep apnea, diabetes and hypertension which are also commonly observed in obese adults. These children may also have social and psychological issues which include depression and low self-esteem. There is also a strong correlation between childhood obesity and obesity later in life as an adult, and the health issues and comorbidities associated with it. Lakshman et al. (2012) also cite the US National Longitudinal Study of Adolescent Health which revealed that of adolescents with a BMI greater than the 95th percentile 40% of them were considered morbidly obese, with a BMI of greater than 40 by the time they were 30 years old.

Disordered eating habits in a general sense can include overeating in one sitting, over snacking throughout the day and skipping meals. These types of eating habits can lead to obesity, eating disorders and inadequate intake of macro and micronutrients. Poor food choices are another issue for children, especially as they age and are in more situations outside of their parent's control. Salvy, Elmo, Nitecki, Klucznski and Roemmich (2011) demonstrate children typically make poor choices in regards to types of food and portion control when outside of the home and with their peers.

One mechanism to help combat these problems is having adults in the lives of these children that demonstrate healthy eating patterns and choices, which children can emulate. Many studies have been done observing the influencing behaviors of parents, peers, teachers and care providers on the behaviors and attitudes that children have with regard to food and nutrition, with most concluding that children often base their dietary habits on those they observe (Ernisho, Hales, McWilliams, Emunch, & Ward, 2012; Salvy et al., 2011). A 2014 study by Natale et al. on the effects that parent and teacher role modeling have on obesity prevention in preschool age children demonstrated that parental role models had a positive outcome on nutrition although the teachers in their study had little impact on students behavior, and in one instance a negative impact was observed. This leads the researcher to believe that further investigation into the best approach and delivery of an educational program for teachers and support staff is needed.

Not all children come from homes where they receive a positive message about food, which is why it is critical that teachers and school support staff help fill this role. Even for children living in environments where positive eating behaviors are modeled and encouraged, children are likely to benefit from these behaviors being demonstrated by teachers and support staff as well. Young

children are typically in school care for 6 to 8 hours a day, and these hours should not go unnoticed as initial or additional opportunities to promote positive eating behaviors.

Valley Forge Kinder House (VFKH), which operates locations in both Phoenixville, PA and Limerick, Pennsylvania follow a curriculum set forth by the Association Montessori International. The Montessori school style of teaching promotes independence by gently guiding students to make their own choices, even in the youngest attending the program (Boulimer, 2014). VFKH's students range in age from 2 to 12 years of age, a critical time period for mental and physical development where adequate nutrition is essential. The teachers and support staff undergo continuous education on various topics, but have not been formally educated on the benefits of being a positive nutrition role model for their students or how to implement these behaviors.

Can an interactive lesson on the importance of being a positive role model for healthy eating for their students improve the knowledge base of the Valley Forge Kinder House teachers and support staff?

Statement of the purpose

The purpose of this study was to develop, implement, and evaluate an interactive lesson for the teachers and classroom assistants at Valley Forge Kinder House on the importance of positive role modeling for healthy eating and give them strategies on how to be positive role models for their students. The intent of this lesson was to result in students developing healthier eating habits through modeling their teachers' behaviors.

Hypothesis

After participating in an interactive lesson on role modeling healthy eating, teachers and support staff of Valley Forge Kinder House were expected to demonstrate an improved knowledge

of the benefits of positive role modeling and strategies on how to implement these behaviors as measured by a change in their overall scores on a pre and post-test.

Chapter II:

Literature Review

Children's Eating Behaviors

Children begin to shape their eating behaviors at a very young age, with some studies suggesting even while infants are being breast or bottle fed they are already developing particular habits (Nicklaus & Remy, 2013). The term eating behaviors typically includes personal food preferences, how a person may reject or accept a food item, and the types of food and the amount consumed. These are based on a combination of genetics, learned behaviors, environmental circumstances and culture (Scaglioni, Salvioni, & Galimberti, 2008). Scaglioni et al. describe that the first preferences children have are genetically determined, and that typically healthy children will first develop a taste for sweet and salty foods and a dislike of sour and bitter foods. As children are exposed to other food items and experiences their specific preferences will continue to change. According to Cullinane and Novack (2013) "Eating is a complex process that is not 'taught' but develops through the interplay of instinct, hunger and social modeling" (p. 313).

Parents, additional caregivers, peers and the media also affect the choices that children make as they become more independent. The food behaviors formed in the early stages of development become the basis for lifelong eating habits (Eliassen, 2011; Scaglioni et al., 2008). Eliassen (2011) outlines six specific factors that are the most likely to influence eating behaviors that can be controlled by adults; food fears, care environments, food behavior modeling, food restriction, pressure to eat, and using food as a reward. Eliassen concludes that these six factors work closely together, and all six factors affect children's preferences and behaviors as they enter into adulthood.

Impact of Adults

Food Modeling Behaviors. Parents, guardians and extended members of the family are the first role models of eating behavior that children observe. In the critical time period of early childhood children will pick up on the behaviors of the adults they see daily, and will mimic their behavior. As children get older they develop a better understanding of reality and are more inclined to become interested in how food fuels their bodies, why humans need to eat, and which food choices may be more optimal than others. A supportive adult role model should take this new found interest and utilize it as an opportunity to begin teaching children about healthy foods and appropriate behaviors (Cullinane & Novak, 2013).

Adults demonstrate modeling of food behaviors in a variety of ways, although many parents do not understand how many of their actions truly impact their children's behaviors. Discussing displeasure with their own body weight can affect their children, and this is seen with both sexes of children, but in a greater proportion young girls (Nicklaus & Remy, 2015). Adult's attitudes toward particular food items can also influence a child's desire to consume or avoid the item. Adults who are eager to try new foods versus avoiding them or voicing skepticism about new food items will often find that the children they are modeling to are more likely to feel and act in a similar fashion (Gregory, Paxton & Brozovic, 2010).

There are a number of benefits to role modeling positive nutrition behaviors to children, and this is applicable regardless of the role the adult plays in the child's life. At an early age, there is a positive correlation between observing positive nutrition role modeling and a decrease in food fussiness as noted by Gregory et al. (2010). In this review the researchers used the term food fussiness to describe eating behaviors that may typically be considered to be that of a picky eater. This was interpreted as children that were hard to please at meal times and were often unwilling

to try new food items. Another benefit of positive role modeling is children are more inclined to make healthier food choices. As Salvy et al. observed in their 2011 study most children, particularly girls more frequently than boys, chose a healthier food item when amongst their peers than those whose mothers did not influence their daily choices.

Negative Behaviors. Cullinane and Novak (2013) describe eating as a highly social experience, and one that can be fostered or hampered by a caregiver's stress, their particular beliefs about food, or the expectations they place on children. Like positive behaviors observed by a child, negative nutrition related behaviors directly influence the behaviors they chose to exhibit. When negative practices of their adults caregivers are observed these behaviors may ultimately lead to distress or loss of trust even when these adults are exhibiting positive role modeling behaviors.

