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## Improving Pediatric Wellness: An Analysis of How Schools Can Help

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# Improving Pediatric Wellness: An Analysis of How Schools Can Help

Carrie Buchert

## HONORS PROJECT

Submitted to the University Honors Program  
at Bowling Green State University in partial  
fulfillment of the requirements for graduation with

## UNIVERSITY HONORS

29 April 2013

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Advisor

## **I. Abstract**

Childhood obesity is a growing concern due to limited physical activity and unhealthy diets. Low-cost, easy-to-implement solutions for encouraging students to make healthier choices in their nutrition and physical activity may result in life-long changes to their overall well-being. This project will assess the current programs in place for students and trends in their choices on nutrition and physical activity using responses from school personnel surveyed statewide. After collecting these initial data, a set of proposed, low-cost solutions for improving student wellness will be sent to the school personnel for further refinement. Finally, a comprehensive set of practical solutions will be distributed to the participating administration for consideration of implementation in their schools.

## **II. Introduction**

The concept of student wellness is multifaceted, including nutrition, physical activity, and mental health. Nutrition includes a well-balanced diet both in school and at home. This entails a diet low in sugars, fats, and processed foods<sup>5</sup>. Students must also be physically active. Schools and parents must ensure that the students get the correct amount of activity but also that they have a variety of activities to participate in to promote overall wellness<sup>10,14</sup>. The last aspect of student wellness is mental health. This issue is concerned with ensuring that students have a safe environment in which to grow and develop to their full potential. Adults need to support the children so that they develop a healthy self-esteem and to ensure they are not being bullied by classmates<sup>6,8,17</sup>.

There are a number of federal programs currently in place that are aimed at improving student wellness. Three of the major programs are National School Lunch Program (NSLP), the Robert Wood Johnson Foundation, and the Let's Move! Campaign<sup>1,4,12</sup>. These three programs and are not the only of their kind, but they are representative of those that are to be discussed in the interview process of the study. The NSLP is a federal assisted meal program sponsored by the United State Department of Agriculture. This program provides low-cost, or free, meals for students during the school day. These meals are nutritionally balanced and are based on the latest

*Dietary Guidelines for Americans*. Standards are set for specific calorie limits to ensure age-appropriate meals for various age groups and reductions in the sodium content of the meals<sup>12</sup>. In addition to the NLSP, the Robert Wood Johnson Foundation has initiated a number of different programs to support the health of school-aged children. This philanthropic group works with schools to adapt their current programs and launch new projects to further benefit their students. They help schools (and communities) improve food options by replacing unhealthy foods with healthy, fresh options. They also aim to increase physical activity by creating programs during the school day and after school to get their students moving<sup>1</sup>. The third program that is relevant to this effort is First Lady Obama's Let's Move! Campaign. This program helps schools set up more healthy food options, stressing that schools should grow their own fresh produce if possible. It also provides schools with guidelines on how to put on programs that allow students to be more active<sup>4</sup>.

Despite the efforts of these and other programs, rates of childhood obesity have remained unchanged or have become more severe. The term obese is defined as having a body mass index (BMI) at or above the 95<sup>th</sup> percentile for the population of children of the same age and sex as the subject (i.e. the 95<sup>th</sup> percentile of all female children that are 6 years of age)<sup>6,15</sup>. Using that definition as a basis, 1 out of 6 children are considered obese, which has nearly tripled since 1980. The more alarming fact is that the obesity epidemic is still growing. There has been a steady increase from 1999 in the prevalence of childhood obesity. In 1999, the prevalence was reported as 13.9%, 2001 was reported as 15.4%, 2003 was reported as 17.1%, and 2007 was reported as 16.9%. Even though there are gaps in the data, it is clear that the prevalence is increasing<sup>15</sup>. Not only are the numbers increasing, this epidemic is spreading to include all socioeconomic statuses and ethnicities<sup>8,9</sup>.

Being overweight or obese has been linked to many adverse health effects. The most common condition is hypertension<sup>5,6,8</sup>. Due to the increase of fat in the diet associated with obesity, overweight children are more likely to develop Type 2 diabetes and high cholesterol.<sup>17</sup> Other physical conditions that children may develop include, but are not limited to, respiratory problems, specifically asthma, and sleep apnea<sup>6</sup>. Being obese can also have an effect on the mental state of the individual. Those who are obese commonly experience depression, negative self-image and/or self-worth, anxiety, and social ineptness<sup>5,6,8,10</sup>. Students that are obese also

experience a decrease in academic performance compared to their peers who are of healthy weight<sup>6,17</sup>.

