



# PREVENTING SKIN CANCER WITH SUNSNAP: HOW CAN WE ENCOURAGE TEENS TO UTILIZE SUN PROTECTION TO DECREASE THE RISK OF SKIN CANCER LATER IN LIFE? (062-1A24) ISABELLA SIEVERS & SHREE PATADIA

## ABSTRACT

The purpose of our Pinnacle Project is to evaluate the factors that influence teens to use or not use sunscreen to create a program that will encourage active sunscreen usage behaviors. We want to bridge the communication gap between teens and the necessity of continuous sunscreen usage as they age. We hypothesize that an effective program can be created if it appeals to factors that influence teen's usage of sunscreen because teens will be more susceptible to having their behaviors be influenced by the program. If this communication gap is bridged through our study, the risk of skin cancer is addressed and can be prevented in our youth today.

## BACKGROUND

On the topic of the relation between youth and skin cancer, a study assessing the knowledge about skin cancer that middle schoolers and high schoolers have concluded teens tend to engage in harmful practices such as tanning that increases rates of skin cancer and youth living in lower socioeconomic communities tend to have less knowledge about skin cancer (Zamil). Based on the last conclusion, it is acknowledged that schools have a large impact in how much youth know about skin cancer.

A study looking into how skin cancer can be prevented in youth found that schools intervening in encouraging sun protection is effective in encouraging the usage of sun protection (Hart). In a similar study on education about skin cancer and its effect on youth, intervention through exposing youth to campaigns and knowledge about skin cancer led to learned behaviors of using sun protection that stayed for the long-term (Hingle). Although school is acknowledged to be the key to encouraging sun protection habits in youth, there have been no exact proposals of how this should be implemented in schools.

## CRITERIA FOR SUCCESS

To consider our project a success it must be able to answer yes to the following criteria:

1. Does our prototype target specific influencing factors to teens sunscreen usage?
2. Can our prototype be implemented in multiple environments?
3. Is the majority of feedback on our prototype positive?
4. Do teens during the trial phase of the prototype feel influenced to use sunscreen?

## CITATIONS

Hingle, M. D., Snyder, A. L., McKenzie, N. E., Thomson, C. A., Logan, R. A., Ellison, E. A., Zamil, D., Fu, S., Majd, Z., Powell, E., Zamil, J., Nawas, Z., & Orengo, I. (2023). Demographics of skin cancer knowledge among middle and high schoolers in Texas. *Dermatology Practical & Conceptual*, e2023014. <https://doi.org/10.5826/dpc.1301a14>

## METHODOLOGY

We used both the design thinking process and phenomenology study to base our methods on.