Multiple studies list pressure to eat, food restriction, and use of food as a primary reward as negative behaviors parents inadvertently practice. Scaglioni et al. (2008) state that pressure to eat placed by parents, either to consume their entire plate or particular meal items is counterproductive. Pressured children, to eat more fruits and vegetables has been shown to a decrease consumption at some points during childhood and adolescence. These children may also become less interested in food overall, showing limited excitement about eating in general or new food choices. These children also may develop a decreased understanding of satiety, as they may be pressured to consume additional food even if they are full (Gregory et al., 2010).

Food restriction is the act of controlling how much, if any, of a certain food item a child may be allowed to eat. This is most typically the case when a food is classified as junk food, and may be completely off limits for consumption. Food restriction is a common practice, and most parents are well-intentioned in restricting food items. Labeling foods as forbidden, like with pressuring children to eat, often results in negative consequences. A preoccupation with the

restricted food can develop, resulting in a promotion of its intake instead of a lessening (Gregory et al. 2010; Scaglioni et al. 2008).

Lastly and like restriction of certain food items, the well-intended practice of using food as a reward can lead to unintended behaviors. Often foods that are used as rewards are highly palatable, high calorie and high fat food items, these food may be concerned “treats”. This practice can also cause a preoccupation with the food item, as these foods become highly desired (Eliassen, 2011; Gregory et al. 2008).

When Children Lack Positive Role Models

When children lack a positive nutrition role model there is a higher likelihood for that child to develop nutrition related issues and detrimental behaviors such as disordered eating patterns and obesity. These issues may continue into adulthood, and may be potentially hard to change as they had been engrained throughout childhood and adolescence. Some parents see these negative attributes as behaviors their children may grow out of, but they can have lifelong health consequences if ignored (Natale et al., 2014).

Disordered Eating. Disordered eating patterns can occur due to negative influences brought on by parents and caregivers. Disordered eating patterns include missing meals, overeating at meal times, or a diet plan that is overly restrictive (Ellis, Galloway, Webb, Martz & Farrow, 2015). This can also include extremely “picky” eaters, which is typically characterized as a child who has a limited range of food choices with strong preferences of the ones that they will eat. In some children this may include being very unwilling to try new food items, leaving parents and caregivers frustrated and concerned (Nicklaus & Remy, 2013).

Pediatric Obesity. Obesity in children in the United States is defined as a BMI above the 95th percentile based on age and sex, with those between the 85th and 95th percentile considered as

being overweight. There has been a marked increase in the rate of childhood obesity in the United States since the 1980s, and current trends show this may be increasing faster than obesity in adulthood (Lakshman et al., 2012). Obesity in children can have lifelong health consequences. The United States National Longitudinal Study of Adolescent Health found that nearly 40% of adolescents who were obese, with a BMI above the 95th percentile as teenagers, became severely obese with a BMI greater than 40 kg/m² by the time they were 30 years of age. These rates are typically higher in children who identify as American Indian, African American and Mexican American (Laksham et al., 2012).

Children struggling with obesity have a greater chance of developing comorbidities than their peers who are not classified as obese or overweight. The incidence of diabetes, hypertension, sleep apnea and asthma are diagnosed at higher rates during an obese child's childhood and adolescence. In addition to an increased incidence of disease, obese children are more likely to suffer from low self-esteem, feel they have a lower quality of life and experience depression. Often the parents of an obese child may exhibit similar emotional feelings. They may experience embarrassment, shame and may feel inadequate as a parent or that they have let their child down (Laksham et al., 2012).

Educators as Nutrition Role Models

Like parents and family members child care providers and educators can also be positive nutrition role models. In many households both parents may be working, there may be other siblings to be cared for, or unfortunately there may be a limited interest about food and nutrition by the parents or guardians. The typical elementary school attendee is in school 6 hours a day, often longer if before school or after school care is provided. Teachers and support staff help to

provide an additional, and in some cases the only, nutrition role model regardless of the home environment (Elliassen, 2011; Perikkou, Kokkinou, Pangiotakos & Yannakoulia, 2013).

Natale et al.'s 2014 study assessed the effectiveness of teachers role modeling positive nutrition behaviors, as well as physical activity. Participants were generally teaching in schools where most students came from low income homes. This study also assessed parents, and the teachers and parents received a total of six nutrition and physical education sessions focusing on preparing healthy meals, making healthy food choices and how to make positive changes to their current role modeling behaviors. The findings of this study did show that changes in parent's role modeling did significantly influence the nutrition and physical activity of their children, it did not however find statistical evidence for the impact the teacher's had on their students.

Most educators are very willing to impart additional knowledge on their students, although when it comes to nutrition and wellness some educators feel they are underprepared to take on this task. This could be due to a general lack of knowledge or that they feel they are not exhibiting these behaviors themselves. Perikkou et al. (2013) conducted a study to analyze elementary school teacher's opinions and feelings about conducting nutrition education for students, as well as how they felt about changing their dietary habits to become better role models for their students. A questionnaire was used to assess personal beliefs, perceptions of their own health and dietary habits and their current level of physical activity. The researchers used the transtheoretical model of change to assess the readiness participants felt in these areas. With regards to readiness to use themselves as a role model for nutrition education 46.2% were in the contemplation stage, meaning they were willing to consider being role models for their students, versus 26.8% that were in the precontemplation stage, and were not considering being role models for their students.

The Montessori Method of Education

Maria Montessori developed the Montessori Method of education in early 1900s in Italy. The foundation of this style of teaching is giving children independence and choice by making the classroom environment child centered, rather than the traditional model of a teacher center and teacher paced style. Teachers model the appropriate way to perform a task or lesson and then allow students the freedom to complete them. One of the ways this is achieved is through guided play, where children have a variety of fun, educational activities laid out for them and are able to access them at their choosing. Montessori schools also use a multi-aged classroom, unlike traditional education that groups students of the same age only. Older children in these classrooms can often be seen teaching or assisting younger students as they learn new tasks (Lillard, 2013).

Children in a Montessori style classroom learn practical skills at younger ages than in most traditional schools, and this includes food preparation. Montessori students practice sorting, pouring, cutting, and assembly of food items. With the oversight of their teacher, students will frequently be the primary preparers and servers at snack and meal times. The main goal of these activities is to not only to provide their students with a traditional academic knowledge base but one that is applicable to all aspects of life (Boulmier, 2014; Lillard, 2013).

Study Design

Quasi-Experimental Design. A quasi-experimental study design is often used when it is not logistically possible to use a randomized controlled design. This type of study may also be called a pre-post intervention study. Some of the reasons randomization of participants may not be possible is due to sample size, ethical considerations, or difficulty in randomizing samples (Harris et al., 2006). The goal of a quasi-experimental study is to attempt to show a relationship between a given intervention and a hypothesized outcome. The main weakness of the quasi-experimental

design is there is no random assignment of subjects, which may lead the researcher to question other explanations for observed causal association.