As with any large-scale program, current nation-wide health initiatives may be flawed in their ultimate execution. The discontinuity between the program efforts and student health trends are concerning, but the schools that implement these programs are not wholly responsible. Many of the programs, both federally and privately run, have limited funds to provide. Each school must complete a lengthy application in order to even be considered for the funds<sup>1,4,12</sup>. In addition, students are only in school for an average of six hours per week day, so they may be exposed to many unhealthy choices and find it difficult to establish healthy habits while at home.

The frequency of nation-wide school health initiatives coupled with the apparent trends in childhood obesity motivated a more in-depth assessment of current program execution schemes. The purpose of this investigation was to assess the current programs in schools intended to promote student wellness. In addition, trends relating to student choices on physical activity and nutrition were evaluated. Using those evaluations, the primary investigator established low-cost solutions for improving wellness program participation and adherence.

### **III. Materials and Methods**

Human subjects testing in this protocol was approved by the BGSU Human Subjects Review Board (HSRB). See Appendix A for HSRB proposal document and Appendix D for the letter of approval from the BGSU Human Subjects Review Board. Specifically, this study included personnel from school districts in the Northwest Region of Ohio. From each school district one administrator (either a superintendent or principal), one physical education teacher, one individual from nutrition services, and one health education teacher (if available, not all schools have a dedicated health teacher) was interviewed one-on-one.

Each school district was called directly to solicit their participation in this study. During this phone call, they were given a verbal explanation of the study and asked if the district would be willing to participate. With the district's permission, selected personnel within the schools were contacted. As school personnel were contacted, they were given an explanation of the study and were then provided with an informed consent document if they indicated interest in

participating. The script used to recruit participants can be viewed in Appendix C and the informed consent document is provided in Appendix B. Once the personnel completed the informed consent document, an interview was scheduled. These interviews consisted of a 30-60 minute session. During this session, each participant was asked the same set of questions and their responses were recorded for later transcription. The questions that were asked of the participants are provided in Appendix E.

Once all the interviews were conducted, the data were compiled. From the interview responses, a set of initial wellness solutions was developed. This initial set of solution was shared with all the participants via e-mail to solicit additional feedback on the prospective wellness program modifications. The responses from the subsequent e-mails were then compiled and used to refine the wellness solutions. Those solutions were a final set of low-cost, easy-to-implement programs for improving student access and adherence to more healthful nutrition and activity.

Six school districts from across Ohio were contacted to participate in the survey. From those six districts, five districts consented to their schools participating. Within those five consenting districts, eighteen schools were called and asked to participate. Of those eighteen schools, two schools agreed to set up interviews. However, there were only two school personnel that agreed to participate.

#### **IV. Results**

Due to the timing of the study, there was a lack of participation from the schools and individuals that were contacted. And because of this lack of participation, there was no tangible data collected. Despite the absence of data, there were a number of anticipated outcomes if the study had been completed successfully.

It is believed that the experimenters would have seen that a majority of schools have some sort of program already in place that is aimed at improving student wellness in terms of the food options that are available and the physical activity that students are able to participate in. However, we believe that discrepancies in the effectiveness of those programs would have

become apparent. The primary investigator believes that school personnel would have reported that even though these healthy options are available, students are not taking advantage of them.

One trend that may have become apparent is a lacking of funding available for implementation of healthy options. Across the nation, school districts are experiencing budget cuts and levies. This would limit the overall fund available for the schools. Once schools have limited funds, after-school programs are the first to be eliminated, which often includes club sports. Those sports that remain are then converted to a pay-to-play system. Often, physical education time is reduced or eliminated to cut costs as well. There also may be fewer healthy, fresh food options available because they are more costly for the school.

The principle investigator may have observed trends in nutrition as well. There may have been reports from the school personnel regarding a limited number of health options and that students do not take advantage of the healthy food options available to them. Healthy foods are often more expensive for the school and student alike to purchase, making unhealthy foods more enticing.

Trends in physical activity levels may have also appeared upon collecting the data. Much like nutrition, the primary investigator believes that students are not embracing the options that are available to them. If this were true, participants may have reported that students are inactive during PE or recess. Students also may be participating in PE class, but because of the curriculum or structure of the class, students may receive a limited amount of exercise during the class period. In addition, during unstructured times, such as recess, students may decide to sit and not participate in physically active games. The teachers that monitor the students may not push students to be physically active or into the active games during those times, decreasing the students' time that they are physically active.

