DATA PRIVACY AND CONSUMER PROTECTION PRACTICES

OF AUTOMATED MENTAL HEALTH, WELLBEING AND MINDFULNESS MENTAL HEALTH, WELLBEING AND MINDFULNESS APPS REPORT

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Data Privacy and Consumer Protection Practices Of Automated
Mental Health, Wellbeing and Mindfulness apps

1. Introduction[1]

Mental health, mindfulness and well-being apps are proliferating, and the latest iterations purport to rely on AI to provide highly personalized services by automated means. Such apps might, if properly designed and deployed, provide valuable mental health support. But the clinical value of automated mental health and mindfulness support is still being verified. The privacy protections in such apps have been criticised and they have rarely been assessed from consumer protection perspectives. Such inquiries are important given the apps may be accessed without the intervention of a human therapist and used by people with poor mental health as well as people unfamiliar with the technology being utilised to provide the automated service. This paper reports on a study of popular mental health apps using AI technology to provide the service in question.

This report presents an analysis of the data and consumer protection practices of 15 leading automated mental health, wellbeing and mindfulness apps. We did not study gaming apps or apps that had a primary function of connecting users with a human therapist. The mental health, wellbeing and mindfulness apps considered in this report were chosen on the basis that they were included in Mozilla's 'Privacy Not Included' guide,[2] and also because they were promoted to us through social media following our study.

This report considers automated mental health, wellbeing and mindfulness apps in term of their:

- privacy policy and data governance practices;

- use of dark patterns;

- claims about efficacy; and

- consumer contracting practices (headline representations, disclaimers, and potentially unfair contract terms).

More detail about our findings can be found in the appendix Tables. The apps were last reviewed in Nov 2023.

The aim of the study is to provide a sound basis for considering regulatory responses to ensure the apps promote the well-being of consumers.[3]

2. The Tech4

The apps were chosen for utilising technology to provide an automated and personalised service.

These services utilised recommender systems for targeted and personalised mood tracking, meditations, mindfulness or mental health strategies and chatbots for cognitive behaviour therapy or wellbeing support. With the growth of large language models for natural language processing, such as in ChatGPT, greater use of chatbots – specifically trained for mental health support – may be expected in the near future.[5]
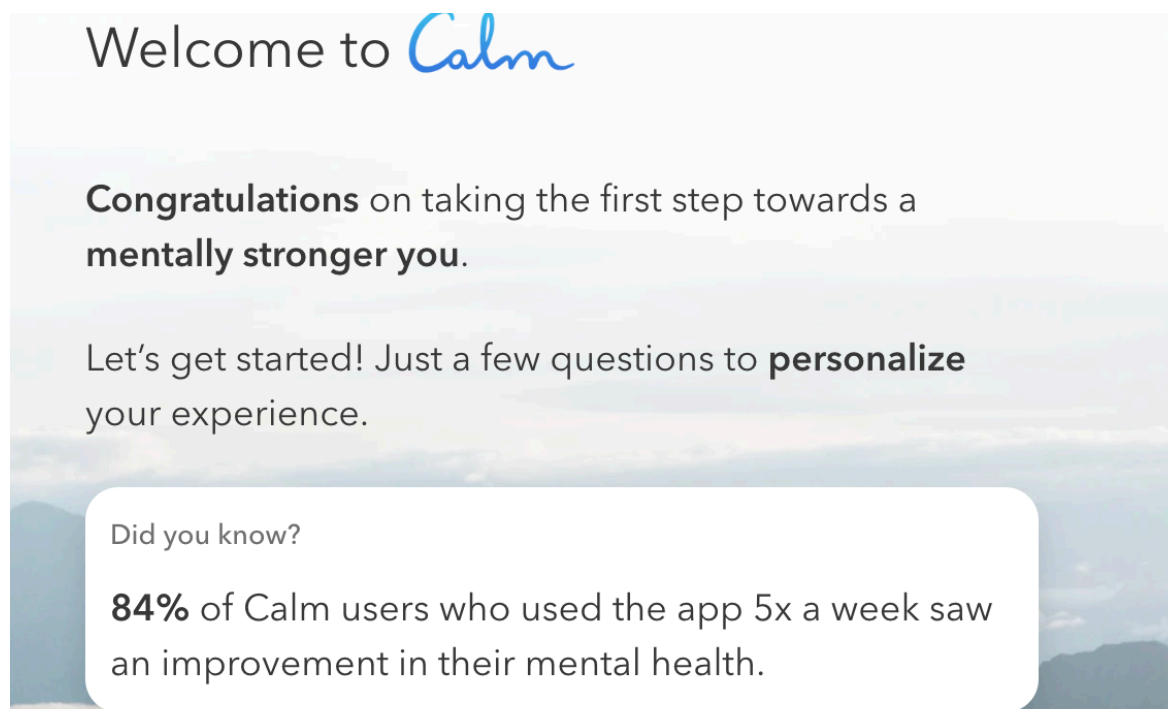
The artificial intelligence that works like a therapist

I can't stop crying. My friend had a birthd
didn't invite me. Everyone we know was th
me. He didn't even give me a reason why.

That sounds so rough. I'm so sorry you ha
that. Let's take a few breaths together to
Close your eyes. Inhale as deeply as you
five. Then exhale.

Try the demo   Talk to sales →

Hey mom. I've started a new wellness goal to learn how to manage my anxious feelings.

That's great hun. What do you have to do?

It is something we can do together. We can learn about what triggers emotions and practice some coping skills.

😊 💬 ✉️ 🦋

e you xo

I'm really glad you told me. I'm here for you.

Thank you

Let's do something fun

Can we talk more about it?

Change topic

The Family Mental Health Companion

The Always Here Kids and Always Here Parents apps provide a safe and nurturing platform for families to navigate the challenges of growing up, together.

With a personalized, empowering approach to mental wellness, our apps give children and parents access to a range of tools and resources to foster open communication and boost emotional resilience.

From daily check-ins and mood tracking to guided conversations and counseling, our apps provide families with the support they need, when they need it most.

Visit alwayshere.io
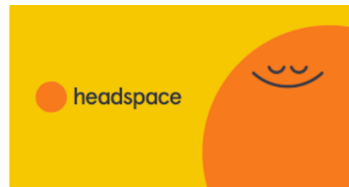
3. Digital and AI Ethics[6]

No app provider expressly addressed the ethical concerns and risks that may be raised by using AI and digital technologies, including bias and discrimination, such as set out in principles of responsible or ethical AI.[7] Only Youper addressed issues of equity and diversity on its website.[8]

Quantifying Benefit

The marketing material for many of the apps quantified the benefit that might be gained by their use. The aim here is presumably to suggest a verified and real positive outcome to consumers from using the app. However these results generally were based on a combination of user feedback and studies of the use of the app for small homogenous groups of users..

Headspace's quantified claims:

The studies in question where commonly (although not always) conducted by Headspace using self-reported outputs over a short term.

Learn from our industry-leading partners

Technology

Hootsuite sees 49.3% adoption with Headspace

Chemicals

BP employees see improved sleep and resilience with Headspace

Biotech

Google & Roche employees reduced symptoms of anxiety and depression

Military

Improved sleep and perceived stress of US Air Force personnel

Technology

Celonis employees describe how Headspace helps them at work

Government

Headspace helps the UK Ministry of Justice team manage stress and job demand

Most of the apps additionally promoted the 'science' backing what they do, as presented in peer reviewed research studies.

Smiling Mind's scientific support:

Our Research Approach

The intentional cultivation of mindfulness is a pursuit that has existed in non-secular and secular forms for many thousands of years.

The practice has continued to evolve in its modern form and as a company we are committed to evaluating the benefits of both digital and in person mindfulness training. We use the learnings from this research to inform the programs we develop so that we can deliver the most robust and evidence based programs to schools, homes and the world.

The 'Science'

Youper's scientific support:
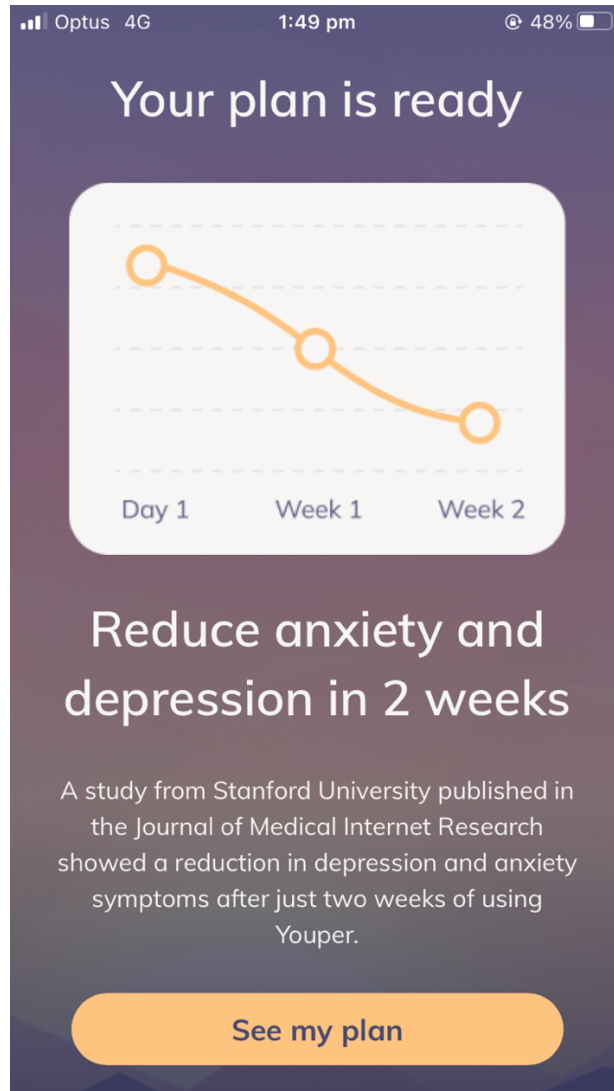
Most of the studies linked to mental health, wellbeing and mindfulness apps showed positive results. However, there were limitations to these studies. For example, some studies were conducted by researchers employed by the app provider. Some studies were only short-term (not longitudinal), and most studies were conducted on discrete groups. Mental health apps do not appear to have been well investigated for use by people from often marginalized groups, such as from CALD, LGBTQI+ or neurodiverse communities, who nonetheless may have the apps recommended to them. The following is an extract from Youper's study, with a statement declaring the conflict of interest therein.

Conclusions

This study provides preliminary evidence for Youper's acceptability in a real-world setting that is unfettered by the constraints of highly controlled clinical trials. It also provides evidence of Youper's effectiveness as an entirely unguided intervention for anxiety and depression. Finally, we demonstrated that Youper's effects on symptom reduction may be explained by repeated within-session emotion regulation successes, providing preliminary support for the process by which a just-in-time intervention can be effective for the treatment of emotional disorders. Our results highlight the potential impact of Youper as a low-cost, light-touch, transdiagnostic intervention for anxiety and depression that can be broadly disseminated to improve mental health for millions of people around the world.

Conflicts of Interest

Authors ANN, JHV, TM, and DDC are employees of Youper and shareholders in the company. AM and JJG have no conflicts of interest to declare.

