

## Interview Guide

*The following guide reflects the types of questions that will likely be asked of participants during the interview. Some items may change due to the iterative nature of qualitative research. However, the overall topic and level of sensitivity will remain consistent.*

Introduction: The reason we are talking today is that I am interested in learning about how college students use their smartphones. The COVID-19 pandemic has highlighted the need to use technology to support college students. Since many universities are now connecting their students with online and app-based mental health services, it is important to understand how college students actually want to use their phones in relation to their mental health. There are no right or wrong answers to the questions I ask. Please feel free to skip any questions you prefer not to answer. I will be recording this conversation so that I can review it later. Do you have any questions before we start?

1. First, I would like to learn a bit about you and your interest in this topic.
  - a. What made you decide to participate in this interview?
  - b. What perspectives do you think you have to bring?
2. Let's continue by talking about how you use your phone.
  - a. To get an idea of your daily phone use, let's look at some of your screen time and notifications data.
  - b. Please go to your phone settings (*give detailed instructions if necessary*).
    - i. What is your screen time from yesterday?
    - ii. What are the first five apps listed under yesterday's screen time?
    - iii. How many notifications did you receive yesterday?
    - iv. What are the first five apps listed under yesterday's notifications?
    - v. How many times did you (*pick up for iPhone, open for Android*) your phone yesterday?
    - vi. What are the first five apps listed under (*pick-ups for iPhone, times opened for Android*) for yesterday?
  - c. What is your reaction to the phone use information you shared?
    - i. How representative of a typical day do you think it is?
    - ii. Does any of your phone use data surprise you?
  - d. Please go on your phone and let's see what you do when you check it during a typical pickup. For example:
    - i. Which apps do you open?
    - ii. What notifications do you check?
  - e. I want to learn about how you have your phone organized. Please go on your phone and let's see you swipe through your home screens.
    - i. How do you think the way you have your phone organized impacts the apps that you use on a regular basis?
    - ii. Which apps have you prioritized for easy access? How?
3. Now that we have talked about your current phone use information as a baseline, I would like to get a sense of how you use your phone during different situations.

- a. During your typical school week
    - i. On what days do you use your phone the most? The least?
    - ii. Do the apps that you check vary throughout the week? If so, how?
    - iii. At what points in your daily routine do you use your phone the most? The least?
    - iv. Do you check different apps at different times of day? How?
  - b. During the COVID-19 disruption of your typical routine
    - i. How did your routine change?
    - ii. Did your phone use change during the pandemic - why or why not?
      - Did you start using your phone more or less?
      - Did you start using your phone at different times of day?
      - Did you start using new or different apps? Which ones? Why?
  - c. During seasonal breaks from school (i.e. winter, spring, and summer break)
    - i. How does your routine change?
    - ii. Does your phone use change during breaks – why or why not?
      - Do you start using your phone more or less?
      - Do you start using your phone at different times of day?
      - Do you start using new or different apps than the ones you usually use? Which ones? Why?
  - d. In private vs in public
    - i. How does your phone usage change when you are around others compared to when you are alone (e.g. in a public setting on campus like the library vs alone in your dorm room)?
    - ii. Are there any apps that you prefer to use in private? Which ones? Why?
4. Now I would like to talk about how you handle checking and responding to notifications on your phone. By notifications I mean alerts on your lock screen and home screen that come from people or apps trying to get your attention.
  - a. How do you feel about the amount of notifications you receive on a typical day?
  - b. What do you do if you are ever overwhelmed by the amount of notifications you receive?
  - c. What apps are you likely to respond most urgently to notifications from? Why?
  - d. What apps are you likely to ignore notifications from? Why?
  - e. Does the source of a notification impact whether you respond urgently or ignore a notification (e.g. a message from a person vs an automated in-app notification) – why or why not?
  - f. Which kinds of notifications encourage you to check an app? Why?
    - i. Type of notification (e.g. lock screen alerts, home screen banners, or badges on apps)
    - ii. Notification content (e.g. attention-grabbing headlines, reminders to do something, announcements about time limited deals or opportunities, personalized recommendations, clever or funny phrases, etc.)
5. I have some questions about how you respond to mass communications from your university. By mass communications I mean notifications that come from members of

the administration that go out to the entire student population or subgroups like your year or academic department.

