

Introduction

15

You are invited to participate in a research study focused on exploring users' experiences and perceptions of **Password Strength Meters (PSMs)** on websites.

A PSM is a tool that evaluates a password's strength by assessing factors such as length, complexity, and character variety (uppercase and lowercase letters, numbers, and symbols). It indicates whether a password is weak, medium, or strong, helping users create more secure passwords for their online accounts. PSMs can provide feedback in various forms, including text, progress bars, percentage scores, or color indicators.

Participation in this research is voluntary, and you may withdraw at any time. If you choose to participate, you will complete a short survey about your views on PSMs. The survey will take approximately 15 minutes, and you will receive \$2 for your participation.

To qualify for this study, you must:

- 1. Be currently located in North America.
- 2. Be 18 years of age or older.
- 3. Have experience creating accounts and passwords on online websites.
- 4. If you have previously participated in this survey and submitted feedback on PSM features, please do not participate again. **Duplicate responses will be rejected.**
- 5. Please note that we will conduct an AI response detection check, and any **AI-generated answers will be disqualified.**
- **6. Please note: We will carefully review your answers. Low-quality responses will be rejected, especially AI generated.**

Thank you for considering participating in our research study. If you meet the qualifications and are willing to participate, please click the " → " button to continue. (Please wait 15 seconds for the button to appear.)

Below is an example of a PSM to help you visualize how these evaluations are typically shown:

Password

••••••••



Choose a unique password with at least 8 characters. Include at least 1 number, mix uppercase letters, lowercase letters and 1 symbol to increase the strength of your password.

Medium

Demographics

How old are you?

- ☐ 18-24 years old
- ☐ 25-34 years old
- ☐ 35-44 years old
- ☐ 45-54 years old
- ☐ 55-64 years old
- ☐ 65+ years old

How do you describe yourself?

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer to self-describe
- ☐ Prefer not to say

What is the highest level of education you have completed?

- ☐ Some high school or less
- ☐ High school diploma or GED

- ☐ Some college, but no degree
- ☐ Associates or technical degree
- ☐ Bachelor's degree
- ☐ Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)
- ☐ Prefer not to say

Choose the race that you consider yourself to be:

- ☐ White or Caucasian
- ☐ Black or African American
- ☐ American Indian/Native American or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Prefer not to say
- ☐ Other

What is your field of study or occupation?

- ☐ Education
- ☐ Business and Management
- ☐ Natural Sciences
- ☐ Computer Science and Information Technology
- ☐ Social Sciences
- ☐ Health and Medicine
- ☐ Skilled Trades
- ☐ Engineering and Technology
- ☐ Arts and Humanities
- ☐ Prefer not to say
- ☐ Other

Background questions

When was the last time you created a new online account using a password?

- ☐ Within the past week
- ☐ Within the past month
- ☐ Within the past three months
- ☐ Within the past six months
- ☐ More than six months ago
- ☐ I don't remember

How often do you encounter password strength meters while creating passwords on websites?

(For example, out of 10 times you've created a password, how many times did you see a password strength meter?)

- ☐ Always (10 out of 10 times)
- ☐ Often (7–9 out of 10 times)
- ☐ Sometimes (4–6 out of 10 times)
- ☐ Rarely (1–3 out of 10 times)
- ☐ Never (0 out of 10 times)

What factors do you think password strength meters usually consider when assessing a password's strength?

Have you ever chosen to ignore the suggestions from a password strength meter to improve your password? If so, why?

How much do you trust password strength meters to secure your accounts?

- ☐ Very much
- ☐ Somewhat
- ☐ Neutral
- ☐ Not very much
- ☐ Not at all

Have you received any training or education in password security? (Select all that apply)

- ☐ Formal Education (e.g., School programs, Company programs, Security certifications)
- ☐ Self-Education (e.g., Online resources, Workshops or seminars)
- ☐ Guidance and Support (e.g., Updates from platforms, IT professional guidance)
- ☐ No Training or Education Received
- ☐ Other (please specify)

Attention Check

Which of the following best describes what a Password Strength Meter does?

- ☐ A service that securely stores and manages passwords for users.
- ☐ A tool that evaluates password strength and provides feedback to users.
- ☐ A program that continuously monitors account activity for potential threats.

Each group is randomly assigned inconsistent passwords, with the same questions

How would you rate the strength of the following password?

Qwerty)micemice

- Weak Medium Strong
- ☐
 - ☐
 - ☐

How confident are you in your rating?

Not at all

☐

Not very much

☐

Neutral

☐

Somewhat

☐

Very much

☐

Websites' password strength meters rate this password as 'Strong'. How much do you agree with this rating?

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Despite being rated as 'Strong' by websites PSMs, this password is 'NOT strong' (It could be medium or weak) based on research PSM tools. Given this information, would you change your initial rating?

- ☐ Yes, I would change it.
- ☐ No, I would not change it.

Please choose your new rating:

Weak Medium Strong

☐☐☐

Please provide at least one reason for your new rating:

Please provide at least one reason for choosing 'No':

#{e://Field/RandomText}

Each group is randomly assigned one consistent password, with the same questions

How would you rate the strength of the following password?

#{e://Field/RandomText1-4}

- Weak Medium Strong
- ☐ ☐ ☐

How confident are you in your rating?

- Not at all Not very much Neutral Somewhat Very much
- ☐ ☐ ☐ ☐ ☐

Websites' password strength meters rate this password as 'Strong'. How much do you agree with this rating?

#{e://Field/RandomText1-4}

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

This password is strong based on research PSM tools, just like the password strength meters indicated. Given this information, would you change your initial rating?

Redacted text

- ☐ Yes, I would change it.
- ☐ No, I would not change it.

Please choose your new rating:

Redacted text

- Weak Medium Strong
- ☐ ☐ ☐

Please provide at least one reason for your new rating:

Please provide at least one reason for choosing 'No':

Redacted text

General perceptions of inconsistency

How do you view the inconsistency between the password strength ratings given by the website's PSMs and research PSM tools?

Do you believe that inconsistency affect your trust? Please explain your reasons.

Now that you’re aware of the inconsistencies, how do you plan to create passwords for your online accounts in the future?

Regarding the inconsistency of websites PSMs, what are your suggestions for their future design?

The end

Dear Participant,

Thank you for participating in our survey. As part of our ongoing study, we may reach out to you for follow-up surveys related to the **Password Strength Meters**. Please keep an eye on your messages for any further tasks.

We appreciate your valuable contributions to our research.

Please enter your **MTurk Worker ID** below. This ID will be used solely to match your survey responses with your profile for payment purposes and to facilitate follow-up contact as part of this study.

Powered by Qualtrics