

HEALTHY PALS: BETTER NUTRITION, BETTER LIFE

by

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A Senior Honors Project Presented to the

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by

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**Abstract**

Through my experience with the Honors College at East Carolina University, I have been able to work on different projects such as sexual assault and food deserts. With the help of certain resources, such as Designing Your Life, I was able to find a project I thoroughly enjoyed that made an impact in the local community. Health is a main part of our day to day lives. In order to keep in good health, we must eat right. A team of current Honors College members and I designed a group known as “Healthy Pals” in which we provided education to elementary-aged children about the dangers of unhealthy eating and described alternative options to the junk food they eat. We measured our successes through pre- and post-tests as well as tracking their knowledge through fun and informative curriculum. We concluded that by doing this, the majority of the children grew knowledge but due to limitations, the study results were not considered significant.

*Keywords:* Honors College, Healthy Pals, nutrition, pivot

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**HONORS 2000***Designing Your Life*

In the summer of 2017, before my freshman year at East Carolina University, the Honors College had given us students a summer reading requirement. The book was titled, *Designing Your Life* by Bill Burnett and Dave Evans. Created at Stanford University, this book was written for an individual to gauge where they were at in life, where they wanted to be, and how they could get there. Through a series of activities and self-reflection, *Designing Your Life*, was the perfect read to start my undergraduate career (Burnett & Evans, 2016).

I was enrolled into Wayne Godwin's section of Honors 2000, where we met once a week. This semester was based largely on ideation. We developed our skills that we were taught in our summer reading to work on numerous scenarios. One of those was Mind Mapping. We were given a problem and were told to branch off ideas that could potentially lead to a solution. This Mind Mapping skill was a foreshadow to what we would be doing in the second half of the semester.

In order to continue with the class, we had to get certifications in two programs with CITI Training: 1) Human Research - Group 2.Social/Behavioral Research Investigators and Key Personnel and 2) Responsible Conduct of Research - Social and Behavioral Responsible Conduct of Research Course 1 (CITI Program, 2020). This was to give us an ethical background on how to go about working in a study and the main areas we should cover when presenting our research to a group of people. We were then split into teams to utilize the tools we had learned over the summer and during his class to research solutions to a problem in the Greenville, North Carolina community. This would then continue onto the latter part of the semester and further into our years within the Honors College.

*Presentations*

We were still in the same group as before, but were told to start creating a poster that would be presented to the rest of the Honors College, as well as faculty and staff, at the end of the semester. My group and I concluded that sexual assault would be the main focus of our poster, as it is a huge problem on campuses across the nation. Meeting once a week during class and once outside of class, we discovered staggering statistics on sexual assault. Over 9% of females and 2% of males experience some sort of sexual assault during their time at college. What is even more surprising is that “only 20% of female victims, age 18-24, report [assault] to law enforcement” (RAINN, 2017). This research raised our awareness of how serious this problem is and made us that much more invested in the project.

Our research also included interviewing 34 people - from Victim Affairs, police officers, RA's, and different students on campus - about any experiences they had observed or been victim to, as well as what they think should be done to prevent sexual assault from happening on college campuses. Their responses were confidential to anyone but the interviewer and interviewee, as the names were changed before being used in any data/research. At the end of the semester, the Honors College gathered in Gateway Sounds on campus and set up a poster session for other students, faculty, and staff to come by and listen to our pitch.

We were told to create a script that highlighted all of the key points and what our implementation would look like. My group and I proposed holding a Passport event each semester, emphasizing the “#MeToo” movement which gained popularity on social media in 2017, providing a platform for victims of sexual assault to share their stories (Me too. Movement, 2020). We also wanted to create handouts and magnets to be put on dorm refrigerators that contained all the hotlines and resources they needed on campus to make

students feel safe and secure. If we were able to allocate enough funding, we had the idea to bring a benefit concert to campus and donate any profit made to an organization in the community fighting sexual assault.

After the poster session concluded, the top posters moved into the ideation and implementation phase over the next classes. Our group's poster did not make the top, so we had to separate and find a new team.

### **Food Deserts - HONORS 3000**

For this semester, I moved into a group that was tackling the food desert issue around East Carolina University. Food deserts are known as “geographic areas where residents’ access to affordable, healthy food options... is restricted or nonexistent due to the absence of grocery stores within convenient traveling distance.” This typically means outside of a one mile range where public transportation is limited. Research has also shown that in these food deserts, fast food restaurants are abundant and easily accessible, pointing to the fact that poor nutrition is prevalent (Food Empowerment Project, 2020).

