Designing and Conducting Usability Research on Social Media Misinformation with users who are Low Vision or Blind

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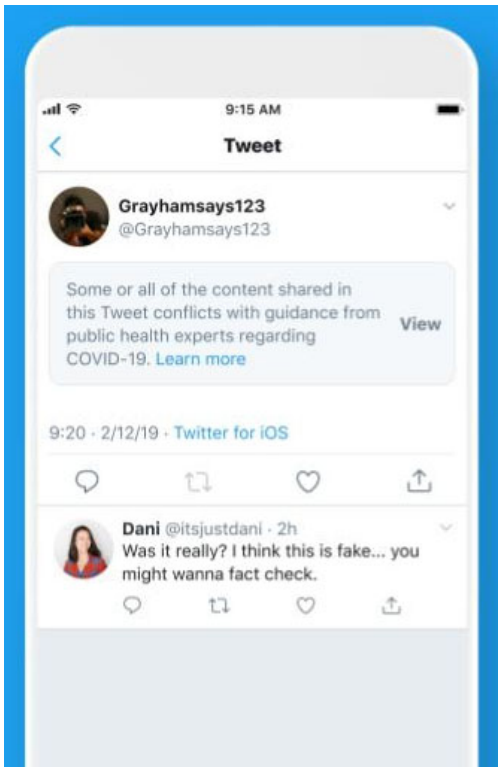
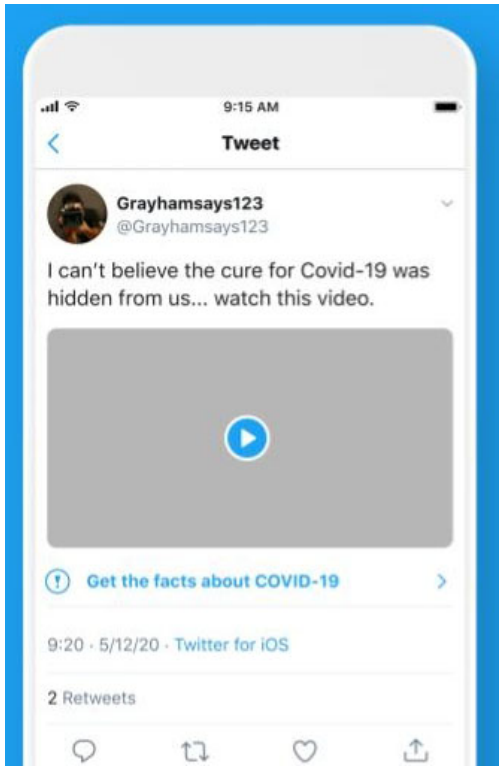
Misinformation Moderation on Social Media