- a. How do you receive mass communications from your university (e.g. email, online portal, text messages, etc.)?
  - b. How do you feel about the amount your university communicates with you in general?
    - i. How do you feel about the amount your university has communicated with you regarding the COVID-19 pandemic?
  - c. What kinds of mass communications from your university (e.g. subject or content) do you read in full? What do you ignore? Why?
    - i. How does the source of the notification impact your decision to read or ignore it (e.g. who in the university it comes from, where you receive it)?
  - d. Has your university notified you about online mental health resources since the start of the COVID-19 pandemic? If yes, how have they notified you?
    - i. Have you used any of the online mental health resources advertised by your university since the pandemic started? Why or why not?
6. Lastly, I would like to discuss your experiences with using apps to improve your mental health.
- a. How do you define mental health?
  - b. What apps do you use for your mental health?
  - c. What apps specifically designed for addressing mental health concerns have you used? Examples include but are not limited to: apps for general mental well-being (such as meditation apps), app-based therapy or guided mental health interventions, self-help apps for a specific mental health concern, automated mental health chatbots, app-based peer support, and mood trackers.
  - d. Please describe the mental health app.
    - i. What were your motivations for using the app?
    - ii. How did you learn about the app?
    - iii. How likely would you be to recommend the app to a family member or friend?
  - e. Did using the app become a part of your regular phone use routine?
    - i. *If yes*
      - When did you use the app during your typical routine?
      - What efforts did you make to establish this routine (e.g. personally setting phone reminders, placing a written reminder in your room, etc.)?
      - What, if anything, did the app do to encourage regular usage (e.g. reminder notifications)?
      - What was it about the app that kept you engaged?
    - ii. *If no*
      - What made it difficult to incorporate the app into your everyday life?
      - What could the app have done better to keep you engaged?

\* Repeat 6d-6e for each mental health app.

\* Be sure to revisit any online mental health resource brought up in 5d if applicable

- f. If you were to use another mental health app in the future, what strategies do you think could help you incorporate it into your regular phone use routine?
    - i. How might placement of the app on your phone impact your engagement?
    - ii. How might different types of notifications impact your engagement?
- 7. Before we wrap up, is there anything else you would like to share with me about your smartphone usage in general or any experience you have with mental health apps?

