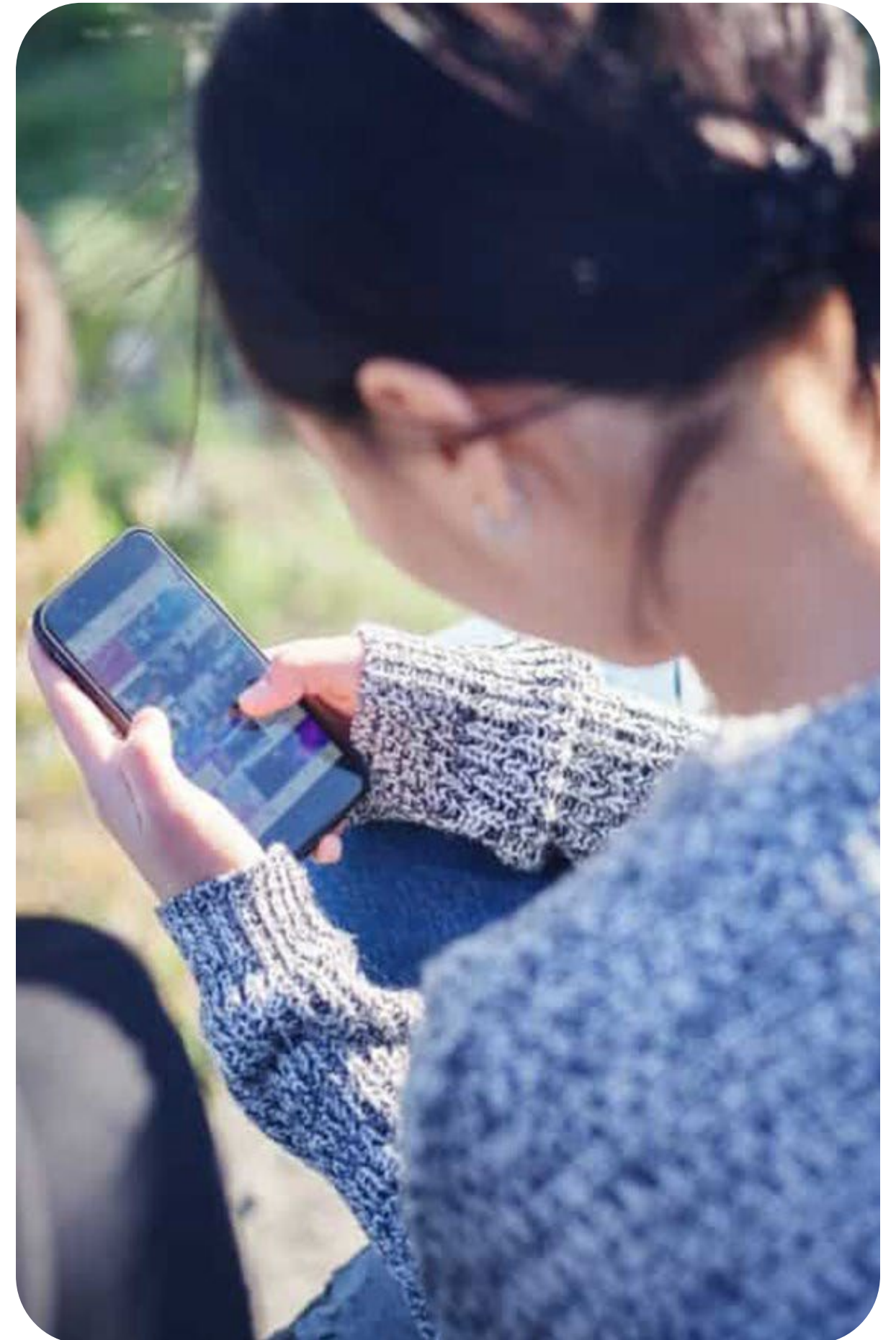


**The Benefits and Challenges of
Using Social Media:
Reducing Risks through
Joint Problem-Solving and
Digital Literacy**

Dr. Xinru Page
Director of the Social Technology and Privacy Lab
Associate Professor of Computer Science
Brigham Young University



Presenters

Dr. Xinru Page, Department of Computer Science, Brigham Young University

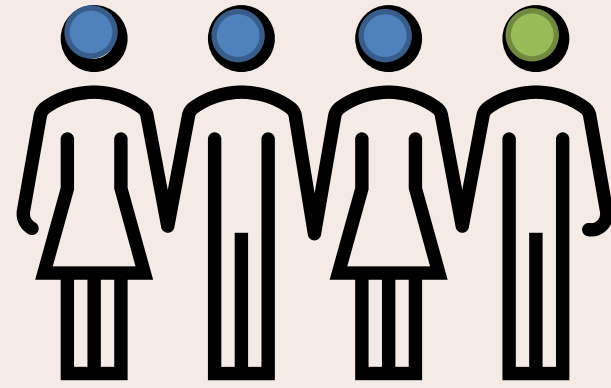
- **Ph.D. Information and Computer Science** (University of California, Irvine)
- **M.S. & B.S. Computer Science**, specialization **Human-Computer Interaction** (Stanford)
- Directs the **Social Technology and Privacy Lab** . Research focuses on social media, privacy, online safety, digital literacy, technology adoption, non use, supporting different communication styles online due to cultural, individual, and other factors, vulnerable populations, human -algorithm interaction.
- Research has been funded by National Science Foundation, Yahoo!, Samsung, Disney Research, Meta...
- Industry Experience: **Lead Interaction Designer** , **Product Manager** in the field of Information Risk.
- Utah's Women Tech Council award finalist while in industry, and again this year in academia .



Kirsten Chapman, Researcher, Social Technology and Privacy Lab

- Pursuing a **Ph.D. in Computer Science** at Brigham Young University .
- Research Interests:
 - Studying **interventions** to educate people about using **social media** safely ,
 - Identifying online risks** for young adults on the autism spectrum
 - Designing and prototyping** solutions to improve social media safety





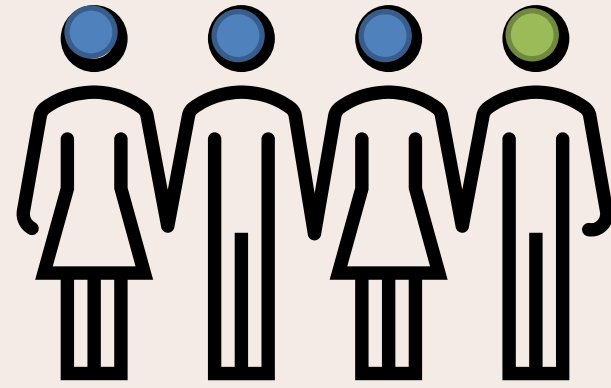
Social media can connect people to **social, employment, and other resources**

84% companies recruit via social media

73% young adults seeking jobs found through social media

54% of employers have not hired someone because of their social media post

21% hiring managers not likely to consider someone without a social media presence



Those on the autism spectrum*
experience more **online harassment** and
harms than the general population

*We acknowledge different preferences for person -first v. identity -first language

Over the years we have interviewed,
observed, sought feedback from...



Individuals

Diagnosed with Autism
and qualified for state
disability benefits
(with or without
intellectual disabilities)



Support Network

Provides support on a
daily basis
(service providers,
parents, family)



Field sites

Day programs,
Residential programs,
Transition age schools,
Community members

Today we'll share

- 1. Positive and Negative impacts of social media use**
- 2. Individual Traits that are unsupported by social media**
- 3. How Support Networks can help**
- 4. Social Media Literacy course**

Positive Outcomes

Optional type in chat:

What other positive outcomes you have seen?