Pre-Test Post-Test Model for Data Collecting. A pre-test post-test method for data collection assesses the knowledge base of a participant prior to an intervention, and then reassesses after the intervention to measure gained knowledge. The goal of this type of testing is to observe an increase in the mean score from the pre-test to the post-test, indicating there has been a gain in knowledge. (Boyas, Bryan & Lee, 2012) As with all types of data collection there is the potential for bias. Boyas, et al. (2012) looked at the efficacy of the pre-test and post-test model on student learning. In their study they gave students a pre-test at the beginning of a course and then repeated this same test at the end of the course. One standout of the study was that students appeared to demonstrate an increase in post-test score when they were to be graded versus post-tests that were not graded. Boyas et al. (2012) state that the pre-test post-test model may be better suited for entry level knowledge, as this type of assessment often understates the knowledge of higher level students.

Summary

To conclude the impact adults make on children with regards to their nutrition related behaviors is great. Simple steps can be taken by parents and teachers to provide children with the tools needed to develop well rounded eating habits. By doing so, a child's chance of developing nutrition related issues like disordered eating and obesity are lessened. The Montessori classroom and its style of education which focuses on self-awareness, independence and modeling learned behaviors lends itself well to teachers who exhibit positive nutrition role modeling behaviors.

Chapter III: Methodology

Research Design

This quasi-experimental research followed a pre-test/post-test design. The teachers and classroom assistants of Valley Forge Kinder House (VFKH) served as a convenience population.

Subjects

The teachers and teaching assistants of VFKH served as a convenience population for the researcher. The researcher had access to this population through Elkanah Grogan, a classroom assistant at VFKH. Ms. Grogan had knowledge of the research and was excluded from the research data. It was expected that five to 10 staff members would be in attendance. The participants were expected to be all female, with an estimated age range of 25 to 60 years old, primarily Caucasian and in a middle socioeconomic class. All participants were expected to have completed a minimum of a Bachelor's Degree, with some participants having completed a Master's Degree.

Recruitment was done by Susan Kelly, Head of School at VFKH initially via e-mail (Appendix A), and thereafter with verbal reminders. Incentives to participate included a light, healthy snack that was served during the presentation. Participants also received a small incentive gift, a one cup-size reusable plastic container that has measurement marks on the side to estimate portion sizes. Attendance to the educational session was voluntary.

Instrumentation

To assess the knowledge of the participants a 10 question multiple-choice test representing information presented in the lesson was designed by the researcher. This instrument served as both pre-test (Appendix B) and post-test (Appendix C). The test had been developed to assess the participants' knowledge on the importance of positive role modeling of healthy eating for children, the consequences that can occur when children lack a positive healthy eating role model, and the

actions needed to be a positive healthy eating role model for their students. Test content, as well as the PowerPoint presentation used in the lesson, was based on the Michigan Department of Health and Human Services publication “Go! For Role Modeling” found within the “Michigan Nutrition Standards Toolkit”, the Northeastern Iowa Food and Fitness Initiative publication “Be a Healthy Role Model”, and the publication “Are You a Positive Role Model?” developed by the Creating Healthy School Nutrition Environment Health Unit Collaboration and distributed by the Leeds, Grenville and Lanark District Health Unit. Participants also received a one page handout “Be a Healthy Role Model” from the “10 tips Nutrition Education Series” created by the United States Department of Agriculture, which can be found in Appendix E. A lesson plan can be found in Appendix F.

Procedure

The researcher completed the National Institute of Health (NIH) tutorial titled “Protecting Human Research Participants”; her Certificate of Completion can be found in Appendix G. Connie Volker RD, LDN and Immaculata graduate student served as proctor. Ms. Volker had also completed the National Institute of Health tutorial, and a copy of her Certificate of Completion can be found in Appendix H. Authorization to conduct this research was granted by Susan Kelly, Head of School of Valley Forge Kinder House Montessori School. The completed Letter of Authorization can be found in Appendix I.

When all of the participants were in the office of Mrs. Kelley, which also serves as a meeting room, the researcher distributed the consent document (see Appendix J), read it out loud to the participants, and asked participants if they had any questions, which they did not. Participants were told they were to keep the consent document, but to not write their names on it. At this time the researcher left the room.

The proctor distributed lettered self-seal white envelopes and pens to each of the participants. Participants were instructed to not write their names on the envelopes or any materials inside them. Each lettered envelope contained a copy of the light blue pre-test questionnaire and light green post-test questionnaire, also lettered to match the seal-seal manila envelope. Participants were asked to not talk during the pre-questionnaire by the proctor. The proctor asked participants to remove the light blue paper from their envelope, and check to the appropriate box if they agreed with the consent document and then complete the questionnaire. Participants were given approximately ten minutes to complete the questionnaire. When all participants completed the questionnaire the proctor instructed participants to return the light blue questionnaire to the envelope, but to not seal the envelope. The proctor then asked the researcher to return to the room.

Upon returning to the room the researcher invited participants to help themselves to the light snack and then began the educational session. The participants viewed a twenty minute long PowerPoint presentation on the importance of modeling healthy eating habits to children, the detrimental issues that can arise if children do not have positive role models with regards to nutrition, and strategies on how to be a good nutrition role model for their students. At the conclusion of the PowerPoint presentation the participants were presented with two different scenarios to consider. The researcher facilitated a brief discussion, which lasted roughly five minutes per scenario. Participants were asked how they would react to each scenario and were invited to give their opinion. The researcher gave feedback to the reactions of the participants by referring back to specific PowerPoint slides. The participants were asked if they had any additional questions about the presentation, which were answered by the researcher.

The researcher then left the room and the proctor asked participants to remove the light green paper from their envelope, and begin the questionnaire. Participants were given

approximately ten minutes to complete the questionnaire. Once the participants completed their questionnaire they were instructed by the proctor to return the light green questionnaire to the envelope. At this time participants were instructed by the proctor to seal their envelope, and the proctor collected all envelopes. At this time the proctor asked the researcher to return to the room.

Participants were be asked a final time if they have any further questions and these were answered by the researcher. The participants were reminded to take their consent form with them and dismissed.

Data Analysis

The results include test question answers for both the pre- and post- tests. The answers have been organized by question for each participants. The mean correct post-test answers have been compared to the mean correct pre-test answers.

Following the intervention all testing materials have been stored in a locked box in the researcher's home, and will remain there for a minimum of five years. After this time period the materials will be destroyed by shredding.