## **V. Discussion**

Taking the anticipated results into account, there are a few proposed solutions that can be derived to attempt to improve student wellness. Those solutions are:

- 1) Schools can implement an incentive program to increase the amount that students exercise. Incentive programs would allow students to work towards a large prize or

multiple small prizes. This would give the students a reason to exercise. Long-term, incentive programs would allow students to develop exercise habits so that those habits continue once the incentives taper off. An example of an incentive program would be to give the students stickers for a half an hour of exercise. And if a student exercises for 20 hours, they could then receive a gift card to a local restaurant or the movies.

- 2) Nutritional service workers can change the placement of healthy and junk foods. If the junk food was placed at the end of the cafeteria line and the healthy options placed as the first options, students may be more inclined to select the healthy options. This would also extend to the placement of vending machines. If schools move the vending machines out of highly populated areas, students would be less inclined to seek them out and chose unhealthy snacks.
- 3) Schools could also make junk foods more expensive than the healthier options. One of the reasons that students chose unhealthy options is because they are cheaper than the healthy options. If the unhealthy options were priced to cost more than the healthy options, more students may be able to afford and may be inclined to choose the healthy foods.

The main issue with the study was the lack of participation and subsequent data. If the study was to be conducted again, there are several changes that could be made in order to increase the likelihood of successful recruitment. The main change would be when the study was begun. Even though teachers and administrators are busy year-round, they may have fewer commitments during the fall, which may make them more willing to participate. In addition to starting the interviews in the fall, contacting a larger number of schools may also have increased participation. If more schools were contacted to participate, there is a greater likelihood that you will find schools that are willing to partake in the interview process. Making the interviews shorter in length may also make individuals more likely to participate. Teachers and administrators are extremely busy as well, so an hour may be a lot of time to put aside for an



interview. If the interviews were, at most, half an hour in length, more school personnel might be willing to work with the investigators to find a time to participate in the interview.

Another option for conducting a successful study may be to restructure the study as a survey assessment. It may be beneficial to send out a simple survey to a large number of schools to gather data about trends and programs. And from those surveys, randomly select one of each type of school personnel to interview. During those interviews, the primary investigator would present the data that was collected from the surveys and ask the interviewees if they agree with the findings and what their reactions or thoughts are on the findings. Another structure that may work, but would give a more superficial understanding of the trends, would be to distribute a large number of simple, open-ended surveys and not conduct interviews at all. Using this method, the themes would still appear and be identified, but the reasoning and rationale behind those themes would not be well defined.

In spite of the unforeseen complications, there has been a lot gained from this study. It has become apparent that the real challenge is going to be working with the schools. The programs in the schools need to be assessed from the viewpoint of those personnel that see the trends of health options that students are choosing. It is also important to work with the schools to fine tune the implementation of these programs in order to have the greatest impact on student wellness.

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?? QUESTIONS ??

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FOR OFFICE USE ONLY

HSRB ID #

### HUMAN SUBJECTS REVIEW BOARD

Application for Approval of Research Involving Human Subjects – As of January 2012

**Please answer all applicable questions and provide the material identified.**

***Please complete electronically and use current form.***

- Applications judged to be incomplete, or vague will be returned to the Principal Investigator (PI) for revision.
- All boxes are expandable so be sure to include complete information.
- **SUBMISSION LEAD TIMES** – For Full Board projects – submit at least 2 months before your planned start of recruiting and data collection. For Expedited Review projects – submit at least 5 weeks before your planned start of recruiting and data collection.
- For projects reviewed via the expedited review process - You should receive notification of the results of the initial review of this application **15 – 21 business days** from the date of receipt of the application by the Office of Research Compliance.

#### 1a. General Information:

Name of applicant (Principal Investigator): Carrie Buchert

The Principal Investigator is (check one):

- ☐ Faculty      ☐ BGSU Staff      ☒ Undergraduate Student      ☐ Graduate Student
- ☐ Off-campus applicant (check this box if you are not affiliated with BGSU but propose to conduct research involving BGSU Faculty, Staff, or Students)

Department or Division: Exercise Science

Campus Phone: 513-382-2995

E-mail: cbucher@falcon.bgsu.edu

Fax:

Have You Completed BGSU Human Subjects Training?

- ☒ Yes (Office of Research Compliance will confirm training date)
- ☐ No (This application will not be reviewed. See HSRB website for training information.)

Title of the Proposed Research Project:

Improving Pediatric Wellness: Analysis of How Schools Can Help

Names of Other Students or Staff Associated with the Project (Student PIs note – Do not include your advisor for this research project here):

Have you requested, or do you plan to request, external support for this project?

