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| **Client:** | Yifei Zhao | **File:** 24-090 |
| **Dept:** | Nursing | **Faculty:**  **Student:** |
| **Date:** | 9/25/24 | **Initial Meeting:**  **Follow-up:** |
| **Consultant and Attendees:** Yifei Zhao, Sumeeth Guda, Dr. Chong Gu, Dr. Qinglan Ding | | |
| **Statement of Problem:**  To determine if an interactive online educational program in cardiovascular health helps improve the dietary habits of adults in the 20–39-year age group. | | |
| **Goal of this Project:** DNP Project | | |
| **Background:**  The client is a DNP student in the nursing department who is investigating the awareness of heart health with respect to dietary habits in young adults in the 20–39-year age group. Since there is a rise in sedentary lifestyle within this age group, cardiovascular health is significantly influenced by elevated cholesterol levels and poor dietary habits. The client is developing an online educational program to inform 20-39-year-olds about the risks of poor cardiac health and the benefits of good dietary habits on cardiac health. All with the goal of reducing their risk of cardiovascular diseases and improving the eating habits of the participants.  The client is in the early stages of their study design; hence they decided to come to the SCS to get help with their study design and data collection procedures, determining the ideal sample size for their study, and to develop the analysis techniques for the study. | | |
| **Progress of project at this time:** Design (No Data Collected) | | |
| **Relevant information presented at meeting:**  The client wants to create an interactive website-based intervention program focusing on the dietary aspects of cardio health to guide adults aged 20-39 to develop better habits to minimize their risk for cardiovascular disease. Specifically, they are interested in assessing the effectiveness of their intervention program through pre and post testing on the eating habits of the participants. The assessment the client will use is based on the Mayo Clinic's mini-EAT test (Eating Assessment Tool). This test is a 9-item survey, which computes how healthy the participant’s eating habits are based on the quality and quantity of food they eat. The result of this test is a numerical score from 0-90 where a higher score indicates better eating habits. The client mentioned their design plan as the following:   1. Have the participants take the mini-EAT test. 2. Allow the participants to enroll in the educational program once they complete the initial survey. 3. After waiting a brief period, the participants fill out the mini-EAT test again.   The client will be recruiting participants from the Purdue, West Lafayette, and Lafayette area. An important fact the client brought up was that she won’t be drawing blood from the participants before and after and that all the participant data will be generated from the survey. Since she wants to do clustering on the dataset based on the responses to the quiz, she is considering adding her own qualitative questions to allow for the clustering to be done instead of only analyzing the single score generated from the mini-EAT tests.  Dr. Gu had some concerns about the logistics of the delivery of the tests. One such concern was regarding the survey deadline for taking the survey and she gives participants the right amount of flexibility to take the survey. This is important because making sure her participants fill out the post survey around the same time is important for assessing the effectiveness of her program with the lessons still fresh in their minds. Additionally, another concern was regarding the integrity of the data within the survey. Some of the participants won't answer the pre or post survey honestly, as well as it is really hard to change personal habits in a 2–3-week period.  The client briefly talked about the educational program, and how it will talk about risk factors for the diet. The primary goal is to inform the participants on the dietary choices they make and the long-term risks on cardiovascular health. The client is fully aware that the educational factor likely won’t change the habits too significantly, but rather, she is interested in showing that given awareness of the risks this changes the participant’s eating habits.  Yifei said that she has a tight time span to recruit the participants in the Spring semester (04/25 or 05/25). Dr. Gu stressed to Yifei that with her study, she needs to send reminders based on when the participants filled the pre survey. She needs to ensure the space between the pre, and post survey isn't too long. One of the things the client needs to do is to determine how much time the participants are allowed to have to fill out the post survey. (3-4 weeks is the ideal time to fill out the post survey after the education program).  Regarding how Yifei will evaluate the effectiveness of the educational program, Sumeeth asked her if she will give periodic tests to the participants to track how much of the knowledge they retained from the lessons. Yifei mentioned that she did not include any assessments on her website, however she agreed that she should include the assessments in her educational program. | | |
| **Recommendations for Design:**  This project is starting from the very start. Ultimately with respect to the recommendations they were more based on the logistics component as well as to get IRB approval for her project.   1. The first recommendation to Yifei was to lock down the timing of her design. She was recommended to send the post mini-EAT to the participants 3-4 weeks after they finished the educational program. The timing component is important because she wouldn’t want too long of a gap between when they took the pre assessment and the post assessment. 2. One of the major concerns Yifei had so far was regarding how big her sample size should be, as well as what she should do for her analysis. Dr. Gu brought up the fact that she needs to know effect size, noise magnitude (fine with single physical measures). Additionally, we don’t know the variability of the survey. For effect size look at prior studies and be aware the behavior of one cohort will behave different than another cohort. 3. To determine the ideal sample size, it is tricky to gauge this. One of the recommendations Sumeeth told Yifei was that having a larger participant pool was better compared to a smaller one. But for the IRB form she should input a size of 300 to satisfy the requirements and aim for around 150 or so participants for her study. As Dr. Gu mentioned, with surveys it’s important that the samples be representative, and if Yifei only obtains Purdue student data, then she'd need to restrict the study scope to Purdue students. With respect to the sample size, larger size is better, and we aren't looking at multivariate covariates. If the signal is strong in small sample size the trends will be significant. 4. Dr. Gu recommended towards the end of the meeting that Yifei check with the Mayo clinic to make sure it is acceptable to use some of the questions from the mini-EAT survey for her own version of this survey. If they give the approval, she needs to label which questions belonged to the Mayo clinic and which ones were her own. 5. Sumeeth recommended she add mini assessments in her educational program to track the information retention from the participants. | | |
| **Who will carry out these actions?**  Client:   * Get permission from the Mayo Clinic to use the questions from the mini-EAT assessment for the study. * Determine the wait times for the study with regards to administering the post study survey. * Design a series of mini assessments about the lessons in the study to track information assessment. * Decide on the sample size for both the IRB application as well as the effect size for the study.   Consultant:   * Check in with the client to make sure she is following the recommendations from the meeting. | | |
| **Status:** Follow up meetings necessary | | |

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