## Thematic Analysis

Themes	Subthemes	Illustrative Quotes
Attitudes and Behaviors Toward General Phone Use	Aware of screen time	<p>"I'm not surprised that it's this high." (P2)</p> <p>"I was like aware, I already kind of said earlier, that it was like really high, but like, it's like not something that I want to admit that I like knew about it." (P6)</p> <p>"I definitely know I'm on my phone pretty often." (P9)</p> <p>"I'm not surprised, but it's just when you see it, I'm just like, oh my god, that's terrible, and I should stop." (P11)</p>
	Unaware of pickups and notifications	<p>"I didn't think I received that many notifications yesterday . . . and then I literally got 502, so that's what like kind of scares me." (P2)</p> <p>"My gosh, I didn't even know this was a thing [pickups]. Oh 142 times. Oh my gosh." (P3)</p> <p>"The note of the pickups is that one is probably the one that I wasn't necessarily aware of." (P4)</p>
	Negative reactions to phone use (e.g., poor mental health, distraction)	<p>"Going on TikTok eventually kind of just made me feel bad about myself. I think the way the algorithm works . . . it just creates like popular TikTokers who meet conventional beauty standards and that's like not great for my self-esteem." (P1)</p> <p>"It makes me want to delete Snapchat like because, I like I know that like I talk to a lot of people on it, but I don't even realize how much of my day is consumed." (P2)</p> <p>"I like pick up my phone and look for something and then that'll like completely take me off track . . . And so, I ended up like throwing my phone like on my bed and like not being able to like pick it up and I realized how much I'm like about to look at something. Every time, I get distracted, which like really isn't good." (P6)</p> <p>"Checking social media can be a drag on mental health when you see that other people have like such a great life compared to you because of selective sharing on social media." (P7)</p> <p>"I feel like one of the consequences is mental health because you're sort of comparing yourself subconsciously . . . all the likes and all the oh did he or she Snap me back." (P11)</p>
	Neutral reactions (e.g., COVID-19 related phone use)	<p>"I definitely have been on my phone a lot more just based on the fact that I'm inside sitting in my room more especially during quarantine less in college is the fact that you're literally not with anyone." (P4)</p> <p>"Because of COVID, my phone usage like increased like exponentially compared to where it was before because I just wasn't as active in like real life and I relied on it a lot for communication with other people." (P9)</p> <p>"Everything is so virtual, like I've had to I've done a lot of Zoom calls and stuff on my phone." (P10)</p> <p>"Because I was staying at home, I used more of my phone." (P11)</p>
	Positive reactions (e.g., relationships, personal/spiritual growth)	<p>"I'm now long distance with my girlfriend. We like FaceTime a lot at night usually. Um, and then I like fall asleep and so I'm still on FaceTime. And then I've been FaceTiming my friends, my mentees for school." (P1)</p> <p>"I'm in a relationship, like I have a boyfriend, and he's long distance. And so, like, it's just like a lot of like texting back and forth, so it feels like that kind of makes sense, I'm not necessarily like oh no about it. I feel like Messages like is an okay thing if I'm going to spend time on my phone." (P6)</p> <p>"Like a sermon from three years ago, I never would have seen, or the algorithm wouldn't have brought to me, unless 100,000 people literally just watched this video in the past three months, so they thought, hey, maybe she'd want to watch this video. So, I would definitely say that has been kind of a blessing in disguise." (P12)</p>
	Reactions to phone use connected to perceived purpose of use	<p>"My phone is honestly such a tool for me, even for school. So even if I have a busy day and I don't have free time, like, I still will use it for planning things, like texting about or like using Slack for important messages." (P3)</p> <p>"I almost like, glorified it like I thought like, oh, this is the way the app was intended to be used like I'm actually talking to people. Um, so I think that kept me from seeing that it was a problem for a while." (P8)</p> <p>"In my free time, honestly and truthfully, I'm also on my phone. Like I'm a big TikTok watcher, and Snapchat watcher, and like I'm always on my phone, oh my goodness, like all the time. So, I do feel like it definitely does take a toll." (P10)</p>
	Behavioral goals to reduce screen time	<p>"I have since parental locked myself out of social media on my phone, except for Facebook . . . there were things that I want to do, like, read or exercise or talk to my friends." (P1)</p> <p>"I was like, oh my god, I need to [delete the social media apps] because they're just stealing your data. I just watched the documentary, and I was like, okay, I'm just gonna delete all this stuff. And then after like a couple days, I'm like bored and I just downloaded it back." (P11)</p> <p>"I deleted them for about three months so that I can just, you know, focus on my class time and stuff." (P12)</p>
Impact of Phone Organization on Phone Use	Phone organization to prioritize and increase use of apps	<p>"I try and keep my calendar, my school stuff closer towards the bottom to influence me to get back to work." (P4)</p>