INTEREST-BASED IMMERSION

“Facebook Groups, those are a really big benefit...I'm in a lot of sports groups.” Client8

“She could recite Disney back to you, because she's done all that homework from reading and social media.” Parent2

SOCIAL ENGAGEMENT

“They come here every day, they hang out with the same people every day, and then they go home and they might not have much of a social life outside of the people they know here. So being able to have a way to connect with people [is important].” Staff8

MAINTAINING SOCIAL CONNECTION DESPITE GEOGRAPHY

“I can contact family members that live far from me. Family that I don't usually see. They live [too] far for me to even go visit.” Client3

Negative Outcomes

Optional type in chat:

What other negative outcomes you have seen?

PHYSICAL: RISK OF HARM

“Another client was fighting with somebody. And then they tagged that they were somewhere, and then the other person showed up there” Staff8

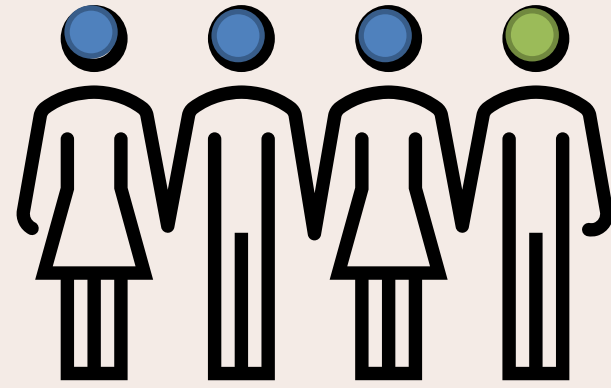
SOCIAL: RELATIONAL DAMAGE

“Sometimes people...come back on and say, ‘Why did you message me so many times?’ And then...it’s awkward, it’s like, ‘I don’t know what to say to this.’” Client7

“She texts me incessantly. It's heartbreaking because I've struggled to set boundaries with her.” Staff9

PSYCHOLOGICAL: SOCIAL ANXIETY

“We're comparing ourselves to others. It is. It's judging. Judging yourself and others. For him, I can say it's made him miserable, it's fueled his anxiety.” Parent1



Personal Traits

that are

Unsupported by Social Media

Literal Interpretation

Trusting content at face value

Believing posts are a complete and accurate depiction of someone's life.

"It was definitely really difficult for him to kind of process that just because someone posted that picture doesn't mean that's what they really look like." - Staff

Friend label makes you real friends

Thinking that being labeled as a friend makes you an actual friend.

"I thought I was her friend, but she said, 'You're not because we don't know each other well enough.'" - Client

Friend Requests



Peprmint Patee

Confirm

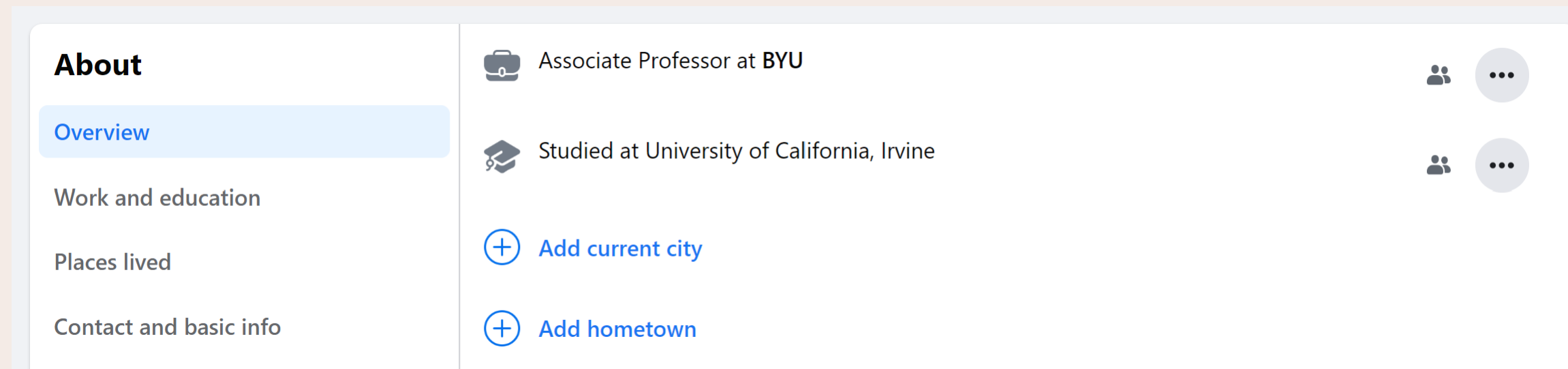
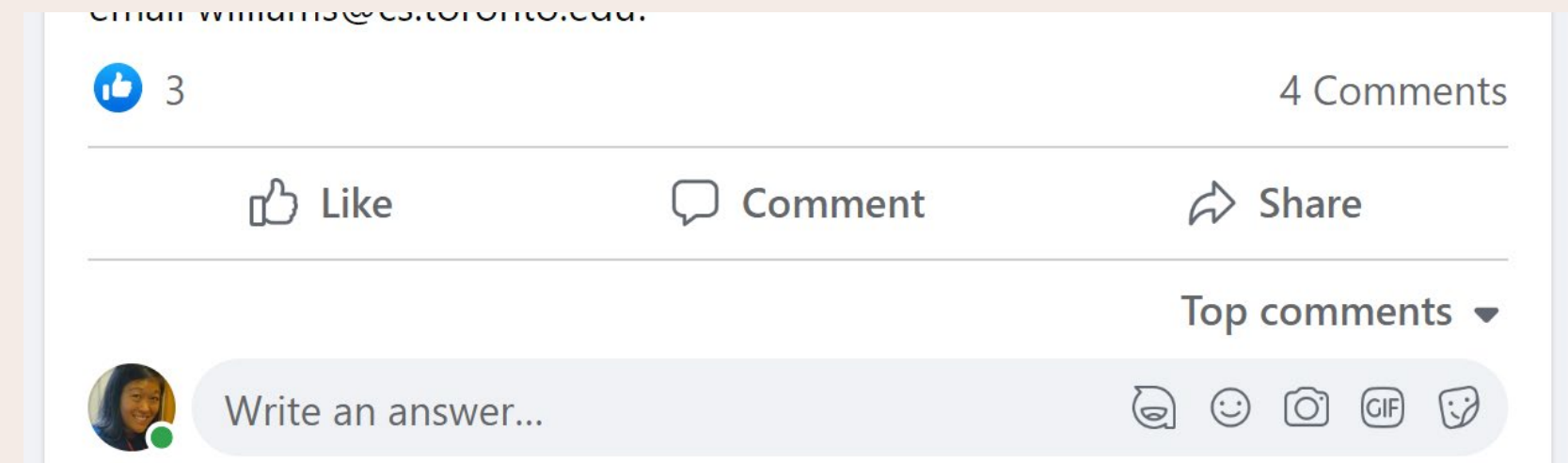
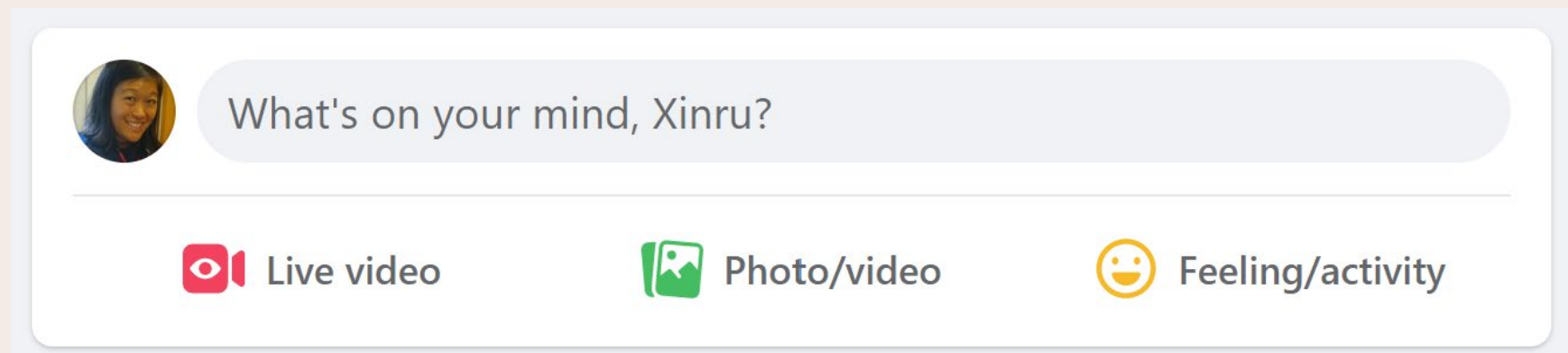
Delete