**Chapter IV:
Results**

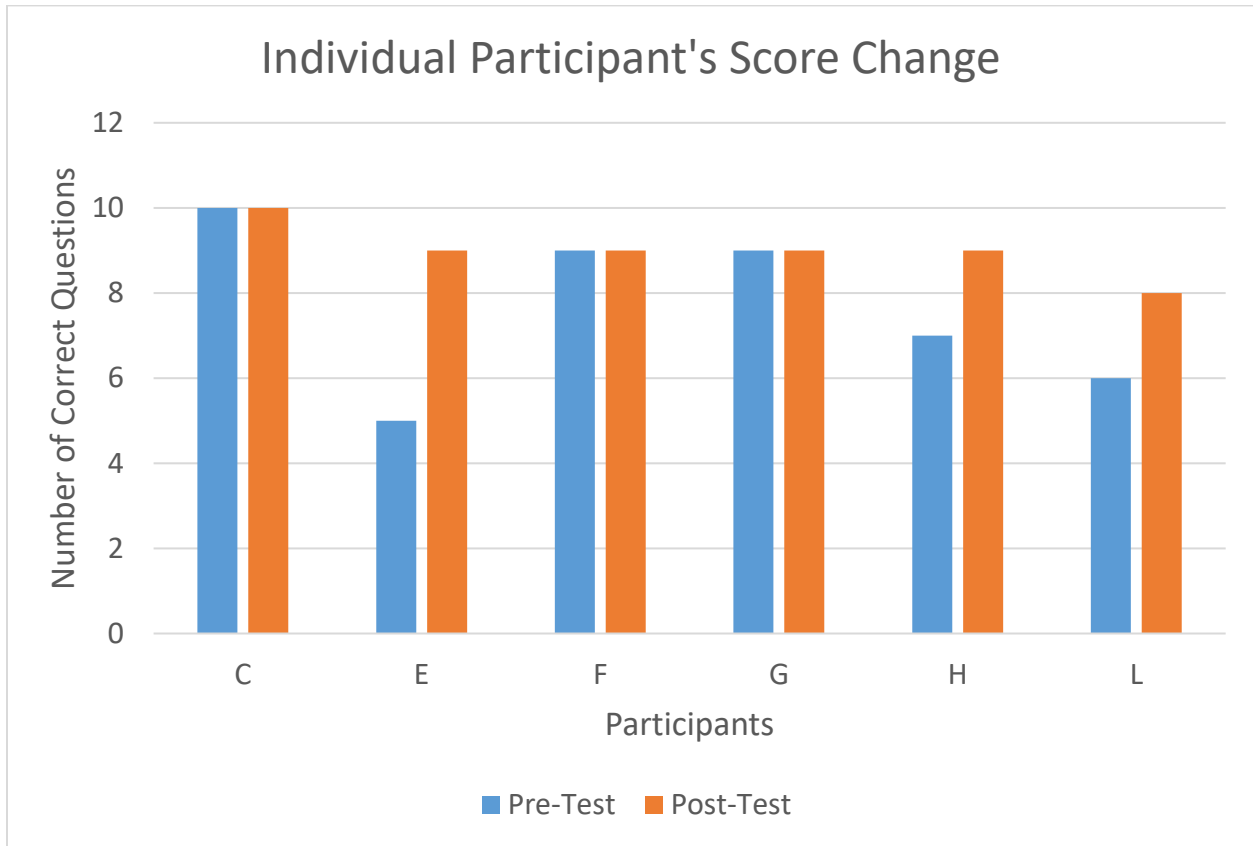
The intervention was held in January of 2017 at the Phoenixville VFKE, during a non-mandatory after school meeting for teachers and classroom assistants from both VFKE locations. There were nine attendees to the session and six eligible to participate in the study. The three attendees excluded from completing the pre and post-test were staff members who had previous knowledge of the research. Of the six eligible participants all were female, and all had a minimum of a Bachelor’s degree. Participants appeared to have an age range of 35 to 60 years.

All participants had the same or an increased score from the pre-test to the post-test. The mean score increased from 7.7 correct answers to 9, a positive change of 23.65% (see Table 1 and Figure 1 below). Participant E had the highest degree of change between the pre-test and post-test, improving by 80%. Participants C, F and G showed no change in score from the pre-test to the post-test.

Table 1
Individual Participant’s Pre and Post-Test Scores

Participant	Pre-test Score	Post-test Score	% Change
C	10	10	0
E	5	9	+80 %
F	9	9	0
G	9	9	0
H	7	9	+ 28.6 %
L	6	8	+33.3%
Mean	7.7	9	+23.65%

Figure 1
Individual Participant's Score Change



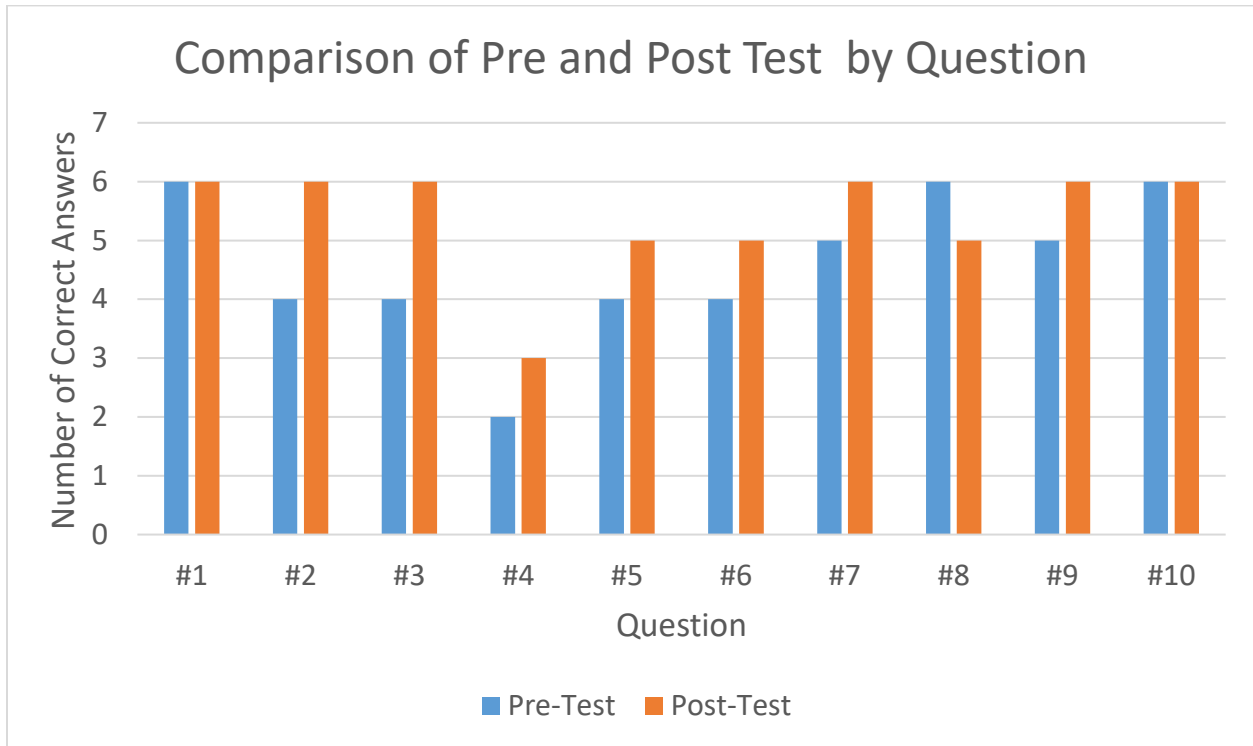
The pre-test and post-test were identical and made up of ten questions, six were multiple choice and four were true or false. Nine out of ten questions were answered the same or better on the post-test. Questions one and ten, which asked what an example of a good nutrition role model is and the topics of conversations during meal times in the classroom were answered correctly on the pre-test and post-test by all participants. Questions two and three, which focused on positive role modeling and disordered eating patterns, were answered correctly by four participants in the pre-test and then all participants in the post-test and of all questions showed the highest increase in correct answers from the pre-test to the post-test. Question four asked about the consequences of pressuring children to eat at home or school, two participants answered the questions correctly