		<p>"I put those I use most frequently outside of the folder so like when there's like a notification, I would like see it instantly." (P5)</p> <p>"My first page is like a clock and then like my calendar. So, like the first thing I see is like the things that are coming up that I need to do. And then my next page is like FaceTime, and Messages, Notes, Snapchat – like that sort of stuff like people trying to reach and writing things down when people reach me . . . any app with a messaging, calling function, any of those sorts like, they definitely like they take precedence." (P10)</p>
	Phone organization to dissuade use of apps	<p>"I started leaving my contact apps like Instagram, Facebook the rest the social media stuff in a folder on the top left, so it's harder to reach so it's more difficult to get to." (P4)</p> <p>"On my front screen I have no social media apps. I used to have that before and then I was like, this is just a waste of time. If I have to go, because I know that if I have to actually go and slide all the way through everything to find it, then I'm not going to use it as often." (P12)</p>
	Phone customization for aesthetics over functionality	<p>"I don't use my home screen, like my home screen is purely for aesthetics sake at this point. I just did like one of the widgets." (P1)</p> <p>"As soon as I got the update I was like, if I'm going to look at my phone as much as I look at my phone, and I have the option to make it pretty, I should probably make it pretty." (P10)</p>
	No use of phone organization (e.g., factory settings intact, use of search bar)	<p>"[I] swipe down and then type into the bar at the top because I also read somewhere that that's apparently, like you're more intentional, if you have to physically type it out." (P1)</p> <p>"I think one thing that's kind of cool with the new update is that you can like delete an app, but then it'll go into like the App Library, so it won't be on your homepage. I think that could definitely be used to the advantage, where you have to like actually type in like Instagram and find it instead of having it be like oh bright color." (P6)</p> <p>"I haven't like designed my phone so that the apps I use the most are the easiest to access." (P7)</p>
Using Apps for Mental Health Purposes	Personal conceptualizations of "mental health"	<p>"I think about mental health like your well-being emotionally . . . I also think of mental health separately from mental illness." (P1)</p> <p>"There's your brain chemistry. But there's also your environment outside stressors and like I am a firm believer that like mental health is just as important as physical health." (P2)</p> <p>"I think mental health is kind of just the state of you being able to like be content with where you are right now. And if you're not, at least having a plan or ways to feel better if you're not feeling better." (P3)</p> <p>"A relatively stable positive like sense of where you are in life, you know, how you feel about yourself, how you feel about the people around you." (P7)</p> <p>"Good mental health is like cleaning and maintaining and upkeeping that headspace, and bad mental health is not doing that cleaning and upkeep slash like doing things to take away from that headspace." (P10)</p> <p>"I feel like mental health is basically how you feel emotionally, spiritually." (P11)</p> <p>"I can't definitively define it, there's nothing that can be boxed into mental health." (P12)</p>
	Entertainment apps to disengage from avoidance cope with negative emotions (e.g., games, TikTok, YouTube, ESPN, and Pinterest)	<p>"Something about just like moving the tiles around and like, I don't know, like achieving some sort of goal, like every time you move a tile, just like is calming to me and I honestly use it to, like, just calm down." (P3)</p> <p>"I would say entertainment apps are definitely helpful, whether it's YouTube, TikTok, Netflix or something like that. It's very good to temporarily get your mind off of something . . . it's more of a brief fix, which I also recognize is not the most healthy thing to do." (P4)</p> <p>"Sometimes I'll use TikTok as an app to help when I just need like to I guess focus on something else, or like just like feel more regulated mentally and emotionally." (P9)</p> <p>"My games make me feel less anxious, like distract me from like being overwhelmed, like, yeah, that's a mental health app, as far as I'm concerned." (P10)</p>
	Informal self-help to help with mental well-being (e.g., affirmations, relaxation, mental wellness social media, journaling)	<p>"I got a like app that gives you positive affirmations, and I originally created it as like a widget, and so it was like on my home screen so that I was able to see that and like it was kind of a thing that I was like thinking about a lot, like it was a mental reminder." (P6)</p> <p>"I follow some accounts that emphasize like mental health and, like, just like healthy lifestyle and things like that." (P7)</p> <p>"When I'm talking with my therapist and there's something that I feel like sticks out to me or that is important, I'll write it down in my notes on my phone. And then like when I feel like I'm having some issue mentally, like I'll check through my notes." (P7)</p> <p>"Spotify. I think music is a pretty good coping mechanism for me." (P8)</p> <p>"I always get a notification every day, like a Bible verse, and it sort of helps me." (P11)</p> <p>"Google Keeps, where I'm able to make note those of important, important things that I've heard or said or that were like, just like, damn, that was inspirational like put that down there." (P12)</p>
	Informal peer support to help with mental well-being (e.g., messaging apps, Snapchat,	<p>"I did like follow up with some like bloggers, or like just like authors, who write about mental health stuff . . . it can give you kind of like an insightful information, like a different perspective to look at your life. It can be really positive and it kind of gives you like an attitude that you feel like I can learn from it." (P5)</p> <p>"Messages I feel like I've used as a beneficial thing because like having always someone there to talk to, um, has been good for mental health." (P6)</p>

