Literature Example Speaking Notes

Okay, so now to get into a literature example of utilizing qualitative methodologies, we are going to look at this paper “A Focus Group Study Among Inactive Adults Regarding the Perceptions of a Theory-Based Physical Activity App”

First, I wanted to briefly mention some abbreviations that will be popping up throughout the study. Physical health will be mentioned as PA, electronic and mobile health will be mentioned as eHealth and mHealth respectively. And Lastly, behaviour change techniques will be referred to as BCTs.

**What they knew:**

So, let’s start off with what they knew going into the study. This study was published in 2021, but was done prior to 2020. At the time, it was clear that physical inactivity has been, and still is, growing and has an extremely negative impact on populations. Even after the World Health Organization set a goal to reduce inactivity, It was determined that 42.3% of individuals in high-income western countries still don’t meet the recommended amounts of physical activity.

This study was done in the Netherlands, so looking more closely at that population, only 49% of Dutchg adults met Dutch PA guidelines. Which are, 150-min of moderately intensice exercise a week with strength exercises 2x per week.

It is also known that adults and the elderly perform the worst in meeting PA guidelines in general.

So, the combination of both bad diets and physical inactivity is a major risk factor in numerous non-transmissible diseases such as cancer and cardiovascular diseases (even type 2 diabetes). Official groups such as governments and WHO have expressed the need for interventions that have a real effect on adults meeting PA guidelines.

Some of the interventions that have been created include eHealth and mHealth technologies. These have been so popular due to its cost-effective nature, its ability to reach large populations, and the fact that they are so personalizable.

However, the long-term effects and continuation of app use was not well studied. It was known that most user engagement declines within weeks of starting. But they wanted to know what functionalities were effective or not in keeping engagement up.

They thought that integrating BCTs would be helpful. These are elements which try to influence behaviour such as rewards and feedback.

* Previous scoping review done to assess the 6 most promising persuasive strategies to increase PA in mobile exercise interventions
* \*\*say each of them\*\*
* Its still unclear as to what characteristics of these strategies, as well as how they should be implemented, in a way that would increase user engagement time

**What they wanted to know:**

* Wanted to include end users in the design of the app to positively affect usability…
* They wanted to gain insight in the needs, wishes, and preferences regarding the practical operationalization of persuasive strategies in apps aimed at promoting PA in healthy inactive adults.

**PAUL project**

* For a little more background on the paper, this study was done as part of the PAUL project
* \*\*explain paul project\*\*
* There are 3 pillars to the project
  + First is data-driven research where data from existing exercise apps were analyzed to identify which situations were associated with behaviour of infrequent app users
  + Second is promising BCTs which I mentioned the 6 of them earlier
  + And lastly, user involvement which is where this study comes into play as they are wanting to utilize end user in the production process of the app

**Purposeful sampling:**

* This study used purposeful sampling, which as Shayna mentioned earlier, involves identifying a population based on already established sampling criteria.
* In terms of recruitment, they invited urban residents living around parks in Amsterdam, recruited people from community centers around Amsterdam, and also recruited people through facebook.

**Inclusion/Exclusion criteria (sampling):**

They used the following as inclusion criteria for participants:

1. in possession of a smartphone
2. native Dutch speaker
3. self-indicated ableness to exercise (walking and running)
4. not meeting the Dutch exercise guidelines of 150 min a week moderate intense exercise and two times strength exercises
5. being in the contemplation or preparation phase according to the transtheoretical model of behaviour change (how was that determined?)

**Methods they used:**

* In terms of methods, they used primarily focus groups and interview methods.
* There were 5 semistructured focus groups all comprised of 5-8 individuals. Their reasoning for this was to allow for good discussion but to still have everyone be able to share their thoughts. They also wanted to stimulate interactions between potential users of the app
* There were also two moderators, one to ask questions and guide the discussion and one to write notes
* Each session was run in the format of 45 minutes of discussion, 10 minutes of break, and then another 45 minutes of discussion
* Within this session, participants filled out consent forms, and then were asked to fill out a questionnaire to assess the diversity of the sample (age, gender, etc.)
  + The PAUL project was then introduced and then participants were given a chance to introduce themselves
  + Next, the 6 persuasive strategies using a semistructured topic list were discussed, which I will talk about in a second, but essentially it was a list of open ended questions that related to each strategy
  + Lastly, individuals were asked to complete questionnaires on preferences for rewards and optimal times of day for receiving reminders from the app

**Topic list:**

* So these are examples of the questions used during the focus group interview session relating to the 6 BCT’s
* Read a couple of them out

**Data analysis:**

* So these focus groups were conducted and then transcribed verbatim
* The transcripts were then coded and then further analyzed
* Codes, as previously mentioned, are short & descriptive statements, often using words taken directly from the data itself
  + These are referred to as subtopics later, which I will point out in the results
* In the analysis phase, the framework approach was used
  + This has 5 main steps
* In this study, \*\*explain all of them\*\*

**Participant characteristics questionnaire:**

* This was the results from the first questionnaire that they gave out
* Main things to notice on here was that there is more than double the females and there are males
* Most of them were pretty skillful with smartphones
* And they don’t note age, they do say they were all adults, but that’s a pretty large range

**Results**

Self-monitoring: health guidelines measuring units - exercise time, distance, calories burnt, etc. presentation statistics - graphs & tables manually add exercise - retroactive addition of exercise route map - attractive routes to try

Feedback: framing - positive feedback to motivate related to goal - tailored to exercise goals & progress in reaching them turn on/off - flexibility mode of delivery - short & preferably audio message timing of feedback - mixed opinions

Goal Setting: appreciation goal setting - positive health guidelines - were main themes behind goals set sub goals - short-term to make end goals more accessible appropriateness to current abilities - preferred goals within ability suggestions for goals - tailored to user so there is a clear build up measuring units - exercise time & distance mostly

Reminders: appreciation of reminders - were appreciated as they were motivating, but sometimes annoying (on/off) content - personalized to goals, friendly, & fun time of day - answers varied throughout the day & throughout workouts

Social Influences: safety - social interactions & meetings through app sharing results - most participants did not feel a need to share privacy - did not want to share with a wide audience competition - does not motivate them as they feel like they will lose maybe compete against yourself

Rewards: appreciation rewards - proud & stimulates use of app more terms for reward - should increase in difficulty as you go compliments - or a “thumbs up” was sufficient for some trophies - digital rewards to visualize physical rewards - real-life discounts on healthy product or points of some sort

**Conclusions:**

* So the main conclusions that they got from all of these results was that individuals prefer functionalities based on the health guidelines as that was their main motivator for actually using the app
* They also noted that having a reward system based on personal growth was preferred compared to competition for the majority of participants
  + They wanted positive motivation and encouragement to help them continue the use of the app
  + This also is in agreement with the SDT of motivation
* Lastly, they noted that there are lots of differences between preferences of individuals, so the ability to personalize tha app is key

**Significance**:

* \*\*explain on slide\*\*
* Translates persuasive strategies to functional elements of an intervention
* Provides guidance to developers of PA exercise interventions
* There is a need for app adjustments based on the target group
  + Even further, there is a need for personalization on an individual level
* Found that individuals would like for reminders and feedback to occur at relevant times to act in a way of reinforcement learning

Future research:

* Explore the reinforcement learning possibilities
* Handling discrepancies between individuals’ opinions
* Different target groups and cultures

**Limitations & Strenghts – critique**:

* Should have a larger sample size (more expensive, take up more resources and time, etc.)
* Dependent on honesty and recall bias of the interviewee or person taking survey (if that is method you are using)
* Bystander bias????