

A photograph of three young women of diverse backgrounds smiling and holding hands. The woman on the left has curly hair and is wearing a white t-shirt. The woman in the middle has blonde hair and is wearing a plaid shirt over a white t-shirt. The woman on the right has long dark hair and is wearing a denim jacket over a grey t-shirt. They are all smiling broadly and holding hands, with the woman on the right also having her right arm raised. The background is bright and slightly blurred, suggesting an outdoor setting.

girlshealth.gov

UX Research Report
by Elyse Duffy

Table of Contents

Introduction

Executive Summary	2
Chapter 1: Site Overview	5
Chapter 2: Comparative Analysis	6
Chapter 3: Personas & Scenarios	8

UX Research Methods

Chapter 4: Interviews	11
Chapter 5: Surveys	14
Chapter 6: Card Sort	18
Chapter 7: Diary Study	26
Chapter 8: Heuristic Evaluation	31
Chapter 9: Usability Testing	35

Appendices

Appendix A: Cards From Card Sort	42
Appendix B: Script From Usability Testing	44
Appendix C: Consent Form From Usability Test	46
Appendix D: Tasks From Usability Test	47



Executive Summary

The following report involves girlshealth.gov and the user experience research that was conducted for the redesign. These tests involved a variety of users all for research in site navigation, content quality, and feature functionality.

This report includes problems noted in testing and solutions for updating the site. The testing has brought to light many areas which were lacking and where improvement could help the overall user experience.

Girlshealth.gov is a teen resource that provides medically accurate articles, self-help tips, and additional resources on topics like body, nutrition and relationship categories. They are a leader in the health and well-being space for teen girls and part of the U.S. Department of Health.

However, the site would benefit from improvements and a redesign because it feels very outdated. The original design was created back in 2002, and it seems it has stayed stuck in that era without any type of update. Being a teen health resource, it needs to be easy to navigate and be more welcoming. Since many teens that come to the site may be anxious about a health issue, girlshealth.gov should do everything it can to have great functionality, offer the best information and services, and lastly follow user expectations as close as possible. When users get the most out of a website, they will be more likely to share with friends and be a reoccurring user themselves. This redesign will

allow girlshealth.gov to grow its audience and stay competitive in the women's health market.

Methods Used:

Competitor analysis

Personas

Interviews

Surveys

Card Sort

Diary study

Heuristic Evaluation

Usability Report

Analysis Results:

The analysis concluded that the main issue with the site is that it is difficult to navigate. All participants had instances where they struggled to find specific information. The number of tabs specifically on the homepage were overwhelming for them and when they would click to an article, the navigation became even more complicated with a second drop down bar. Competitor sites on the other hand had a single, simple navigational tab where topics were broken down into clearly defined categories. With users getting lost within seconds of coming to the site, this is considered a high severity issue.

Executive Summary

In the card sort, we saw that participants tend to place topics into a smaller number of groups, but the groups themselves are larger in size. All participants grouped their cards into three basic groups: mental health, sexual health, and body/nutrition. While many topics were grouped like the original girlshealth.gov site, new category names were suggested, and this will help the user find the right tab the first time. The participants' groupings have also shed light on the fact that some articles can be related to more than one topic and that it should come up under both categories when searching.

The usability report found that the search bar is a feature that is needed but the results page needs to be cleaner and more user friendly. Currently, users are having a hard time deciphering results that appear because of lengthy descriptions and URLs that pop up. Some users also got results that did not relate to what they searched for, leaving them confused and with little faith in the site at all.

The contact page is also a place of frustration. The page is clearly outdated, and users asked for an easier and direct way to contact the company. It seems that teens are unlikely to call or mail a letter. Instead, they want to chat with them on social media or want a contact form they can fill out right on the site. This is a minor and quick fix for designers, and it should boost user experience.

Other smaller, cosmetic issues were discovered as well. One is fixing the hyperlink in the quizzes section. This was one task that frustrated participants the most, because they could not find where to click to get to the quiz. The quiz section is advertised largely but the link to get there is so small that it was missed by almost everyone.

Solutions:

To stay competitive, the website should become responsive and be able to be viewed on a variety of screen sizes. An updated look and feel to the brand as well will help it stand out. Right now, the colors are distracting, and the site feels very dated. This is something that is working against itself and the teens they are trying to attract.

Girlshealth.gov will also benefit from new site navigation with new category topics. Here there will be less tabs on the homepage, but each topic tab will have a detailed title. Based on user comments, creating subcategories within these tabs would be more helpful than the left side bar that is currently seen on article pages. Getting rid of this will allow all articles to be easier to read. This whole new navigation should free up space on the homepage and allow users to find a collection of articles rather than browsing only one topic at a time. Alongside the new tabs: mental health guidance, sexual health, and your body and nutrition, there should also be an additional resources tab on the homepage. This will house the links to other sites for more information.

Executive Summary

Once the new navigation and tabs are in place, designers can then move on to fixing the search bar results. This involves tailoring the results that come through in certain searches and cleaning up the results page. By removing the URL listed and only allowing a short description, users will find a cleaner interface that is easy to read and provides quicker answers.

From there, designers should update the contact page by replacing the information written with a contact form that can be submitted on the site. The form should be simple and allow users to ask any question necessary or to leave a comment. Any additional contact information like social media buttons, email addresses, or phone numbers can be listed at the bottom of the page.

Lastly, the hyperlinks in the quizzes section should be updated. The main image and the word "quizzes" should each be a button to click on. Currently there is only some small text below it that act as the gateway to the quizzes page. We need to make it obvious where the user needs to click. Adding a "Take our quizzes" button will be more inviting and be user friendly.

**Here is a brief list of the changes described above,
listed from high to low severity:**

- ◆ Creating a responsive website that can be viewed on a variety of screen sizes.
- ◆ An updated look and feel to the site with new colors and logo.
- ◆ New site navigation with new category topics and sub-categories.
- ◆ Making "additional resources" its own tab on the homepage.
- ◆ An updated search bar that kicks back better results on a cleaner page.
- ◆ A new contact us page with a contact form to submit.
- ◆ Updating hyperlinks in the quiz section.
- ◆ Eliminating some links from article pages.

Chapter 1: Site Overview

Site Overview:

The site girlshealth.gov is run by the office of Women's Health, which is part of the U.S. Department of Health and Human Services. It is a government funded website geared towards young girls and teens. Their mission is to promote healthy and positive behaviors in school-aged girls and be a resource for them as they become women. They relay useful and up to date information in their articles on health, relationships, and everything in between. In addition to articles, the site offers tools and tips for tackling life challenges, has interactive quizzes, and provides additional resources on certain topics.

Business Requirements:

The business requirements for girlshealth.gov is to uplift girls around the world by providing information about their body and health. The business wants to bring both reliable and medically accurate information to girls who may or may not have easy access to health professionals or a trusty adult to ask. Their purpose is to provide information on a variety of subjects within health and wellness as well as make the site interactive with quizzes and additional links to other sites. They want to remain informative and trusted, yet appeal to teen girls who may be easily distracted by other websites and online entertainment. With the wide variety of topics being covered on the site, they also want to make the navigation more user friendly, so that articles are easier to find and go back to.

User Requirements:

Besides an updated design of the brand, the users visiting girlshealth.gov need an easier navigation first and foremost. The website can be confusing with the number of tabs and links to click right on the homepage. Users need clearer organization of topics and a better classification of them. With this clean up, visitors to the site will be able to find what they are looking for quicker and in turn the site will be similar to competitors. Users also needs the site to have working hyperlinks, that are a clear, clickable button. New additions to the site will be a contact page to write to the brand, and a new, improved search bar and results page for users that are in a rush. These requirements are explained in detail in the following chapters.

Chapter 2: Comparative Analysis

Comparative Analysis:

In the comparative analysis, three similar sites were tested and compared against girlshealth.gov. The full chart is on the next page.

As you can see, girls health is considered to have the most reliable information because it is funded by the U.S. Department of Health and Human Services. The other health sites were either a passion project by teens or didn't have the medically professional credentials that girlshealth.gov had. This made the other sites feel more casual and less informative based, yet they had a more professional brand than girlshealth.gov.

Unfortunately, three out of the four sites have too many tabs on the homepage, which felt overwhelming and confusing to navigate. A common theme between them all were that there were so many articles. But when visiting the site kidshealth.org, they made it work. The way the tabs were organized felt cleaner and made more sense to the first-time user by breaking up article topics into for parents, for kids, and then for teens. Limited tabs and more descriptive sub-heads is something girlshealth.gov needs to add to their homepage, especially within its vast article database.

Additionally, girlshealth.gov has the most outdated interface and articles were hardest to read. They would benefit from a cleaner version that could be

accessed on the go like its competitors. Right now, girlshealth.gov does not stand up to these other sites in terms of branding and looks. The colors chosen by the other sites were calming and with white backgrounds, making it easier on eyes. Girlshealth.gov would value from not only a new interface with different colors but also sharing its motivations with its users, and to promote their backing by the Department of Health. It's current look probably scares users away and most would never guess this is a professional and government funded site.