on the pre-test and three answered it correctly on the post test. Questions seven and nine which asked about categorizing or restricting food items was answered correctly by five participants on the pre-test and then correctly by all participants on the post-test. Question eight asked about the consequences of making negative comments in front of children regarding food, all six participants answered correctly on the pre-test, but only five answered it correctly on the post test. Question eight was the only question that resulted in a negative percentage change between the pre-test and post-test. See Table 2 and Figure 2 for complete comparison of pre and post-test question results.

Table 2
Comparison of Pre and Post-Test Results by Question

Question	Pre-Test # Correct	Post-Test # Correct	% Change
1	6	6	0
2	4	6	+ 50 %
3	4	6	+50 %
4	2	3	+ 50%
5	4	5	+25%
6	4	5	+25%
7	5	6	+20%
8	6	5	- 20%
9	5	6	+20%
10	6	6	0

Figure 2
Comparison of Pre and Post-Test Results by Question



Chapter V

Discussion

Interpretation of Results

The results showed a positive outcome that supported the hypothesis that the mean test scores would improve after an education session on role modeling positive eating behaviors specifically tailored for the teachers and classroom assistants of VFKH. Mean test scores improved by 23.65% when the pre and post-test were compared, showing an increase in knowledge base. Of the six participants three had scores that did not change from the pre to post-test, however these three participants also scored the highest of all participants on the pre-test. On the pre-test two of these participants had a 90% score and one had a 100% score, showing an already strong knowledge base about role modeling and nutrition behaviors in children.

The assessment tool seems to have been successful with the exception of question number four. Only two participants chose the correct answer on the pre-test, and this increased to three on the post test. On both tests it was the question to receive the lowest number of correct responses. It is unclear if the flaw is in the wording of the question or if the material pertaining to it was not conveyed adequately in the education session.

Strengths and Limitations of the Study

A strength of the study was that attendance was not mandatory for the educational session, and it can be assumed that all participants were generally interested in the topic if they were attending on their personal time. Out of all staff members invited only two were unable to come because they continue to provide care in the after school program. The main limitation that does affect this study was small sample size eligible (six) to take part in intervention. This population was also relatively homogenous, all female with all participants having similar educational

backgrounds. The only other limitation of the study that is of note by was a large amount of “off topic” questions brought up throughout the presentation by participants which may have taken away from retention of the main lesson topic.

Suggestions for Future Research

Due to the fact that VFKH is a private institution which follows a specific curriculum set forth by the American Montessori Society it is unclear if the results could be replicated in other schools such a charter, public or private school. The researcher feels there could be a large increase in knowledge base in other institutions were educators have received little information on role modeling and nutrition. The researcher also feels it would be interesting to use the educational program for educators of other age groups like middle or senior high schools. Although children would benefit most from positive role models at an early age these behaviors still need to continue to be fostered and supported throughout adolescence. While this intervention successfully supported the hypothesis researching if the students of the teachers and classroom assistants benefit from it would be interesting, a project that may require various stages of testing.

Application of Results

Susan Kelly, Head of School of VFKH was particularly interested in the results of the study, as the topic of modeling all behaviors is an important part of the Montessori education experience. A goal that was hoped to be achieved was that the teachers and classroom assistants would be better prepared themselves to role model positive nutrition behavior, and also that they could then take this information to disseminate to the parents of their students. All of the participants said that parents often ask them about their children’s eating behaviors and ask for recommendations on best practices.

Like many professions the teachers and classroom assistants are required to obtain a specific amount of continuing education credits on an annual basis which is typically achieved through online lectures and conferences. Because of the success and little funding needed for this education session it would make an ideal webinar that could be used as continuing education for the teachers and classroom assistants. Using a platform like a webinar could make the education available to a large number of participants, and still require little funding to execute.

Comparing Finding with Literature

There is a very limited body of work focusing on teachers as positive nutrition role models, and research comparable to intervention was absent. The 2014 study by Natale et al. used a model that included parents and teachers, and showed that teachers, who reported they had poor nutrition related behaviors like making poor food choices, were more likely to have students that also did. This study however used multiple education sessions over a period of time on various topics and self-reported data of behavior changes, both of which the researchers conducting the study felt were limitations.

Summary

In conclusion, despite the limitation of sample size the intervention was successful as shown by a mean increase of score of 23.65 %. The participants have demonstrated that they were able to retain knowledge presented in the educational session, and appear willing to apply this new knowledge. Assessment tools may need adjustment prior to use in further studies. The researcher recommends this intervention be replicated on an expanded sample size and in various types of educational institutions to see if results can be replicated.

References

- Boulmier, P., (2014). Looking at How Children Succeed, through a Montessori Lens. *Montessori Life*, Spring, 42-45.
- Boyas, E., Bryan, L. D., & Lee, T. (2012). Conditions affecting the usefulness of pre- and post-tests for assessment purposes. *Assessment & Evaluation in Higher Education*, 37(4), 427-437. doi:10.1080/02602938.2010.538665
- Cullinane, D., & Novak, P. (2013). Parent's/Caregiver's Relationship and the Impact on Nutrition. *ICAN: Infant, Child, & Adolescent Nutrition*, 5(5), 311-314. doi:10.1177/1941406413496569
- Eliassen, E. K. (2011). The impact of teachers and families on young children's eating behaviors. *YC Young Children*, 66(2), 84.
- Ellis, J. M., Galloway, A. T., Webb, R. M., Martz, D. M., & Farrow, C. V. (2016). Recollections of pressure to eat during childhood, but not picky eating, predict young adult eating behavior. *Appetite*, 97, 58-63.
- Erinosho, T. O., Hales, D. P., McWilliams, C. P., Emunah, J., & Ward, D. S. (2012). Nutrition Policies at Child-Care Centers and Impact on Role Modeling of Healthy Eating Behaviors of Caregivers. *Journal of The Academy Of Nutrition And Dietetics*, 112(1), 119-124.
- Evans, C. E., Christian, M. S., Cleghorn, C. L., Greenwood, D. C., & Cade, J. E. (2012). Systematic review and meta-analysis of school-based interventions to improve daily fruit and vegetable intake in children aged 5 to 12 y. *American Journal of Clinical Nutrition*, 96(4), 889-901. doi:10.3945/ajcn.111.030270