Optional type in chat: Other times this has caused problems?

Suggestions as Instructions

Following prompts as instructions

Interpreting suggestions as instructions of what to do.



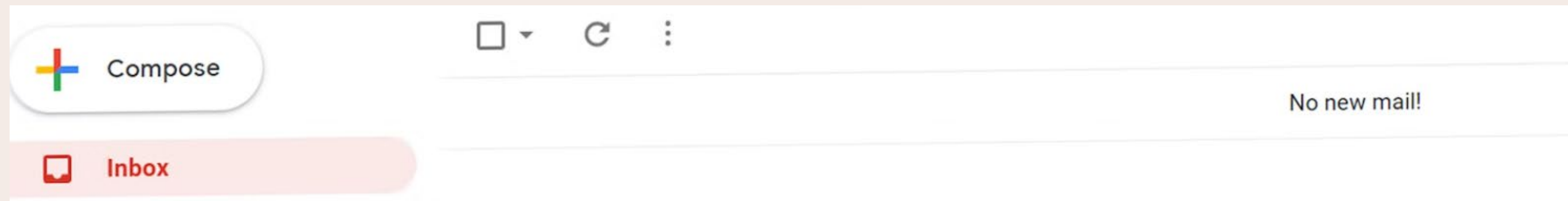
"I had to [share my phone number] because when I made my account it said phone number or email" - Client

Always engaging with what they see

Read/Deal with content instead of ignoring it

Fear of Missing Out (FOMO).

“She feels like when she can, she's supposed to always be on social media... like she's missing something.” - Parent



Bothered by others' conflicts

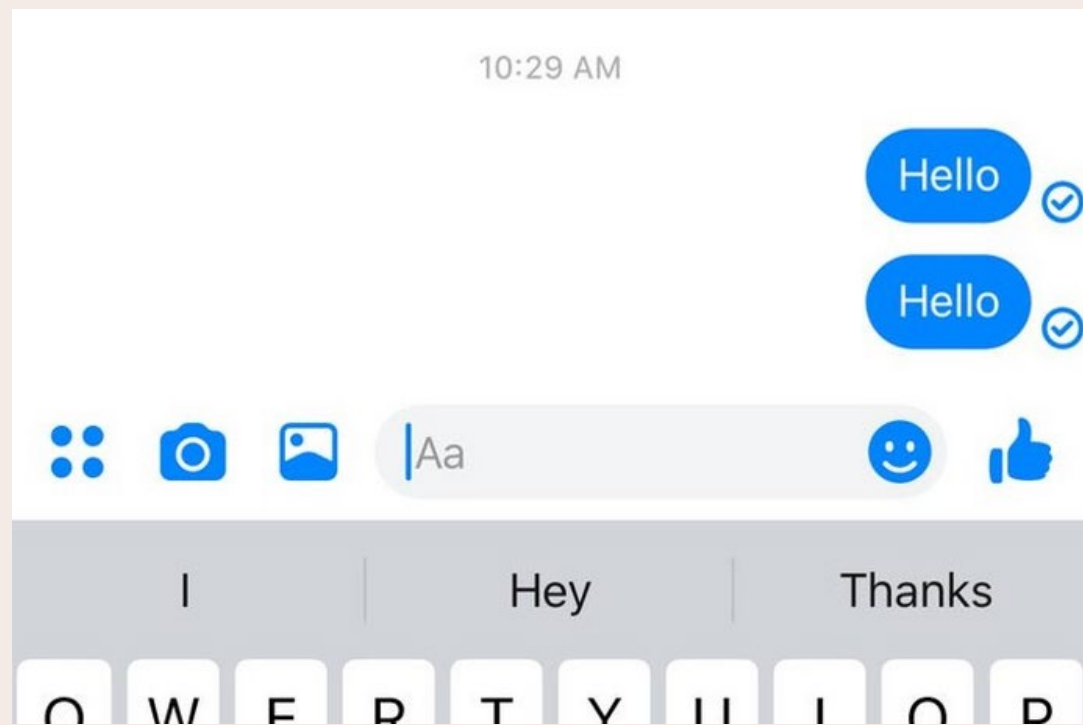
Feel stressed when you see other people being mean to each other on social media.

“I get really stressed out sometimes” from seeing “drama” - Client

Expect Feedback

Uncertainty leads to anxiety

Misinterpretation or lack of feedback in the user interface leads to anxiety.



Client interprets the
"message sent, but not
received" icon
as
"the person has read it"
and is upset when there
is not a response right away

Clear Expectations

Expect friends to give complete access

Being blocked or unfriended can lead to extreme anxiety.

“When you get blocked, mentally sometimes it messes with you and you ask, ‘Is it about me? Did I do something wrong?’” - Client

“He would see pictures of friends out together and immediately think, ‘They must all hate me if I’m not out with them right now.’” - Staff

Single rule-based decisions

Using a simple rule to help make all decisions.

“Accept all friend requests from females and deny all requests from males” - Client

Assume Single Audience

Not realizing others beyond the intended audience can also see this post.

She would send me “naked pictures” and she “posted ‘em on Facebook.” - Client

Summary of your responses

How adults with autism...

Are Supported by Their Network

How support network gets involved

Individual initiates if they detect an issue

"[For] the most part, my caseload's very open with me and comes to find me and just tells me" – Staff

"I was going through a panic attack that day...and I didn't know what to do...So, I kind of had to get my mom involved."- Client

Support network often detects the problem

"He has had girlfriends that just want his money. And even though he doesn't make a lot, he's on Social Security, but they know when the first of the month is and they'll hang out with him those times... He doesn't care [that I'm manually monitoring his phone] so it's not like I'd be sneaking to look at it" – Sibling

"[My wife's] friends with enough people that we don't have to watch it, 'cause we would be alerted to something that popped up if we weren't on regular checkups" – Parents

Safety and Privacy Rules

Externally defined

“[I don’t post about friend] and a lot of different stuff that’s private between us, and I don’t want [that person] to get mad at me about it” – Client

“[I] would say to [my son], ‘you can talk about yourself, but you can’t talk about other people on Facebook. It’s not appropriate” – Parent

Learning through repetition

“I was going to post something, mom, but I decided not to because I don’t think that I learned my lesson” – Client

Timing of mediation

Immediate mediation more effective

“Well, I just went to message my sister about why [the cyberbullying] happened” - Client

“He’ll mention to us, ‘This person keeps calling...’ which, I think it was phishing scams and things like that, and [I said] ‘if you don’t know exactly what you’re talking to or who it is, you don’t give them any information” – Parent

Delayed mediation as (ineffective) damage control

“She doesn’t want to be my friend anymore and I don’t get it. I just want to talk to her, but she’s not answering me when I call her, [or] when I message her,’ and we’re like, ‘You have to give her space’. It happens over and over, so it’s hard to kind of learn the lesson from it” - Staff

How adults with autism...