5. Data Privacy[10]

Concerns about the data privacy of mental health apps have been raised on a number of occasions. In 2023 the FTC issued a proposed order banning BetterHelp, which provides an online counselling service, from sharing consumers' health data for advertising contrary to the terms of its own privacy policy.[11] Replika, an AI-based chatbot, has been a subject of controversy for its lack of strict gating mechanisms to prevent children and minors from using the App.[12] The Italian Data Protection Agency, in February 2023, issued an order to prevent Replika from processing Italian users' data.[13] These actions seem to have had a ripple effect on all similar app developers, for their privacy policies have undergone several revisions since. Nonetheless, there remain numerous practices that might surprise or concern consumer users.

Mozilla's Privacy-Not-Included Report

Mozilla has provided a score card rating the privacy-preserving features of mental health apps (and not only those that are automated) in 2022 and 2023.[14] Mozilla assessed these apps on whether they 'routinely share data, allow weak passwords, target vulnerable users with personalized ads, and feature vague and poorly written privacy policies'. [15]

The Mozilla survey of the privacy practices of mental health apps in 2023 found Wysa had the best privacy practices, including on the ground that it did not use personal data for direct marketing. Mozilla found Replika to be one of the worst apps studied from a data privacy and security perspective. Woebot and Youper changed their practices following a review in 2022.[16]

Data collection and use practices considered in this report

This report does not seek to replicate the Mozilla study. It seeks to draw attention to 'unexpected' privacy practices, that is practices that might surprise users given the role of the apps in providing mental health or wellbeing support services. It draws attention to:

- the scope of the personal and sensitive data collected by the apps;

- issues of notice and consent;

- the data collected from sources other than that directly entered by the user;

- the sharing of data with third parties.

Personal Data Collected

Most mental health, wellbeing and mindfulness apps collect personal information such as name, email address, age, and gender directly from the user. Some mental health, wellbeing and mindfulness apps also collect data from third-party apps, social media, and online conduct. This might be acceptable if used purely to provide the mental health support service in question. However, as discussed below, the mental health, wellbeing and mindfulness apps commonly also use personal data of consumers for a variety of other purposes as well as sharing the data with third parties.

Replika's privacy policy:

Replika's data collection practices are particularly concerning. The App collects information about a user's Instagram photos and other posting activities to engage in relevant conversations with them. As of 31 January 2023, Replika had made inconsistent representations in its privacy policy and its FAQs – while it disclosed its reliance on users' Instagram to learn about them in its privacy policy, the FAQ stated otherwise. The recent version of the privacy policy, however, seems to skate through what data it collects by offering a more general overview of its data-collection practices instead of providing clear information about its practices. While the privacy policy claims to not share information obtained from users' conversations (with the App) with third parties, it is not clear how the data solicited from all other sources is handled.

Personal information	Why we need the data	When it is collected	Is it ever shared?
	fingerprint.		
Integration with your Instagram account	To enable conversations about your recent posts on Instagram. This information also includes photos that you post on Instagram. The level of access to your Instagram does not allow us to post on your behalf.	When you choose to connect Instagram in text chat with Replika	No

As of 31 January 2023, the information regarding the use of social media to learn about consumers was hidden in the lengthy privacy policy (a section that most users never visit). On the contrary, the FAQ (a section that users may visit) represented that the App only learns about the user by chatting with them

Replika > Privacy & Safety > Data Available to Replika   Q Search
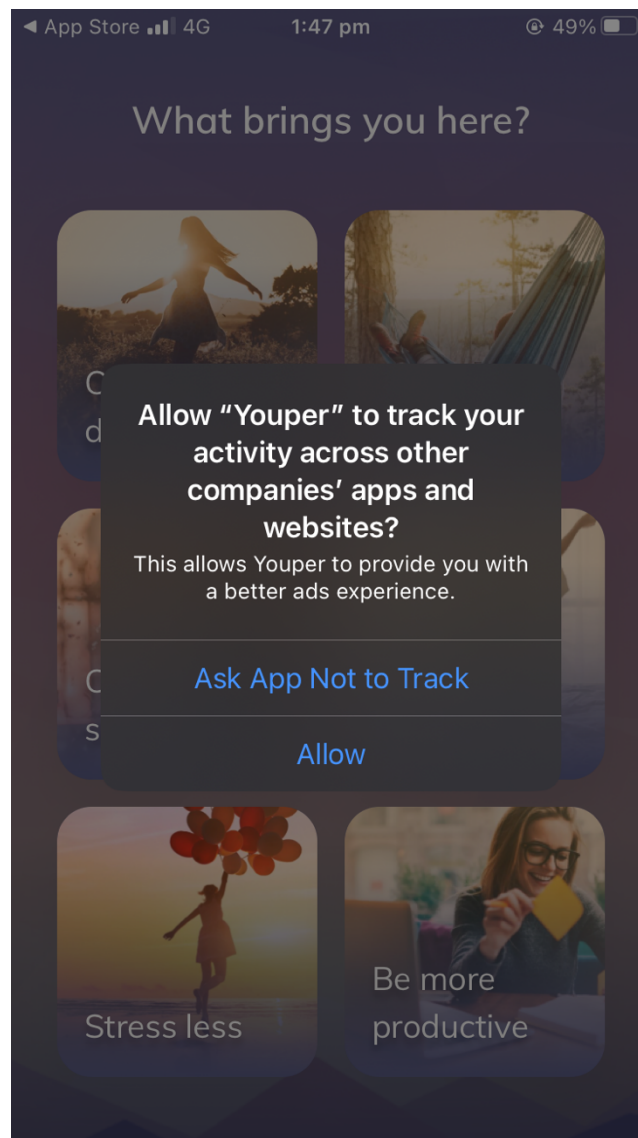
Articles in this section

How does Replika use my camera?

Does Replika use my emails or social media to learn about me?

Does Replika use my emails or social media to learn about me?

No, Replika only learns about you by chatting with you!

Youper's preferred data collection options:

Sensitive personal information collected before signing up

Some apps structure their sign-up process in a manner that makes it mandatory for users to provide their sensitive personal information to set up an account. In such circumstances, the collection of personal information precedes the provision of consent. In all these instances, the causal nature of inquiry about mental health, sleep cycle and productivity patterns in the questionnaires could potentially turn users' attention away from the nature of the information collected in the process. Users have no prior notice that they might be sharing sensitive or potentially sensitive personal information in such instances. It may be useful to have a pop-up notification that informs consumers about the nature of the data they may be sharing with the App when they interact with certain features and seek their consent for processing such information.

Sensa's questions 'for personalised action plan' (information collected prior to seeking consent/ setting up an account):
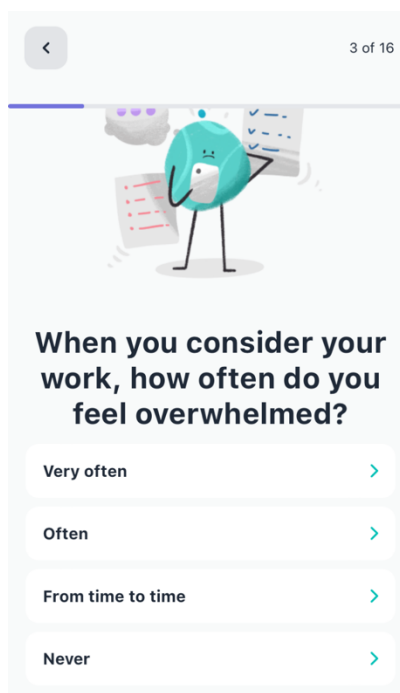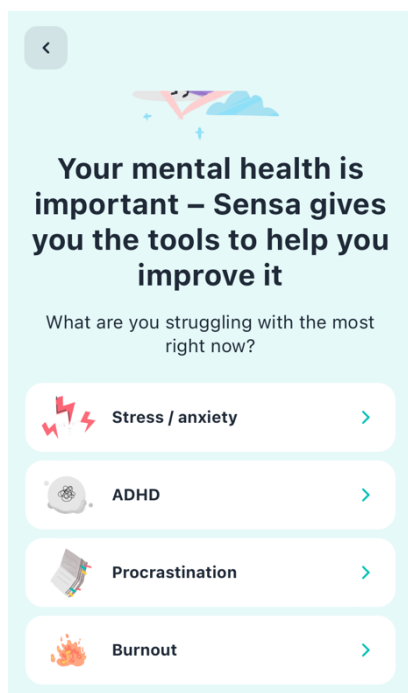
How often do you feel tired, drained, or generally out of energy?

Never >

Sometimes >

Often >

All the time >

How do you feel about work?

I am motivated and I enjoy it >

It often makes me feel stressed or impatient >

I struggle mostly with remaining focused >

It has made me feel cynical and resentful >

It feels like a waste of time >

I don't remember the last time I felt happy at work >

How long have you been feeling like this?

The last few weeks >

In recent months >

A few years >

My whole life >

I'm not sure >

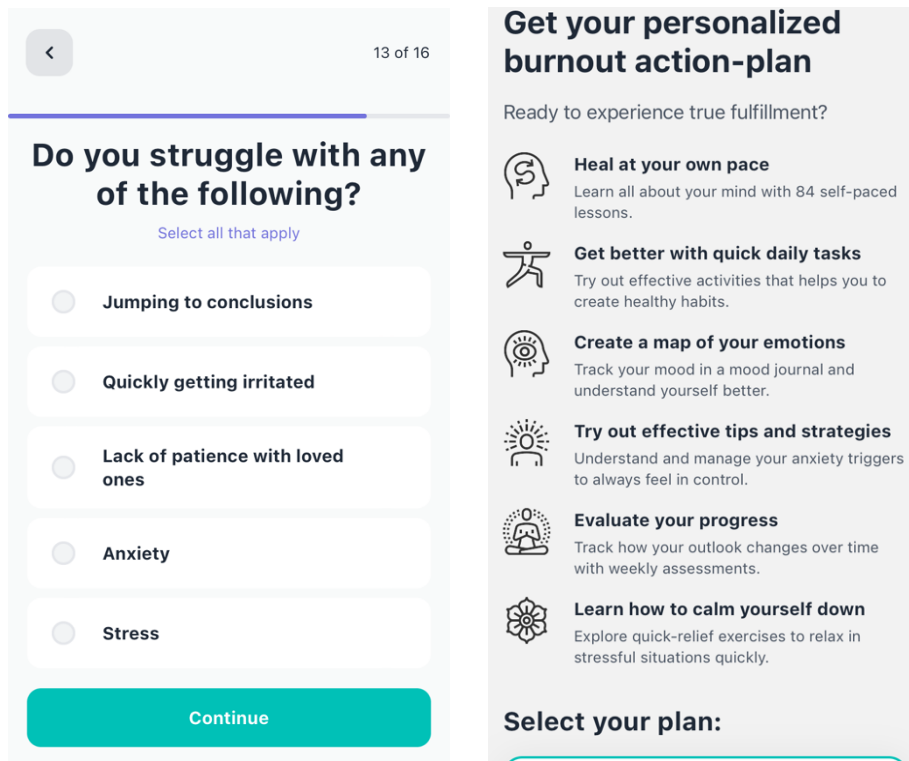## Which symptoms of burnout do you feel like you're experiencing?

Select all that apply

○ I never get enough rest

○ I no longer have time for myself or my loved ones

○ My health has been deteriorating

○ I'm quite fearful of failing and I second-guess myself

Continue

Do you struggle with any of the following?