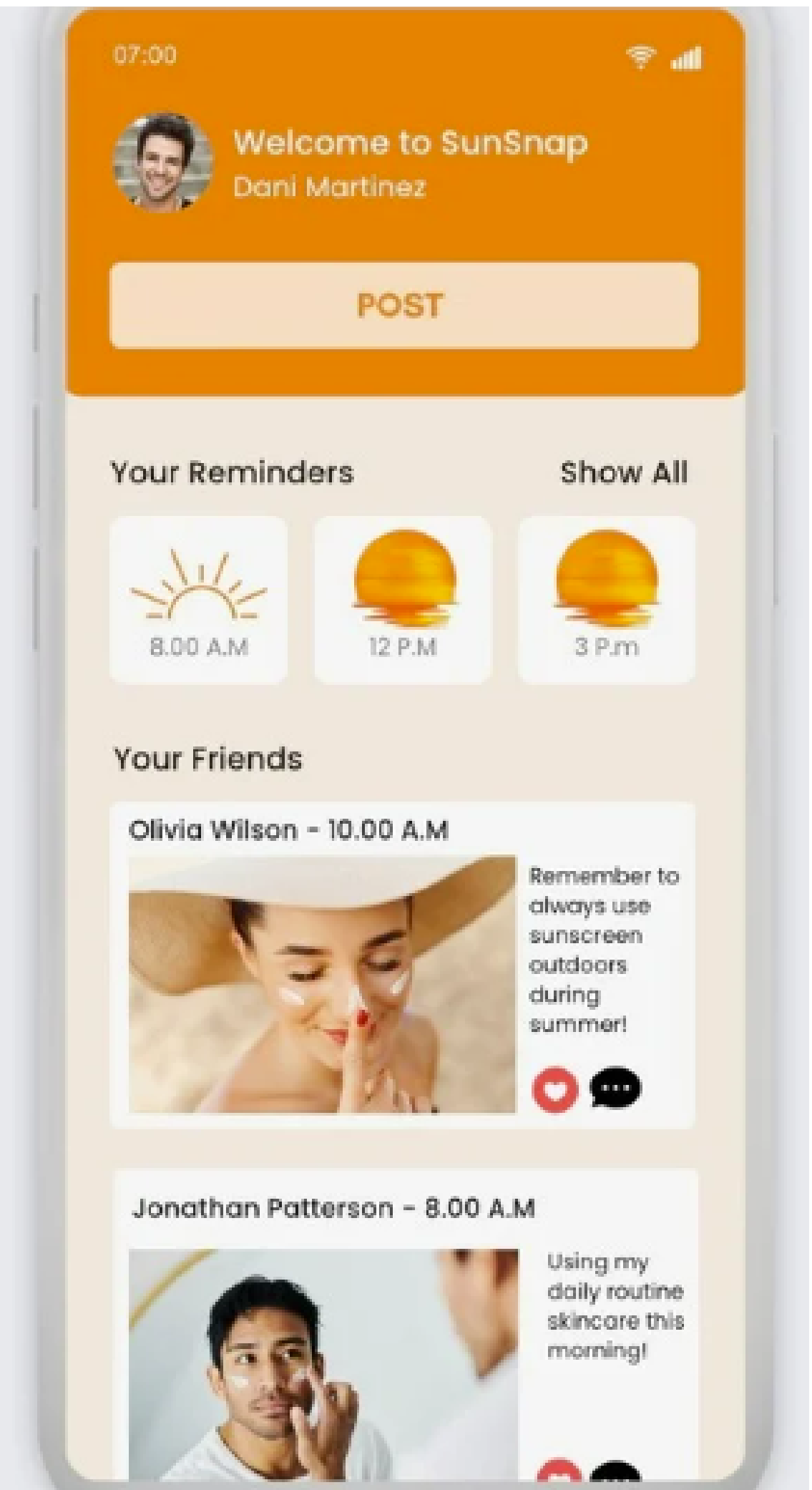
1. **COLLECTING INITIAL DATA**
  - a. First we conducted a literature review of 20 sources related to skin cancer rates in America among youth and adults, what factors lead to skin cancer and how it can be prevented.
  - b. Second, we interviewed Dermatologist Dr. Brent Goedjen from Live Oak Dermatology in Alpharetta Georgia about sunscreen usage and skin cancer risk in his teen patients and experiences as a dermatologist.
  - c. Third, we developed a 10 question survey sent out to 20 teens to gauge their sunscreen usage habits and reasonings behind their behavior in their words.
2. **IDENTIFYING INFLUENCING FACTORS**
  - a. From the survey sample space, we picked 5 individuals to conduct an in-depth oral survey using the 3-interview method from the phenomenology study methodology.
  - b. From their answers, we created a MIND MAP of the factors that influenced teen's sunscreen to make connections and visualize the data.
3. **CREATING THE PROGRAM**
  - a. Following the design-thinking method, our first step is IDEATION, coming up with a variety of ideas for programs that target different influencing factors, as we have completed EMPATHY and DEFINE
  - b. From these ideas, we will select one and develop it in the PROTOTYPE stage and get feedback from the teens we interviewed in STEP 2.
  - c. We will TEST the prototype by running through scenarios it can be implemented, getting feedback, again from the interviewees and evaluating its effectiveness by analyzing how successfully it targets the selected influencing factors.

## CONCLUSIONS & RESULTS

Following the design thinking process our group narrowed in on the influencing factors peer pressure, social media, habits and observed/learned behavior to develop the application SunSnap.

SunSnap is a mobile app concept where users can set reminders for themselves to use sunscreen and be held accountable by having to post a photo or video of them applying sunscreen. The photo is then posted on their profile and can be viewed by other users and their friends on the app. The combination of being held accountable, seeing their friends also participate in this and having daily reminders makes the user more inclined to use sunscreen. The BeReal type social media application makes it more appealing for teens to use and can help them increase their daily sunscreen usage.