To implement our project, we discussed numerous ideas that could help out the food deserts in Pitt County. Our primary idea that we decided on was to establish either a flea market or produce stand in these areas. We wanted to allow low-income and low-access areas to receive free foods that were healthy and abundantly nutritious; we would also give them recipe cards for the ingredients handed out. Reaching out to grocery stores around Greenville was our next step, for example Harris Teeter, to sponsor our project and supply us with the food we needed. Before reaching out, we interviewed students and members of the Greenville community and realized there were numerous barriers we would not be able to overcome in our short amount of time at ECU, so we had to pivot.

In order to downsize our project, we wanted to partner with an existing organization. To start, we reached out to Campus Kitchen, but we ultimately decided they were not our best option for a partnership. One of our team members was heavily involved in Pirate Pals, an after-school mentorship program for elementary-aged children at Third Street Academy. After talking with Michael Denning, the coordinator for Pirate Pals, our project developed into educating the youth about healthy choices in food. Studies have shown that positive effects on adolescent's self-realization, behavior, and academic performance can be transformed during an after-school program, making our decision to work with them more concrete (Fredericks et. al, 2017).

Now that we knew Third Street Academy and Pirate Pals were where we wanted to implement our ideas, we had to figure out the specifics. These were solving the answers to many questions we had such as how to measure our success and how to create a curriculum that worked. We met with Patricia Anderson, who was a professor in the ECU College of Education, who shared her insight on success measurement. We were also given strategies to manage a classroom of children, which none of us had experience with. She pointed us in the direction of Dr. Melanie Duffrin, and we conducted a meeting with her as well. Dr. Duffrin is the co-author of an elementary school program, known as FoodMASTER. This curriculum involves activities that are used to teach students valuable skills with food (Duffrin, et. al, 2009). We took activities from the book and brainstormed how we could transform them into teaching nutrition.

Behind-the-scenes, we also started to think about how funding would be executed to supply the food and materials needed. This was done through presentations of our Business Model Canvas (Appendix B) during our Honors 3000 class time. Professors and students of the class would ask us questions and give us insight on what could be done to benefit our project.

Moving forward, we wanted to go to Third Street Academy and implement an engaging activity that educated the students on the differences between nutritional food, such as vegetables vs. fruits. We started working with Michael Denning to set up our curriculum into their schedule for the next semester.

### **Third Street Academy - HONORS 4500**

Honors 4500 was the beginning of the Senior Honors Project. We created our team name, “Healthy Pals,” and assigned roles to each member. I was named the Social Media Coordinator which encompassed creating a brand for our project and creating connections in the community. I established public accounts on social media where students, teachers, and potential partners could see our work efforts. Each post I made was relevant to nutrition in some way, either through recipes, motivational quotes, or advice on healthy eating. Any post about fundraising we were doing in the community, such as percentage nights, was also my job. Outside of social media, I hung posters around Gateway, the Honors College dorm, expressing what Healthy Pals was all about and where students would be able to contact us to get involved.

We met with Melanie Duffrin again to talk about her program and how the information could be presented correctly. After doing more research, we concluded that the Go, Slow, Whoa Program would be the best to utilize for our target age range. This is a way for children to learn what foods they can eat whenever, GO, foods they can eat less often, SLOW, and what foods should only be eaten on special occasions, WHOA. During this program, a healthy snack was also handed out to demonstrate how delicious nutrient-dense food could be. It was also said that having a visual activity would be the most effective for education (NIH, 2013).

To begin implementation at Third Street Academy, we first had to find funding. Our secretary at the time had some funding leftover from a project she did in her previous year, so we

were able to use that for the first two activities at the school. After this was gone, we had to come up with ideas where we could get money fast. We decided to do a percentage night, a type of fundraiser where a percentage of the profits for the night would be donated to us, at Fresh Vibes, a smoothie shop in town. From that, we got enough money to fund our project for the rest of the semester. We also started connecting with the Honors College to get funding for Honors 4550.