Chapter 2: Comparative Analysis

Comparing www.girlshealth.gov against www.kidshealth.org, www.healthywomen.org and www.teenhealth101.org

	girlshealth.gov	kidshealth.org	healthywomen.org	teenhealth101.org
Site Organization	<ul style="list-style-type: none"> ▪ To many tabs on homepage. ▪ Description of topics are too broad. ▪ The links on the side of articles are distracting. 	<ul style="list-style-type: none"> ▪ Limits tabs to four on homepage. ▪ Tabs are broken into: parents, kids, and teens. 	<ul style="list-style-type: none"> ▪ Has many tabs and columns but still feels organized. ▪ Has a tab just for programs and events. 	<ul style="list-style-type: none"> ▪ No clickable articles on homepage, must hover over dropdown tab. ▪ Promotes their social media.
Site Strengths	<ul style="list-style-type: none"> ▪ Reliable and fact check article information. ▪ Additional references given. ▪ Accessible in other languages. 	<ul style="list-style-type: none"> ▪ Homepage is inviting, not overwhelming. ▪ Search engine brings up related articles. 	<ul style="list-style-type: none"> ▪ Visually stunning, great color pallet. ▪ Clean, easy to read articles. ▪ Accessible in English & Spanish. 	<ul style="list-style-type: none"> ▪ Shares the company's purpose & value on homepage. ▪ Brand has a cohesive look, specifically the icons.
Site Weaknesses	<ul style="list-style-type: none"> ▪ Outdated design with many broken links. ▪ Website is not responsive to smaller screen sizes. ▪ Harsh color pallet. 	<ul style="list-style-type: none"> ▪ Needs more photos and visuals with articles. ▪ Articles are too brief. 	<ul style="list-style-type: none"> ▪ Separate tabs for health and wellness. This can be combined. ▪ Homepage isn't unique enough from article pages. 	<ul style="list-style-type: none"> ▪ Homepage feels crowded. ▪ Site is run by teens, not by medical professionals.
Additional Links	✓		✓	✓
Search Bar Feature	✓	✓	✓	✓

Chapter 3: Personas and Scenarios

Personas and Scenarios :

Personas and scenarios help developers build products for real users, based on target audience characteristics and what they value. They guide decision making and allow key features to be tailored to their attributes and needs. From their character development and scenarios, developers can find out what drives people to the site and what they are using it for.

These are the three personas and their respective scenarios that best represent the typical user for girlshealth.gov.



Chelsea McIntyre

“I want to be a role model for younger girls, like my baby sister”



Fairfield, CT



Grade 12, age 18



Lives with Mother, Father and younger sister.

Hobbies/Social Activities:

Chelsea is athletic, she is the captain of the field hockey team at her high school. When she's not on the field or practicing she can be found in the library catching up on homework or taking ice skating lessons on the weekend with her friends.

Goals:

- To receive a scholarship to play field hockey at university.
- Learn stretching techniques to ease her knee pain.
- Find a fitness plan that works for her and her busy schedule.

Pain Points:

- Most websites contain complex medical terminology that is usually over her head.
- Concerned that some websites are not trustworthy and unreliable.

Digital Behavior:



Digital Devices at home:



Laptop



Smart phone

Scenario:

A few months ago, Chelsea sustained a knee injury from a field hockey game and she still has pain from time to time. With spring around the corner, she is looking for stretching techniques and a fitness plan that will help her get in shape in time for college tryouts. She comes across girlshealth.gov which is geared towards girls her age and sees that the site is professionally backed by the U.S. Department of Health and Human Services. She decides to click the fitness tab on the homepage and finds herself being directed to a fitness article. Within the story there are multiple links to other articles and tabs on the left that are also related to fitness. She finds the article page overwhelming because of the many links. However, there is one titled “best stretches for athletes!” This page contained all the information she was looking for and from here she was able to create her own exercise routine.

Chapter 3: Personas and Scenarios



Lindsey Rodgers

“My grandmother is the strongest woman I know... never underestimate the power of girls!”



Oakland, CA



Grade 9, age 14



Lives with grandparents, biological parents are not involved.

Hobbies/Social Activities:

Lindsey is currently learning how to play the flute and hopes to get a solo in the school recital this year. This past summer she took swim lessons and loves to swim with her friends at the beach and occasionally meet up at the YMCA.

Goals:

- To keep up her grades as she enters high school.
- Learn more about her growing body, specifically about puberty.

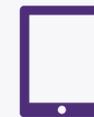
Pain Points:

- Feels awkward to ask her grandma about puberty and the changes she is going through.
- Her friends are giving her mixed information.

Digital Behavior:



Digital Devices at home:



Tablet



Labtop

Scenario:

Lindsey has been living with her grandparents since she was the age of 5. While she is very close to them and loves them very much, she feels uncomfortable asking certain intimate questions. Since Lindsey is currently going through puberty, she has many concerns and fears and needs reliable information. She was told about girlshealth.gov through school and decides to visit the site to see if she can read about puberty changes. She decides to take a quiz to see how well she knows her body but when she clicks on the quiz it loads funny and most of the questions are being cut off when viewing it on her iPad. She tries to adjust the screen and rotate it but no luck. Instead, she decides to go back and read an article on puberty instead. From here Lindsey has a variety of related topics she can investigate when she's done reading the first article.

Chapter 3: Personas and Scenarios



Harper Johnson

“Trying is the first step in succeeding and being who you were meant to be.”



Albany, NY



Grade 11, age 17



Lives with Mother, Father, and younger brother.

Hobbies/Social Activities:

Harper is a stellar student and always makes honor roll. She takes several college prep classes and is currently obsessed with Biology. Most of her focus right now is on school but loves to listen to music at lunch and is part of the chess club.

Goals:

- To graduate high school with at least a 3.7 gpa.
- Find someone she can trust to talk about her feelings.
- To manage her anxiety.

Pain Points:

- Gets irritated if something doesn't go her way in certain situations.
- Feels she needs to be the best at everything, leading to her anxiety.

Digital Behavior:



Digital Devices at home:



Scenario:

In the last year Harper has started to notice a change in her behavior and motivation. She is now quick to anger when things don't go her way, and she can sometimes feel uninspired to do homework. Things she use to love now feel bothersome to her. She can't pinpoint exactly what she's feeling but knows it might have to do with anxiety. She decides to do some research online so that she can hopefully turn things around. Online she finds girlshealth.gov. Once there, she feels a calm yet welcoming vibe from the new homepage, and she continues to click on the your feelings tab. Harper is brought to an article that talks about dealing with anxiety and symptoms of depression. Below it is a link to a program that can help with mental health issues. She clicks it and finds herself being taken to an external site for therapy. She decides to sign up and talk with a professional. She feels hopeful for the first time in a while.

Chapter 4: Interviews

Interviews:

The following contains a semi-structured interview script for the site girlshealth.gov. Interviews are a common research method that can gather qualitative and quantitative data about end users and how they interact with the site. To improve the site's overall quality and performance, interviewing these users can help pinpoint what is and isn't working for them. By the end of the interview, the research questions below should be answered and a path towards a better interface should be clear.

Objective/ Research Questions:

- ◆ What type of content are young girls searching for most on girlshealth.gov?
- ◆ Is the content written at a level a teenager can understand?
- ◆ What design improvements can be made?

Introduction:

Thank you for coming in today. I appreciate you taking the time to help me with this study. As I mentioned before, my name is _____ and I work with girlshealth.gov. This study is to hear feedback from our users, see how they use our site, and to learn about areas we can improve in. The entire interview should take about one hour.

Before we start, please sign this non-disclosure agreement, which says that the topics we talk about today will not be discussed with anyone else.

I'd like to remind you that I will be recording and streaming this interview today. I will also have two of my colleges watching the interview from another room. Please let me know if you have any objection to either of these.

As we get under way, please note I am not a designer for girlshealth.gov, so please feel comfortable to speak your mind. I will not be offended. I want to hear all of your honest opinions.

Know that you can stop the interview at any time and ask any questions.

Let's begin!

Warm Up:

I'd like to start with a few questions about yourself and learn more about you, our user!

- ◆ What is your age and grade level?
- ◆ What is your favorite school subject?
- ◆ What is your household structure/ who do you live with?

Thank you. Now I will move on to how you use and interact with girlshealth.gov.

Chapter 4: Interviews

Body:

- 1) How long have you been using girlshealth.gov?
- 2) What are your reasons for visiting girlshealth.gov?
If the answer is health or body related:
 - 2a) Before learning about our site, where would you find answers to health-related questions?
- 3) Can you describe your typical experience finding information on the site?
 - 3a) What works well, and what could be improved?
- 4) Which category or part of the site do you visit the most?
- 5) Is there any part of the site you have not visited?
- 6) How do you feel about the trustworthiness and accuracy of the articles?
 - 6a) Can you remember a time when an article felt unclear or unreliable?
- 7) Do you visit the external links girlshealth.gov provides in some articles?
If they answer yes:
 - 7a) Are these websites more or less helpful than girlshealth.gov?