- Gregory, J. E., Paxton, S. J., & Brozovic, A. M. (2010). Maternal feeding practices, child eating behaviour and body mass index in preschool-aged children: a prospective analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 55. doi:10.1186/1479-5868-7-55
- Harris, A. D., McGregor, J. C., Perencevich, E. N., Furuno, J. P., Zhu, J., Peterson, D. E., & Finkelstein, J. (2006). The use and interpretation of quasi-experimental studies in medical informatics. *Journal of the American Medical Informatics Association*, 13(1), 16-23.
- Lakshman, R., Elks, C. E., & Ong, K. K. (2012). Childhood Obesity. *Circulation*, 126(14), 1770-1779. doi:10.1161/circulationaha.111.047738
- Lillard, A. (2013). Playful learning and Montessori education. *American Journal of Play*, 5(2), 157-186.
- Michigan Department of Health and Human Services, (2011). Go! For Role Modeling. Retrieved (September 2016), from http://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2959_58773-261516--,00.html
- United States Department of Agriculture, (2011). Be a healthy role model for children. Retrieved (September 2016), from <https://www.choosemyplate.gov/ten-tips-be-a-healthy-role-model>
- Natale, R. A., Messiah, S. E., Asfour, L., Uhlhorn, S. B., Delamater, A., & Arheart, K. L. (2014). Role Modeling as an Early Childhood Obesity Prevention Strategy. *Journal of Developmental & Behavioral Pediatrics*, 35(6), 378-387. doi:10.1097/dbp.0000000000000074

Nicklaus, S., & Remy, E. (2013). Early Origins of Overeating: Tracking Between Early Food Habits and Later Eating Patterns. *Current Obesity Reports*, 2(2), 179-184.

doi:10.1007/s13679-013-0055-x

Perikkou, A., Kokkinou, E., Panagiotakos, D. B., & Yannakoulia, M. (2015). Teachers' Readiness to Implement Nutrition Education Programs: Beliefs, Attitudes, and Barriers. *Journal of Research in Childhood Education*, 29(2), 202-211.

doi:10.1080/02568543.2015.1009202

Salvy, S., Elmo, A., Nitecki, L. A., Kluczynski, M. A., & Roemmich, J. N. (2011). Influence of parents and friends on children's and adolescents' food intake and food selection. *The American Journal of Clinical Nutrition*, 93(1), 87-92.

Savage, J. S., Fisher, J. O., & Birch, L. L. (2007). Parental influence on eating behavior: conception to adolescence. *The Journal of Law, Medicine & Ethics*, 35(1), 22-34.

Scaglioni, S., Salvioni, M., & Galimberti, C. (2008). Influence of parental attitudes in the development of children eating behaviour. *British Journal of Nutrition*, 99(S1).

doi:10.1017/s0007114508892471

Wu, S., Cohen, D., Shi, Y., Pearson, M., & Sturm, R. (2011). Economic Analysis of Physical Activity Interventions. *American Journal of Preventive Medicine*, 40(2), 149-158.

doi:10.1016/j.amepre.2010.10.029

Appendix A
Recruitment Email

Teachers and Classroom Assistants,

Please join us at Valley Forge Kinder House Phoenixville Campus for a thesis presentation on:

Role Modeling Healthy Eating: An educational presentation on the importance of role modeling healthy eating behaviors and strategies on how to be a better role model for students.

Presented by: Tara Perry RD, LDN

When: Thursday, January 12th at 3:30 pm in Mrs. Kelly's office

Light refreshments will be served and all participants will receive a small thank you gift for participating.

Appendix B
Pre-Test Instrument

By checking this box I have read and understand the contents of the consent document.

Please circle the correct answers for the following questions

- 1) An example of being a good nutrition role model is
 - a. using food as a reward
 - b. avoiding certain food groups in front of students
 - c. not skipping meals
- 2) Children who have positive nutrition role models are more likely to
 - a. be overweight
 - b. be more willing to try new foods
 - c. get better grades
- 3) Disordered eating habits can include all of the following EXCEPT
 - a. eating 3 meals a day and several snacks
 - b. overeating at a meal
 - c. skipping breakfast
- 4) Children who feel pressured to eat at home or at school may exhibit all of the following EXCEPT
 - a. decreased interest in food
 - b. dislike of specific food items
 - c. increased interest in food
 - d. an inability to understand hunger cues
- 5) Positive nutrition role modeling correlates with
 - a. increased consumption at meal time
 - b. decreased food fussiness
 - c. frequent snacking
- 6) Obese children are more likely to have _____ than their peers
 - a. a larger range of accepted food items
 - b. low self esteem
 - c. an increased appetite
- 7) Categorizing food as “good” or “bad” will help children develop better eating habits

True

False

8) Making negative comments in front of children about a particular food item may lead to decreased acceptance of that food item, even if it is one the child already likes

True

False

9) By restricting particular food items some children may develop a preoccupation with them

True

False

10) Teacher or classroom assistant conversations with students during meal times should only be about food

True

False

Appendix C
Post-Test Instrument

Please circle the correct answers for the following questions

- 1) An example of being a good nutrition role model is
 - a. using food as a reward
 - b. avoiding certain food groups in front of students
 - c. not skipping meals
- 2) Children who have positive nutrition role models are more likely to
 - a. be overweight
 - b. be more willing to try new foods
 - c. get better grades
- 3) Disordered eating habits can include all of the following EXCEPT
 - a. eating 3 meals a day and several snacks
 - b. overeating at a meal
 - c. skipping breakfast
- 4) Children who feel pressured to eat at home or at school may exhibit all of the following EXCEPT
 - a. decreased interest in food
 - b. dislike of specific food items
 - c. increased interest in food
 - d. an inability to understand hunger cues
- 5) Positive nutrition role modeling correlates with
 - a. increased consumption at meal time
 - b. decreased food fussiness
 - c. frequent snacking
- 6) Obese children are more likely to have _____ than their peers
 - a. a larger range of accepted food items
 - b. low self esteem
 - c. an increased appetite
- 7) Categorizing food as “good” or “bad” will help children develop better eating habits

True

False

8) Making negative comments in front of children about a particular food item may lead to decreased acceptance of that food item, even if it is one the child already likes

True

False

9) By restricting particular food items some children may develop a preoccupation with them

True

False

10) Teacher or classroom assistant conversations with students during meal times should only be about food