Experience Benefits and Tensions from
Involving their Support Network

Benefits of Mediation

Socio-Emotional Co-regulation

“sometimes if she’s depressed or something, she may just say certain things like, ‘If you’re feeling down in the dumps, and you’re . . . I don’t know, some things like that. ‘Let me know if you’re feeling the same way,’ ...I think she puts her feelings out there because she knows that she can now”- Parent

Digital Literacy

Can help “when he’s got a question.” - Parent

Collective Effort to Achieve Safety

“Reinforcement’s one of the main routes we go through because... it’s really hard to address in the moment.” - Staff

Tensions

Support network overwhelmed

“The last thing they can do is monitor [their] young adult on social media... even if they’re a very organized parent, [they’re] just trying to respect their child’s adulthood because they’re going through a very difficult time in their life and they want to pick their battles.” - Staff

Tension between safety and independence

Don’t take “their kids off social media completely... because the goal is really, I think, to help them live independently.” – Staff

Avoids sharing about issues online, worried her parents will “tell her to give it up” – Parent

Summary of your responses

Designing for a Spectrum

- Wide range of challenges and situations
- Especially problematic for young adults
- Problems were observed regardless of intellectual disability
- Provide a way to engage with the world, not isolated platforms with only those on the spectrum
- Solution involves a combination of technology, training, advocacy, personalized support





Recommendations

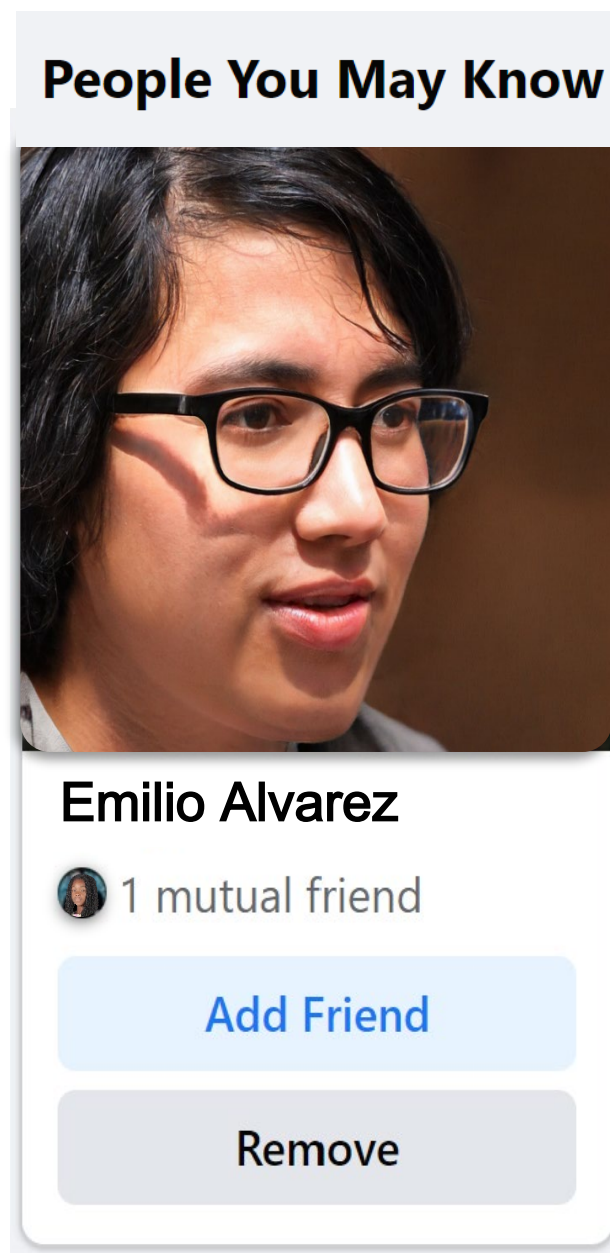
#1 Establish a Common Vocabulary

For example,

- Understand what it means to be a **Friend**
- What the **indicator** means on Messenger

Messenger uses different icons to let you know when your messages have been sent, delivered and seen. They appear on the right side of the message:

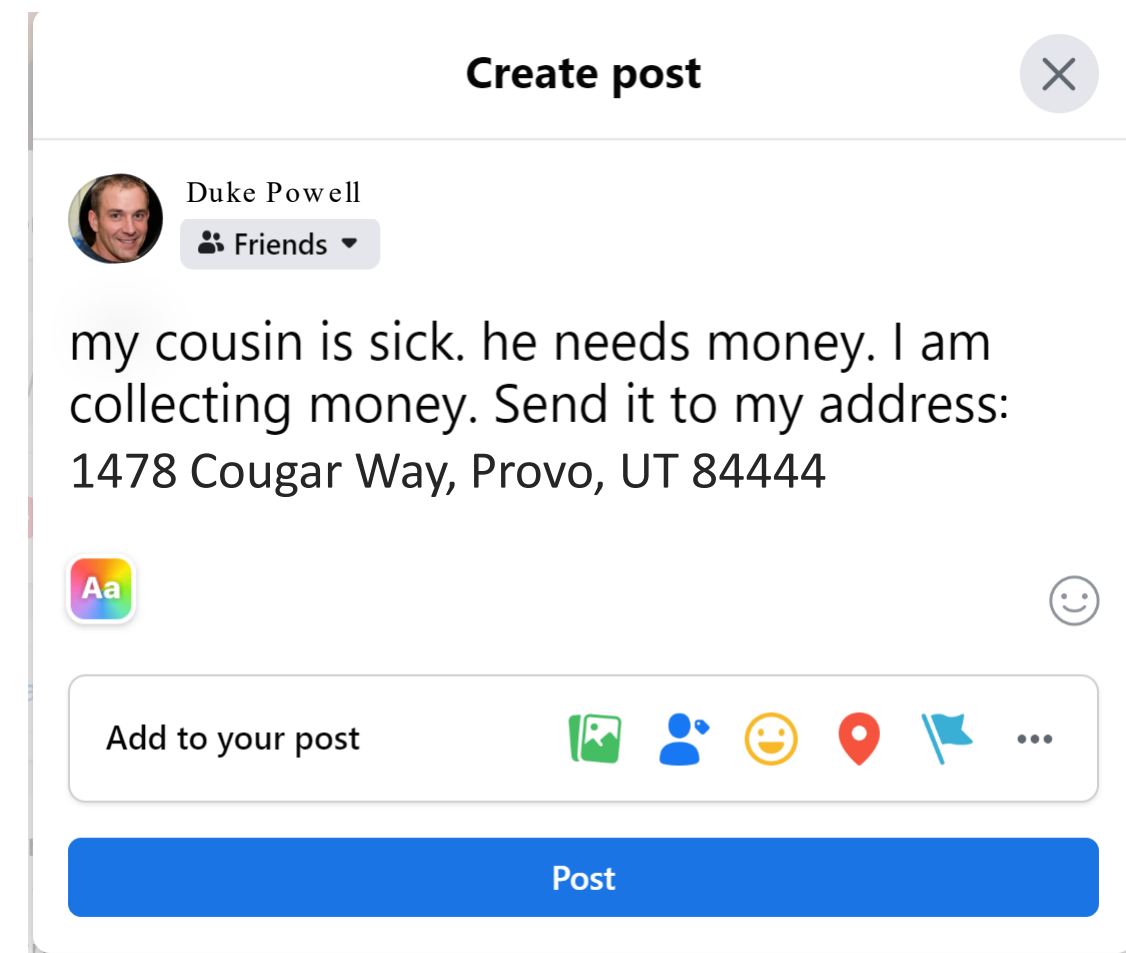
- : A blue circle means that your message is sending.
- : A blue circle with a check means that your message has been sent.
- : A filled-in blue circle with a check means that your message has been delivered.
- : A small version of someone's profile picture will appear below the message when they've seen it.