- 8) Is there anything you would like the site to have that is currently not offered?
- 9) Are there any design improvements you would like to see?
(This can include navigation or visual elements)
- 10) How do you usually feel after using the site (e.g., frustrated, anxious, excited)?
- 11) What would help the site attract more teens?

Cooling Off:

Your answers thus far have been very insightful. Since I am finished with all of my questions, I'd like to ask you if there is anything else you would like to share with me about girlshealth.gov? Was there anything you wish you had more time to talk about?

Wrap Up:

We have made it to the end of the interview...with a few minutes left in our session. If you have any additional comments, please let me know now. If not, I will go ahead and shut off the recording device.

Thank you again for your time and your genuine perspective. Everything you said today will help us create a better site for teen girls like yourself.

Chapter 4: Interviews

As promised, for your hard work, we would like to give you a \$35 gift card to a store of your choice.

Shall I escort you out?

Chapter 5: Surveys

Surveys:

A UX survey is a research method that gathers information and direct feedback from users. Surveys can be done in person or online and use random participants or a selected few. The questions are direct and allow designers to understand user needs and their satisfaction with the site or product. The answers to the survey questions allows data to show areas for improvement.

Survey Goal:

This short (10 minute) survey will help the developers and designers behind the website girlshealth.gov by gathering knowledge into how the site is being used and if it's fulfilling the needs of today's teen girls. The following questions will help developers better understand what type of information girls are looking for, if they are satisfied with the content, and how the site holds up against its competitors.

Survey Instructions:

Thank you for taking the time to review girlshealth.gov!

We are conducting this survey to collect feedback that will help make our site a better resource for all teen girls. You have been chosen, at random, to help us improve our content and increase the satisfaction of users who visit our site.

Below is a 20-question survey which should take less than 10 minutes to complete. Please answer the questions to the best of your ability and understand that no question is mandatory. You can also quit at any time.

We do not require any personal information, and your answers will remain fully anonymous throughout this process. If you have any questions, please reach out to us at _____ .

Survey Questions:

- 1) What is your age range?
 - a) 10-12
 - b) 13-15
 - c) 16-18

- 2) What is your household demographic?
 - a) Lives with one parent
 - b) Lives with both parents
 - c) Lives with other family member(s)
 - d) Lives with legal guardian(s)

Chapter 5: Surveys

3) What is your preferred method to access the internet?

- a) Computer/laptop
- b) Tablet
- c) Cell phone

4) How do you normally find answers to health-related questions?

- a) Asking a parent or guardian
- b) Asking friends
- c) Physician
- d) Other (please specify): _____

5) In the past 6 months, how often have you looked up a health-related question online?

- a) 0 times
- b) 1-2 times
- c) 3-4 times
- d) 5 times or more

6) If you were researching a health topic, what would be most helpful in your search?

- a) A vast database of information
- b) A chat box with a live medical professional

c) Additional resources for professional help

d) Medically fact-checked articles

e) Other (please specify): _____

7) How often do you visit girlshealth.gov?

- a) Daily
- b) Weekly
- c) Monthly
- d) On a need basis

8) How satisfied are you with girlshealth.gov as a teen resource?

<input type="checkbox"/>				
Very dissatisfied	Somewhat dissatisfied	Neutral	Somewhat satisfied	Very satisfied

9) What category do you visit the most on our site?

- a) Body
- b) Relationships
- c) Drugs, alcohol, & smoking
- d) Other (please specify): _____

Chapter 5: Surveys

10) How often do you take the quizzes on our site?



11) How often do you use our search bar?



12) How would you rate navigating through different sections on our website?

- a) Poor
- b) Fair
- c) Good
- d) Excellent

13) How reliable do you find the health information provided on our site?

- a) Not reliable
- b) Somewhat reliable
- c) Very reliable
- d) Extremely reliable

14) Are articles on our site hard to comprehend/ difficult to read?

<input type="checkbox"/>				
Extremely difficult	Moderately difficult	Neutral	Moderately easy	Extremely easy

15) How often do you find yourself needing more information after reading an article?

- a) Never
- b) Sometimes
- c) Most of the time
- d) All the time

16) How often do you click on the external links in the articles?

- a) Never
- b) Sometimes
- c) Most of the time
- d) All the time

17) How would you rate this site compared to similar health related sites?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Significantly below average	Slightly below average	Average	Slightly above average	Well above average

Chapter 5: Surveys

18) Do the images on the site help you understand the content easily?

- a) No, never
- b) Sometimes
- c) Most of the time
- d) Yes, all the time

19) Would you recommend our site to a friend?

- a) Not likely
- b) Somewhat likely
- c) Highly likely

20) Is there anything you would like to see added to the site?

Thank you for your feedback!

Chapter 6: Card Sorting

Card Sorting:

Card sorts allow people to think about how content is organized and structured. It gives insight into the information architecture of a product. In relation to online products and services, card sorts are a great way to see if your site has its content organized optimally, in the way your users think it should be grouped. There are three types of card sorts, but an open sort allows participants the most amount of freedom by allowing them to create as many groups as they want and to then name those groups.

Executive Summary:

For this activity, an online, open card sort will be conducted on girlshealth.gov. This style of card sort will allow participants to choose as many categories as they see fit and be able to label them however they like. The content of the 34 cards came from the body, fitness, nutrition, relationships, and your feelings categories on the homepage. While the site has more categories to choose from, these were chosen because they had the most subcategories within. These four categories also have some overlap in topics, thus including them in the card sort will reveal if two categories should be combined or if any new categories should be made.

Questions the card sort will answer:

- ◆ How do users mentally organize these topics?

- ◆ Are there any patterns or reoccurring themes in how the cards were grouped?
- ◆ Are there any categories/labels that confused participants?

Once the data has been tallied, girlshealth.gov will be able to see how their users organize these topics, and if their mental models are similar to what the site currently has. Any patterns will be noticed and any changes that differ from the original site will be distinguished. The results will also reveal if any cards were not sorted because of confusion. If there was difficulty with multiple categories, this may lead to adapting different terminology than what is currently used on the homepage.

The Sessions:

For this card sort, there will be three separate sessions. The physical sorting will be done by participants through a program called Proven By Users, and each session will involve one participant doing the sort, with the moderator present.

The participants will be asked to arrange the 34 cards into groups they believe make the most sense, then they will label those groups. Participants are unable to rename any cards because of software limitations but are allowed to put cards into multiple categories or not sort them at all. After the card sorting is

Chapter 6: Card Sorting

complete the moderator will ask some follow up questions and ask for feedback from the participant. The results from the card sort study will be analyzed and presented in a dendrogram and a similarity matrix for easy viewing. Everything has now been compiled into the following report.

Script:

Welcome Participant! We appreciate you taking the time to help us with today's research. My name is _____ and I work with girlshealth.gov. As I explained earlier, today's activity is a card sort that should take no more than 45 minutes. As you go through it, I will be recording and taking notes. Then when you are done, I will ask you for some feedback and may have a few questions for you. Once we are finished, you will be able to pick out a gift from the table in the corner.

Today we welcome all your thoughts and options, please note that there are no wrong answers. This study will help us see how you categorize topics, and it will help girlshealth.gov become a better organized site with improved user experience.

For this card sort you will be using an online platform where you will be shown 34 cards with a word or topic on it, each with a short description. I'm going to ask you to place these cards into groups you think make the most logical sense. Once you have your groups, I will ask you to name each of them.

Now that we have covered everything, I will have you sign this consent form and then we can get started! You can ask questions and may leave at any time if necessary. Since this is your first time doing a card sort, would you like a short demonstration, or do you feel comfortable to go ahead and start the study?

Participant Instructions:

Part 1: Read Cards

Today's card sort involves the teen resource: girlshealth.gov. They are in the process of a redesign and want to learn more about how users categorize certain topics and information. Using the online resource Proven By Users, there will be 34 cards for you to sort so please take your time reading each one.

Part 2: Card Sort & Rename

Go through each card and sort them into groups. You can omit cards if you feel they don't belong, and you can duplicate cards to put into more than one group if necessary. If you think a word or topic is confusing, please let me know. This software does not allow you to rename cards, so I will make a note of it. Please be sure to tell me why you think this is a better choice.

You may move your cards around as often as you like, it's even encouraged, until you have gone through each one. There are no minimum or maximum number of groups, that part is up to you to decide. Remember, we are

Chapter 6: Card Sorting

interested in what you perceive to be the most logical arrangement, not what may be most important.

Part 3: Labeling Groups

Now that you have your groups the way you like, you can label each group with a word or two. Once each group has a label, you can submit your card sort through the online software and let me know you have completed it.

Part 4: Wrap up

Thank you for finishing the card sort! Your time and efforts are appreciated! Do you have any questions about the session today? If not, you can go ahead and pick out a gift of your choosing and then I can walk you out.

Necessary Materials:

The materials list includes cards for the card sort (in this case the online program Proven By Users), a computer for the participants to use, NDA forms to be signed, a notebook for the moderator to take notes, a recording device, and gifts for participants to pick out.