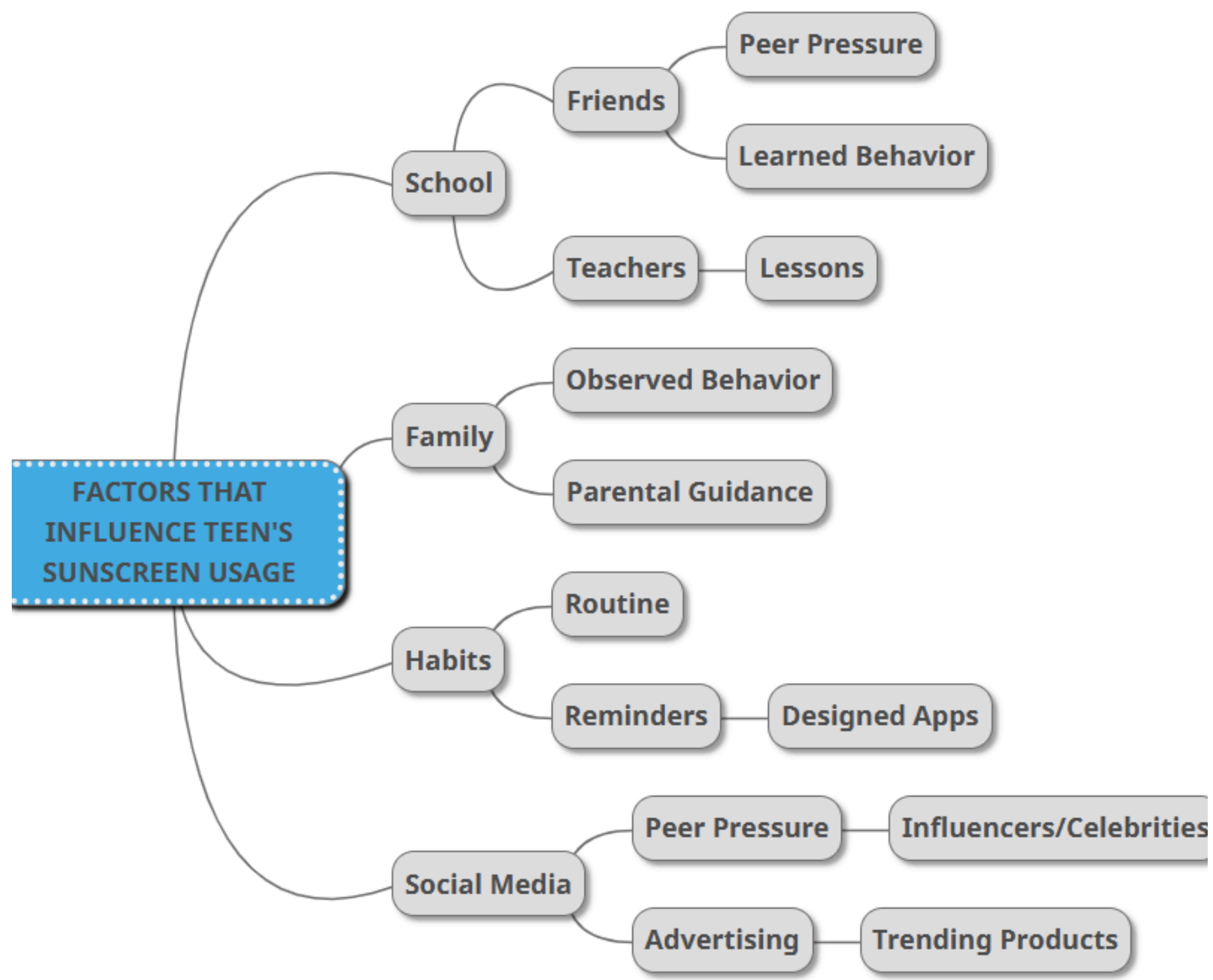
The App was tested through a simulation of its functions on iMessage where the teens would set their own reminders and send photos to an iMessage group chat. Through a 1 week trial period all 5 participants were consistent with their sunscreen usage proving SunSnap a new, appealing method to encourage teens to use sunscreen to develop a lifetime habit.