Recommendations

#2 Understanding Audience and Purpose

- Audience needs to be selected
- A post can be used for another purpose
- A post can be interpreted differently than intended



Recommendations

#3 Cooling-off Period Before Reacting

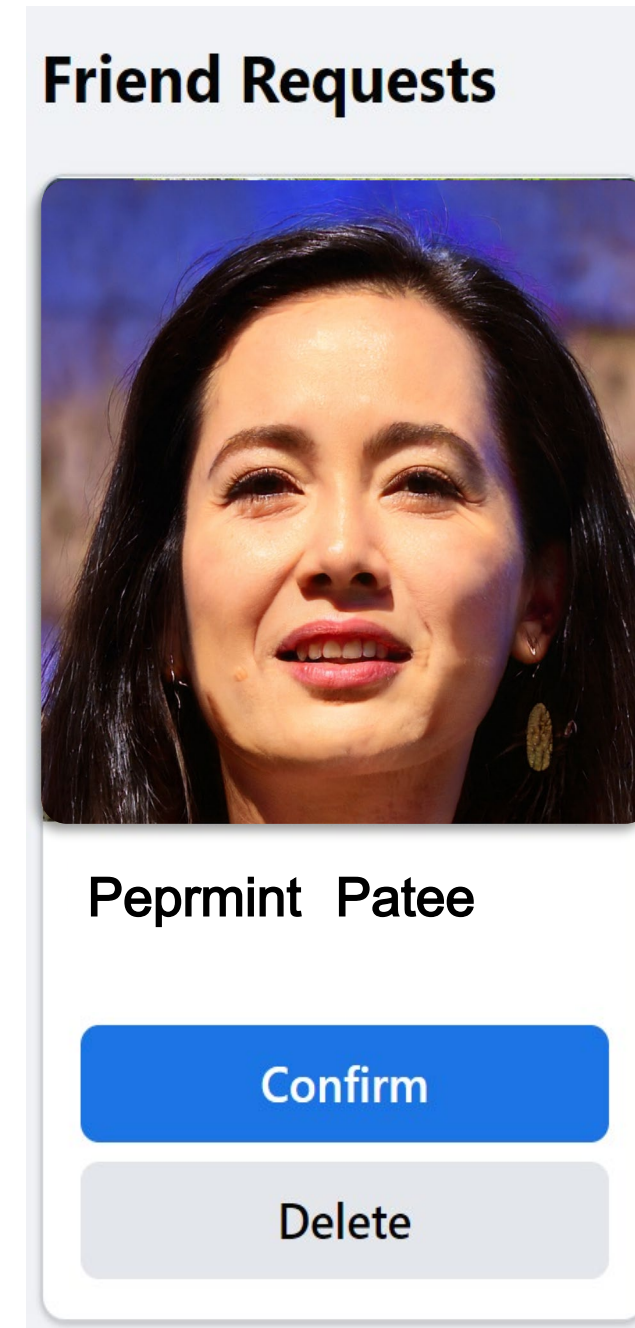
- Do not post, comment, message right away when you are upset
- Consult with an ally for advice



Recommendations

#4 Do not take content at face value

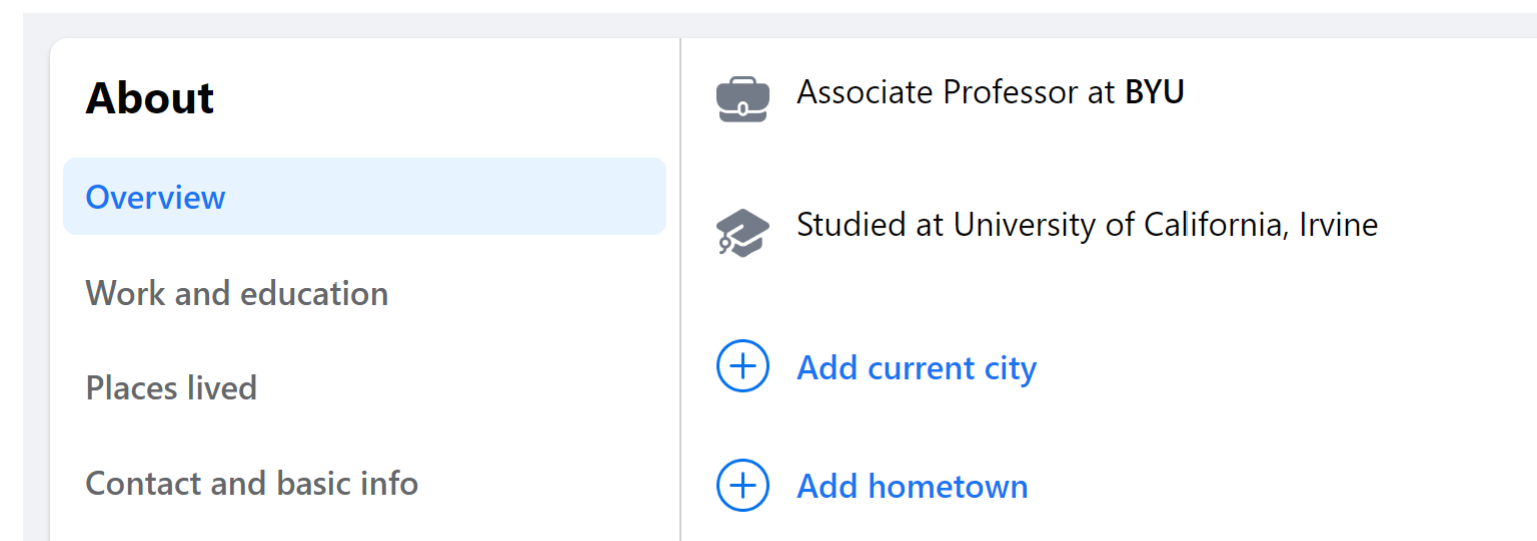
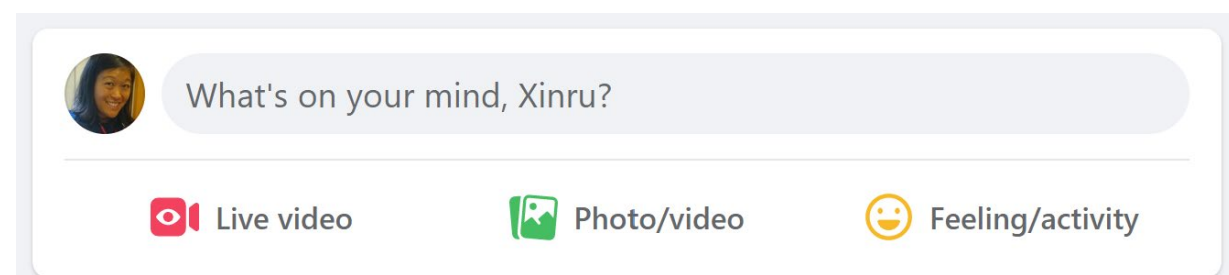
- A person sending you a Friend Request might not be telling the truth.
- If you do not have mutual friends, watch out for: spelling errors, no profile picture.
- Consult with an ally to understand whether to accept other friend requests.