True

False

Appendix D

Answers to the Test Instrument

- 1) An example of being a good nutrition role model is
 - a. using food as a reward
 - b. avoiding certain food groups in front of students
 - c. not skipping meals
- 2) Children who have positive nutrition role models are more likely to
 - a. be overweight
 - b. be more willing to try new foods
 - c. get better grades
- 3) Disordered eating habits can include all of the following EXCEPT
 - a. eating 3 meals a day and several snacks
 - b. overeating at a meal
 - c. skipping breakfast
- 4) Children who feel pressured to eat at home or at school may exhibit all of the following EXCEPT
 - a. decreased interest in food
 - b. dislike of specific food items
 - c. increased interest in food
 - d. an inability to understand hunger cues
- 5) Positive nutrition role modeling correlates with
 - a. increased consumption at meal time
 - b. decreased food fussiness
 - c. frequent snacking
- 6) Obese children are more likely to have _____ than their peers
 - a. a larger range of accepted food items
 - b. low self esteem
 - c. an increased appetite
- 7) Categorizing food as “good” or “bad” will help children develop better eating habits
True False

1) Making negative comments in front of children about a particular food item may lead to decreased acceptance of that food item, even if it is one the child already likes

True

False

2) By restricting particular food items some children may develop a preoccupation with them

True

False

3) Teacher or classroom assistant conversations with students during meal times should only be about food

True

False

Appendix E

USDA's "10 Tips: Be a Healthy Role Model"

10 tips
Nutrition
Education Series

be a healthy role model for children

10 tips for setting good examples



You are the most important influence on your child. You can do many things to help your children develop healthy eating habits for life. Offering a variety of foods helps children get the nutrients they need from every food group. They will also be more likely to try new foods and to like more foods. When children develop a taste for many types of foods, it's easier to plan family meals. Cook together, eat together, talk together, and make mealtime a family time!

1 show by example
Eat vegetables, fruits, and whole grains with meals or as snacks. Let your child see that you like to munch on raw vegetables.

2 go food shopping together
Grocery shopping can teach your child about food and nutrition. Discuss where vegetables, fruits, grains, dairy, and protein foods come from. Let your children make healthy choices.



3 get creative in the kitchen
Cut food into fun and easy shapes with cookie cutters. Name a food your child helps make. Serve "Janie's Salad" or "Jackie's Sweet Potatoes" for dinner. Encourage your child to invent new snacks. Make your own trail mixes from dry whole-grain, low-sugar cereal and dried fruit.

4 offer the same foods for everyone
Stop being a "short-order cook" by making different dishes to please children. It's easier to plan family meals when everyone eats the same foods.



5 reward with attention, not food
Show your love with hugs and kisses. Comfort with hugs and talks. Choose not to offer sweets as rewards. It lets your child think sweets or dessert foods are better than other foods. When meals are not eaten, kids do not need "extras"—such as candy or cookies—as replacement foods.

6 focus on each other at the table
Talk about fun and happy things at mealtime. Turn off the television. Take phone calls later. Try to make eating meals a stress-free time.



7 listen to your child
If your child says he or she is hungry, offer a small, healthy snack—even if it is not a scheduled time to eat. Offer choices. Ask "Which would you like for dinner: broccoli or cauliflower?" instead of "Do you want broccoli for dinner?"

8 limit screen time
Allow no more than 2 hours a day of screen time like TV and computer games. Get up and move during commercials to get some physical activity.

9 encourage physical activity
Make physical activity fun for the whole family. Involve your children in the planning. Walk, run, and play with your child—instead of sitting on the sidelines. Set an example by being physically active and using safety gear, like bike helmets.



10 be a good food role model
Try new foods yourself. Describe its taste, texture, and smell. Offer one new food at a time. Serve something your child likes along with the new food. Offer new foods at the beginning of a meal, when your child is very hungry. Avoid lecturing or forcing your child to eat.

Appendix F

Lesson Plan

Lesson Plan

I. Objective

Upon completion of the educational intervention “Role Modeling Healthy Eating” the participant through an increase in score of the post-test questionnaire versus the pre-test questionnaire should be able to:

- a. Demonstrate an understanding of the health and behavior benefits of positive role modeling for their students
- b. Demonstrate an understanding of the negative consequences that can occur when children lack adequate nutrition role models
- c. Identify negative behaviors that can occur when children are pressured to eat or have specific food restrictions

II. Content

- a. The benefits of being a positive nutrition role model.
- b. Negative consequences for children who lack role models.
- c. Describe tips to help achieve barriers to being a good role model.
- d. Discussion of two nutrition related scenarios and what improvements can be made in each to better the students involved in them.
- e. Describe further resources and how to get parents involved.

III. Materials

- a. Computer provided by researcher for PowerPoint presentation
- b. Projector and screen for PowerPoint presentation (provided by site)
- c. PowerPoint Presentation, stored on researcher’s lap top with a backup on a USB and in the Researcher’s email account
- d. Copies of pre-test instruments (light blue paper), post-test instruments (light green paper), and signed consent document
- e. Box of pens, self-seal envelopes
- f. Color copies of USDA’s handout “10 Tips: Be a Healthy Role Model for Children”
- g. Refreshments- assorted sliced fresh fruit, lemonade and water
- h. Small plates, cups, napkins and forks

I. Procedure

- The participants will be recruited via an email sent out by Mrs. Kelley that the researcher designed.
- The intervention will be held in the office of Mrs. Kelley which also serves as a meeting room.
- One all of the participants will in the office of Mrs. Kelley the researcher will distribute the consent document, read it out loud to the participants, and ask participants if they have questions. Participants will be told to keep the consent document, but to not write their names on it. The researcher will leave the room.
- The proctor Constance Volker RD, LDN will randomly distribute lettered self-seal white envelopes and pens to each of the participants. Participants will be instructed to not write their names on the envelopes or any materials inside them. Each lettered envelope will contain a copy of the light blue pre-test questionnaire and light green post-test questionnaire, also lettered to match the seal-seal manila envelope.
- The proctor will instruct participants to not speak during the pre-test questionnaire.
- The participants will be given 10 minutes to complete the pre-test questionnaire, and the proctor will ask participants to place them back into the white envelope but not to seal them. The proctor will invite the researcher back into the room.
- Upon returning to the room the researcher will invite participants to help themselves to refreshments.
- The participants will view a twenty minute long interactive PowerPoint presentation on the importance of modeling healthy eating habits to children, the detrimental issues that can arise if children do not have positive role models with regards to nutrition, and strategies on how to be a good nutrition role model for their students.
- The researcher will lead a discussion on two nutrition role modeling scenarios to help reinforce the lesson.

- The researcher will answer any questions participants have on the educational session.
- The researcher will leave the room. The proctor will instruct participants to remove the light green post-test questionnaire from the envelope.
- Participants will be given 10 minutes to complete the post-test questionnaire.
- The proctor will instruct the participants to place the light green post-questionnaire back into the envelope, which already contains the pre-questionnaire, and ask them to seal the envelopes. The proctor will collect the envelopes, place them into a box provided by the researcher and invite the researcher back into the room.
- The researcher will once again ask participants if they have any questions, thank the participants for their time and provide them with their incentive gift, a one cup-size reusable plastic container that has measurement marks.
- Participants will be dismissed.