- ☐ yes      ☒ no

If yes, external Funding Agency or Source:

(Note: If the funding source requires certification of IRB approval or if federal funding is requested, this application will go to the full Board for review)

**1b. If you are a BGSU student, please provide the following information:**

This research is for: ☐ Thesis ☐ Dissertation ☐ Class Project ☒ Other Honors Project

Advisor's Name (This is the advisor for this research project): Adam M. Fullenkamp, PhD

Department or Division: HMSLS Phone: 2-6929 Fax:      E-mail: fullena@bgsu.edu

Has Advisor Completed BGSU Human Subjects Training?

- ☒ Yes (Office of Research Compliance will confirm training date)  
☐ No (Please see **IMPORTANT NOTE**, page 1)

**II. Information on Projects Using Pre-existing Data**

(Skip to Section III if this project does **NOT** use pre-existing data. Pre-existing data includes retrospective medical chart reviews, public data sets, etc. Sometimes it is referred to as secondary data or archival data.) Some projects involving the use of pre-existing data may not require review by the HSRB. However – it is the HSRB's responsibility to make that determination – not the researcher's.

**NOTE:** If you are obtaining medically-related information from a "Covered Entity" (a health plan, health care clearinghouse or a health care provider who bills health insurers – e.g., hospitals, doctor's offices, dentists, the BGSU Student Health Service, the BGSU Speech and Hearing Clinic, the BGSU Psychological Services Center), the HIPAA Privacy Rule may apply.

- a. Name(s) of existing data set(s) [Include any ancillary data sets you might be linking the main data set(s) to]:

- b. Source(s) of existing data set(s):

- c. Please provide a brief description of the content of the data set(s):

- d. When you **obtain** the data, will the individual records be anonymous or will they have identifiers/codes attached?

☐ Anonymous (i.e., no identifiers or codes attached to any records in any of the listed data sets)

*If your project also involves direct data collection, please go to section III and complete the rest of the application. Otherwise, please go to and complete sections VII.a, VII.b, and IX.*

☐ Identifiers/codes attached (examples would include, but not be limited to, record numbers, subject numbers, case numbers, etc.)

- d.1** If the records have identifiers or codes attached, can you readily ascertain the identity of individuals to whom the data pertain (e.g., through use of a key that links identifiers with identities; linking to other files that allow individual identities to be discerned)?

☐ Yes, I can ascertain the identity of the individuals.

Please explain in the box below how you will protect the confidentiality of subjects. The Human Subjects Review Board is concerned about 2 dimensions of confidentiality: (1) that the researcher has legitimate access to the records, i.e., the records are not protected by any special confidentiality conditions, and (2) that the researcher will not reveal individual identities unless permission has been granted to do so.

Please continue with section II.e

- ☐ No, I cannot readily ascertain the identity of the individuals.

Please describe in the box below, the provisions in place that will not allow you to ascertain identities (e.g., key to decipher the code/identifier has been destroyed, agreement between researcher and key holder prohibiting the release of the key).

*(If your project also involves direct data collection, please go to section III and complete the rest of the application. Otherwise, please go to and complete sections IV (as appropriate), VIIa, VIIb, and IX.)*

- e. Are the data from a public data set? (A public data set is data available to any member of the public through a library, public archive or the Freedom of Information Act. Data obtained from private companies, hospital records, agency membership lists or similar sources are not usually public data)

☐ Yes

Are you requesting permission to conduct multiple research projects with these data?

☐ Yes ☐ No

*(If your project also involves direct data collection, please go to section III and complete the rest of the application. Otherwise, please go to and complete sections VII.a, VII.b and IX.)*

☐ No (if no, please answer the following questions)

- f. If you are obtaining access to non-public information, please explain in the box below how you will obtain access to the information (e.g., permission from the CEO, permission from the Board of Education). Note: a condition for approval will be written documentation of this permission – this can be an email from the relevant authority.

- g. Before the data were collected, did respondents give their permission for the information to be used for research purposes? ☐ Yes ☐ No

- h. Are you **recording** the data in a manner that will allow you to identify subjects, either directly or through identifiers linked to the subjects?

☐ Yes ☐ No

- i. If your project also involves direct data collection, please continue completing the rest of the application. Otherwise, please go to and complete sections IV (as appropriate), VII.a, VII.b, and IX.