	social media, blogs, YouTube)	<p>“I have a Snapchat private story for like people who I'm like pretty close with and sometimes if I'm like having some crisis or something, I'll just like posts on there like vent.” (P7)</p> <p>“Literally I just type, like how to stop worrying, how to do it. Then I just watch the video and like it does help like it, especially from people who are older.” (P11)</p>
	Specialized mental health apps: mindfulness meditation (e.g., Calm, Headspace, Ten Percent Happier), mood tracking (e.g., Reflectly, Daylio, Flo, Lift), peer support (e.g., Flo, Lift), self-help (e.g., Lift)	<p>Reflectly: “it's a journaling app where you can add mood check-ins, so that like shows a screen, you like pick what mood you're feeling and then you can add some text. Or you can add a photo. And it's kind of like in a timeline format.” (P1)</p> <p>Calm: “I feel like Calm is like that room that I go to when I'm like, anxious . . . it could be social anxiety, it could be academic anxiety, it could be like just, you know, any form of anxiety, but when I feel like my head is spinning too fast or my heart rate is getting too high, I'll just be like, okay, like I just got to stop this and go to Calm, like, just go to Calm, let it distract me. I don't know if distraction is the right word, or if the right word is like mindfulness.” (P7)</p> <p>Lift: “The training might help me handle stuff better on my own once I was done with it, and then it looked like having the community might be interesting, I don't know, and they had like forums and stuff.” (P8)</p> <p>Flo: “There's a whole community out here and you can track your mood and track your symptoms so that you're learning more about not only reproductive system and how that cycle works, but you're also learning more about yourself and how your body reacts stress.” (P12)</p>
Barriers to Regular Use of Mental Apps	Lack of regular use of apps at time of interview	<p>“Those are apps that I recommended [as a crisis counselor], I haven't used them myself.” (P3)</p> <p>“They're no longer on my phone.” (P4)</p> <p>“Not currently. These are things that I've used in the past.” (P9)</p>
	Regular phone use routine in place and new app not easily integrated	<p>“In general, the idea of meditation or mindfulness, I was able to find it elsewhere. So, using the apps, I just felt were more of a nuisance then just quickly putting on music that I know I like.” (P4)</p> <p>“I generally download like more than one at a time, and so it's kind of one of those things where I'm like, I'm going to try one at a time and then I maybe like open one, try it for like a day, and then it kind of gets lost in the background.” (P6)</p>
	No desire or perceived to use mental health app	<p>“I just got into the routine of my boyfriend sleeping with me and like I wasn't going to play an app with him there, there's just no point, and then after I like got the dog, I just got into the routine of sleeping with him.” (P2)</p> <p>“Something about like, when I meditate, like I looked at meditating as the time to be like kind of disconnected, untethered in like a good way, and like if I'm meditating with my phone then I'm not disconnected from my phone.” (P10)</p>
	Dissatisfied with mental health app due to poor fit	<p>“I also kind of found like I was ruminating more on like things that I was feeling bad about than focusing on things – like balancing it out with things I felt good about – because then I would just use the app when I felt bad.” (P1)</p> <p>“It seemed like a lot of people there had worse problems than I did, and I don't know, it was just another thing, so yeah I stopped using that app.” (P8)</p> <p>“I wasn't sleeping any better. And because I wasn't sleeping better it was like ahhhh I don't need this.” (P10)</p>
	Wary about time and money commitments	<p>“Some of the better instructors, you have to pay the premium for, like that can be expensive and annoying.” (P2)</p> <p>“It's like upgrade for like this amount of money and so like that is a big turnoff for me personally, um, because I see that as like you're trying to make money off of my mental health issues.” (P6)</p>
	Low confidence in app efficacy	<p>“I only tried it for the period of the free trial which was not that long because I wanted to see if, like, if it helped me, I would then pay for it. But I might have been too quick to judge about it because like it didn't immediately help me fall asleep or anything like that.” (P3)</p> <p>“It was like cool, but it didn't really help because for me, I think I need just like a person like not – I don't think an app can solve this.” (P11)</p>
	Difficult to use when internal barriers present (e.g., other time commitments, mental health crisis)	<p>“It can be like a luxury to like do things outside of like studying, like seeking jobs, and like applying for grad school.” (P5)</p> <p>“I feel like I generally like – when I'm in like a down, I don't like look for a resource to get out, and so like I just tend to like not open the app.” (P6)</p> <p>“I guess, in one way, it took me being in a different type of mental space to do it and I think with college always feeling very like overwhelming or like things are constantly coming at me, I didn't really have the time.” (P9)</p>
	Not perceived as an app that requires regular use	<p>“I think that it was more like I would use them more situationally than trying to get into a routine with it.” (P4)</p> <p>“I do use Calm, not on a daily basis or something, but more if I'm like having a specific incident with anxiety, I will use it to calm me down . . . Calm is like that room that I go to when I'm like, anxious.” (P7)</p> <p>“Like it wasn't like a do this once-a-day thing, it was like this is a community.” (P8)</p>