Recommendations

#5 Do not follow the interface prompts without a good reason

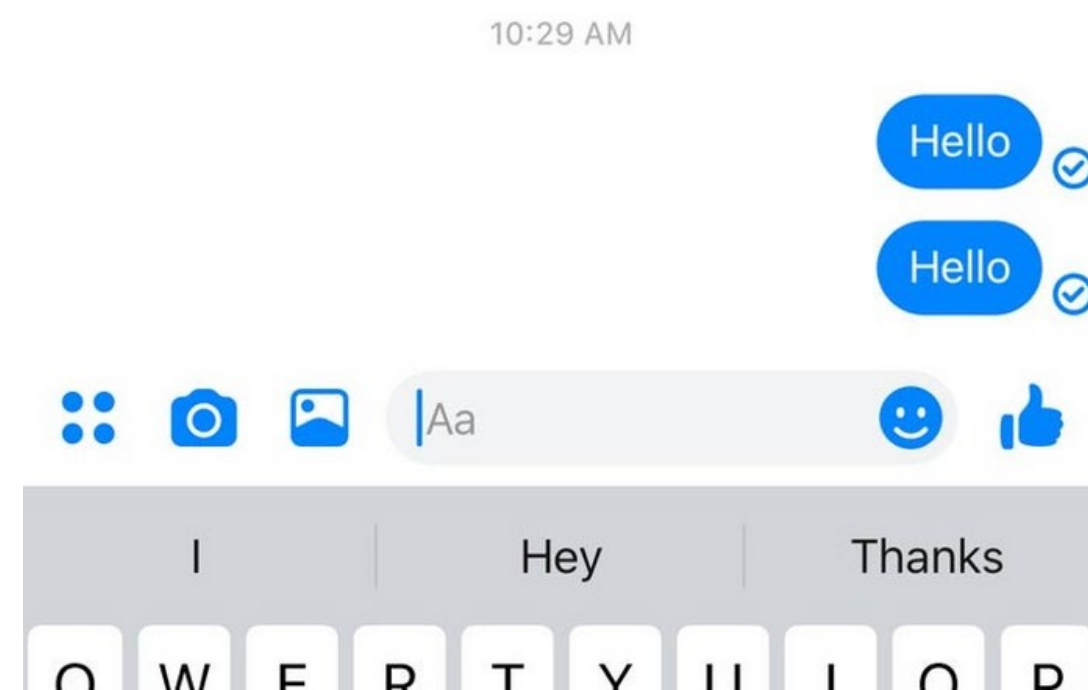
- Even though they are worded like instructions, prompts are meant to be examples of what you can do
- Do not answer those prompts or post the requested information just because you see it



Recommendations

#6 Remember that what people say and do is not always clear

- Just because the technology makes it look like someone has read your message, does not mean that they have, or that they are available to answer.
- When you read something that makes you upset, talk to an ally to see if it might mean something different than you think.



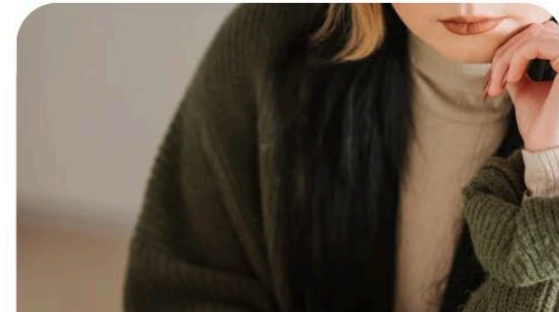
Social Media Literacy Course

Course Overview

1. *The norms of social media*
2. *Choosing safer privacy settings*
3. *How to identify fake profiles*
4. *Types of social groups on social media*
5. *Appropriate interactions based on social group*
6. *Social Media vs Reality*
7. *Misinformation*

Educational Slides

Checking Your Settings



Outline

01

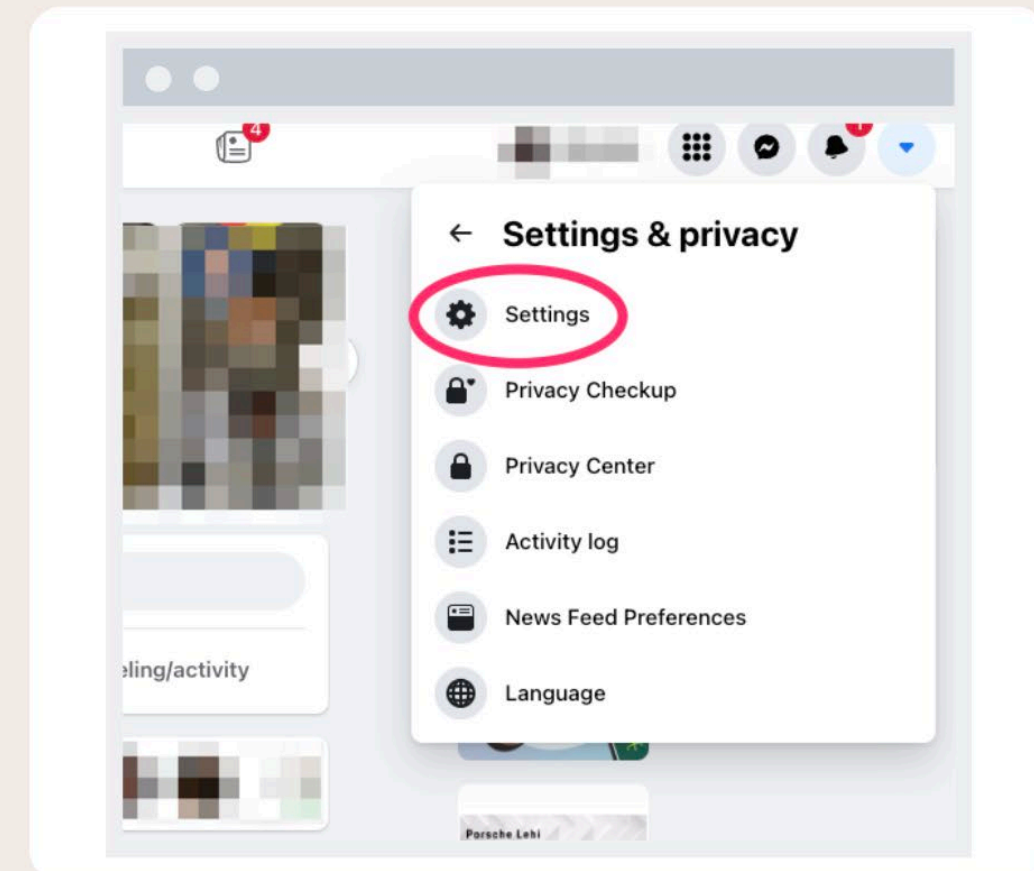
[Tagging Settings](#)

02

[Profile Settings](#)

Click on the “Settings” option, which will take you to all the available settings