With the money earned at Fresh Vibes, we bought healthy snacks to bring with us each time we went to Third Street. Once we got to the school, we were able to play with the students during their recess time in order to get to know the group we would be working with. At first we just brought them snacks, like pretzels and bananas. After a couple of sessions, we brought them into the classroom to begin our work. One of our first activities was for the kids to differentiate between foods; we would have them stand in the middle of the classroom, hold up a fruit or vegetable, and then make them run to one side of the room that was indicated either for fruit or for vegetable. We measured our success on observations, noticing that they recognized an apple easily as a fruit, but were stuck on foods like tomatoes or kiwi. We told them how they would be able to tell a difference and the benefits that come with eating fruits and vegetables. The last time we went to Third Street Academy was right before Halloween. We played numerous classroom games such as Heads Up Seven Up and Four Corners in an attempt to get their energy expended before we began. During our activity, we would ask them trivia questions about healthy food, and if a student got it correct, they would receive a Halloween prize (spider rings, toys, etc.).

Once our semester of work was completed, we reevaluated the progress made. Although Third Street Academy was a good start, we wanted to move to another organization in the community. The reasoning for this was that we only presented during their after-school program, so consistent attendance was an issue and the students only wanted to play; they were not

engaged in what we were educating them about. Speaking with other members of the Honors College, we found out that the Boys & Girls Club were looking for volunteers to start a program in some of the clubs in Pitt County. The vision at these clubs were to “provide a world-class Club Experience that assures success.. with all members on track to graduate from high school with a plan for the future, demonstrating good character and citizenship, and living a healthy lifestyle” (Boys & Girls Club of America, 2020a). We contacted Julie Carey, the Vice President of Program Initiatives, to explain how our program would fit with their vision of healthy lifestyles, and waited for her response over the summer.

### **Boys and Girls Club - HONORS 4550**

This semester was solely based on preparing us to move our curriculum into the Boys and Girls Club. Julie Carey reached back out and got us in contact with Shonda Morris, the supervisor at the Grady-White Facility in Pitt County. They were ecstatic for us to come and teach their students about nutrition. While we were creating a specific curriculum based on their guidelines, they had us volunteer to run their Healthy Habits program, which had two more months left. This program was created in conjunction with the Coca-Cola Company and educated students on nutrition, as well as having them participate in activities that helped “assess, practice, identify, consider, and recognize health behaviors and messages” (Boys & Girls Club of America, 2020b). By doing this, we also had the opportunity to have met some of the students that participated in our study.

Being the Social Media Coordinator, I continued to post on our social media pages. Although there were no pictures being taken, I talked with the lower classes of Honors College in an attempt to recruit them into our project so it would continue on after we graduated. I also

attended three Honors 3000 classes, where I asked the students questions about their Business Model Canvases and gave advice from my experience how to better implement their projects.

During this time, we started to fill out the application to get approval by the Institutional Review Board, IRB, to start in the Fall of 2019. We used our literature review and resources such as FoodMASTERS and Go, Slow, Whoa to back up what we were planning to do. We had to go back in a few times and correct information and create forms that would supplement our research, but finally got approval by the end of the semester.

The Honors Signature Project required two presentation sessions. I was in charge of creating the poster we would use in our session and to research different places we could present. I was able to get us invited to two sessions at ECU's Research and Creative Achievement Week (RCAW). This was in the first week of April, where we conducted a poster session as well as an oral presentation of our project. We talked about what we had done up to this point and what we were planning on doing in our implementation phase.

### **Implementation**

Our study was a continuation of the classes required from the Honors College to take. Only four out of our original team stayed - Morgan Agner, Sydney Johnson, Sydney Johnson, and myself. To implement our research, we reached out to Shonda Morris once again, and found a time for us to come in each week and teach a group of students during their after-school free time at Grady-White. This implementation lasted eight weeks.

### *Procedure*

Before we started, we had to obtain funding for the supplies we needed. Morgan Agner contacted the Honors College and received funding by reimbursement - we would buy everything, save the receipts, and they would give us the money back at the end of our project.

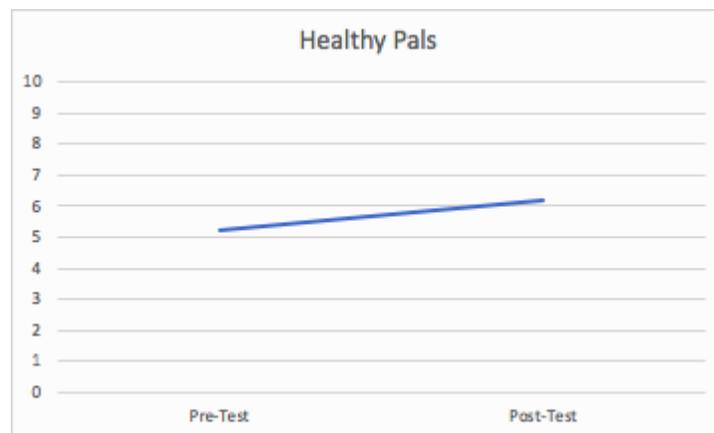
We also needed the participant's consent. A few of us traveled to the Boys and Girls Club Grady-White facility, where the research would be conducted, and gave a verbal presentation to those that Shonda Morris had said were interested. Since they were minors, we sent consent forms home with them for their parents to sign and return on the first day we began our program. These forms allowed for the children to be a part of the study, as well as giving us permission to take their pictures. Shonda Morris gave us any potential food allergies in the group of thirteen participants who had consented.