Select all that apply

○ Jumping to conclusions

○ Quickly getting irritated

○ Lack of patience with loved ones

○ Anxiety

○ Stress

Continue

Get your personalized burnout action-plan

Ready to experience true fulfillment?

Heal at your own pace
Learn all about your mind with 84 self-paced lessons.

Get better with quick daily tasks
Try out effective activities that helps you to create healthy habits.

Create a map of your emotions
Track your mood in a mood journal and understand yourself better.

Try out effective tips and strategies
Understand and manage your anxiety triggers to always feel in control.

Evaluate your progress
Track how your outlook changes over time with weekly assessments.

Learn how to calm yourself down
Explore quick-relief exercises to relax in stressful situations quickly.

**Select your plan:**

Bundled consent

As has been seen, most mental health and mindfulness apps studied collect users' health information with the stated purpose of providing a 'personalised plan' to users. Some of this information collection might be justified as necessary for performing the contract. However, the information collected and the uses to which it is put appear to go far beyond what might be needed for providing the service.[17] The apps also collect sensitive personal information in some contexts (relating to mental health). Typically, consent is required to collect sensitive personal information.[18]

In many cases the practices around notice and consent were contrary to recognised best practice as recommended by the Australian Privacy Principles.[19] For most of the apps studied:

- information about the data collection was hidden in the fine print of the privacy policy;

- privacy policy consent was bundled with consent for terms of usage at the time of sign-up (often after sensitive information has already been shared);

- consent for primary and secondary usage of personal information was bundled as well, with no option to opt out of the latter;

- some apps used dark patterns in the user interface to collect excessive personal information.

Moreover, overreliance on notice and consent procedures has been criticised as an ineffective means of protecting individuals' personal data.[20] Rather than such procedural features, best practice would have regard to what is in the overall best interests of consumers,[21] and to what is fair and reasonable in the circumstances.[22] Many data sharing practices used by these apps seem contrary to consumers expectations or best interests.

Youper's passive consent:
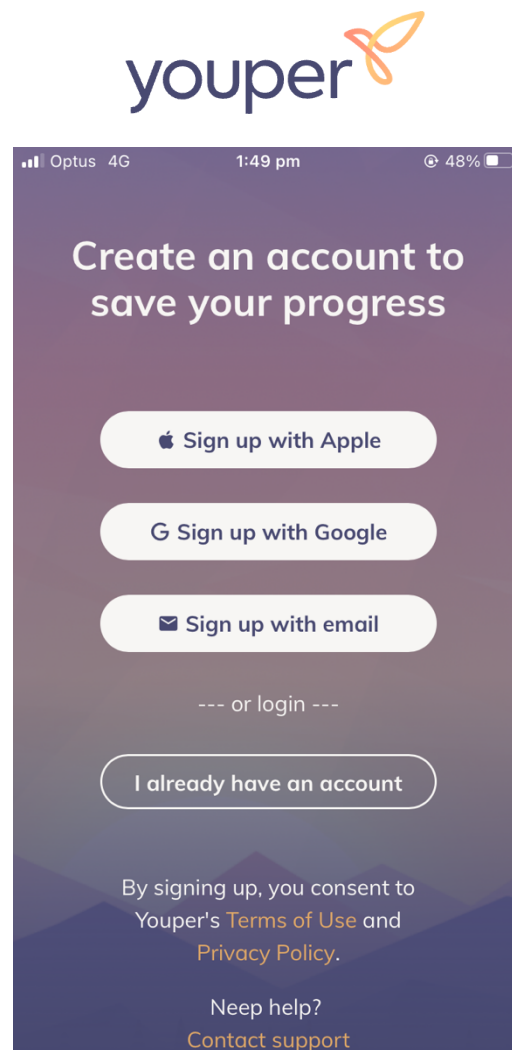
Data-sharing

None of the mental health and well-being apps we studied *sell* data. Some even state this. But data *sharing* practices are widespread.

With marketers

Many of the mental health and mindfulness apps surveyed shared some amount of personal data with third-party advertisers to serve ads relating to their service, or to deliver targeted ads to users based on their internet usage. They further allowed third-party cookies on their apps, which means that those parties get access to data for advertising and analytics. Consumers can manage cookies but need to go through a number of steps to do this, and the process differs for website and phone use.

With employers and partner institutions

Most mental health and mindfulness apps share aggregated or de-identified information with partners and affiliates. This includes in many cases sharing deidentified and aggregated data with employers or universities who sponsor the app for use by employees/students.
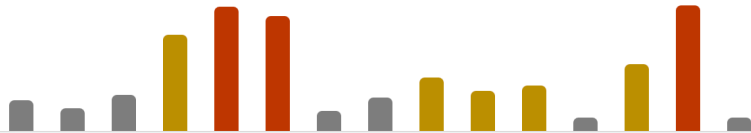
Elomia's service to partners:

We serve employers, payers, and providers

Our AI-powered tools can help you offer easy-to-use mental health solutions at scale — whether it's for your patients, members, or employees.

Insights and analytics

View aggregated, de-identified data to understand engagement and uncover trends.

The information shared may include metrics about use of the app, that is, how often and how long that app is used (?), and also more granular information about the way in which particular features are used and for what purposes.

Headspace data sharing with sponsors:

Headspace collects users' sensitive personal information in its 'My Progress Feature'. This feature allows a consumer to log their emotional state and well-being, on a monthly basis, through a questionnaire that tracks consumers' responses over a few months to help them understand whether there has been an improvement in their mental health over a period of time. This feature also allows consumers to journal their stress and anxiety triggers. This could contain information about a consumer's most vulnerable moments, their potential triggers, their perception of work and people around them, etc. Aggregated and anonymised information from this feature is shared with all of Headspace's partners and affiliates.

7. CORPORATE AND OTHER COMMUNITY SHARING

Headspace is also offered through partnerships with organizations. Sometimes corporations, governments, hospitals, universities and other organizations and groups ("Partner(s)") wish to make Headspace available to their members, employees and their families, patients, customers, residents or others. For example, employers may offer their employees and their families access to Headspace and brands that promote wellness may wish to and do offer Headspace through their loyalty programs. When an entity provides access to Headspace to others, we call those "Communities." If you have registered to use the Products through a code, credential, or other means of registration furnished by a Partner (a "Community Subscription"), the Partner may have access to your name, email address, the date you registered to use the Products, and the date on which you last used the Products. The Partner may also have access to your Community's aggregated and anonymized general usage data (including aggregated and anonymized usage data with respect to your Community's optional engagement with the My Progress feature).

Wysa, a mental health chatbot, similarly shares information including aggregated user data and mental health assessment scores with affiliated institutions.

Wysa's data-sharing policy:

Consumers may be concerned about their sensitive health information being shared with employers. References to de-identification and aggregation in the terms of the App do not entirely guarantee the privacy of the user. It is not at all clear from the privacy policy what methods are used to de-identify, or anonymise, data.[23] Moreover, reidentification is recognised as an increasingly straightforward process.[24] The ease of re-identification poses the risk of misuse or abuse of data and could potentially harm the individual.

These considerations suggest that there should be greater clarity from mental health and wellbeing apps about their sharing practices and the opportunity to opt-out of these practices, or better still to opt-in. Wellbeing and mindfulness apps should put in place effective mechanisms to ensure that consumers are aware of such data-sharing practices.

For research purposes

Many mental health and mindfulness apps also use data for research in relation to the product and share data with third parties for research purposes. Data is shared without any qualification on the kind of research, the credentials of the researchers or an undertaking as to the researchers' approach to data privacy. As Dr Katharine Kemp has observed over her research on Fertility Apps, '[n]one of the apps that use data for research purposes promise that any research using the consumer's data will be conducted in accordance with recognised ethics guidelines or subject to such ethics oversight. Nor do the app developers promise that all external organisations receiving that data for research purposes will comply with recognised ethics guidelines or be subject to ethics oversight'.[25]

For example, Guidelines under s 95A of the *Privacy Act 1988* (Cth) contain ethical mandates that organisations must follow when using personal data for medical research.[26] This requires that where

consent is not obtained for use by research organisations, the collecting entity must remove all personal identifiers from the data and anonymise it such that the privacy of the user is not compromised.[27] The guidelines emphasise the importance of upholding the individual's dignity and ensuring that the data is protected from unauthorised disclosure and misuse. Researchers must also obtain ethics approval from the Human Research Ethics Committee with the specifics of each study for which they would require the data.

Our study found that the terms of use and the privacy policy of these apps do not disclose if the data is anonymised, or if their research is conducted ethically and in accordance with relevant guidelines.

Calm's terms of use

We also share aggregated or other information not subject to obligations under the data protection laws of your jurisdiction with third parties. For example, we sometimes share aggregate information with research organizations to help facilitate their research.

Sensa's privacy policy

11. Sometimes we may aggregate, anonymize or de-identify your personal data in such a way so that it cannot reasonably be used to identify you. Such data is no longer personal. We may use such data without restriction in any way allowed by law, including, but not limited to share such data with our partners or research institutions, share in articles, blog posts and scientific publications, aggregate statistics about certain activities or symptoms from data collected to help identify patterns across users and evaluate or modify our services.

Training the bot

Those apps that use conversational Chatbots are likely to have trained those bots on data drawn from clinical interactions between mental health professionals and patients. It is possible that conversations between the chatbot and the consumer may also at some point be used for training purposes. Again, best practice would require this feature to be disclosed and an option to opt-out provided.

Wysa's chatbot training policy:

Conversation data (free text messages, accidental identifiers submitted, Clinical questionnaires/assessment and scores, wellness data, voluntary SOS data) (Clinical questionnaires are a proven way to track progress of your mental well-being. You have the option to not respond to these assessments) (Wellness data include voluntarily provided special category health data. You have the option to not share any sensitive physical or mental health-related data.)	Voluntarily provided by you.	To apply our AI algorithms to wellness data to derive new data to indicate mood and emotional state. To detect context and ensure continuity in conversation. To detect medical or emergency terms to ensure safe conversations. To provide the right tool, technique and content. To provide and process the CBT Programs and send program use reports back to your Institution. To detect any SOS or self-harm triggers in messages and to signpost to safety resources. To improve AI algorithm safety. To improve product and service quality and customer experience. To anonymise reports. To anonymise research and analytics data. To share app use reports back to your Institution.	a. To perform our contract with you. (As an end-user, our contract is your agreement to Terms of Service and this Privacy Policy) b. Additional Condition for any Special Category data: Reasons of substantial public interest. For safeguarding of children and individuals at risk.

(i)   Elomia chatbot training policy:

Research-driven

Elomia is trained on thousands of "clinical hours" to follow evidence-based approaches with documented outcomes.

What are dark patterns

Dark patterns are confusing and manipulative design choices on the user interface that trick consumers into choosing an option that benefits the businesses at the cost of the consumers' personal welfare.[29] A report by the Consumer Policy Research Centre found that 83% of Australians experienced financial harm or a fear of being manipulated by dark patterns; and that one in four Australians were manipulated into sharing more personal information or spending more money than they otherwise would have.[30] Furthermore, confusing privacy policies, extensive data collection, or trial periods that require consumers to put in their credit card information can exploit one's vulnerability and amplify negative experiences for consumers already predisposed to stress and anxiety.[31] Hence, the use of dark patterns by mental health, wellbeing and mindfulness apps must be subjected to increased scrutiny.