PROFILE SETTINGS



Educational Slides

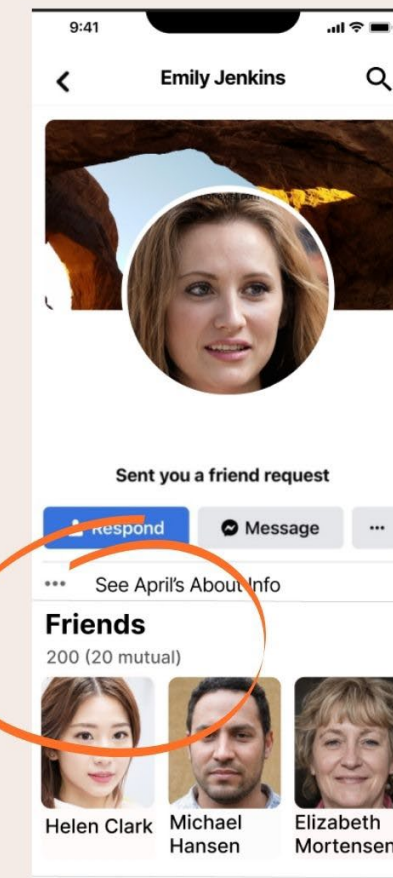
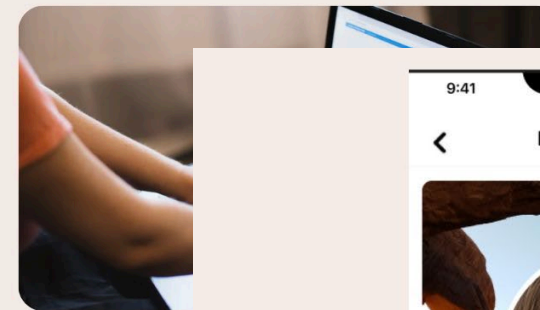


Fake profiles may pretend to be your friend to:

- Steal Money
- Get private pictures from you
- Get other things you give them if you knew they really were

3 How to identify a real profile

Answer these questions to find out if a profile is real



05
Do they have more than 50 friends?

06
Do they have less than 2000 friends?

07
Do you have 5 or more mutual friends?

Lesson Companion Handouts

Introduction

1. What is a fake profile? _____

2. Why would someone want to create a fake profile? _____

Fake Profile Activity

3. Choose a fake email address _____

4. Choose a fake name _____

Now the instructor will use the computer to create a fake profile picture

5. Why is creating a fake profile wrong? _____

6. Do you think it's simple to create a fake profile? Y / N (circle one)

Activity #1

7. Does the account have a profile picture? Yes / No

8. Do you know the person offline? Yes / No

9. If there is a profile picture, and you know them offline, is the person you know in it? Yes / No

10. Is this your first connection request from an account with this name? Yes / No

11. Do they have more than 50 friends? Yes / No

12. Do they have less than 2000 friends? Yes / No

13. Does the account have a visible timeline history? Yes / No

14. Is their grammar and spelling correct? Yes / No

15. What should you do if this person sent you a friend request? Accept / Ask the person offline / Ask support person / Reject

Activity #2

16. Does the account have a profile picture? Yes / No

17. Do you know the person offline? Yes / No

18. If there is a profile picture, and you know them offline, is the person you know in it? Yes / No

19. Is this your first connection request from an account with this name? Yes / No

20. Do they have more than 50 friends? Yes / No

21. Do they have less than 2000 friends? Yes / No

22. Does the account have a visible timeline history? Yes / No

23. Is their grammar and spelling correct? Yes / No

24. What should you do if this person sent you a friend request? Accept / Ask the person offline / Ask support person / Reject

Practice Modules

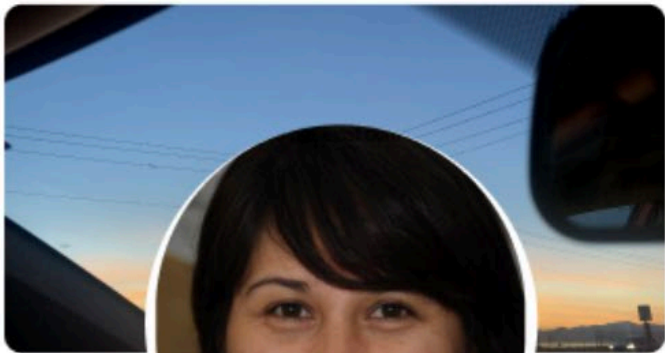
12:29

You are helping someone decide if they should accept a friend request.

- They **have** met this person offline
- The profile photo **looks like** the person they know.
- **This is the first friend request** they have received from this person.

9:41

Jamie Miller




Jamie Miller
Sent you a friend request

12:29

Jamie Miller
12 hr

It was such a beautiful evening to take a walk!



44 Likes 12 Comments . 1 Shares

Home Watch Profile Notifications Menu

Does your friend know this person offline?

Yes

No


→

Powered by Qualtrics

12:29

Jamie Miller
12 hr

It was such a beautiful evening to take a walk!



44 Likes 12 Comments . 1 Shares

Home Watch Profile Notifications Menu

Does your friend have 5 or more mutual friends with this profile?

Yes

No

→

Powered by Qualtrics

12:29

Is this the first friend request from this person? : **Yes**

Does the profile have more than 50 friends and less than 2000 friends? : **Yes**

Does your friend have 5 or more mutual friends with this profile? : **Yes**

Given this information, what would you tell your friend?

The profile is most likely fake. Reject the request.

The profile might be fake. Ask the person on the phone or in person if they sent the request