## III. General Project Characteristics: Does the research involve any of the following? (If the response to any of the following is "yes," provide a justification and/or rationale in the box provided below)

- | Yes                                 | No                                  |  |
|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | a. Deception of subjects<br>(if "yes," this application will go to the full Board for review).   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | b. Shock or other forms of punishment<br>(if "yes", this application will go to the full Board for review).  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | c. Sexually explicit materials or questions  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | d. Handling of money or other valuable commodities   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | e. Extraction of blood or other bodily fluids  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | f. Questions about drug and/or alcohol use   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | g. Questions about sexual orientation, sexual experience, or sexual abuse  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | h. Purposeful creation of anxiety  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | i. Any procedure that might be viewed as an invasion of privacy  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | j. Physical exercise or stress   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | k. Administration of substances (food, drugs, etc.) to subjects  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | l. Any procedure that might place subjects at risk (e.g., disclosure of criminal activity).  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | m. Systematic selection or exclusion of any group. This includes the selection or exclusion of any group based on age, gender, race, ethnicity, etc. |

We will be working specifically with grade school and high school administration and staff to learn about the wellness options and habits of the respective student populations.

## IV. HIPAA: If you answer "Yes" to any of the following questions, your project is subject to HIPAA and you must complete the HIPAA Supplement (available online at [www.bgsu.edu/offices/orc/hsrb](http://www.bgsu.edu/offices/orc/hsrb)).

- | Yes                      | No                                  |  |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | a. Will health information (information relating to the past, present, or future physical or mental health or condition of an individual) be obtained from a covered entity (a health plan, health care clearinghouse or a health care provider who bills health insurers – e.g., hospitals, doctor's offices, dentists, the BGSU Student Health Service, the BGSU Speech and Hearing Clinic, the BGSU Psychological Services Center)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | b. Will the study involve the provision of health care in a covered entity?  |
- Yes      No  
☐      ☐
- b.2** (Complete this only if you answered "Yes" to IV.b – otherwise, skip this item).  
 If the study involves the provision of health care, will a health insurer or billing agency be contacted for billing or eligibility?

## V. Subject Information: (If the response to any of the following is "yes," the researcher should be sure to address any special needs of the potential subjects in the informed consent process. For example, if subjects are over the age of 65, then it may be appropriate to use a larger font in all correspondence with subjects to ensure readability.)

- | Yes                      | No                                  | Does the research involve subjects from any of the following categories?   |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | a. Under 18 years of age included in the target population<br>(If "yes" signed, active parental consent is required for those individuals who are under 18 unless a waiver is granted by the HSRB. If you are requesting a waiver of parental consent, this application will go to the full Board for review.) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | b. Over 65 years of age as the target population   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | c. Persons with a physical or mental disability as the target population<br>(If "yes" this application will go to the full Board for review.)  |

- ☐ ☒ d. Economically or educationally disadvantaged as the target population.
- ☐ ☒ e. Unable to provide their own legal informed consent  
(If "yes" and the subjects are not children, this application will go to the full Board for review).
- ☐ ☒ f. Pregnant females as the target population  
(If "yes" this application will go to the full Board for review).
- ☐ ☒ g. Victims of crimes or other traumatic experiences as the target population
- ☐ ☒ h. Individuals in institutions (e.g., prisons, nursing homes, halfway houses)  
(If "yes" this application will go to the full Board for review).

## VI. Risks and Benefits: (Note: the HSRB retains final authority for determining risk status of a project)

**Yes No Please answer the following questions about the research.**

- ☐ ☒ a. In your opinion, does the research involve more than minimal risk to subjects?  
("Minimal risk" means that "the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.") If the answer is "yes," explain in the box below and provide an explanation of the **benefits** of the research to the subjects and to society.)
- ☐ ☒ b. Are any **emergencies or adverse reactions** (physical, psychological, social, legal, or emotional) probable as a result of the research? (If "yes," then explain the measures to be taken in case of emergency in the box below.)
- ☐ ☒ c. Will participation in this research result in any appreciable negative change in the subject's emotional state? (If "yes," explain the nature of the change and the process for assisting subjects in the box provided.)

## VII. Project Description: (Please provide as much information as you feel will adequately answer the following questions.)

- a. What are you going to study? What is (are) the research question(s) to be answered / hypotheses to be tested?

The purpose of this project is to consult with local grade school and high school administration and staff to assess the current programs in place for student nutrition and activity during the school day. The project will also assess the trends and choices that school personnel see in the students related to nutrition and activity. Once these initial data are obtained, a set of proposed, low-cost solutions for improving student wellness will be communicated with the school personnel for further refinement. Finally, a comprehensive set of practical, low-cost solutions for improving student wellness will be delivered in the form of a presentation to the BGSU Honors Program. Essentially, the questions to be answered by this effort are, "Are there opportunities for improving student wellness through practical nutrition- and activity-specific school programs?" and "Can cost-effective and logistically feasible solutions be developed for manageable implementation at the grade school and high school levels?"