Observed dark patterns in mental health, wellbeing, and mindfulness apps

Over the course of our research, we observed that almost all mental health, wellbeing and mindfulness apps use dark patterns to manipulate consumers into purchasing a subscription and to dissuade them from unsubscribing. Dark patterns were also found during the sign-up process, in cookie-consent pop-ups, and in marketing emails sent to target consumers to purchase a subscription or to revive an expired subscription. Below is a breakdown of the common dark patterns observed in the mental health, wellbeing and mindfulness apps studied.

Data-grab

As noted above, many mental health, wellbeing and mindfulness apps obtain bundled consent to the App terms, privacy policy, research usage, and marketing communications at the time of sign-up automatically. Almost all mental health, wellbeing and mindfulness apps surveyed collect more information than is necessary from consumers, such as their geolocation data, social media information, photos, audio, messaging files, and other information that have no relevance to the delivery of mental health and mindfulness services. This behaviour is a dark pattern termed the 'data grab'.

Sensa does not permit consumers to proceed past the sign-in page if they do not consent to receive direct marketing messages. This is particularly concerning as Sensa's privacy policy states, "your consent [to marketing communication] is not a condition of any purchase",[32] in its representations under Marketing Communication.

Emotional Steering and Nagging

Emotional steering occurs when nagging, emotionally manipulative emails, offering limited-time discounts create a false sense of urgency and pressure consumers into making a purchase in the following manner. [33]

*Emotional Steering in Sensa's Emails*
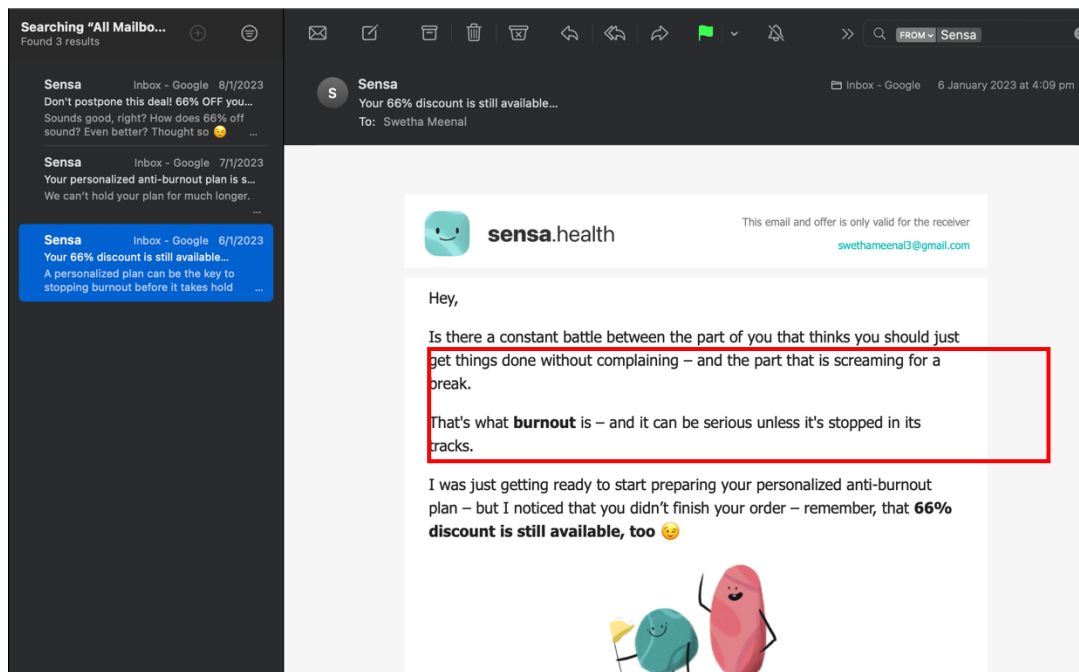
Sensa's contains a 'personalised plan' catering to consumers' mental health conditions based on the sensitive personal information that they shared with the App at the time of signing up. As shown above, the user is required to provide consent to direct marketing messages, with no option to opt out. The App then uses consumers' sensitive personal information to target them with plans and discounts.

The language of the email is intended to exploit that sensitive information by urging consumers to take immediate action to improve their mental health. By using words such as "the part [of you] that is screaming for a break", the email is likely to influence consumers into purchasing a subscription and to disregard their privacy-related consequences. Consumers may receive the email once every day for a few days until they choose to take action.

Hotel California or a multi-layered unsubscription process:

Some apps make it easy to sign up but difficult to leave.[34]

Headspace's 'Hotel California' dark pattern:
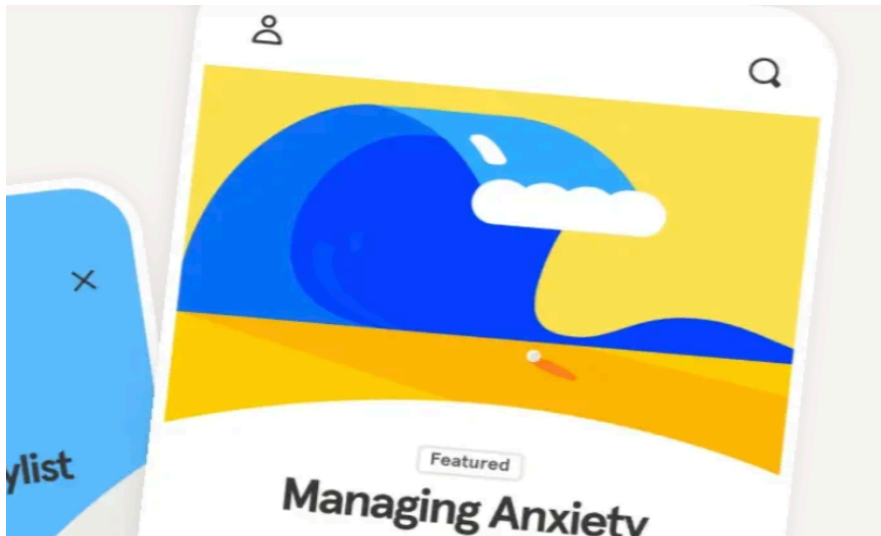
From: Melbourne Law Masters <notifications@instructure.com>
Date: Monday, 8 August 2022 at 3:05 pm
To: Jeannie Paterson <jeanniep@unimelb.edu.au>
Subject: Getting Started with Headspace: A Webinar with Henrietta Kennedy, Engagement Manager at Headspace: Melbourne Law Masters

What would study be like with a little less stress? Greater focus? Better sleep? More compassion? Find out with Headspace!

In just a few minutes a day, the Headspace app teaches you to meditate and helps you feel happier, calmer, and more balanced — it's meditation made simple, even if you're new to mindfulness.

Join this 45-minute webinar to learn how to learn more about Headspace, try a meditation for yourself, and get started. We'll also answer any questions you might have.
For the rest of 2022, you can access the Headspace app for free!

If you haven't already, sign up for Headspace here:
https://work.headspace.com/universityofmelbourne/member-enroll
If your student.unimelb email address does not work using this link, email
j.............@unimelb.edu.au (there are two versions of each address which complicates things!)

Register here and add it to your calendar. See you there!

For example, the Headspace app uses numerous forms of dark patterns, including:

- requiring consumers to provide their credit card details at the time of a free trial period, and automatically locking consumers into a premium membership contract upon expiry of the trial period, and without notice;

- nagging users on trial periods with emails offering limited-time discounts to create a false sense of urgency and pressure them into making a purchase; and

- dissuading and 'shaming' consumers for attempting to unsubscribe;

- barring consumers from managing their subscription in the App, thereby adding an unnecessary hurdle in the unsubscription process.

In the web version, the Headspace App operates to dissuade a consumer from terminating a subscription, in the following manner.

- The cancellation process is multi-layered: there are a total of five steps, including logging into the App on the web browser to access the "manage subscription" option.

- The cancellation process creates a false hierarchy between different options to nudge consumers to make the choice that benefits the business. For instance, in the third step of the unsubscription process, the option "keep subscription" is highlighted and presented in an attractive manner, while the option "continue with cancellation" is presented in a paler colour. This could confuse an average consumer and manipulate them into clicking the option that benefits the business.

- It confirm-shames consumers trying to terminate their subscription by highlighting some features of the App, to indicate that termination of subscription might not be in the consumer's best interest. The sketches designed to steer consumers' emotions and dissuade them from terminating their subscriptions might also be seen as manipulating.

- If consumers do unsubscribe, Headspace sends repeated nudging through emails that offer discounted subscription prices. The emails appear designed to create a notion of false urgency, to draw consumers back into activating their subscription with Headspace immediately.
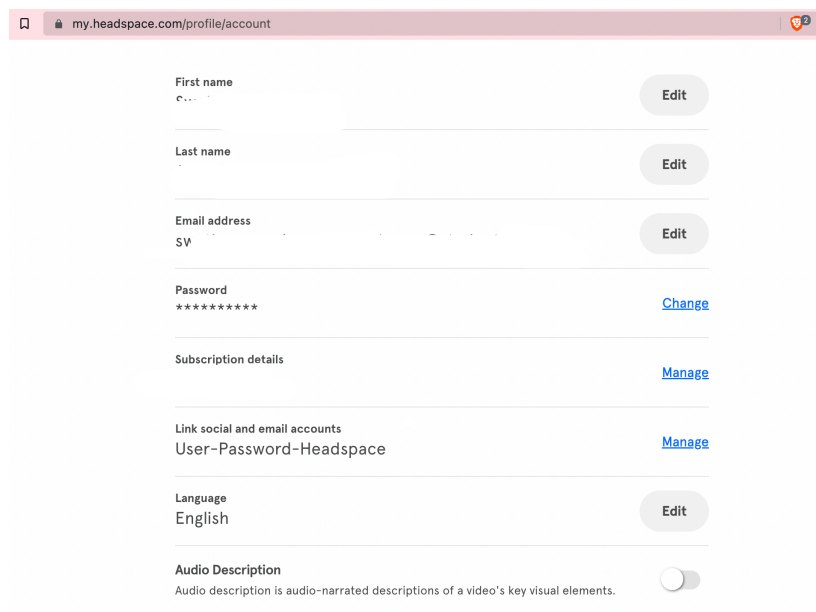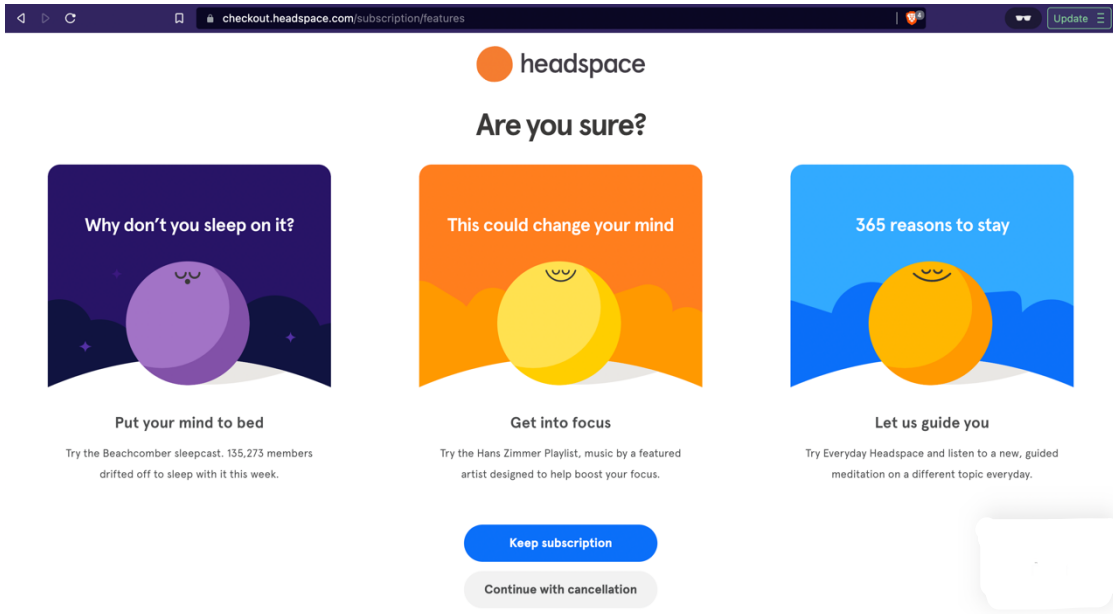