The following are two sample cards used in this research study. Both contain topics that are found within a category tab on the [girlshealth.gov](https://www.girlshealth.gov) homepage. Under the topic is a short description in italics.

Family

People related to you by blood or marriage

Reproductive health

The overall well-being of the reproductive system and sexual health

All the cards used in this study can be found at the end of this report in appendix A.

The incentives for this research study were a variety of gifts to choose from. The participants had choices that ranged from t-shirts, hats, tote bags, water bottles, and beach blankets. All [girlshealth.gov](https://www.girlshealth.gov) merchandise.

Participants:

Participant 1: Adrianna | Age 17 | High school student, 12th grade

Feedback: Adrianna took time to look through all the cards before sorting. As she began, she originally had six groups but then took a second look and compiled them into her final four. She mentioned that mental health topics and physical health topics could be put together but ultimately decided they should be their own group. There was one card that she saved for last, it was *visiting the doctor*. She was conflicted on where to put it but ultimately decided she should duplicate it and put it in the mental health, physical health, and body groups. When asked why she did this, she commented, saying “Visiting the doctor could be needed for someone looking up mental or physical health, so I think it should be in these two groups as well as the body group.”

Chapter 6: Card Sorting

Participant 2: Phyllis | Age 15 | High school student, 10th grade

Feedback: Phyllis was originally overwhelmed by the number of cards to sort but was able to complete the assignment with some extra time. She decided to create one group at a time rather than going through all the cards and then grouping. Once it came time to label the groups, she started to second guess herself and did some last-minute reorganization, going from four groups down to three. She had trouble organizing the amount of content and struggled with certain definitions, which needed to be clarified by the moderator. However, she did finish the task with similar groups made by the other two participants: body, mental issues, and a health category.

Participant 3: Dora | Age 18 | First year college student

Feedback: Dora was careful with her card sorting but also seemed confident in her choices. She rearranged only three cards when she was looking over her work. When asked about how the sorting went, she replied "The health group was the easiest to create because it's such broad term, a lot could fit in there." Dora created four groups total, but what made her results stand out was that she created a new type of topic, she labeled one group called "personal identity". When asked about this group, she explained that the cards placed here were topics that make a person who they are, not necessary something health or body related. These topics were seen as more of a "leisurely read". The cards placed in this group were sports, family, relationships, and community.

Raw Data List:

The list below shows the raw data for the card sort study. The column on the far left lists all the cards and the following columns list each participants classification of it.

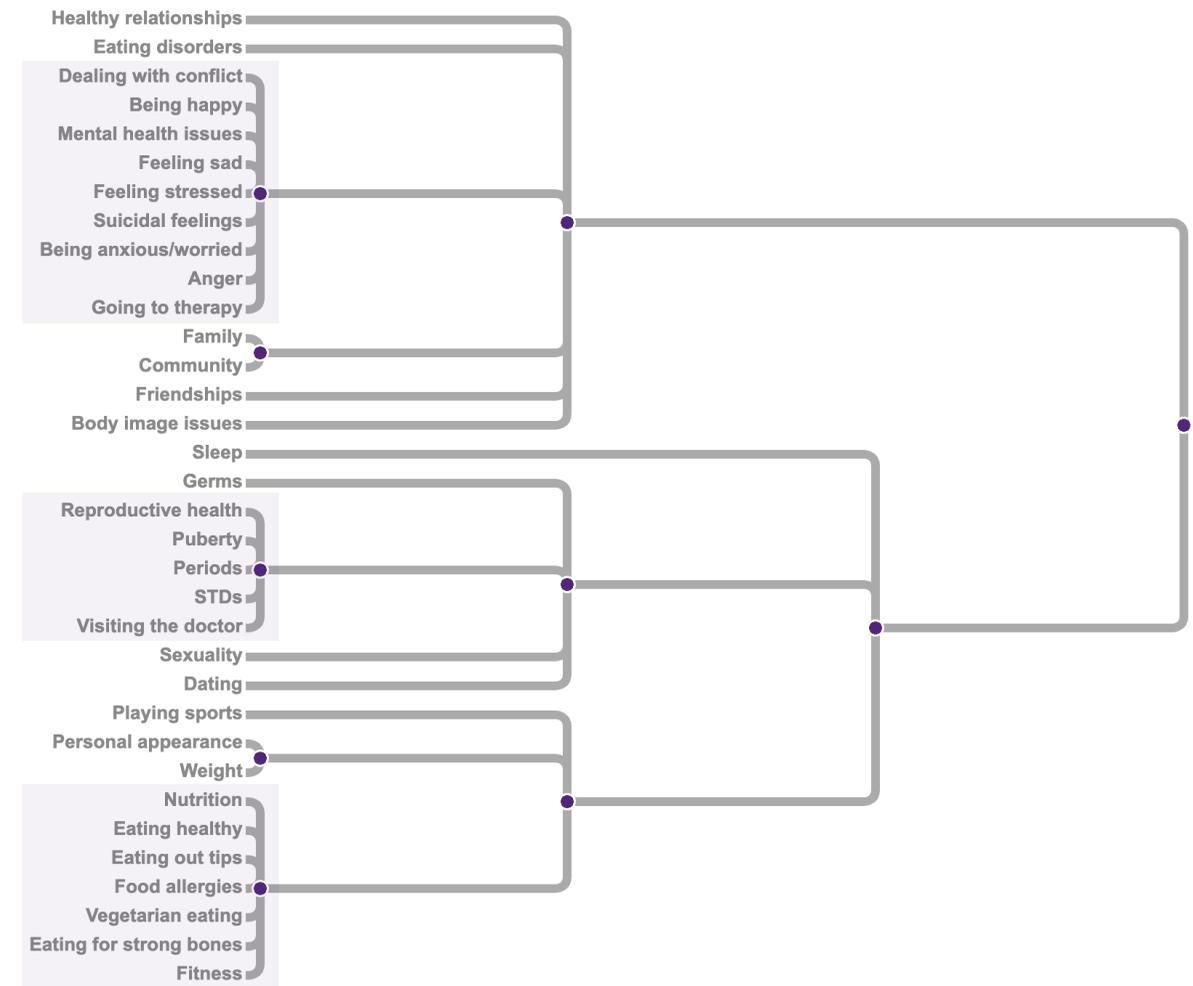
Card List	adrianna	Phyllis	Dora
Reproductive health	getting to know your body	Girls Health	Physical Health
Puberty	getting to know your body	Girls Health	Physical Health
Periods	getting to know your body	Girls Health	Physical Health
Sleep	physical health promotion	Personal	Physical Health
Germs	getting to know your body	Staying Healthy	Physical Health
Sexuality	getting to know your body	Girls Health	Personal Identity
STDs	getting to know your body	Girls Health	Physical Health
Personal appearance	physical health promotion	Staying Healthy	mental health
Visiting the doctor	mental health promotion getting to know your body physical health promotion	Girls Health	Physical Health
Nutrition	physical health promotion	Staying Healthy	General Nutrition
Eating healthy	physical health promotion	Staying Healthy	General Nutrition
Weight	physical health promotion	Staying Healthy	mental health
Eating out tips	physical health promotion	Staying Healthy	General Nutrition
Food allergies	physical health promotion	Staying Healthy	General Nutrition
Vegetarian eating	physical health promotion	Staying Healthy	General Nutrition
Eating for strong bones	physical health promotion	Staying Healthy	General Nutrition
Playing sports	physical health promotion	Staying Healthy	Personal Identity
Fitness	physical health promotion	Staying Healthy	General Nutrition

Chapter 6: Card Sorting

Healthy relationships	mental health promotion	Personal	Personal Identity
Dealing with conflict	mental health promotion	Personal	mental health
Friendships	society and you	Personal	mental health
Dating	society and you	Girls Health	Physical Health
Family	society and you	Personal	Personal Identity
Community	society and you	Personal	Personal Identity
Being happy	mental health promotion	Personal	mental health
Mental health issues	mental health promotion	Personal	mental health
Feeling sad	mental health promotion	Personal	mental health
Body image issues	mental health promotion	Girls Health	mental health
Eating disorders	mental health promotion	Personal	General Nutrition
Feeling stressed	mental health promotion	Personal	mental health
Suicidal feelings	mental health promotion	Personal	mental health
Being anxious/worried	mental health promotion	Personal	mental health
Anger	mental health promotion	Personal	mental health
Going to therapy	mental health promotion	Personal	mental health

Data Analysis Report:

The chart to the right is a dendrogram based on the data collected. It is a great way to see hierarchical clustering, most often used as a qualitative visual. As you can see, there are similarities in groupings. This dendrogram shows specific clusters that happened often (shown in purple, with a short path) and cards that were grouped together the least (these paths are longer and further away from each other on the chart). This shows the relationships between all topics and will help decide on final categories.



Chapter 6: Card Sorting

Data Analysis Report: *(continued)*

We have also provided a similarity matrix with the same data. This chart identifies strong card pairings. A higher numerical value in a cell indicates greater similarity between two cards. Essentially, it visually represents the pairwise relationships between the two. To compare two cards, pick a cell and see the topic that is written in the above column and then look to the right of the row to see the second topic. The number in the cell will represent their similarity or how often they were grouped together.