The first week of the study was used to introduce ourselves and give the participants a pretest. The pretest consisted of a list of foods that could be labeled into categories: Go, Slow, or Whoa. It was the participant's job to label which foods went where based on their previous knowledge of healthy foods. The next six weeks were used for our education. We created games and activities based on the FoodMASTERS curriculum. Examples of activities were: 1) blindfolding the participant's and allowing them to try chocolate, strawberry, and vanilla frozen yogurt and compare it to ice cream; they were told to rank which was the best 2) creating their own trail mix with healthy ingredients - blue agave instead of honey, coconut flakes instead of unhealthy alternatives for sweeteners, organic granola, etc. 3) teaching them the difference between unhealthy fruit vs. healthy fruit and allowing them to make a face on their plate. We would bring prizes to them each day as an incentive to get them to come back; attendance was taken at each session. The last day of our study was to give them a post-test, which was the same as the pretest to see if they had learned anything throughout our implementation. We also measured success by observing how attentive the participants were and if they asked any questions.

Our group met one last time after our research study to complete the IRB and send it into the database. We also talked about what could have been done differently and what worked really well. This was then put into a document to give to those in Honors 2000 and 3000 for help with their future projects.

### *Project Results*

We hypothesized for this experiment that if an interactive educational intervention is implemented among young students on topics of healthy eating that they will show improvement from pretest to post-test. This will then prove that the students have learned beneficial information in nutrition to apply to their future lifestyle. Although thirteen consented to being a part of the study, only six had completed the pretest and post-test; all of the other participant's data were discarded. We assigned each of the six participants a number to keep confidentiality while we analyzed the data. The average pretest score for all six was 5.2 out of the possible 12 points they could get. Following the Healthy Pals program, data showed that the average was raised a point to 6.2 out of 12 (see below).



Out of the six participants, four had improved on their score - one even got a perfect score during the post-test. Participant 5 maintained the same score as the pretest, and Participant 6 decreased in their score. Observations were also made during the instructional time. Three of

the four participants that had improved their score attended half or more of the classes.

Participant 6 was present for four class days, however, was not taking part in the activities and their attention was elsewhere (Appendix B). We were unable to get statistically significant data during this research study. We inputted all of this data into the E-Pirate link, where our IRB was kept, in order to get it approved by East Carolina University. This was approved January 9, 2020.