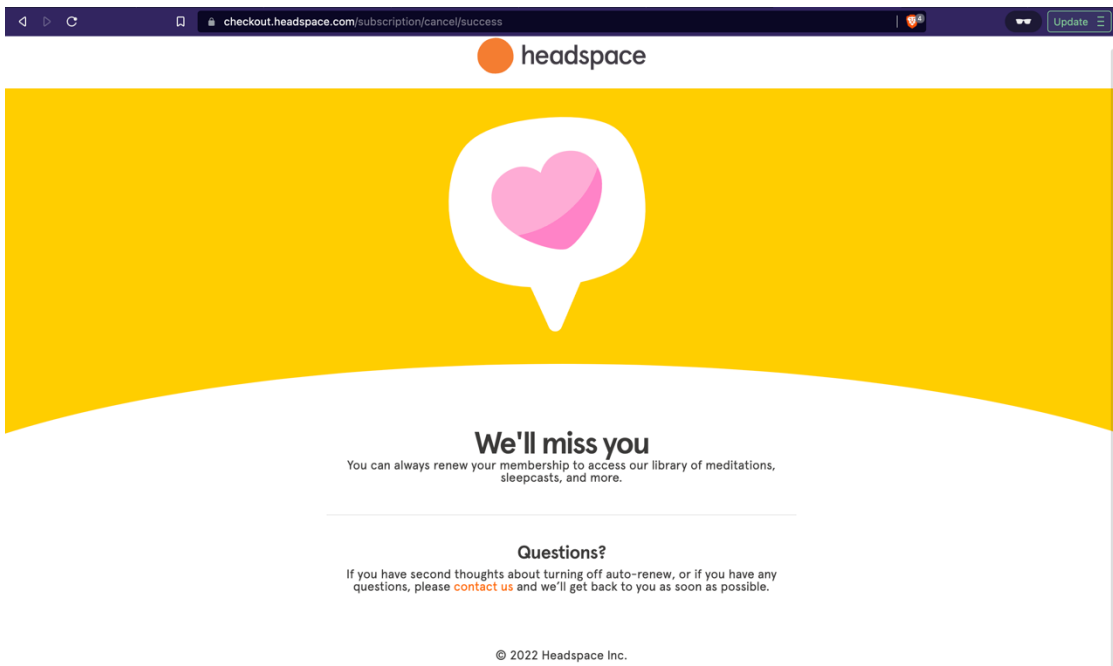The subscription can only be managed on a web browser.
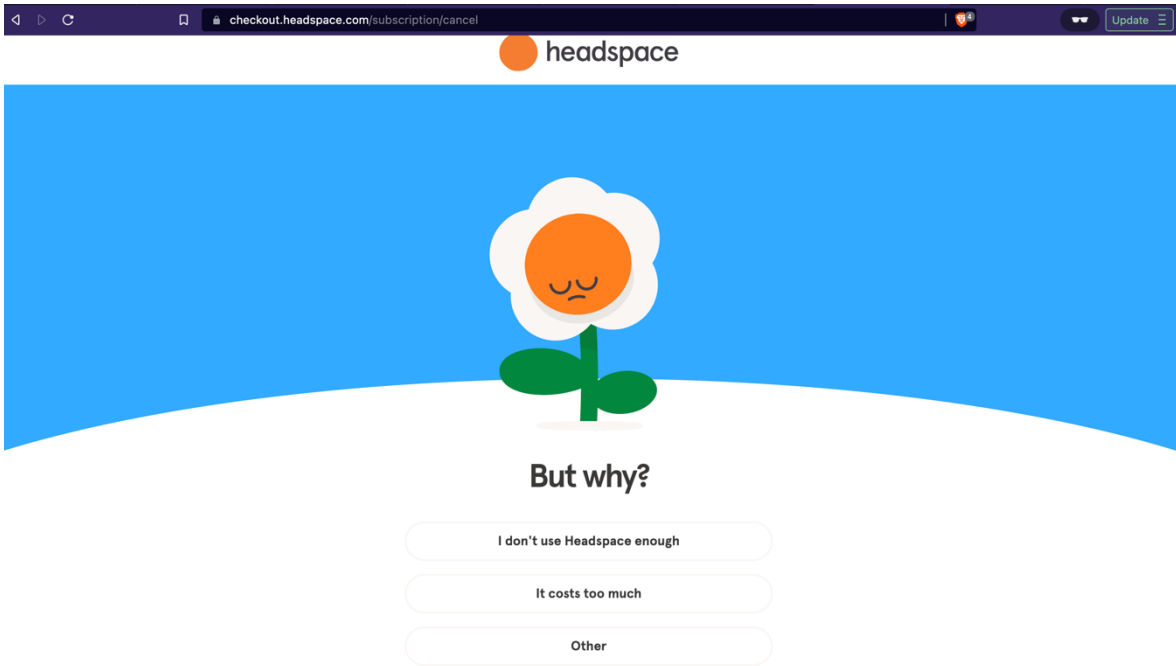
The second step in the unsubscription process, intended to steer and confirm-shame a user.
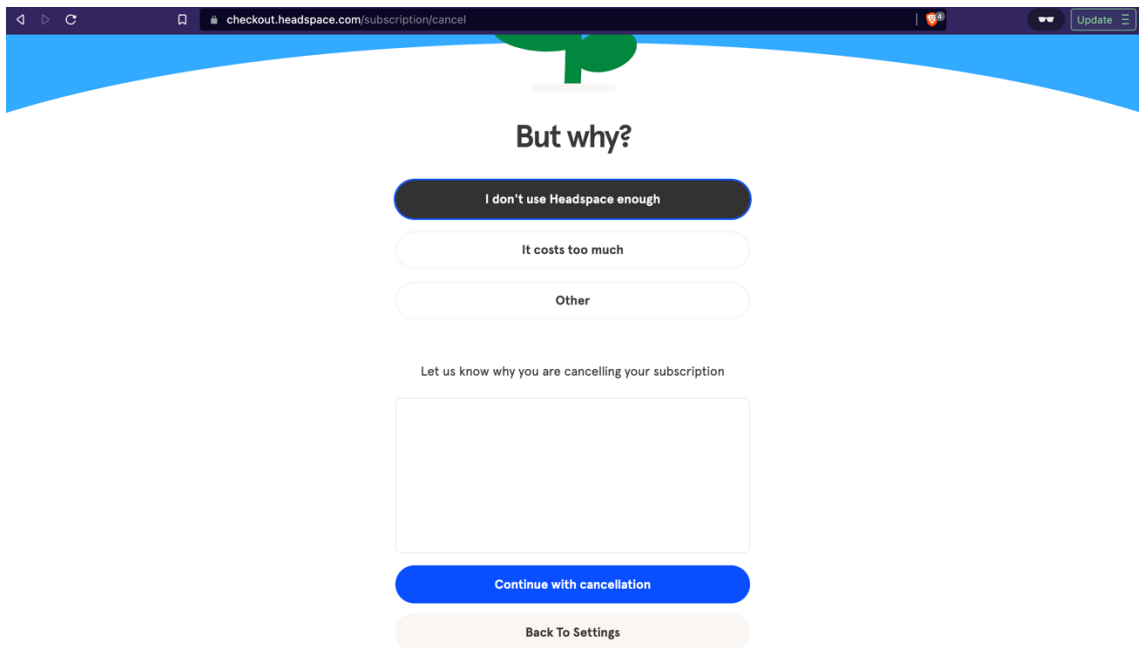
Consumers must scroll down to locate the 'continue with cancellation' option. Moreover, the "continue with cancellation" option becomes functional only upon selecting a reason.

Steering and False Hierarchy

The fifth, and final, step in the unsubscription process.

Youper's Obstruction to subscription cancellation:

Youper's unsubscription process is deliberately designed to obstruct the user from completing the task. Upon clicking on 'terminate subscription', the app directs one to a questionnaire that must be filled before the user can progress to the next step. Upon answering all questions in the form, the user is presented with instructions on how to cancel the subscription under the Apple settings page. The instructions also contain a link to Youper's official page on the Appstore rather than to the setting's page in one's Apple account (*refer to Bearable's process below*) where one can terminate their subscription.
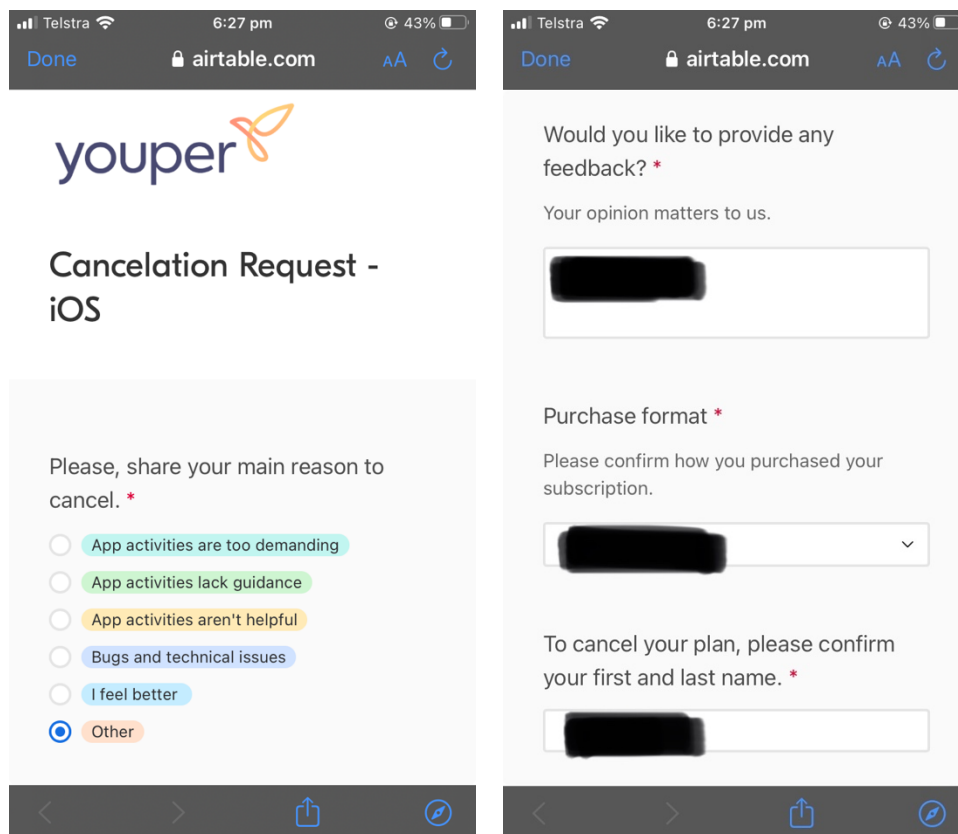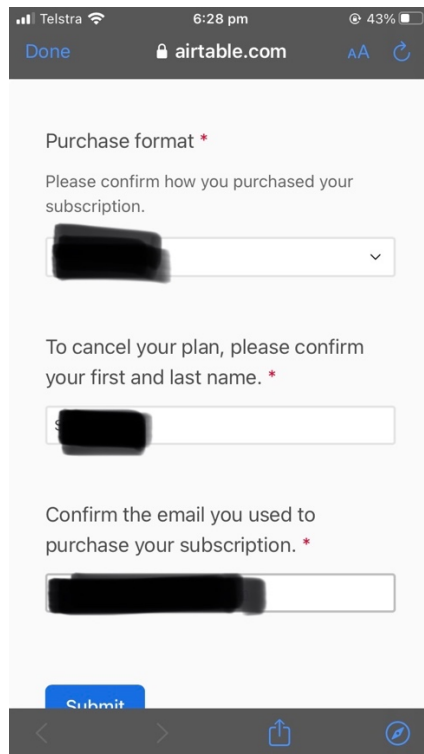
As indicated by the '*', a user must answer all these questions before they can proceed to the next part of the process.
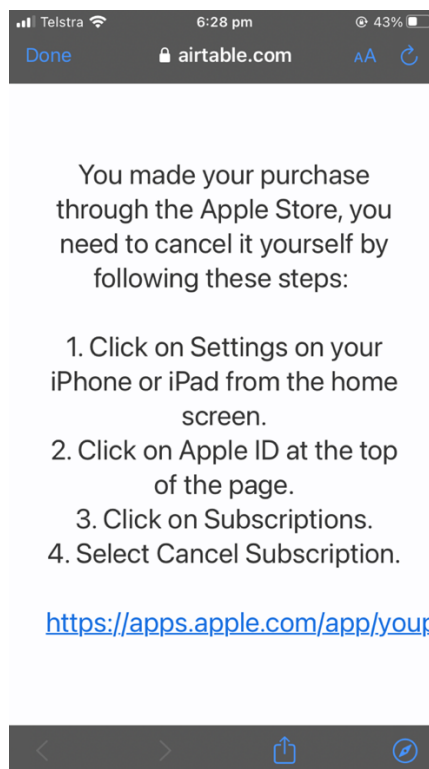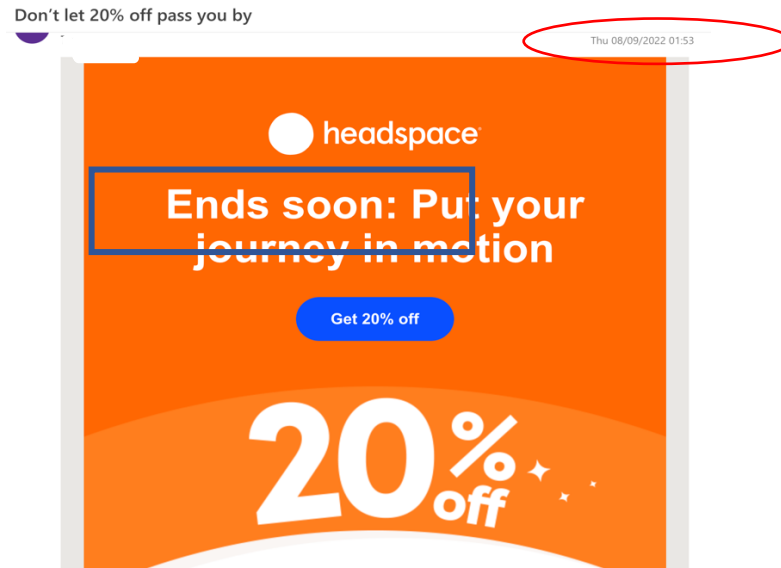

Finally, the user is presented with a link to Youper's page in the Appstore, while they should be directed to the settings page on one's iPhone.

Scarcity cues involve sending reminders and offers about limited availability or reduced prices to consumers. Often, when tracking, these cues were inconsistent and even incoherent.

Headspace's Scarcity Cues

A day after the Headspace membership was terminated, Headspace sent a nudge with a 20% discount on the membership price. By using phrases such as "Ends soon", the email creates a false sense of urgency and unduly pressurises a consumer into making a purchase.
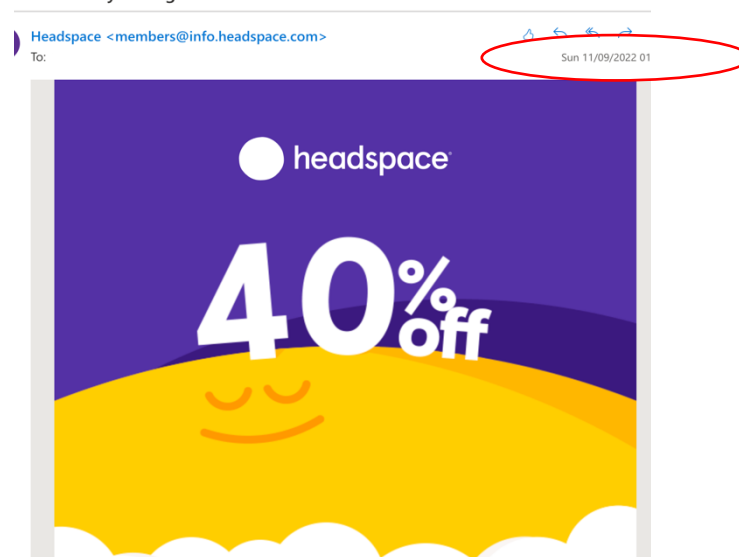
Upon receiving no response from the consumer on their 20% discounted offer, Headspace followed up with a 40% discounted membership. Clearly, the earlier offer was a false statement, intended to mislead a consumer.

40% off ends soon
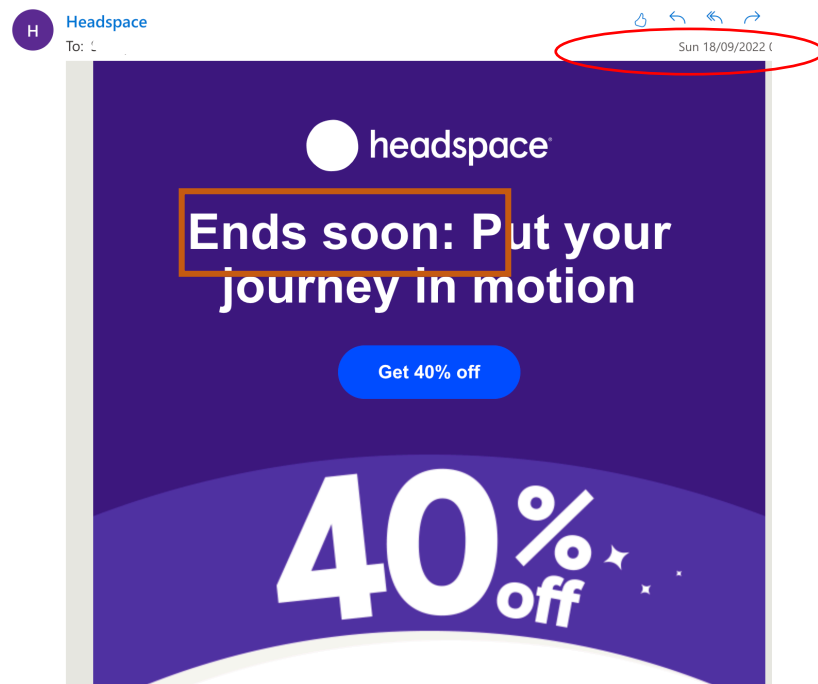
A week after receiving no response to their 40% discounted offer, Headspace followed up with an email to create a false sense of urgency, again.
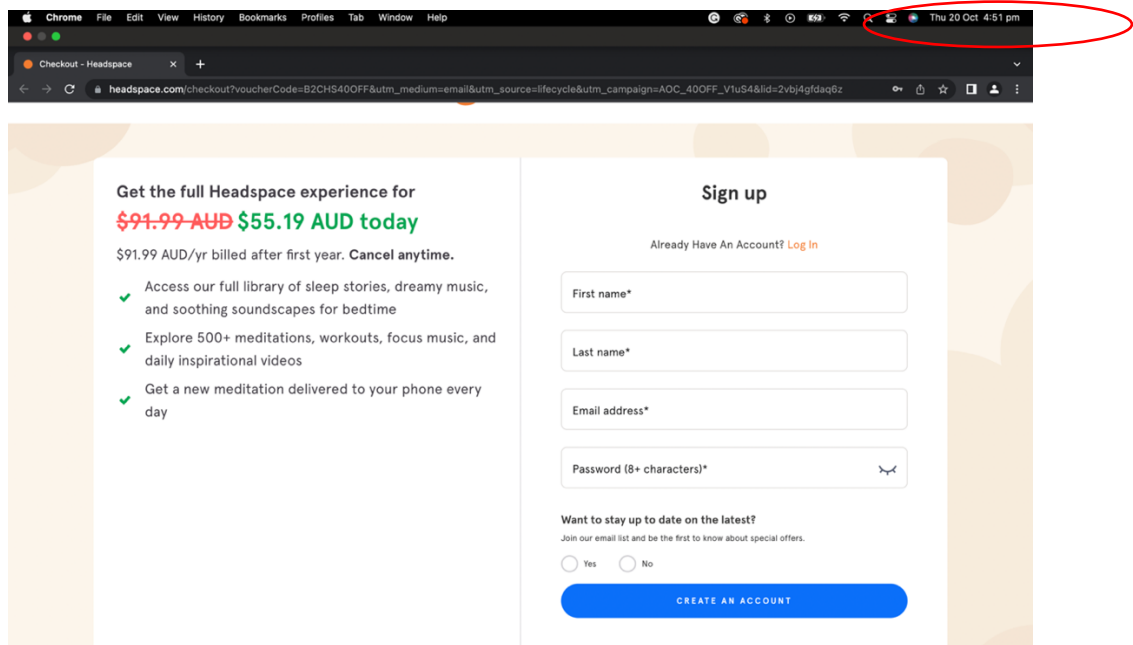
The membership was available for purchase at a 40% discount even after a period of 60 days after the Email was first received.

7. Contracting Practices[35]

Headline claims

Automated mental health and wellbeing apps often make large claims about the wellbeing support they can provide and their role in reducing symptoms of poor mental health. In our survey, these claims were often undermined and chiselled away by the fine print contract terms. The object of these clauses is presumably to protect providers from liability for products that don't deliver or to avoid straying into a field that would involve regulation as a medical device. Yet the characterisation of the apps should be determined by reference to their headline claims, and not merely the contract fine print.