Reproductive health																																		
100																				Puberty														
100	100																			Periods														
33	33	33																		Sleep														
67	67	67	33																	Germ														
67	67	67	0	33																Sexuality														
100	100	100	33	67	67															STDs														
0	0	0	33	33	0	0														Personal appearance														
100	100	100	67	67	67	100	33													Visiting the doctor														
0	0	0	33	33	0	0	67	33												Nutrition														
0	0	0	33	33	0	0	67	33	100											Eating healthy														
0	0	0	33	33	0	0	100	33	67	67										Weight														
0	0	0	33	33	0	0	67	33	100	100	67									Eating out tips														
0	0	0	33	33	0	0	67	33	100	100	67	100								Food allergies														
0	0	0	33	33	0	0	67	33	100	100	67	100	100							Vegetarian eating														
0	0	0	33	33	0	0	67	33	100	100	67	100	100	100						Eating for strong bones														
0	0	0	33	33	33	0	67	33	67	67	67	67	67	67	67					Playing sports														
0	0	0	33	33	0	0	67	33	100	100	67	100	100	100	100	67				Fitness														
0	0	0	33	0	33	0	0	33	0	0	0	0	0	0	0	0	33	0		Healthy relationships														
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	0	Dealing with conflict														
0	0	0	33	0	0	0	33	0	0	0	33	0	0	0	0	0	0	0	0	Friendships														
67	67	67	33	33	33	67	0	67	0	0	0	0	0	0	0	0	0	0	0	Dating														
0	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	0	33	0	67	33	67	33	Family											
0	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0	0	33	0	67	33	67	33	100	Community										
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	Being happy									
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	Mental health issues								
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	Feeling sad							
33	33	33	0	0	33	33	33	67	0	0	33	0	0	0	0	0	0	0	33	67	33	33	0	0	67	67	67	Body image issues						
0	0	0	33	0	0	0	0	33	33	33	0	33	33	33	33	0	33	67	67	33	0	33	33	67	67	67	33	Eating disorders						
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	100	67	67	Feeling stressed				
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	100	67	67	100	Suicidal feelings			
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	100	67	67	100	100	Being anxious/worried		
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	100	67	67	100	100	100	Anger	
0	0	0	33	0	0	0	33	33	0	0	33	0	0	0	0	0	0	0	67	100	67	0	33	33	100	100	100	67	67	100	100	100	100	Going to therapy

Chapter 6: Card Sorting

Recommendations Based On Results:

Based on the data, these topics can be divided into three large categories, rather than the original five. All participants grouped these cards into larger categories rather than smaller, more specific ones. The final category names were created by merging participant's labels. The final three are titled *mental health guidance*, *sexual health*, and *your body and nutrition*. It's clear that these three topics were described and categorized in distinct ways and the new combined wording is more descriptive than what the original girlshealth.gov site had. There were a few cards that were difficult to understand for one user and there were some odd groupings. However, the dendrogram shows the data was divided into these three groupings the most.

The nutrition category was an exceptionally strong grouping between participants. The only exception was that *eating disorders* was usually classified within the mental health category. Probably because it was seen as a disorder rather than for nutritional guidance.

Another theme from the data that emerged was that the cards *family*, *community*, and *friendships* were often grouped together, but also put in the mental health category. From one participant's feedback, relationships of all kinds are usually seen as mental health boosters and therefore support a person's mental state.

The relationship topic seems like it would get more attention being grouped with mental health rather than being a stand-alone tab with just three subtopics underneath.

Below is a table of recommendations. This table provides the suggested information architecture for the new tabs on girlshealth.gov. All of these recommendations are high priority and based on the three users tested.

CATEGORY	ARTICLE TOPICS		
Mental health guidance	<ul style="list-style-type: none">▪ Eating disorders▪ Mental health issues▪ Body image issues▪ Going to therapy▪ Feeling sad▪ Being happy	<ul style="list-style-type: none">▪ Feeling stressed▪ Suicidal feelings▪ Visiting the doctor▪ Being anxious/worried▪ Anger▪ Family	<ul style="list-style-type: none">▪ Community▪ Friendships▪ Healthy relationships▪ Dealing with conflict
Sexual health	<ul style="list-style-type: none">▪ Dating▪ Sexuality▪ Reproductive health▪ Puberty	<ul style="list-style-type: none">▪ Periods▪ STDs▪ Visiting the doctor▪ Germs	
Your body and nutrition	<ul style="list-style-type: none">▪ Sleep▪ Nutrition▪ Weight▪ Eating healthy▪ Eating disorder▪ Eating out tips▪ Food allergies	<ul style="list-style-type: none">▪ Vegetarian eating▪ Eating for strong bones▪ Fitness▪ Playing sports▪ Personal appearance▪ Visiting the doctor	

Chapter 6: Card Sorting

Having three large groups rather than five on the home page will save space and make the design simpler and more welcoming for first time users. Creating a homepage that isn't as detailed as the original will allow users to explore a variety of subtopics within and should make continuous reading easier and give users a reason to stay on the site longer. The three new categories will also help the site maintain their professional look by having medical and health related descriptions for tabs, rather than broad wording.

While many topics were grouped like the original girlshealth.gov site, new category names will help the user find the right tab the first time. This new grouping has also shed light on the fact that some articles can be related to more than one topic and that it should come up under both categories when searching. One card: *visiting the doctor*, can be under mental health, sexual health and nutrition because issues within any of these categories will require a doctor's visit.

It is also recommended that the *eating disorder* card should be placed in two categories. It can stay in the nutrition category but also be added to the mental health category, with the other disorders and issues. This way teens can read up on all disorders rather than having to go through nutrition tips to find this specific disorder.

Overall, there were still some discrepancies within category groupings. This may mean more participant data is needed or there may be confusion with the descriptions. In order to help all users understand what is where, smaller groupings should be added within each category. This can be seen when a tab on the homepage is hovered over, and a drop down of additional groups could be shown before getting to an article. This would help organize the information even more and could be tested in the second design phase, if time allows.

This first round of testing was a success and has led us closer into understanding the user and how they would organize information related to the girlshealth.gov website.

Chapter 7: Diary Study

Diary Study

A diary study is a way to collect longitudinal data over a certain period of time. Participants log their experiences in their own words and describe their interactions. Researchers do not need to be present for this and can choose how often the participants inputs information into the diary.

What The Study Uncovers:

This diary study for girlshealth.gov will try to understand how participants use the site and how they feel about the articles and information provided. In other words, it will attempt to answer what our users think about girlshealth.gov, how they feel using it, and how they interact with the site. The diary study will capture thoughts and feelings from top users and allow them to share their experiences as they happen.

Questions & Tasks In The Study:

This diary study will ask participants to log a diary entry each time they visit the site and to describe their overall interaction with it. The entire study will last two months with the hopes of receiving around two diary entries a week from each participant. A diary page will be submitted like the one below. Participants are instructed to answer all questions, comment beyond just yes or no, and to provide as much detail as possible for every interaction.

Below are the following questions being asked in the study:

1) How are you accessing the site?

Mobile phone

Computer

Tablet

2) What is your goal/reason for visiting?

3) Were you able to find everything you were looking for?

Yes No

3A) If no, what specific challenges did you encounter?

4) Was there anything that could have helped your overall experience?

5) How did you feel while using the site (*e.g., frustrated, anxious, excited*)? Please list any features or sections that contributed to these emotions.

Chapter 7: Diary Study

Sample Size:

This diary study will recruit thirty participants. The girls will range in age between 13 and 19 years old and come from a variety of households across the U.S. These participants are top users who claim to visit the site weekly, so data entry should not be an issue.

Sample Type:

Because the common user of girlshealth.gov are teen girls, precautions have been taken for this study. We found participants for this research study through a recruitment company. This means that participants in this study have volunteered to give their time and opinions. Each participant was phoned and briefed ahead of time with their parent or guardian also available. This call was to go over instructions, fill out NDA forms electronically, and to go over any questions they had about the diary study. They were instructed on how to submit their diary studies via email and who to contact if they encounter any trouble.

For participating, they will be offered a \$15 gift card of their choosing at the end of each week. There will also be an additional option to make more if they reach a certain number of entries within the two months.

Method Of Study:

This diary study will be written, submitted, and collected electronically since the product being tested is a website. The diary entry will be a templated, cloud document that can be opened on a computer or phone and easily filled out. It can then be saved and attached to an email, then submitted, where answers will be analyzed.

This format is being used because teens may only have access to the internet through their phones and not necessary be near a computer when they are using the site. Being able to open this diary entry with any device is necessary. This will make the participant's day-to-day interactions easy to document and will allow them to give feedback in the moment, in real time. This method makes it much easier to not only analyze the data but also allows the teens to complete the study on their own without the help from an adult (like mailing in diary entries would require).