### *Limitations*

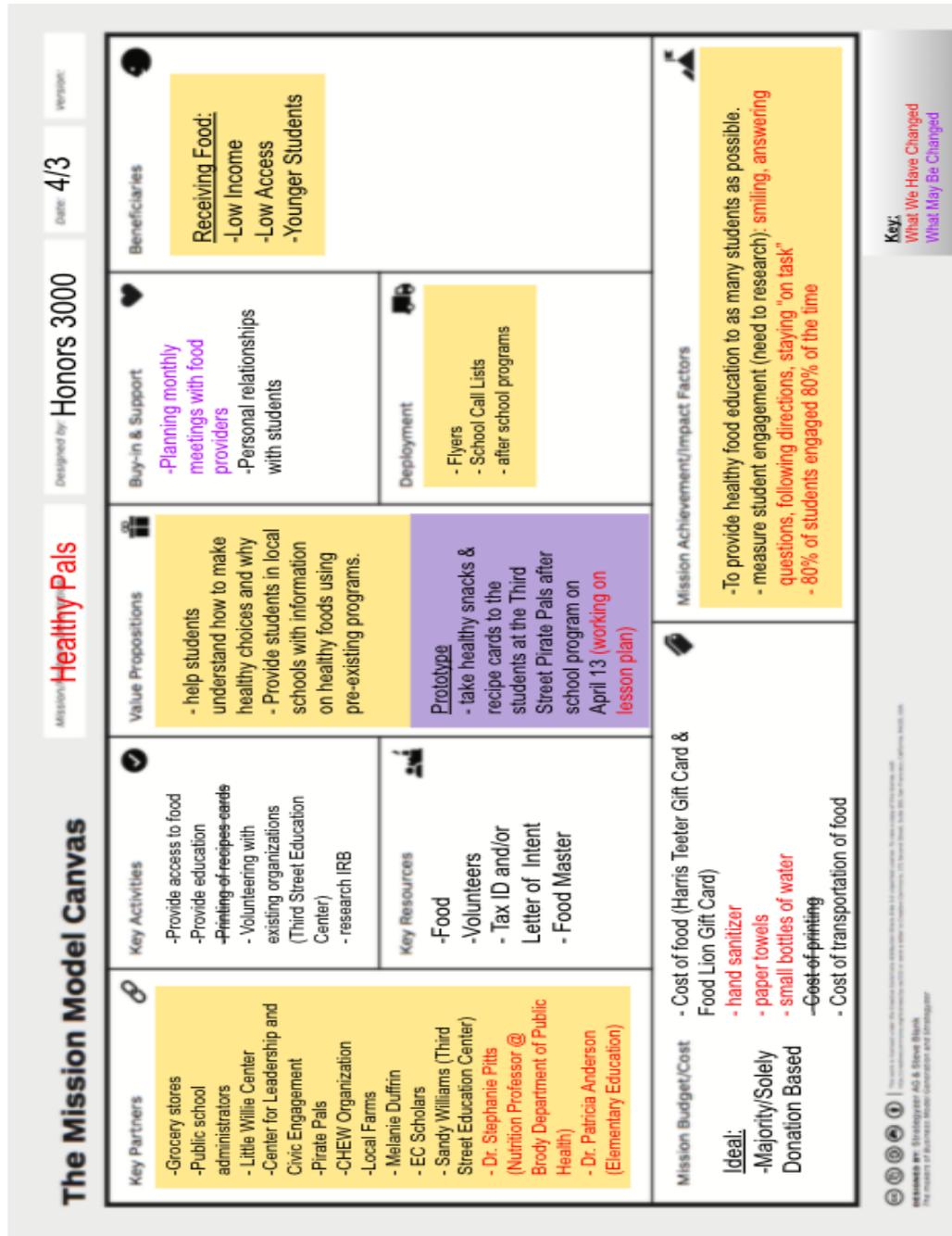
Within our study at the Boys and Girls Club, we had a few limitations. Although this was a more structured after-school program compared to Third Street Academy, the participants were still full of energy and wanted to play rather than be taught. It was also hard to have consistent attendance at every session due to the fact that the participant's parents picked them up early on some days. This could have had a negative effect on learning the material given. We went into the study believing that we would have more than twenty participants, but our data could only be represented by six. Our results show that because of low numbers, the research was not statistically significant.

Over my four years within the Honors College, some obstacles within groups have created setbacks to our implementation process. My group in 3000 and 4000 all had different ideas/opinions on how we should do things. This caused conflicts between some of the members that had to be addressed and fixed before we could continue. In my Honors 4500 group, our President had left the country to go study abroad. This meant that we had a new President in 4550 who did not cooperate with everyone and did not know exactly what was going on. After 4550, we had five members drop out of our study which we had already committed to the Boys and Girls Club on doing, so four of us stayed behind to complete the entirety of the project. This caused issues since we had to delegate more tasks to fewer people. In the future, more research

should be done and a more concrete plan should be developed so that pivots in our ideas could happen less frequently. A place for our study should also be found that will allow more consistent attendance and engagement from participants.

Appendix A

An example of the Business Model Canvas presented during Honors 3000.



## Appendix B

**Study ID:**UMCIRB 18-002485

**Study name:** Healthy Pals

**Link:** [https://epirate.ecu.edu/App/sd/ResourceAdministration/Project/ProjectEditor?Project=com.webridge.entity.Entity\[OID\[9E9AEEEE65EC1F54E9DCAAA1569EC9F9D\]\]&Mode=smartform&WizardPageOID=com.webridge.entity.Entity\[OID\[2EBD0F3E0E10634B9341D881D2FAB3D2\]\]](https://epirate.ecu.edu/App/sd/ResourceAdministration/Project/ProjectEditor?Project=com.webridge.entity.Entity[OID[9E9AEEEE65EC1F54E9DCAAA1569EC9F9D]]&Mode=smartform&WizardPageOID=com.webridge.entity.Entity[OID[2EBD0F3E0E10634B9341D881D2FAB3D2]])

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