Headspace promotion to students

Subject: Getting Started with Headspace: A Webinar with Henrietta Kennedy, Engagement Manager at Headspace: Melbourne Law Masters

What would study be like with a little less stress? Greater focus? Better sleep? More compassion? Find out with Headspace!

In just a few minutes a day, the Headspace app teaches you to meditate and helps you feel happier, calmer, and more balanced — it's meditation made simple, even if you're new to mindfulness.

Join this 45-minute webinar to learn how to learn more about Headspace, try a meditation for yourself, and get started. We'll also answer any questions you might have. For the rest of 2022, you can access the Headspace app for free!

If you haven't already, sign up for Headspace here:
https://work.headspace.com/universityofmelbourne/member-enroll
If your student.unimelb email address does not work using this link, email
jmarychurch@unimelb.edu.au (there are two versions of each address which complicates things!)

Register here and add it to your calendar. See you there!

Contractual disclaimers

Exclusion and limitation of liability clauses found in the fine print terms of service for mental health and mindfulness apps we studied commonly disclaimed responsibility for improved mental health outcomes. The fine print terms were in stark contrast to the headline claims. While headline claims for these products promote their benevolent impact and their role in helping consumers thrive, the fine print stated otherwise. This section will highlight the representations made by various mental health apps to the end-users at the time of sign in, and contrast them with the disclaimers made in the 'terms and conditions' section of the App.

Headspace's disclaimers

While Headspace states that a user's "journey to a happier, healthier life starts now" at the time of signing-in, it makes contrary claims under its terms and conditions. The contractual disclaimer states, "Headspace makes no guarantees that the products provide a therapeutic benefit".
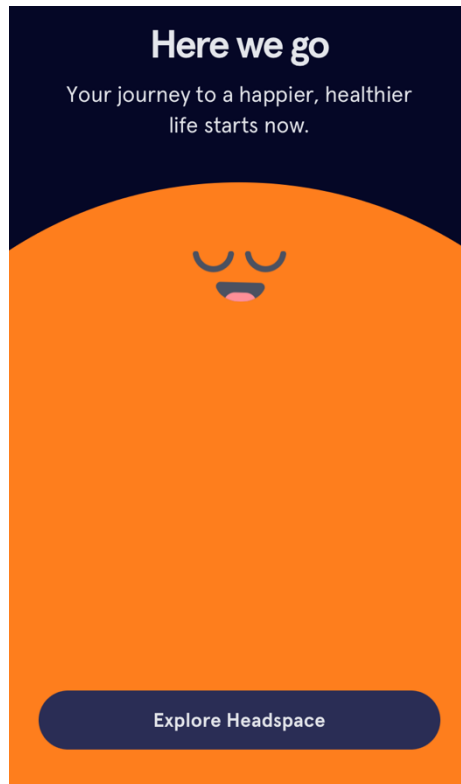
9. PRODUCTS DISCLAIMER

The information contained in the Products is for general information purposes only. While we endeavor to keep the information up-to-date and correct, we make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the Products or the information contained on the Products for any purpose. Any reliance you place on such information is therefore strictly at your own risk.

10. MEDICAL DISCLAIMER

10.1 Headspace is a provider of online and mobile meditation, mindfulness, sleep and movement content in the health & wellness space. We are not a health care or medical device provider, nor should our Products be considered medical advice. Only your physician or other health care provider can do that. While there is third party evidence from research that meditation can assist in the prevention and recovery process for a wide array of conditions as well as in improving some performance and relationship issues, Headspace makes no claims, representations or guarantees that the Products provide a physical or therapeutic benefit.

10.2 Any health information and links on the Products, whether provided by Headspace or by contract from outside providers, is provided simply for your convenience.

Youper's disclaimer

Youper promises "life changing results" that will help a user overcome depression, feel more balanced, and overcome social anxiety. The App, at the time of signing-up, makes a user go through several pages of assurance about the efficacy of its offering. A user must swipe through these pages before they can begin using its services. Every page a user swipes through contains convincing information about the reliability and credibility of the App. However, the contractual disclaimer hidden in the terms of the App states that the App does not provide 'clinical psychotherapy or counselling'. The terms also state that Youper will not assume any liability for inaccuracies or error in its content or representations. These
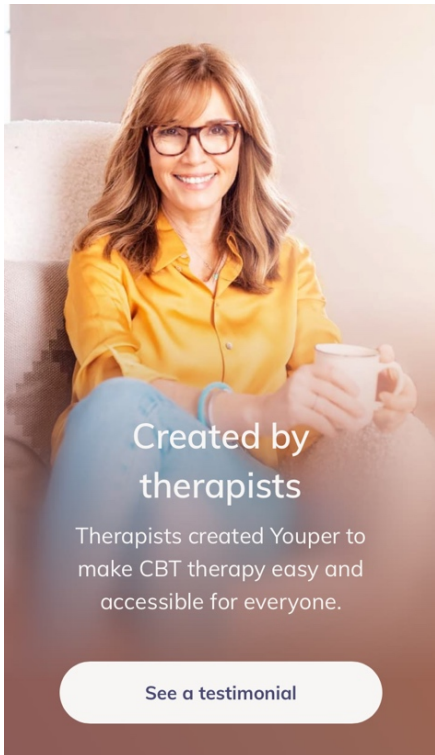
stand in conflict with the following representations made at the time of setting up one's account within the App:

Created by therapists

Therapists created Youper to make CBT therapy easy and accessible for everyone.

See a testimonial

CBT POWERED

Youper uses Cognitive Behavioral Therapy (CBT), the most scientific way to improve mental health.

Continue

Talk about anything

Chat with Youper whenever you experience negative feelings and get instant support.

Continue

Talk about really anything!

Share positive moments, brainstorm ideas, set goals, and much more!

I like that
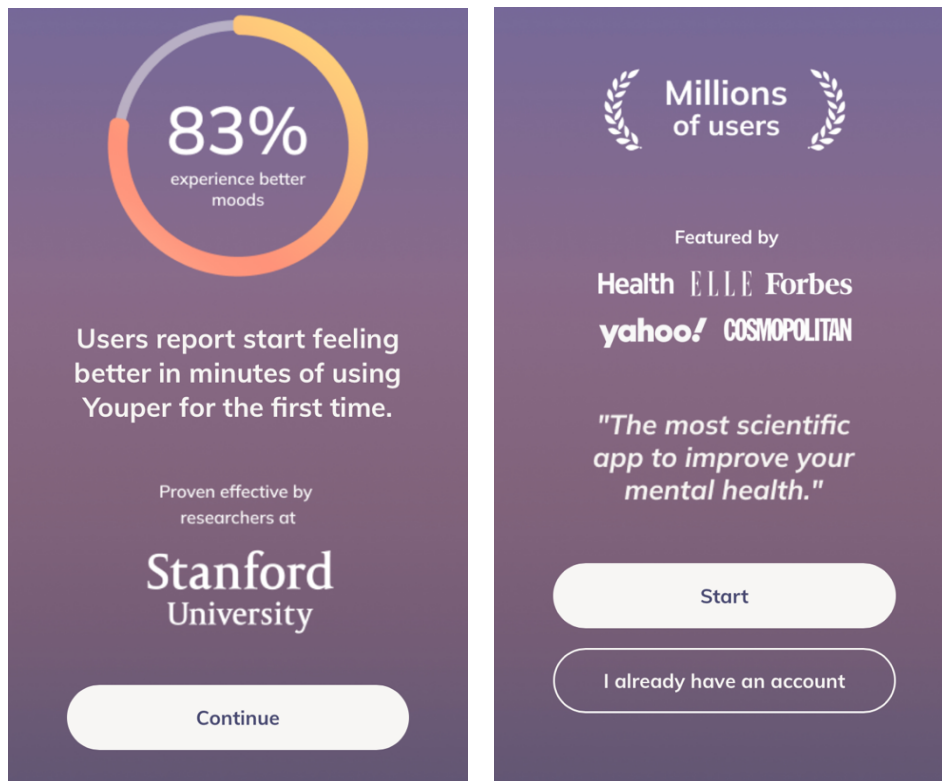
However, despite the pages on assurance about the App's reliance on CBT to help users 'overcome depression' and create 'life-changing results', its terms state otherwise.

17. LIMITATIONS OF LIABILITY

IN NO EVENT WILL WE OR OUR DIRECTORS, EMPLOYEES, OR AGENTS BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, SPECIAL, OR PUNITIVE DAMAGES, INCLUDING LOST PROFIT, LOST REVENUE, LOSS OF DATA, OR OTHER DAMAGES ARISING FROM YOUR USE OF THE SITE, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, OUR LIABILITY TO YOU FOR ANY CAUSE WHATSOEVER AND REGARDLESS OF THE FORM OF THE ACTION, WILL AT ALL TIMES BE LIMITED TO THE AMOUNT PAID, IF ANY, BY YOU TO US DURING THE TWELVE (12) MONTH PERIOD PRIOR TO ANY CAUSE OF ACTION ARISING. CERTAIN US STATE LAWS AND INTERNATIONAL LAWS DO N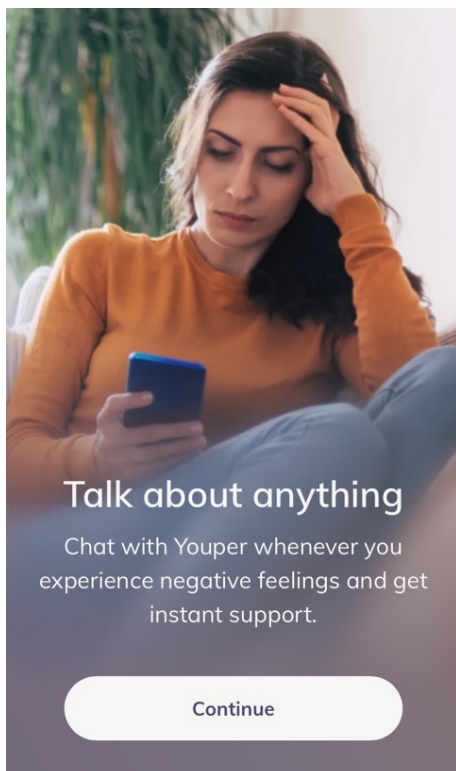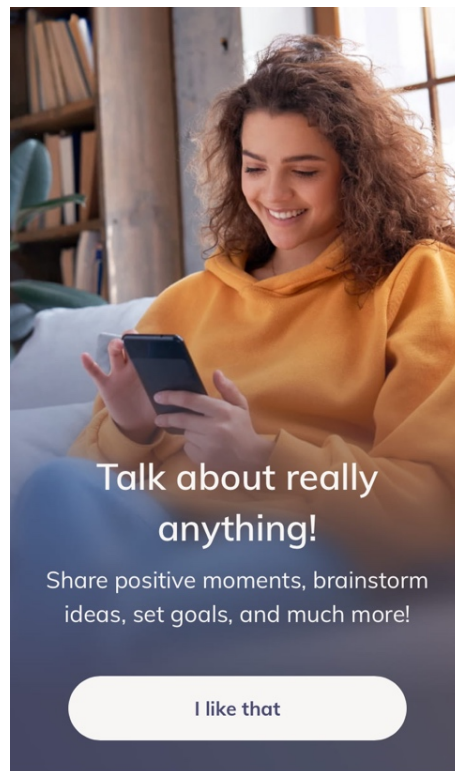OT ALLOW LIMITATIONS ON IMPLIED WARRANTIES OR THE EXCLUSION OR LIMITATION OF CERTAIN DAMAGES. IF THESE LAWS APPLY TO YOU, SOME OR ALL OF THE ABOVE DISCLAIMERS OR LIMITATIONS MAY NOT APPLY TO YOU, AND YOU MAY HAVE ADDITIONAL RIGHTS.