Benefits And Drawbacks:

The **benefits** of this study include:

- ◆ Not needing to interpret bad handwriting.
- ◆ Being able to get a head start on analyzing data after a few days.
- ◆ Being able to see if participants understand the diary questions early in the study and if they are providing enough feedback.

Chapter 7: Diary Study

- ◆ Allowing users to write down and submit responses from their phone, in real time. Not allowing time to misconstrue data.
- ◆ Being able to remind participants to submit entries and to motivate them throughout the two months.

The **drawbacks** of this study are:

- ◆ Possible technical difficulties for participants if they don't know how to open the diary document.
- ◆ General software or internet glitches.
- ◆ Participants may feel rushed when submitting an entry if they are out in public/not at home.
- ◆ Participants may also feel uncomfortable to reveal what they are really searching for on the site.
- ◆ Unable to capture emotions of users in the moment.
- ◆ Unable to see what environment the user is in.

Length Of Study:

The length of the study will be two months. Entries should be submitted as soon as one diary is logged or can be submitted in bulk at the end of each week. With the consistency of our participants, we aim to get at least two diary entries a week from each person, for a total of sixteen entries, but hopefully more. Since everyone has different needs and uses the site for

different reasons, some participants are projected to have more entries than others. However, if one participant seems to be not submitting anything, a researcher will contact them to ask them if they have any questions and if they are still interested in being in the study.

After the two months, if there are not enough diary submissions, there may be reason to extend the study or to gather more participants for another round of additional research.

Gathering The Results:

To analyze the results, quantitative data (from the yes or no questions) will be tallied up. Then the qualitative data (the open-ended comments sections), will be transcribed by CAT (Coding Analysis ToolKit), which can easily read through this data and divide it into groups. Similar issues, goals, and comments will be grouped together and labeled to later create an affinity diagram. The researchers will create the diagram from these groups and seek out trends from all the entries. This could include similar user goals, similar frustrations, and similar thoughts about the site.

Chapter 7: Diary Study

For Participants:

Overview & Purpose Of The Study:

Girlshealth.gov is conducting a diary study to learn how they can improve and better serve the teen community. You have been chosen as a qualified participant based on your age, gender, usage of the site and willingness to give your honest feedback. The reason for this diary study is to learn how top users interact with the site and if users are satisfied with the experience and content.

The entire diary study will last two months (8 weeks). Throughout this time, a diary entry will need to be filled out for every visit to the site, no matter the reason. The entry is only five questions, some are simple yes or no questions, while others are open-ended and require a detailed description. A typical entry should only take 15-25 minutes to fill out.

The purpose of this research will help developers see the tasks and issues from a user perspective, so all information is welcome and expanding on your thoughts as much as possible is encouraged.

Instructions:

Your study start date is: _____ **Your study end date is:** _____ .

Your diary entry link was sent to your email: _____ .

Please click the link to access the diary document.

Throughout the two months, participants should log a diary entry every time they visit girlshealth.gov, no matter the reason or length of stay. This could be browsing a certain topic or searching for an answer to a specific health question. Either way, during your visit to the site please take notes of certain things you find difficult and your overall experience and journey. Once you complete your time and research on the site, please fill out a diary entry as soon as possible. This way the most accurate information can be recorded. Most questions have a place to expand on your answer and give reason, so please be sure to include as many details as possible and to describe the page you visited.

Diaries are submitted via email to: _____

Diaries can be opened and worked on from a variety of web browsers and devices for convenience. Please test on your preferred device before starting this study. The entries can be submitted via email at the end of each week or as soon as one diary entry is completed, participants choice. The dairies will be confidential, only to be seen by researchers and developers of girlshealth.gov. Once the study is over, data will be classified under a participant number, with no self-identifying information being kept.

Chapter 7: Diary Study

We ask that diary entries be descriptive but please do not include any self-identifying information.

During the study, participants may also hear from the researchers of girlshealth.gov. They will be monitoring progress, and asking if there are any questions. We ask that if at any time you cannot continue in the study to let us know immediately. You will still be paid for your time.

Participants will receive a \$15 gift card of their choosing at the end of each week with the opportunity to earn additional money if a certain amount of diary entries are submitted. This number will not be known to the participant unless they reach that number, as to not sway opinions or data collected. After the two months is complete and the last diaries have been submitted, rewards will be sent out to your address given at sign up.

Diary Entry:

The right side of this page shows what each diary study will look like with the following questions. All final entries will be analyzed and transcribed for similar themes and trends to identify site weak points and allow girlshealth.gov to continue to improve and become a better resource for teen girls everywhere! We thank you for your time and engagement in this study. If any questions arise, please contact us at: _____ .

Date: _____

Time: _____

Girlshealth.gov Diary Entry

1) How are you accessing the site?

Mobile Phone

Computer

Tablet

2) What is your goal/reason for visiting? _____

3) Were you able to find everything you were looking for?

Yes

No

3A) If no, what specific challenges did you encounter?

4) Was there anything that could have helped your overall experience?

5) How did you feel while using the site (e.g., frustrated, anxious, excited)? *Please list any features or sections that contributed to these emotions.*

Chapter 8: Heuristic Evaluation

Overview:

A heuristic evaluation for girlshealth.gov is a necessary usability inspection method that will help identify areas that violate usability guidelines. This type of evaluation method will be conducted by a UX expert and does not involve any end users. The heuristic evaluation acts as a baseline for the website to adhere to. This expert will go through each one and identifying where any heuristics is not met. For this report, usability issues will be highlighted, and the entirety of the website will be tested. While it is natural for some website features to be at odds with some of the heuristics, the majority should still follow these guidelines closely.

Why It Matters:

For girlshealth.gov, conducting a formative evaluation before a redesign of the website is important so that weakness and difficulties found within the site can be known and fixed in the first design cycle. This type of evaluation method requires low resources and is a great way to decide what items and features are working and what needs changing. Following a heuristic expert will give girlshealth.gov a chance to be critiqued through an expert's point of view, rather than only teen users. With this evaluation, the website will be able to provide a better product and user experience.

The Test:

In this evaluation, the expert will use the ten heuristics created by Jakob Nielsen and Rolf Molich. Specific topics like consistency standards, error prevention, efficiency of use, and familiar systems will be examined, along with other important items.

On the next page, you will see the ten heuristics listed on the left, along with its severity rating number. A five rating means high priority, while a one is classified as being low priority and not critical to fix. In the next column the impact to the amount of users is classified as no, low, medium or high impact. This will show if the issue impacts many users or will only affect a small, minimal amount of users, depending on the situation. In the last column, you will see the expert's comments about this issue and what could be improved. This report will help prioritize what issues are a major concern and what should get fixed first.

Chapter 8: Heuristic Evaluation

Severity rating: 0 - No issue | 1 - Cosmetic problem only | 2 - Minor usability problem
 3 - Mid-size usability problem | 4 - Large usability problem

Impact on User: No impact, Low impact, Medium impact, High impact

Heuristic	Severity Rating	Impact on Users	Comments
Visibility of system status	0 1 2 3 4	No Impact	This website acts as a resource database that is article driven. It does not have a need for a system status in any of its content. Even the quizzes are limited to one page so there is no need for a progress bar. Therefore, there is no impact to any users.
Match between system and real world	0 1 2 3 4	Low Impact	Articles are written well, are brief, and at a reading level teens can understand. The articles within the category tabs are related to the overall topic, making it helpful to continue research. However, some articles contain too many links which may or may not work and may or may not lead to other websites. This will impact some users depending on what category they visit.
User control and freedom	0 1 2 3 4	Medium Impact	While there is no need for error recovery, there is breadcrumb navigation at the top of the page that works but should be updated cosmetically. This navigation allows the user to see and reverse their steps if necessary. But it should be more noticeable and have some distance between it and the start of the article. This issue could affect users that come to the site and browse multiple articles.

Chapter 8: Heuristic Evaluation

Heuristic	Severity Rating	Impact on User	Comments
Consistency and standards	0 1 2 3 4	High Impact	While the site pages are consistent and the navigation works similarly to other sites, it's not done optimally. Not all articles have additional readings, some have quiz links, others have YouTube videos. Recommend minimizing the links to no more than three and putting them at the bottom of articles only. This affects all users who visit the site.
Error prevention	0 1 2 3 4	Medium Impact	In the quizzes section of the website, the quiz cannot be submitted unless all questions have a chosen answer, yet there is no instructions to tell the user this. It can be confusing if a user accidentally skips a question. A pop up will need to be created so that users know why they can't get their results. This will impact a decent amount of users who take the quizzes.
Recognition rather than recall	0 1 2 3 4	Low Impact	The website does a good job of keeping the category tabs at the top of the page at all times. This is helpful for users who may want to jump around to different topics. But one feature to help would be to add a recently viewed article box, so users can go back and read. This is currently affecting a low number of users.
Flexibility and efficiency of use	0 1 2 3 4	High Impact	The homepage struggles with efficiency because there are so many categories, it is hard to know where to start. This makes navigation, especially for first time users, complicated. The site also can only be viewed on a computer. Currently the interface gets cut off if viewed on a mobile device. This impacts many teen users who may only see the site from their phone.