Reactions and Behavioral Responses to Notifications	Neutral acceptance of number of notifications	<p>“In general, I think I get like an average amount of notifications, that's like good for me, not too many. And I guess like too little is fine, but it's not too many.” (P3)</p> <p>“I wouldn't say I'm necessarily alarmed or anything by the amount of notifications.” (P4)</p>
	Irritation with notifications (e.g., content, type, timing)	<p>“I get really annoyed with badge notifications. I mean, honestly, sometimes I'll tap it just to see what's up, like it works, but I'm resentful of it.” (P1)</p> <p>“Generally, I feel like there's a lot of notifications that I receive that I really don't need . . . I really could have lived my entire life not knowing that.” (P6)</p> <p>“At points, they can be pretty excessive and distract me when I am trying to take time away from my phone because it's difficult to ignore them all the time.” (P9)</p> <p>“After a certain time if my phone is buzzing like I'm annoyed.” (P10)</p>
	Digital overload for stacked up notifications	<p>“I wake up with like just a disgusting amount of notifications. I like don't even really know where to start.” (P2)</p> <p>“If there are a lot of different texts from like a bunch of friends at the same time, then like that gets a little overwhelming.” (P3)</p> <p>“I feel like when those emails like stack up, if I'm aware that they're stacking up, but I'm not able to check them in that moment, it's just adding anxiety that I can't deal with.” (P7)</p> <p>“One notification that's dumb is never like a big enough point of stress to feel like I have to address this, but they wear on you.” (P8)</p> <p>“I'm in so many group chats and it can be extremely overwhelming to get so many notifications constantly.” (P9)</p> <p>“Sometimes I get like really anxious about it. I'm like, oh my goodness, everything is just like piling up because it's notifications on notifications on notifications. And that's kind of overwhelming sometimes.” (P10)</p>
	Feeling/reaction toward notification context dependent (e.g., source, perceived priority, emotional state, social situation)	<p>“When I got emails in my notifications, it could make it so that when I was trying to enjoy myself, like it just was like obstructing . . . I would feel like every time I got an email about a grade or something I'd be like, oh I have to look at this like now and it was like not good for my mental health.” (P7)</p> <p>“I don't know if notifications on their own like ever like overwhelm me. If I'm really getting overwhelmed by notifications, it's usually because they're emails or stuff where I'm like oh crap I have to respond to this, so it's usually like on top of already having a rough workload.” (P8)</p> <p>“I think a lot of times I'll just be bored and I'll just be doing work . . . and then I'll check to see if anything popped up and I'll kind of just go for like whatever notification is there.” (P8)</p> <p>“It's mostly dependent on whenever I decide that I'm going to sit down and try to do a long span of work.” (P9)</p> <p>“If a notification interrupts me doing something else, I don't look at it. Like if I'm like already doing a task on my phone and like the bar pops down, I immediately swipe it out the way. I'm irritated, because I'm like focused on a thing and it's in the way now.” (P10)</p> <p>“Actually, the more notifications, sometimes it's the better because I don't like my phone like [doing] nothing. If I'm not doing anything, then I kind of get excited.” (P11)</p>