- b. Discuss the benefit(s) of this study. Why is this study important? (provide scholarly support) Include a discussion of benefits to individual participants as well as to society as a whole.  
**NOTE: Compensation or incentives (e.g., gift cards, research credit, extra credit, etc.) offered for participation are not considered to be benefits.**



Childhood obesity is growing at an alarming rate due to high sugar, high fat diets and limited physical activity. The development of low-cost, easy-to-implement solutions for encouraging students to make improved choices related to their nutrition and physical activity may result in life-long changes to their overall well-being.

- c. Are there any risks associated with this study? If so, explain how you will minimize the risks to subjects.

The greatest risk associated with this study would be a concern related to administrative retribution for health teachers, physical education teachers, and nutritional staff who speak frankly about whether their current nutrition and physical activity programs are effective. To minimize the risk of this, we plan to interview all school personnel independently and confidentially. The other potential concern would be for a school at-large to be identified based upon the feedback that they provide in this project. For this reason, the three schools proposed for this project will be given an arbitrary number as an identifier. No other information connecting the school to a particular region will be provided. For example, when we refer to comments made by a physical education teacher at a given school, we would simply report, "The School #1 PE teacher indicated..." Throughout the data collection process, we will do all that we can to keep school and personnel information confidential.

- d. Who will be your subjects?

We intend to interview one administrator (superintendent or principal), one physical education teacher, one health teacher (if available\*), and one individual from nutrition services from each of three school districts. \*some schools do not have a dedicated health teacher.

- e. List the maximum number of subjects you hope to enroll.  
(*Recruiting is not enrollment – you will likely recruit more individuals than will be enrolled in the project. Also, factor in the possibility of withdrawals, which may require enrolling of additional subjects in order to achieve your desired sample size. If, during the course of the project, you need to increase the number of subjects to be enrolled, you must request Board approval for the increase.*)

We foresee collecting data from a maximum of 12 school personnel.

- f. How will you recruit your subjects? Please describe the method(s) you will use to recruit (examples include via telephone, mailings, sign-up sheets, etc.). Please include recruitment letters, scripts, sign-up sheets as appropriate with the application.

We will be calling local schools directly to solicit their participation in this project.

- g. Describe the process you will use to seek informed consent from the subjects (Example – provide consent document to potential participants, allow them to read over the information, ask them if they have any questions, answer questions to their satisfaction, then request them to sign the consent document). (See IRBNet library for consent document skeleton.)

Prior to each persons participation in the study they will be given a verbal explanation of the study and then they will be asked to read and sign an approved Informed Consent document after all of their questions have been sufficiently answered.

Yes No  
☒ ☐

- g.1. Are you seeking consent/assent from all relevant parties?  
(If "No", explain why not in the box provided below)

Yes ☒ No ☐

**g.2.** Are you having your participants **physically sign hard copies** of consent/assent form(s)?

If "No," you are requesting a waiver of written consent. Please select one of the justifications below.

- ☐ That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality.
- ☐ That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

Please indicate how you will document consent in the box below.  
(For example, in an electronic survey, clicking the next button indicates consent to participate.)

- h.** If deception or emotional or physical stress is involved, subjects must be debriefed about the purposes, consequences, and benefits of the research and given information on procedures they can follow or resources that are available to them to help them handle the stress. Please include a copy of all debriefing materials, if applicable.

Debriefing form: ☐ Yes ☒ No

- i.** Explain in the box below the procedures you will follow to protect the confidentiality of your subjects. Include considerations associated with data and/or consent form collection and storage, and dissemination of results. Explain whether or not the study is anonymous. (Note: It is not always necessary to protect the confidentiality of your subjects, but they must be informed if you plan to quote them directly or reveal their identities in any way.)

All participating schools will be provided an arbitrary number (e.g. school #1, school #2, etc.) and the personnel within each school will be identified only by their job category (e.g. school #1 health teacher). To reduce the likelihood of personnel from within a school identifying one another, personnel will be interviewed independently. Finally, all interview data and materiel will be stored in a locked cabinet in the BGSU Biomechanics and Motor Behavior Lab which is directed by my project advisor, Dr. Adam Fullenkamp.

- j.** Describe what subjects will be asked to do or have done to them from the time they are first contacted about the study until their participation in the study ends. Note – a summary of this information should be included in information provided to the subjects as part of the consent process.

Each candidate school will be recruited through direct contact and approval will first be obtained from the appropriate administrator (either principal or superintendent). Next, with the school's permission, we will independently contact each of the selected personnel within the school (physical education teacher, health teacher, nutrition staff). As school personnel are contacted, we will explain the project to them and then provide them with an informed consent document if they indicate interest in participating in the project. We will then schedule independent appointments to meet with, and interview all consenting personnel for a 30-60 minute interview session. During each interview, participants will be asked the same set of questions and their responses will be recorded for later transcription.