## DATA COLLECTION

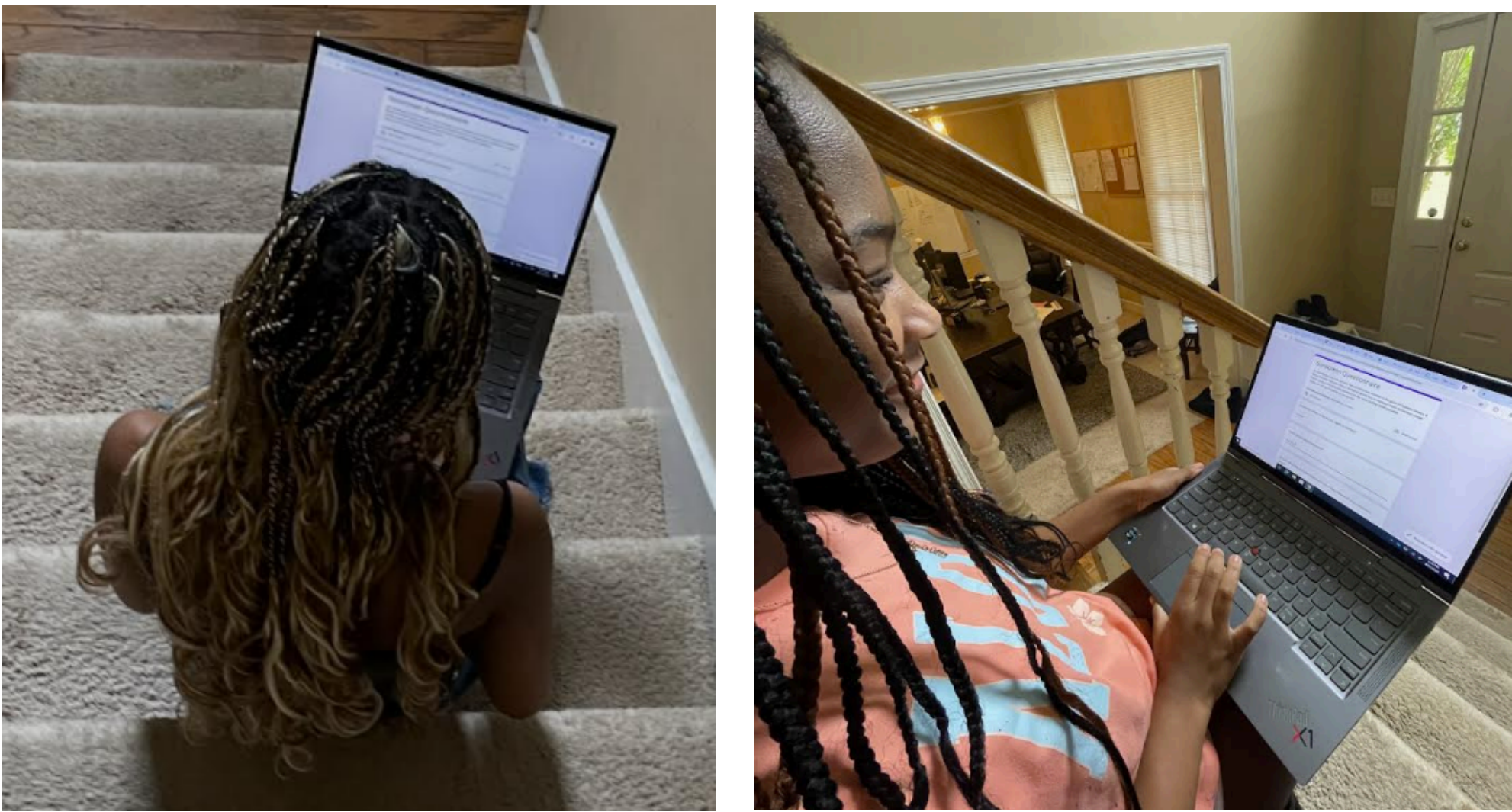
**Figure 1: Mind Map of Influencing Factors**

Factors that influence teen's sunscreen usage have been identified through surveys and interviews and organized on a mind map. Teens are mainly influenced by four overarching categories: school, habits, family and social media. From there, more narrow influencing factors were identified and connected within the overarching categories.



**Figure 2: Teens Doing Our Survey**

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## FUTURE RESEARCH

Building off of our prototype app Sun Snap, the next steps would be to research the longevity of usage of this app. Although it has proven to work in the short term when teens and their friends are both consistently using a new application, more research can be done on how long consistent app usage will be and if with that the teen keeps a long-term habit of using sunscreen consistently or if with decreased app usage there is also decreased sunscreen usage. Outside of our prototype looking at influencing factors, future research can be done to expand upon the MindMap and look into factors that have to do with socioeconomic status or culture which can open up opportunities to encourage sunscreen usage through those lenses. Teens not using sunscreen can be considered a wicked problem and can be tackled from multiple angles and perspectives, but one solution cannot solve it completely. Multiple different solutions need to be created to fully tackle this problem.