	Strategies for managing unwanted notifications (e.g., disable permanently in phone settings, temporary Do Not Disturb, ignore)	<p>“I felt like okay I can be more intentional about checking my texts in that way. And that would like be less of, kind of like a jerk reflex when my phone buzzed. And honestly, like it's been okay so far, this is, it's been a couple of years since I've had the notifications off.” (P1)</p> <p>“Most of the time I do stay with my phone on Do Not Disturb because I just don't want to hear it and I have shit to do.” (P2)</p> <p>“I think that not having them [notifications] is the cause of me checking it more.” (P3)</p> <p>“I even like turn off their notifications, because I feel like I would just like pay unnecessary attention, and also, like, I don't really care.” (P5)</p> <p>“I don't need these notifications, so I like turned it off completely . . . But at the same time, I feel like I check it often, if not more, because I'm like, I wonder if someone sent me something.” (P6)</p>
	Personal prioritization of notifications (e.g., high priority direct communication, low priority automated app-based)	<p>“I think like notifications that like come from people you know, or like real people, like people you talk to on a daily basis – you're more motivated to check them then just like Starbucks being like: hey it's double star day if you go by today from 3 to 5 PM. It's like okay, cool, like thanks for the mass message.” (P2)</p> <p>“I'm not going to respond to something that's automated, at least [not] right away.” (P4)</p> <p>“I cannot stand, I can't stand when these apps just send notifications like to try and get you to use the app.” (P7)</p> <p>“iMessage is different because it's directly to you, it's meaning it's a text, you know, it's something with abundance. So, I definitely value iMessage more.” (P11)</p>
Suggestions for Improving Integration and Engagement of Mental Health Apps	Attitudes toward receiving notifications to increase engagement (e.g., positive, negative, context dependent)	<p>“If I'm already in the habit of it, then it does, if not, then it does not.” (P1)</p> <p>“I like notifications that aren't like abrasive, so, I like notifications that are gentle on their approach.” (P2)</p> <p>“You're able to schedule a time when you want to do it and half the time I'd ignore it . . . I was never able to find like a specific time like this is when I want to try it out.” (P4)</p> <p>“I feel like they had almost no effect on what I did. It was just like either I felt like I had time to do it, or I didn't, and I kind of ignored the notifications, and eventually they got annoying enough where I uninstalled it.” (P8)</p>