Chapter 8: Heuristic Evaluation

Heuristic	Severity Rating	Impact on User	Comments
Aesthetic and minimalist design	0 1 2 3 4	High Impact	As mentioned before, there are too many categories presented to the user on the homepage. The topics need a reorganization. The colors used on the site are also too distracting when trying to read. A softer color palette and simpler navigation would help the site resonate with today's teens and maintain a professional look. This issue is affecting all users.
Help users recognize, diagnose, and recover from errors	0 1 2 3 4	Medium Impact	There needs to be an error message for quiz submissions, indicating that one or more answers may be missing. The site would also benefit from a notification pop-up if a link to another site is clicked. It should notify that they are going to a new website, with a back button in case they don't want to proceed. This is impacting many users who click these links.
Help and documentation	0 1 2 3 4	High Impact	Better illustrations and charts would help medical, or body related articles, but also other topics would benefit from updated imagery too. It would help the users who don't have time to read the entire article. Also, for external links, a short description would help the reader decide if it's worth clicking. Currently this affects all users.

Chapter 9: Usability Testing

Usability Testing:

Usability testing is an important research method that involves evaluating a user and how they interact with a product. During a test like this, users try to complete multiple tasks while being observed. The test can be done with a computer and the existing website or with a low fidelity prototype, simulating it. The participants think aloud during the task which allows the moderator to spot difficulties that occur during the user's experience, like inability to complete said task. With the findings, they can recommend design changes so that the product can become more user friendly and intuitive.

Introduction:

Girlshealth.gov is a teen resource on a variety of health and well-being topics. They post articles that are informative, provide interactive quizzes and site additional resources that can help with issues teens are dealing with today. They are backed by the U.S. Department of Health and hope to continue being a leading online resource for girls aged 13 to 18 years old.

Today the developers of girlshealth.gov are going to be doing a usability test on three users. The three will be tested individually with only the moderator present. Two users will be tested in person, and one will be done virtually. Each user will be shown the actual site online, starting out on the homepage and will be asked to do a series of five tasks. The purpose is to see if there are any

issues in performing and completing them. Each participant will have the same tasks and will be asked to speak aloud during it so that their thought process can be understood. Once all the tasks are complete there may be some follow up questions to clarify certain points.

The test will of course start with instructions and some warm-up questions to ease participants into the study. The findings in this report bring issues to the forefront and allowed users to share insight on what confuses them and how they view the site/brand. The following report shows issues that were found, followed by design recommendations for the redesign.

Warm Up Questions:

- ◆ **What grade are you in?**
- ◆ **About how many hours a week do you spend online?**
- ◆ **What kind of sites are you usually visiting?**

The Home Page Tour: Once the above questions are answered, users will be shown the homepage and asked what they think of the site. What catches their attention, what are their initial thoughts, what they think they can do here, and finally what they think the site's purpose is. Participants are allowed to scroll but are advised not to click on anything. This provides feedback on the homepage and allows insight on typical first impressions.

Chapter 9: Usability Testing

Tasks To Perform:

Task 1: Pretend you are a teen athlete who is looking for tips and articles on how to eat healthy and build better food habits. Where would you start your search? Can you find a specific article that would help you with this topic?

Task 2: Imagine you are a frequent visitor to this site and enjoy reading and learning about the human body. Today you feel like testing your knowledge... where on the homepage would you navigate to if you wanted to take one of the quizzes?

Task 3: Pretend you're a teen who has just been diagnosed with asthma. Show me how you would use the search engine to find an article on this topic quickly.

Task 4: Let's say you are doing research on reproductive health for a school project. You are unsure if this site is trustworthy and want to find out more about the site and who to contact for questions. Show me how you would go about finding this and the contact information.

Task 5: You're a teen browsing the articles in the relationships tab and need more information about dealing with a family divorce. Where can you find additional links and resources?

Preparatory Materials:

For this usability testing, 40 minutes was the time allotted for each participant. All three sessions were recorded with Microsoft Teams screen recorder and the dialogue was also captured between moderator and user. Each participant was aware of this ahead of time. They each were shown the actual girlshealth.gov online website and each task started out on the homepage.

The participants selected were all teen girls, within the typical age range. They were also screened as being a moderate or heavy user of the internet. Of course, before the sessions, each participant signed a consent form and was given a formal breakdown of instructions. (See appendix B,C, and D for more information). After the test was completed, users were allowed to pick out a gift of their choosing from the gifts room. Which was girlshealth.gov merchandise.

Chapter 9: Usability Testing

Participants:

Participant 1: Paige | Female | Age 14, grade 9

Testing: In person

Internet Usage: Has moderate internet usage for her age, around 20 hours a week. Usually spends her online time playing computer games or chatting with friends in chat rooms. She has heard of the girlshelath.gov site and brand but has never visited.

Participant 2: Tara | Female | Age 17, grade 11

Testing: Virtual (using Microsoft Teams)

Internet Usage: Spends around 30 hours a week online, mostly for homework and social media browsing. She describes herself as being very comfortable with computers and the internet. She has never heard of girlshealth.gov but is familiar with similar, competitor sites.

Participant 3: Debra | Female | Age 18, grade 12

Testing: In person

Internet Usage: Uses the Internet everyday, mostly for schoolwork, applying to jobs, and social media. She considers herself to be very tech-savy and is comfortable browsing the internet on her smart phone, tablet, or laptop. She has never heard of girlshealth.gov.

Tasks Completion:

Below is a chart showing how long it took the participants for each individual task, their total time and their mean (average) time. Time is shown in minutes and seconds.

PARTICIPANT	TASK 1	TASK 2	TASK 3	TASK 4	TASK 5
Paige (#1)	1:30	1:20	1:55	1:04	1:50
Tara (#2)	0:54	0:20	1:02	1:18	1:19
Debra (#3)	0:50	1:39	1:31	0:50	1:23
Total Time	3:14	3:19	4:28	3:12	4:32
Mean Time	1:04	1:06	1:29	1:04	1:30

Task Analysis:

For each task there is a chart showing issues and challenges that participants had, the proposed changes for the redesign and then the severity of the issue.

Task 1: Pretend you are a teen athlete who is looking for tips and articles on how to eat healthy and build better food habits. Where would you start your search? Can you find a specific article that would help you with this topic?

Chapter 9: Usability Testing

TASK ISSUES	PROPOSED CHANGES
The tabs on the top and left of the nutrition page, plus all the links within the article, make the page confusing and feel cluttered. Navigation is difficult and the site is poorly organized.	All tabs, not just the nutrition tab, need to be simplified. Have one organizational tab only at the top, remove the one on the side of the page. Articles also need to limit the number of links shown.
SEVERITY: HIGH	

Results: While every participant started their search from the nutrition tab, once they clicked on it, the results varied. Participants 1 and 3 found a nutrition basics article in the left column, while participant 2 clicked on an article link that brought her to a page on carbohydrates. While all of these paths can be correct, all three users were overwhelmed by the many links and spent a long time looking over the entire page for clues on where the next best related article would be. The severity of this issue is high because easy navigation is needed in all the tabs and will affect all users, no matter what they look up.

Task 2: Imagine you are a frequent visitor to this site and enjoy reading and learning about the human body. Today you feel like testing your knowledge...

where on the homepage would you navigate to if you wanted to take one of the quizzes?

TASK ISSUES	PROPOSED CHANGES
The quiz section on the homepage is big and easy to see but the link to get to these quizzes are too small and users were confused why clicking on the image or the word "quiz" was not taking them to the next page.	The hyperlink for quizzes needs to be updated. First, the title "quick quizzes" and the image below it need to be clickable. Add descriptive text like "click here to take a quiz" and making it a button to click rather than just regular text would help.
SEVERITY: HIGH	

Results: All participants found the quizzes link right away on the homepage once they scrolled down. But they were all stumped when they went to click on the image and they were not taken to the next page. Participant 1 became frustrated and gave up after trying to click on it a few times. Participant 2 was the only person to realize she had to click on the small text below the image to get to the quiz. Unfortunately when she got there she learned the quizzes can't be submitted and don't work anyway! This task is also rated a high severity because links that are not obvious will discourage users and lead to a negative perception of the site.

Chapter 9: Usability Testing

Task 3: Pretend you're a teen who has just been diagnosed with asthma. Show me how you would use the search engine to find an article on this topic quickly.

TASK ISSUES	PROPOSED CHANGES
The search bar sometimes brings up nonrelated articles and the results reveal too much detail. Each result shows the URL, even if it's part of girlshelath.gov, which can be confusing.	To make searching faster, we need to tailor the results that come in from the search bar and have only a short title and description. Also, getting rid of the URL with a cleaner interface will help with quicker searches.
SEVERITY: MEDIUM	

Results: Participant 1 and 3 first thought about going through the tabs to find a specific article on asthma. But when reminded we were looking for the "quickest way" they instantly looked for a search bar. Luckily the search bar is present on all pages of the site, so they were able to type it in and find related articles. Participant 2 however, went to the search bar first. When asked why she did this, it wasn't because she wanted faster results. She said she felt overwhelmed by the tabs and how they were organized when she did task 1. Unfortunately, all agreed that results were hard to decipher with URLs and lengthy descriptions. This task was rated a medium severity since most users

will be using the site through the tabs on the homepage and the suggested changes are mostly cosmetic.