Moderation on Social Media → Misinformation warnings as ***visual*** frictions





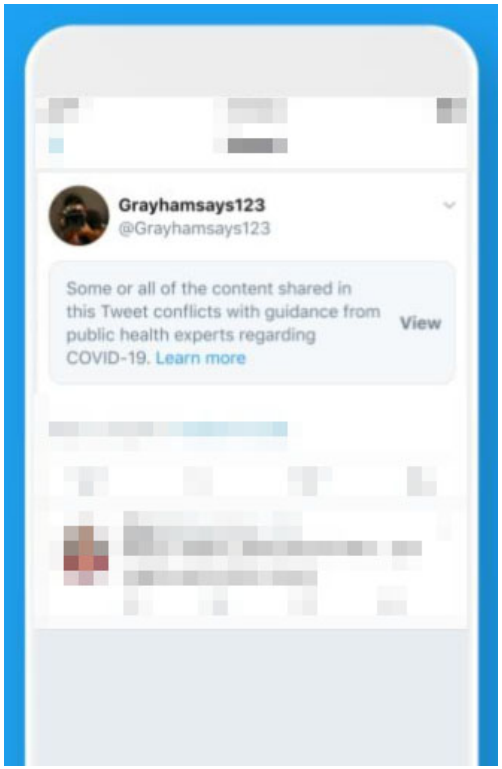
Covers → **pre**-exposure *deterrence*

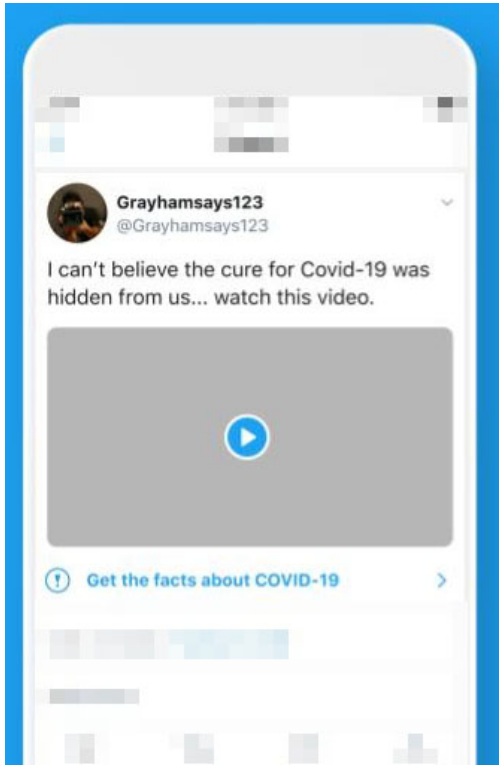
Labels → **post**-exposure *assistance*

Source: `https://blog.twitter.com/en_us/topics/product/2020/updating-our-approach-to-misleading-information`

Social Media Users who are Low Vision or Blind

A11y → Warnings ***do not*** take into consideration users with visual impairments or people who utilize assistive technology





Covers → a confusing text blurb (*Some or all of the content... Learn More. View.*)

Labels → an out-of-nowhere suggestion (*Get the facts about COVID-19*)

ADVERSARIAL CYBERSECURITY AUTOMATION LAB

Research Questions

RQ1 → What are the accessibility experiences of users who are low vision or blind with misinformation interventions on social media?

RQ2 → How misinformation interventions on social media help users who are low vision or blind with truth discernment?

RQ3 → What design recommendations do users who are low vision or blind have for inclusively accessible misinformation interventions?

Recruitment

IRB Approval → 18+, US social media users who are legally blind or low vision

Sampling → Snowballing → LinkedIn post (spammed by bots) → participant pool

Sample → Demographic distribution:

Gender				
Female	**Male**	**Non-Binary**		
16 (56%)	12 (41%)	1 (3%)		
Racial/Ethnic Self Identification				
White	**Hispanic/latinx**	**Asian**	**Black**	
14 (48%)	7 (24%)	5 (17%)	3 (10%)	
Political Self-identification				
Apolitical	**Left-leaning**	**Moderate**	**Right-leaning**	
5 (17%)	12 (41%)	7 (24%)	5 (17%)	
Age				
[18-29]	**[30-39]**	**[40-49]**	**[50-59]**	**[60+]**
11 (38%)	8 (28%)	4 (14%)	2 (7%)	4 (14%)
Education				
High-school	**Undergraduate**	**Graduate**	**Doctorate**	
3 (10%)	12 (41%)	11 (38%)	3 (10%)	

Recruitment (cont'd)

Sample → Visual disability profile:

Visual Self Identification			
Totally Blind	**Light Perception**	**Legally Blind**	**Low Vision**
4 (14%)	11 (38%)	11 (38%)	3 (10%)
Device			
iPhone	**Android**	**Windows PC**	
24 (83%)	1 (3%)	4 (14%)	
Assistive Technology			
Screen Reader	**Magnifier**	**Large Text**	**Color filters**
23 (79%)	4 (14%)	2 (7%)	2 (7%)

Sample → Social media platform of choice:

Social Media Platform of Choice		
YouTube	**Facebook**	**TikTok**
14 (48%)	9 (31%)	6 (21%)

Interview Setup, Compensation, Stimuli

Interview Setup & Compensation → Zoom (no video), verbal consent, [interview], debriefing; $25 Amazon gift card, duration: 40-60 minutes

Stimuli → Used for answering RQ2 and RQ3:

US Says Covid Came From Chinese Lab: WSJ

11K views 2mo ago ...more

COVID-19
Get the latest information from the CDC about COVID-19. Learn more

See more resources on Google

Bloomberg Television 1.51M Subscribe

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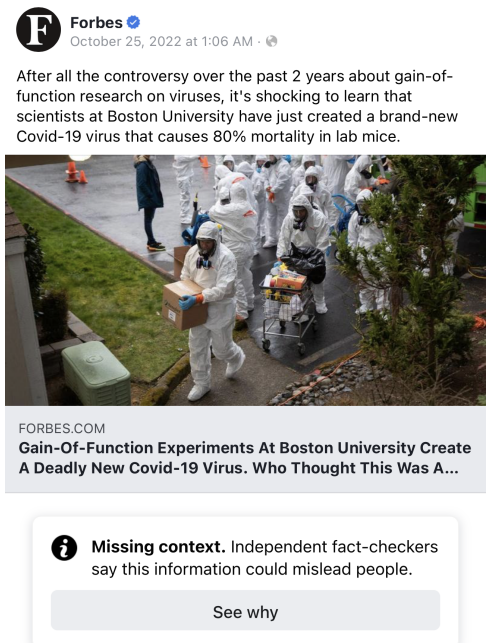
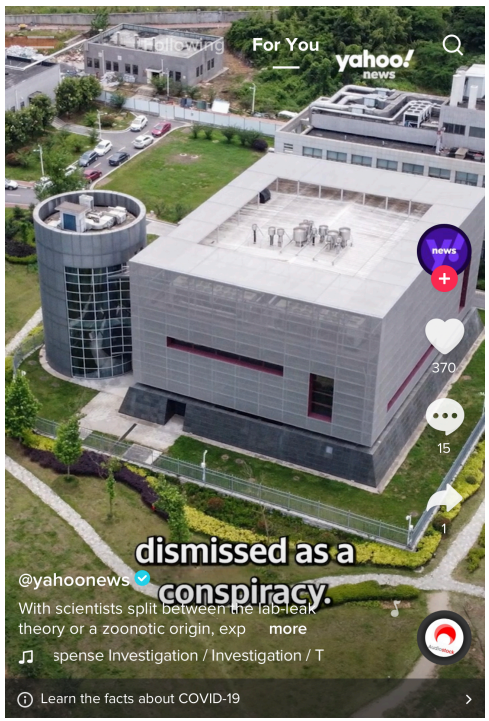
Comments 332

Add a comment...





Research Execution

Accessibility experiences → 62% of the participants did not notice nor nor have paid attention to their screen reader verbalizing the text of the labels

Truth discernment → Only 28% of the participants used the labels to assess the reliability and accuracy of the posts

Objections:

YouTube's implementations with several links and confusing text was not helpful

Facebook's does not specify who the "fact checkers" are and what is their credibility in establishing truth

TikTok's label obscurity makes it impossible to notice it

Intrusion of free speech (supported by the researchers (!?))

Research Execution (cont'd)

A11y redesign recommendations →

Make the labels ***designated interaction elements***

Make the labels ***verbose covers*** instead, akin to the system notifications

Place the labels ***before*** the content

Substantiate the warnings with a ***before-content audio signal*** or vibration in addition to a cover or a label

Enable ***stark contrast, bold/large font, or standout colors*** that are different from the platform's aesthetics

Entirely ***remove the labels*** from the platforms

Guidelines: UX Research with Participants who are Low Vision or Blind

Stimuli Material → Link to public post/video on the target platform (no screenshots, no alternative text, no compromises)

Eligibility → Legally blind with acuity of 20/200 or field-of-view of 20 degrees or less in the better eye with correction; low vision with acuity up to 20/70 and field-of-view larger than 20 degrees in the better eye with correction

Recruitment Tools → Recruitment script distributed via email, interview scheduling via Calendly

Recruitment Script → Plain-text email, no graphics, include multiple means of contacting researcher for any questions or for scheduling assistance

Remote Interview → Conducted over Zoom Meetings, participants use their own device and assistive technology in a familiar environment

Guidelines: UX Research with Participants who are Low Vision or Blind (cont'd)

Be Mindful → Participants will have varying levels of visual perception ranging from low vision with high visual acuity to total blindness with no perception of lights, shadows and shapes

Stay Flexible → Personal preference will vary from one participant to another based on accessibility needs

Ask Questions → UX concerns all users, so don't be afraid to ask direct and respectful questions about their experience as a user with a disability

Listen and help → users might complain about other usability aspects of the same or other apps, let the speak as there is quite a lot to learn and help with

Research Agenda

TikTok → Ongoing work to investigate the accessibility of content labels on TikTok

TTS Data Collection → An investigation to develop a privacy-centered and easy to deploy protocol for capturing synthesized speech from a participant's text-to-speech implementation

A Comparative study → Ongoing work to compare the perception of misinformation moderation, experiences, and attitudes between low vision or blind users and visually able users

Thank you!

Questions, Comments, Concerns

Twitter: @*ACALaboratory*