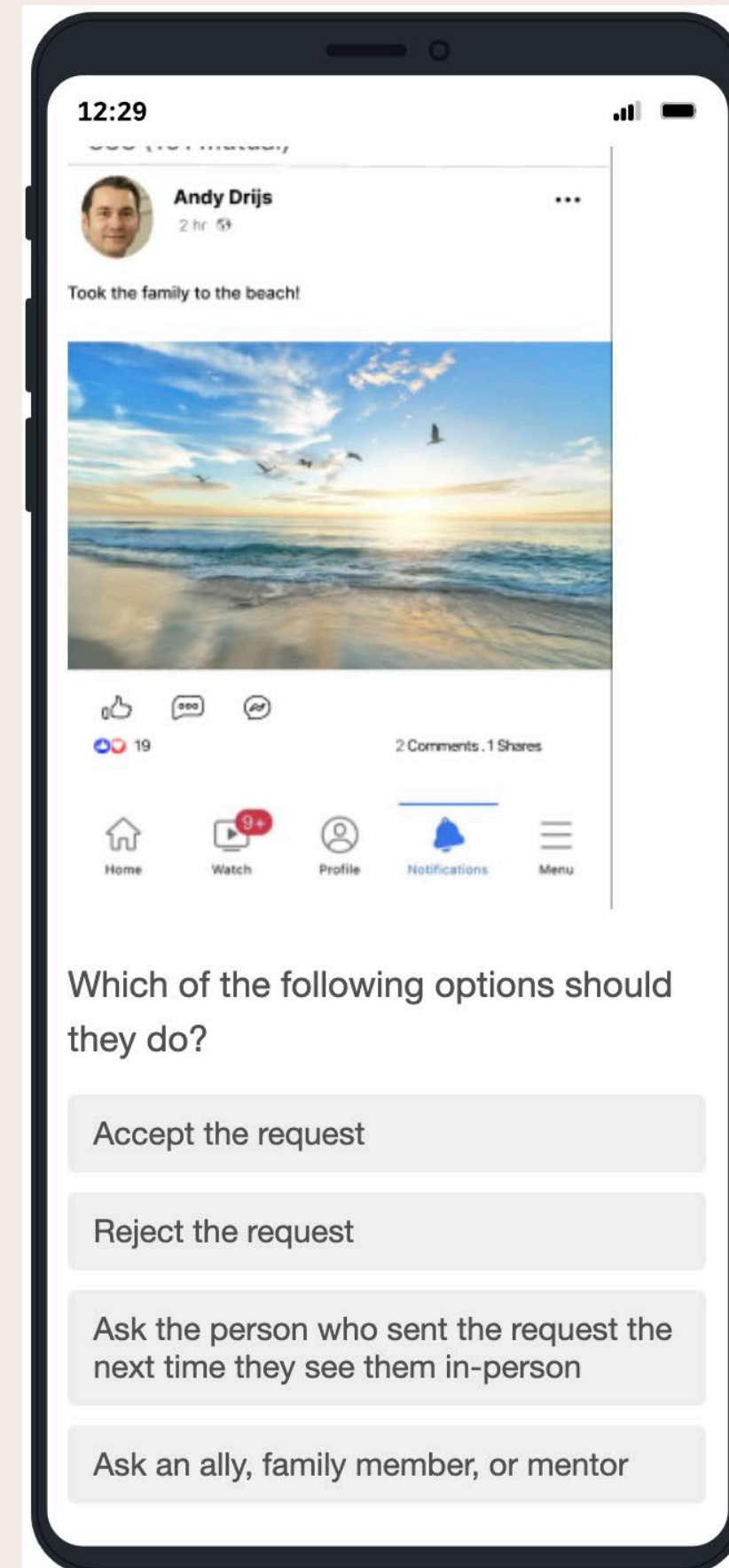
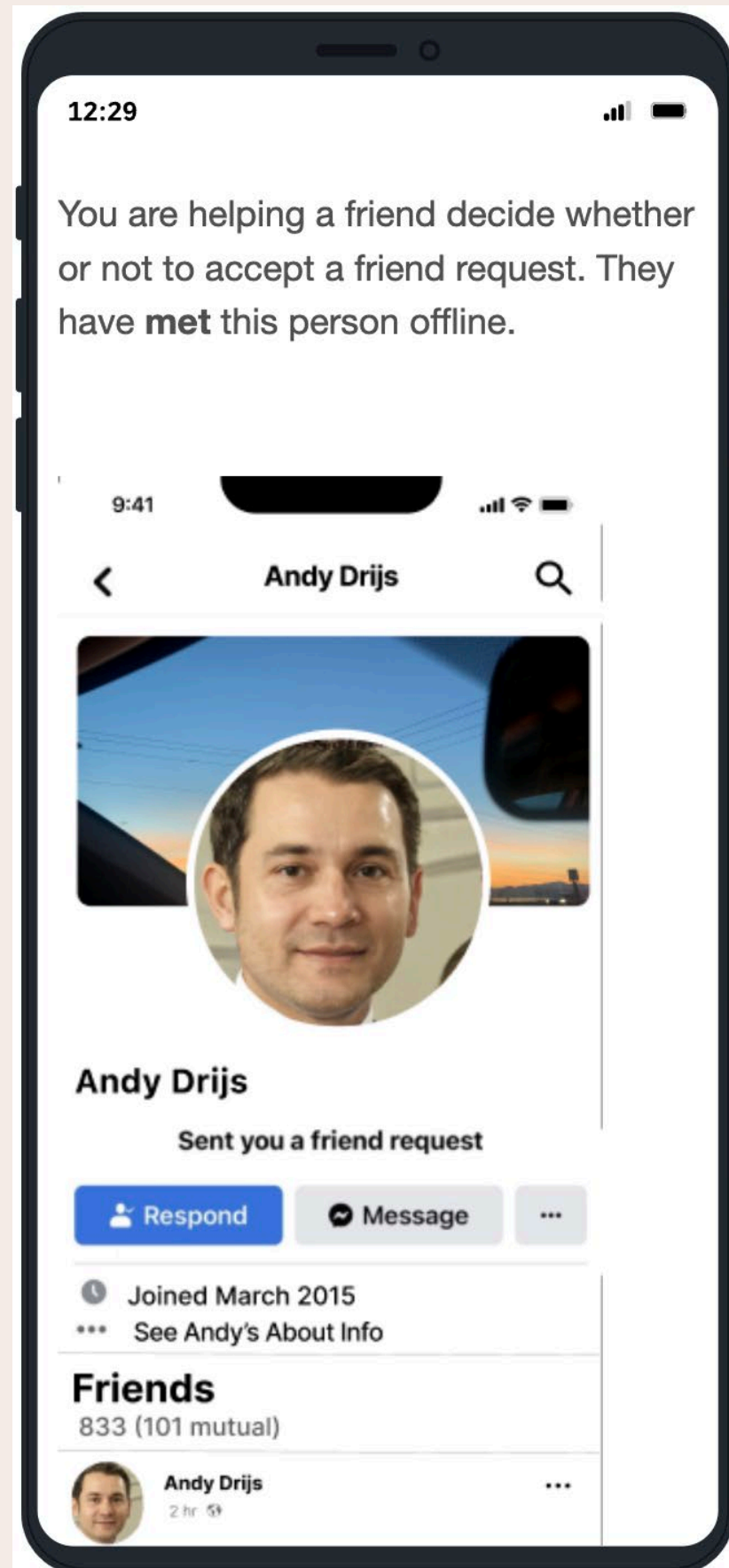
The profile might be fake. Talk to a mentor.

The profile seems real. Accept the request.

→

Powered by Qualtrics

Learning Assessments



Personalized Approach: Daily Questionnaires

12:29

How many hours did you spend on any social media today? (Reddit, Discord, Youtube, TikTok, Instagram, forums, etc)

How many hours did you spend on Facebook today? [Link to Instructions](#)

Powered by Qualtrics [↗](#)

12:29

Did you enjoy using social media today?

Yes

No

Powered by Qualtrics [↗](#)

12:29

Why did you enjoy it?

Someone posted something positive

I messaged or spoke with friends

I saw something funny

I saw posts about my interests

I shared my interests with others

Someone liked my posts

Someone commented on my post

Someone shared my post

Someone replied to my comments

Someone tagged me in something I like

It gives me something to do

Other

I don't want to say

12:29

Did you have any unpleasant experiences on social media today?

Yes

No

Powered by Qualtrics [↗](#)

12:29

What made it unpleasant?

I saw someone posted something negative

I was in an argument

I saw other people argue

Someone said something mean to me

Someone reacted to my post with an emoji that made me upset

I saw something that made me sad or disgusted

Someone didn't respond to me

Someone said something creepy to me

Someone tagged me in something I don't like

I didn't feel safe

Someone unfriended me

I spent too much time on it

Personalized Approach: Bi-weekly One-on-one sessions

“Have you **posted anything** in the past week on Facebook? If so, please show us or tell us about it”

If they **had positive experiences** in the past week

- “On [day] you mentioned that you had a positive experience on social media. Will you please tell us more about this experience?”

If they **had negative experiences** in the past week

- “On [day] you mentioned that you had a negative experience on social media. Will you please tell us more about this experience?”

Initial Results

We are in our third round of running the course.

Students are learning the material:

- Repeated practice questions helpful
- Competition leads to more correct answers (e.g., Kahoot)
- Effective with and without intellectual disability

Future Plans

- Covering more social media platforms
- Enrolling more field sties
- Waitlist for individuals to take online sessions

Fill this google form to participate or learn more:



Thank you!

Please reach out to us if you'd like to work with us on any of these, or to tell us about your experiences with social media.

Contact: byu.stapl.research@gmail.com

Xinru Page, Andrew Capener, Spring Cullen, Tao Wang, Monica Garfield, Pamela J. Wisniewski. (2022). "Perceiving Affordances Differently: The Unintended Consequences When Young Autistic Adults Engage with Social Media." In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems, 1-21.

Spring Cullen, Elizabeth Johnson, Pamela J. Wisniewski, Xinru Page. (2024) "*Towards Digital Independence: Identifying the Tensions between Autistic Young Adults and Their Support Network When Mediating Social Media.*" In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems, 1-30.