Task 4: Let's say you are doing research on reproductive health for a school project. You are unsure if this site is trustworthy and want to find out more about the site and who to contact for questions. Show me how you would go about finding this and the contact information.

TASK ISSUES	PROPOSED CHANGES
The contact page is outdated and does not provide teens with enough information. They felt an email address or links to social media should be included. Another user said they expected a form to appear when they clicked on "contact us".	Creating a contact form right on the page to submit should be created. There should also be an email address provided for certain inquiries and social media buttons. The phone number and postal address can be kept, but moved to the bottom of the page.
SEVERITY: LOW	

Results: All participants assumed correctly that the contact button would be at the bottom of the homepage. But two out of three participants felt there should be an email address and social media buttons, rather than a physical address to mail a letter to. Participant 3 made a comment saying she wished the "contact

Chapter 9: Usability Testing

us” button took her to a form to fill out her question, rather than having to open her email or have to call in order to get her questions answered. While this contact page is useful and the task can be completed, there are ways to improve it. Therefore, this got a low severity rating since the page doesn’t get a lot of traffic and it’s not affecting many users.

Task 5: You’re a teen browsing the articles in the relationships tab and need more information about dealing with a family divorce. Where can you find additional links and resources?

TASK ISSUES	PROPOSED CHANGES
The “additional resources” tab is not called out well enough between all the other topics in the left side bar. It gets lost and there is just too much to look through on one page. Users spent too much time searching for it.	The whole site needs to be simplified with only one navigation bar, up at the top. A few additional resources can be located at the end of the article if necessary but a whole tab related to other resources and companies should be created.

SEVERITY: HIGH

Results: Participant 1 was unable to find the additional resources within the relationships tab. Once again, the side navigation was too lengthy, and she

breezed over where it said “additional resources”. When this was pointed out at the end of the test, she said she was trying to quickly read everything and felt it should have been called out more. Participants 2 and 3 also took a long time to read and search but ultimately found it. All users felt that this tab should be called out in a different way, like having it in a different color from the rest of the topics. The times to complete this task was longer than expected. Confirming that important information is not being called out, resulting in users spending more time looking for information rather than reading. This task is rated a high severity since navigation is a high priority and most tabs have an additional resources section.

Moving Forward With Recommendations:

Girlshealth.gov is a site that is supposed to be designed for teen girls and young users who have health and well-being questions. But most of the time information is not presented clearly or the interface does not work as they think it should. The site and the users seem to have two different mental models and they clash with almost every task given. As seen from the results, individuals took longer to find information than expected. This means that most users are probably leaving the site to do a quick google search instead.

In order to keep users coming back and gaining new consumers, site changes will have to be implemented. The main change is to create a simpler site

Chapter 9: Usability Testing

navigation with new, descriptive tabs across the top of the homepage. These tabs will be the only source for navigation, getting rid of the left side bar. This change also come with limiting article links. All of this will allow the webpages to be cleaner, easier to read, and allow users to find the correct information without being bombarded with side quests.

In addition, there are some smaller cosmetic changes to the site like fixing hyperlinks, creating a better contact page and designing a better search results page. Having links that don't work or the inability to find information on a professional site is unacceptable. Without these changes, girlshealth.gov may miss out on users who need answers fast.

All of these changes will allow the brand to continue to grow and gain more popularity among the teen girl community. Bringing the site up to date will help the overall brand stand out against its competitors and allow users to feel more comfortable browsing. Thus, creating a positive user experience.

Appendix A

Below are all 34 cards used in the card sort. They were shown in random order for each participant.

Reproductive Health

The overall well-being of the reproductive system and sexual health.

Puberty

Hormonal changes that teens go through.

Periods

A woman's monthly cycle.

Sleep

A natural state of rest.

Germ

Bacteria or virus.

Sexuality

A person's attraction and identity related to sex and relationships.

STDs

Sexually transmitted diseases.

Personal Appearance

A person's physical presentation.

Visiting The Doctor

Seeing a medical professional.

Nutrition

Choosing the right foods for your body.

Eating Healthy

Eating foods that have high nutritional value.

Weight

A person's body mass.

Eating Out Tips

Eating healthy at a restaurant.

Food Allergies

A reaction triggered by eating certain foods.

Vegetarian Eating

A plant-based diet.

Eating For Strong Bones

How to build strong bones, includes bone health.

Playing Sports

Physical activity.

Fitness

The state of being fit, working out.

Healthy Relationships

A bond where people feel respected and safe.

Dealing With Conflict

A clash between people due to differences.

Appendix A

Friendships

Maintaining friends.

Dating

Spending time with someone in a romantic way.

Family

People related to you by blood or marriage.

Community

People living in the same place or having similar characteristic.

Being Happy

To feel good.

Mental Health Issues

How to handle emotions.

Feeling Sad

A depressed mood.

Body Image Issues

How a person feels about their body.

Eating Disorders

Unhealthy habits around food.

Feeling Stressed

Tension or anxiety

Suicidal Feelings

Intense emotions of hopelessness.

Being Anxious/Worried.

Feeling nervous or uneasy/anxiety.

Anger

A strong feeling of upset or annoyance.

Going To Therapy

Talking about issues with a professional therapist.

Appendix B

Below is the script used in the usability test with each participant. It explains the purpose of the test and walks them through the task questions.

Welcome! I appreciate you coming into today to help us with some research. My name is _____ and I will be the moderator for our usability testing today. As mentioned previously, the testing involves the website girlshealth.gov and they are in the process of redesigning their site. They are interested in doing a usability test with the current site and hope to get user feedback on any issues found.

The testing should take no more than 40 minutes, and you can leave at any time if needed. The test first involves being shown the homepage of girlshealth.gov. I will ask you what your initial thoughts on the homepage are and what you think you can do on this site. After that I will give you a series of five tasks to complete. I will give them to you one at a time and would like you to speak aloud so that I can hear your train of thought and reasoning. We are interested in hearing why you navigated to a certain area and any issues you are encountering as well as things you like about the site. As you go about completing the tasks, I may ask you some probing questions for clarifying purposes.

Please know that you can't give any wrong answers here and that we value your opinion and feedback. We want to know what frustrates you and how we can build a better website for teen users like yourself. Also, note that if you have a question in the middle of a task, I may not be able to answer it until after you are done, as to not sway your actions. We want to see how you would interact with the site, in a real-life scenario.

With your permission, I also plan on recording our time together, which will help me to focus on timing each task and listening to you, rather than taking notes. If you don't mind, I will need you to sign and date this form consenting to the recording.

Do you have any questions so far?

Before we get started on the tasks, I have a few questions to ask that will help me get to know you a bit better.

Warm-up questions:

What grade are you in?

About how many hours a week do you spend online?

What kind of sites are you usually visiting?

Appendix B

The Homepage Tour:

Now we can get started...I just brought up the girlshealth.gov homepage for you. Please take a look. Feel free to scroll but do not click on anything. Let me know your initial reaction to the site. Does anything catch your attention? What do you think the purpose of the site is? What can you do on the site?

The Tasks:

Great. Now we can move on to the five tasks. I am going to read a scenario to you and ask you to complete the task as best you can on the site. As you navigate through, please think out loud as much as possible, this will help us understand your actions. I will also be timing the task but please do not feel you need to complete it in a certain amount of time. This is done solely for data purposes.

*Task questions can be seen in Appendix D

Wrapping up:

Great job, we have finished all the tasks! I am going to stop the recording now. Since we are all done, do you have any questions for me?

Thank you for coming in today and taking the time to help girlshealth.gov. Your help is invaluable and as promised you can pick out a gift for your hard work. Then I can walk you out, shall we?

Appendix C

Below is the consent form each participant had to read and sign before starting the usability test.

Participation Consent Form

Study Title: girlshealth.gov usability test

Test Date:

Participant Name:

We are conducting a usability study to understand how people interact with our site: girlshealth.gov. Your participation today will help us improve the design and functionality of the website.

The entirety of the session will be recorded but used internally for research purposes only. Your information and feedback are confidential and will not be used or shared by anyone else. You may withdraw from testing at any time if you need to, without penalty.

Your signature below confirms that you have been briefed on the study today, consent to the recording, and understand how your data will be used.

Participant Signature:

Date:

Appendix D

Below were the five tasks given in all three usability testing sessions. They were performed in this order.

Task 1: Pretend you are a teen athlete who is looking for tips and articles on how to eat healthy and build better food habits. Where would you start your search? Can you find a specific article that would help you with this topic?

Task 2: Imagine you are a frequent visitor to this site and enjoy reading and learning about the human body. Today you feel like testing your knowledge... where on the homepage would you navigate to if you wanted to take one of the quizzes?

Task 3: Pretend you're a teen who has just been diagnosed with asthma. Show me how you would use the search engine to find an article on this topic quickly.

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