		<p>“I just don't like the expectations that I need to respond to it, and it feels very pressing. It just felt a little bit more pressing when it was something outside of myself, reminding me to do it, versus me having the control over my own like reminders of what I need to do.” (P9)</p> <p>“Anything that's like sliding in on me doing something else is getting ignored for the time being. I'd probably turn the sound off too, just because like I associate like notifications sounds with like things that need to be done, people that need me to talk to them, and things like that. And I wouldn't want to be stressed about a mental health app, that sounds terrible.” (P10)</p>
Personal preferences for notifications from mental health apps (e.g., type, time, frequency, content, purpose)		<p>“A notification that said like that reminded you to do it like, oh, like, don't forget to do your daily check-in . . . or like if you send a notification about like an interesting mental health insight or some like tips that could help you throughout your day, like I would read those” (P3)</p> <p>“One notification per day, maybe like remind me to like take a look at the app . . . Maybe have it after 10 PM. I think at that time, people might be more inclined to do more mindful, or like insightful things.” (P5)</p> <p>“I think that generally more gentle slash incentive-based notifications would be like the most helpful for me personally, ones that are like also like kind of cute.” (P6)</p> <p>“I guess maybe if there's like new features or something that would actually like warrant a notification.” (P8)</p> <p>“They pay attention to the user data and it's informative. It's not like, hey, check out what so and so is doing. It calls out to me personally.” (P12)</p>
Mental health app scope (e.g., specific purpose to warrant use, multiple functions to consolidate apps used, integrated into other apps)		<p>“You guys could have like cooperation with maybe other apps.” (P5)</p> <p>“I think it's helpful for like the app when it's like sort of an all-in-one kind of deal, like if I have like one mental health app, that's a lot easier to stick to than like four different apps.” (P8)</p> <p>“Probably something that does multiple things. Like if it were like a mental health app, it would I don't know, have a weather component or something . . . like even a mental health app with like a game setting or function, little things like that I think are like a lot easier to then incorporate into your schedule.” (P10)</p> <p>“Having a direct purpose for the application would make it easy to justify taking away time from something else.” (P12)</p>
Desired app features to increase engagement (e.g., variety in type and length of content, novel content regularly, social support elements, incentive for use)		<p>“Something that does motivate me to use it, is the fact that there's like basically a meditation for any kind of mood that I'm in. And for whatever length I need . . . I know that they're going to keep adding things which makes it like worth continuing to engage with it.” (P1)</p> <p>“If you do it for multiple days in a row, you can unlock Achievements.” (P1)</p> <p>“I think having some sort of visual representation of like you using it every day would be nice and would make me want to incorporate it into my daily routine.” (P3)</p> <p>“I think one thing that mental health apps lack, which I don't know how it can necessarily be fixed, is some sort of like, that idea of interacting with other people.” (P4)</p> <p>“I feel like if you did have articles every day about like particular mental health, like self-care tips, or I would like those tailored to specific person types.” (P5)</p> <p>“Streaks . . . if you have like a encouragement for like coming back every day for like seven days, like that would help like me to come back” (P6).</p>
Usability factors to increase engagement		<p>“I'm more inclined to use apps that I think are pretty looking.” (P1)</p> <p>“I think that would help like even if you could do like a customized type notification.” (P9)</p> <p>“It would have to have easy navigation and something that I can customize a little bit to have a personal aspect.” (P12)</p>
Individual behaviors to increase integration (e.g., phone organization, habit formation, sleep and time management, invest monetary resources)		<p>“I definitely think that putting it in my home screen [would help], and that's something that you guys could like put in like when you first download the app, it's like suggested to put like with social media platforms so that like you see it on a daily basis.” (P6)</p> <p>“I would say probably for me it's like about putting it in my routine. So, if it became part of, like, either like when I wake up, or my before I go to bed routine. . . that would be part of my routine and then eventually it would become natural.” (P7)</p> <p>“I think that it's making a habit and then and then keeping my sleep in check so that I actually I don't start skipping, because once I start skipping, it's not gonna happen.” (P8)</p> <p>“I think for me personally, I could probably manage my time better.” (P9)</p> <p>“I'm a big believer in if you want something to be a part of your routine, like you can make it a part of your routine.” (P10)</p> <p>“I invested in this so I'm like, might as well use it.” (P11)</p>