Below is the bank of proposed interview questions to be asked of all participants:

**Nutritional Options/Availability:**

1. Have there been any programs or changes put in place in the past 5-10 years to improve the availability of healthy food options for students during lunch (or snack time)?
2. What measures, or programs, are currently in place to allow the students to have healthy food options?
3. Independent of the food options available to students, what are the trends in the foods that the students are actually selecting?
4. Are the students taking advantage of the healthy food options?
5. Is there a way we can encourage/incentivize students to pick the healthy food options?

**Physical Activity Options/Availability:**

1. Have there been any programs or changes put in place in the past 5-10 years to improve the availability, and options for, student participation in physical activity throughout the school day (to include, PE classes, recess time, and school sports)?
2. What measures, or programs, are currently in place to allow/encourage the students to engage in physical activity throughout the school day?
3. Independent of the physical activity options available to students, what are the trends in the physical activity choices (obviously, students are required to engage in PE class, but are they actually active during recess and are they choosing to engage in sports)?
4. Is there a way we can encourage/incentivize students to more actively engage in available physical activities (i.e. most likely doing more during recess and more involvement in sports)?

**Health Education:**

1. In regards to health classes, how much of the curriculum (if any) is devoted to nutrition?
2. Are all of the teachers, including non-health teachers, and staff actively encouraging the students to make healthy decisions?
3. How receptive do you believe the students are to hearing information about making healthy decisions?
4. Are there any policies that allow for continuity in health/wellness education in successive grades (ie. from freshman to sophomore, and up)?
5. If you could make any changes without having to worry about resources or logistics, what do you think would be the most effective method of getting students to make more healthy choices?

Following all of the interview sessions with each of the participating schools, the data will be compiled and a set of initial wellness solutions will be developed from the interview responses and information gathered from the current literature. This initial set of solutions will then be shared with all participants via email to solicit additional feedback on the prospective wellness programs. The responses from the subsequent emails will then be compiled to refine the wellness solutions and develop a final set of low-cost, easy-to-implement programs for improving student access and adherence to more healthful nutrition and activity.

By electronically signing this application packet in IRBNet, I certify that :

1. The information provided in this application is accurate and complete.
2. I have the ultimate responsibility for the protection of the rights and welfare of human subjects and adherence to any study-specific requirements imposed by the HSRB.
3. I will comply with all HSRB and BGSU policies and procedures, as well as with all applicable Federal, State and local laws and regulations regarding the protection of human subjects in research.
4. I agree to the following:
  - I accept responsibility for the scientific and ethical conduct of this research study
  - I will obtain HSRB approval before amending or altering the research protocol or implementing changes in the approved consent documents or recruitment procedures



BOWLING GREEN STATE UNIVERSITY

Exercise Science Program

School of Human Movement, Sport, and Leisure Studies

### **Informed Consent – Improving Pediatric Wellness: Analysis of How Schools Can Help**

Being 18 years of age or older and in good health, I consent to participate in this research project conducted by Ms. Carrie Buchert and Dr. Adam Fullenkamp in the Exercise Science Program, School of Human Movement, Sport, & Leisure Studies, Bowling Green State University. Participants may contact Carrie Buchert, undergraduate student, Exercise Science, School of Human Movement, Sport, & Leisure Studies, Bowling Green State University, 513-382-2995 ([cbucher@falcon.bgsu.edu](mailto:cbucher@falcon.bgsu.edu)) or Adam Fullenkamp, Ph.D., Assistant Professor, Exercise Science, School of Human Movement, Sport, & Leisure Studies, Bowling Green State University, 419-372-6929 ([fullena@bgsu.edu](mailto:fullena@bgsu.edu)).

The investigators have explained the following points to me:

- The purpose of this project is to consult with local grade school and high school administration and staff to assess the current programs in place for student nutrition and activity during the school day. The project will also assess the trends and choices that school personnel see in the students related to nutrition and activity. Once these initial data are obtained, a set of proposed, low-cost solutions for improving student wellness will be communicated with the school personnel for further refinement. Finally, a comprehensive set of practical, low-cost solutions for improving student wellness will be delivered in the form of a presentation to the BGSU Honors Program.
- The interview session will take approximately 30-60 minutes and will be conducted at a location convenient for myself and the experimenters (e.g. at my school or another mutually agreed upon location). I will first be provided an informed consent document to review and sign prior to the interview. After all of my questions and clarifications have been addressed by the investigators, and I have signed the informed consent document, the interview will begin. I have been informed that I will not directly benefit from this study.
- I will be asked a series of questions pertaining to the availability and trends in student choices related to healthy nutritional options and physical activity throughout the school day, and my answers will be digitally recorded with an audio device for later transcription into text. I understand that I am free to give my open and honest feedback for each question, or to choose not to answer a given question if I so decide.
- I understand that I will be contacted by email following the initial interview so that I may provide additional feedback, or suggestions, for the initial set of wellness solutions developed by the investigators. I understand that the e-mail containing my response to the proposed solutions may take 20-30 minutes to draft. I understand that it is also my right to not respond to the subsequent email request for feedback if I so choose.
- I have been informed that my participation is entirely voluntary and I may choose to stop at any time without any penalty. I may ask questions at any point prior to, during, or after the study.
- I understand that decision to participate (or not participate) will not impact any relationship that I may have with Bowling Green State University.
- I understand that participation in this study carries limited risk and that the investigators will attempt to minimize risks by concealing both my own identity and the identity of my school.

## Appendix B- Informed Consent Document

- I understand that participation in this study will not benefit me directly. However, I understand that the results of this effort may ultimately contribute to understanding the effectiveness of current school programs on nutrition and physical activity.
- I understand that all interview data and materials will be kept in a locked cabinet in the BGSU Biomechanics and Motor Behavior Lab where only the primary investigators have access. I may contact the Chair, Human Subjects Review Board, Bowling Green State University, 419-372-7716 (hsrb@bgnet.bgsu.edu), if problems or concerns arise during the study or if I have questions about my rights as a research participant.

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Participant Signature

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Date

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Participant Printed Name

*Please sign both copies & keep the one attached to the letter and return the separate one to the investigator.*

## Appendix C- Recruitment Script

My name is Carrie Buchert and I am an undergraduate student at Bowling Green State University. I would like to invite you to participate in my study analyzing the programs currently in place for student nutrition and physical activity during the school day. This study will assess the trends and choices that you, as a school personnel, see in the students, related to nutrition and activity. In the end, I will be developing low-cost, easy-to-implement solutions for encouraging students to make healthier choices related to nutrition and physical activity.

As a participant, you will be asked to partake in a 30-60 minute independent, interview. This interview will be a series of questions pertaining to the availability and trends in student choices related to nutrition and physical activity. In order to ensure confidentiality, the materials associated with the interview will be kept in a locked cabinet in the BGSU Biomechanics and Motor Behavior Lab, where only the primary investigators have access.

If you would like to participate and you do not have any questions currently, I would like to go ahead and set up a time for the interview at a location that is convenient and comfortable for you.

If you have questions later, please contact me at 513-382-2995 or e-mail me at [cbucher@falcon.bgsu.edu](mailto:cbucher@falcon.bgsu.edu). You may also direct questions and concerns to my advisor, Dr. Adam Fullenkamp, at 419-372-6929 or [fullena@bgsu.edu](mailto:fullena@bgsu.edu). Thanks so much for your time!



DATE: March 26, 2013

TO: Carrie Buchert  
FROM: Bowling Green State University Human Subjects Review Board

PROJECT TITLE: [426967-2] Improving Pediatric Wellness: Analysis of How Schools Can Help  
SUBMISSION TYPE: Revision

ACTION: APPROVED  
APPROVAL DATE: March 26, 2013  
EXPIRATION DATE: February 19, 2014  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Revision materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The final approved version of the consent document(s) is available as a published Board Document in the Review Details page. You must use the approved version of the consent document when obtaining consent from participants. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Comment: Assuming that the study is only being done at Perrysburg Jr. High, then the package is complete. If other schools are going to be participating, additional approval letters will be necessary.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

You have been approved to enroll 12 participants. If you wish to enroll additional participants you must seek approval from the HSRB.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on February 19, 2014. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or [hsrb@bgsu.edu](mailto:hsrb@bgsu.edu). Please include your project title and reference number in all correspondence regarding this project.

### **Nutritional Options/Availability**

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2. What measures, or programs, are currently in place to allow the students to have healthy food options?
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### **Health Education**

1. In regards to health classes, how much of the curriculum (if any) is devoted to nutrition?
2. Are all of the teachers, including non-health teachers, and staff actively encouraging the students to make healthy decisions?
3. How receptive do you believe the students are to hearing information about making healthy decisions?
4. Are there any policies that allow for continuity in health/wellness education in successive grades (ie. from freshman to sophomore, and up)?



## Appendix E- Survey Questions

5. If you could make any changes without having to worry about resources or logistics, what do you think would be the most effective method of getting students to make more healthy choices?