I. Evaluation

- a. Pre and post testing

Role Modeling Healthy Eating

A THESIS PRESENTATION BY
TARA PERRY, MS, LDM
IMMACULATE UNIVERSITY



Points for Discussion

- The importance of being a positive nutrition role model
- Challenges of being a role model
- Steps and tips to become a better nutrition role model
- How to provide information to parents
- Review of literature and how to improve the outcome
- Additional resources



Importance of Being a Positive Role Model

- Teaches children healthy eating habits at a young age
- Improves eating habits at any age
- Reinforces healthy eating lessons taught in the classroom
- Encourages students to understand and enjoy healthy eating



When Children Lack Positive Role Models

- Increased risks for
 - Obesity
 - Disordered eating patterns
- Less likely to accept new foods
- Less interest in the pleasurable aspects of food



Children That are Exposed to Positive Role Models

- An increase sampling of new foods
- More decreased food "wastebins"
- Will go on to be a good role models for their peers



Am I a Good Role Model?

- Do students see me eating soft/drink foods?
- Do I help model?
- Do students see me drinking water instead of sugary beverages or coffee?
- Do I share my food choices? If so, how?
- Am I unhappy with my eating patterns? Do I express this in front of students?



What Makes a Good Role Model?

- Portion a positive meal time experience that has limited distractions
- Eating moderate portions
- Eating from all food groups
- Choosing healthier food and beverage options
- Demonstrating a positive attitude towards food



Challenges and Barriers

- Personal preferences
- Time constraints

Everyone struggles to be a positive role model 100% of the time
Use this as a teaching tool.



Tips for Teachers and Classroom Assistants

- Avoid characterizing foods as "good" or "bad"
- Try a new food in front of students, describe the food in detail
- When drinking coffee or non-water beverages use an opaque container
- Try to avoid talking about being weight or dieting



Meal Times

- Should be a positive experience
- Conversations can be about food or other pleasant activities
- Pressure to eat should be avoided



Disseminating Information

- Do you get questions from parents about nutrition?
- What do you do if you are unable to answer their questions?
- Annual nutrition related events
- Small changes or suggestions every week or month



Tips to pass onto parents

- Showing by example
- Use non-food rewards
- Offering the same foods for everyone
- Limiting screen time
- Focusing on each other at mealtime
- Limit food restriction



Scenario One

A teacher for a group of students ages six through nine are preparing for lunch together. The meal period is quite loud and chaotic, and many students are not eating their meals.

What are some strategies to improve meal time?



Scenario Two

A teacher is trying to diet. The teacher is often discussing with other staff members their diet and skipping meals.

What are some strategies to improve this situation?



Additional Resources

- ◆ Michigan Nutrition Standards
- ◆ Iowa Pledge of Fitness Council
- ◆ Nutrition Tools for Schools
- ◆ "50 Tips Nutrition Education Series" - Be a Healthy Role Model for Children



Appendix G

Ethics Certification of Constance Volker RD, LDN



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Connie Volker** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 05/22/2016.

Certification Number: 2080044.

Appendix H

Ethics Certificate for Tara Perry RD, LDN



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Tara Perry** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 10/22/2016.

Certification Number: 2215738.

Appendix I
Letters of Authorization



VALLEY FORGE
KINDER HOUSE
MONTESSORI SCHOOL

October 31, 2016

Dear members of the Immaculata University RTRB,

I, Susan Kelly, authorize Tara Perry RD, LDN to conduct a research study at Valley Forge Kinder House Montessori School. I understand that Ms. Perry is an Immaculata University student who is performing this research as part of the requirements of her Master's degree program.

I realize that the purpose of this study is to develop, implement, and evaluate an interactive lesson for the teachers and classroom assistants at Valley Forge Kinder House on the importance of positive role modeling for healthy eating and give them strategies on how to be positive role models for their students. The intent of this lesson is to lead to students developing healthier eating habits through modeling their teachers' behaviors.

In conducting this study, Ms. Perry will be asking the teachers and classroom assistants to complete a pre-test and then be presented with a 25 minute long educational lesson which will include a PowerPoint presentation and discussion and then complete a post-test. I understand that Ms. Perry will follow proper ethical procedures in conducting this study.

Kind regards,

A handwritten signature in cursive script that reads "Susan D. Kelly". The signature is written in dark ink and is positioned above the typed name and title.

Susan D. Kelly
Head of School

188 W. Ridge Pike · Limerick, PA 19468 | 865 S. Main Street · Phoenixville, PA 19460
O: 610.489.5757 F: 610.489.6050 E: office@vfk.org
www.vfk.org

**IMMACULATA UNIVERSITY RESEARCH ETHICS REVIEW BOARD
REQUEST FOR PROTOCOL REVIEW--REVIEWER'S COMMENTS FORM
(R1297)**

Name of Researcher: Tara Perry

Project Title: Education Program on Role Modeling Healthy Eating for Montessori School Teachers

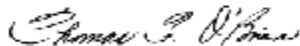
Reviewer's Comments

Your proposal is **Approved**. You may begin your research or collect your data.

PLEASE NOTE THAT THIS APPROVAL IS VALID FOR ONE YEAR (365 days) FROM DATE OF SIGNING.

Reviewer's Recommendations:

<input type="checkbox"/> Exempt	<input checked="" type="checkbox"/> Approved
<input type="checkbox"/> Expedited	<input type="checkbox"/> Conditionally Approve
<input type="checkbox"/> Full Review	<input type="checkbox"/> Do Not Approve



December 2, 2016

Thomas F. O'Brien, Ph.D., Ed.D.
Chair, Research Ethics Review Board

DATE

Appendix J
Consent Document



1145 King Road, Loyola #130, Immaculata, Pennsylvania 19345
COLLEGE OF GRADUATE STUDIES

Consent Document

I am currently engaged in a study on educating the teachers and classroom assistants at Valley Forge Kinder House on the importance of positive role modeling behaviors with regards to food and nutrition as part of my Master's Degree studies at Immaculata University. To help me gain further insights into this area I will ask you to fill out a ten minute long questionnaire before and after a 25 minute long presentation on Role Modeling Healthy Eating for Montessori Teachers.

The data you will provide will be recorded anonymously and your participation and anything you say during the session will be held in the strictest confidence.

I welcome questions about the study at any time. Your participation in this study is voluntary, and you may refuse to participate at any time without consequence or prejudice. Any questions you have about the research can be directed to me, Tara Perry RD, LDN, (610) 888-2145, tperry@mail.immaculata.edu or my advisor, Dr. Rena Quinton, (610) 647-4400 ext. 3444, rquinton@immaculata.edu.

Any questions about your rights as a research subject may be directed to Dr. Thomas O'Brien, Chair of Immaculata Research Ethics Review Board, (610) 647-4400 ext. 3210, tobrien@immaculata.edu.

Checking the checkbox and filling out the study questionnaire indicates that you have read and understand the contents of this consent document and that you agree to take part in this study. Checking the checkbox and filling out the questionnaire will not waive any of your legal rights.

Researcher's Signature

Date