23. NO MEDICAL ADVICE

Youper's website and mobile app are NOT INTENDED TO AND DO NOT PROVIDE CLINICAL PSYCHOTHERAPY OR COUNSELING, MEDICAL ADVICE, DIAGNOSIS, OR MEDICAL TREATMENT.

Rights to vary

The terms of most of the mental health and mindfulness apps we studied allowed the provider to change the service, and the terms, at any time. Moreover, the notice of change was typically only provided via the website, and consumers were usually not given specific opt-out rights. The possibility of unilateral variation of service terms is concerning with respect to privacy terms, as it means users may be faced with very different third-party sharing arrangements than they understood at the time of signing up, even in cases where they read the terms before doing so.[36]

8. Consumer assessment?[37]

Is it possible for consumers themselves to exercise greater vigilance over the quality and practices of the apps they use for mental health support? There are many rankings and recommendations by third parties of the efficiency of various mental health and mindfulness apps available to consumers, as well as their privacy features. However, these rankings often focus on only a few elements, for instance, usability, and are in our survey sometimes inconsistent with each other.

Mozilla app rankings

Psyber Guide app rankings

Headspace
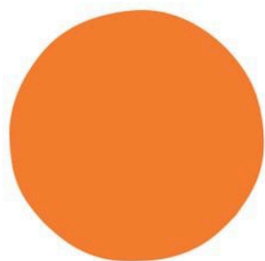
Available For: 🍎 🤖

Credibility

5.00 out of 5.00

User Experience

4.97 out of 5.00

Transparency

Acceptable

Mood Disorders   Sleep   Stress and Anxiety   Mindfulness

Wysa

Available For: 🍎 🤖

Credibility

4.00 out of 5.00

User Experience

4.54 out of 5.00

Transparency

Acceptable

Stress and Anxiety   Mood Disorders   Cognitive Behavioral Principles   Chatbot/AI

9. Observed best practices

Over the course of our research, we also identified some practices within these mental health, wellbeing and mindfulness apps that were consumer-friendly by default. We strongly recommend the adoption of similar designs by mental health, wellbeing and mindfulness apps in the market.

Woebot's clear privacy terms and no-cookie policy

Woebot's privacy policy is drafted in a manner that helps users easily understand what data is collected and how each category of data is processed. Woebot does not use cookies on the mobile version of the App – which gives users more control over their data and assures that their in-app data might not be tracked. It also represents having a reliable system in place that uses a combination of encryption and access control to safeguard user information. Lastly, it appears to be the only app to notify users that their data would be used for [its private] research purposes, at the time of sign-up. Woebot is very clear on the limits of its automated service.
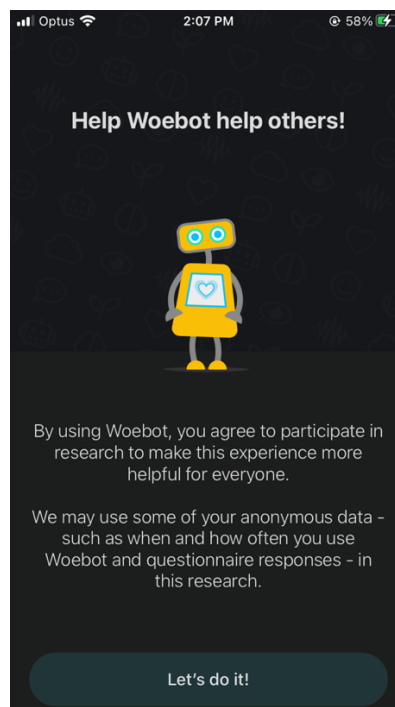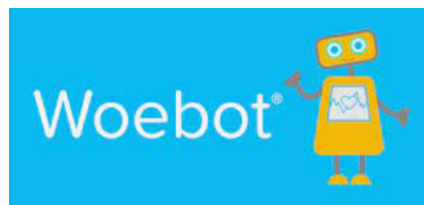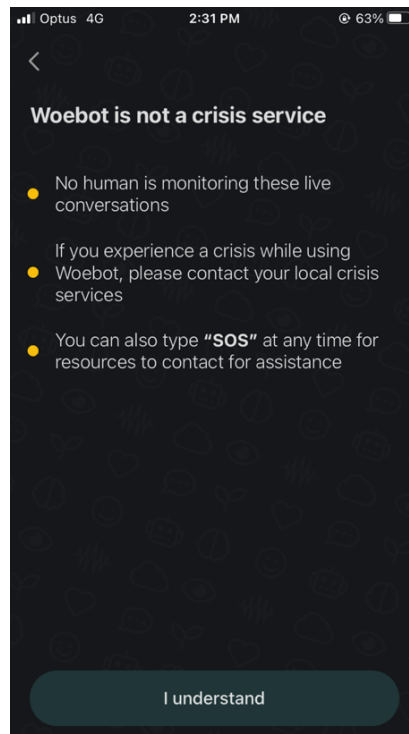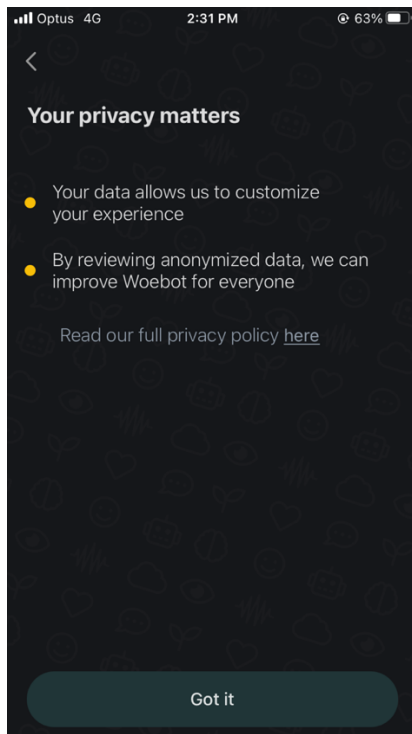
Woebot's transparent data governance policy and App limitations presented at the time of signing up.

Note: As of September 2023, Woebot's offering has been withdrawn to participants of a study or users accessing the app through an affiliate.

Elomia's default consumer-friendly option

Elomia is a mental health chatbot which states it is powered by AI.[38] Unlike mental health, wellbeing and mindfulness apps (like Wysa) that automatically assume consent to use users' data and chat history to train the AI, Elomia AI options are turned off by default. A consumer willing to share this information may consent to it by enabling the 'AI-training' option on the settings page.
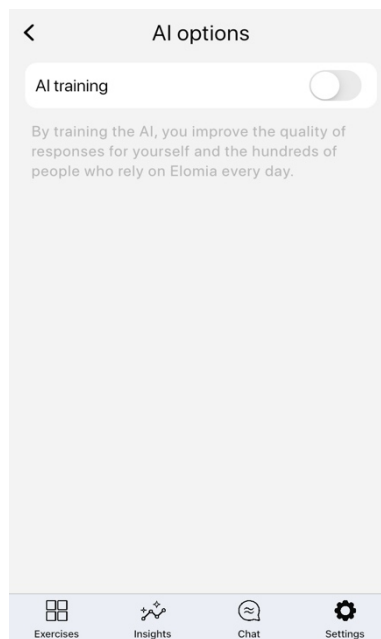
Elomia's consumer-friendly option

Calm's unsubscription pattern is simple and straightforward. Unsubscription is a one-step process that is devoid of steering language or any confirm-shaming.
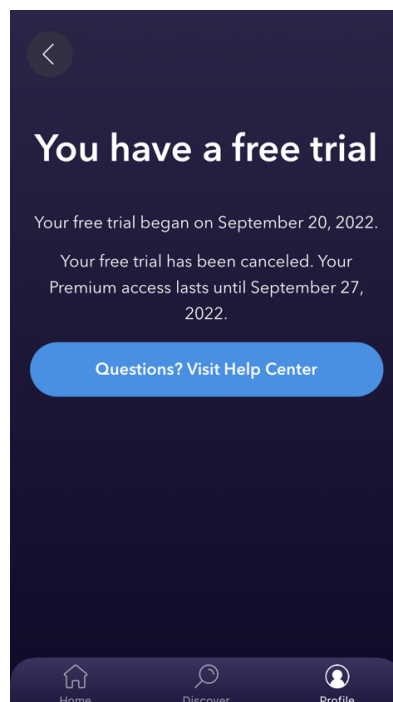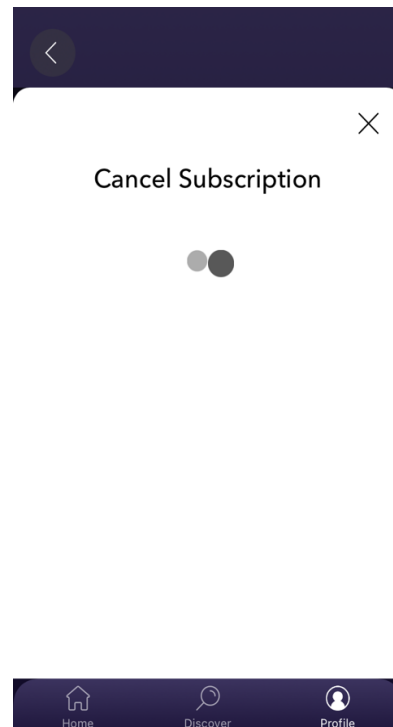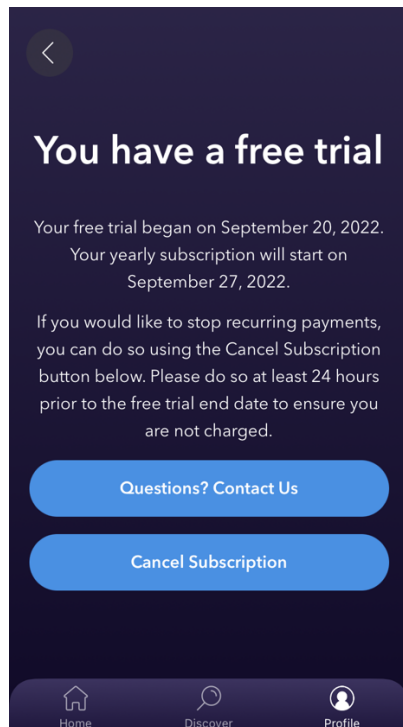
Bearable's consumer-friendly App design

Of all the Apps studied over the course of our research, we find Bearable's design the most consumer friendly. Of all categories discussed above including sign-up policies, ease of termination, contractual disclaimer, and on privacy and data-governance, Bearable scores highest (?) on the scale.

Bearable's opt-in choices, and unbundled consent:

At the time of sign-up, Bearable allows a user to opt-in to the App's privacy policy, marketing communications, and age restrictions, instead of assuming consent. Consent to marketing communications is not a pre-requisite to using the App. The App proceeds to collect sensitive health information related to its services only after the user consents to the privacy policy (noting that consent to the privacy policy is a pre-requisite to using its services).
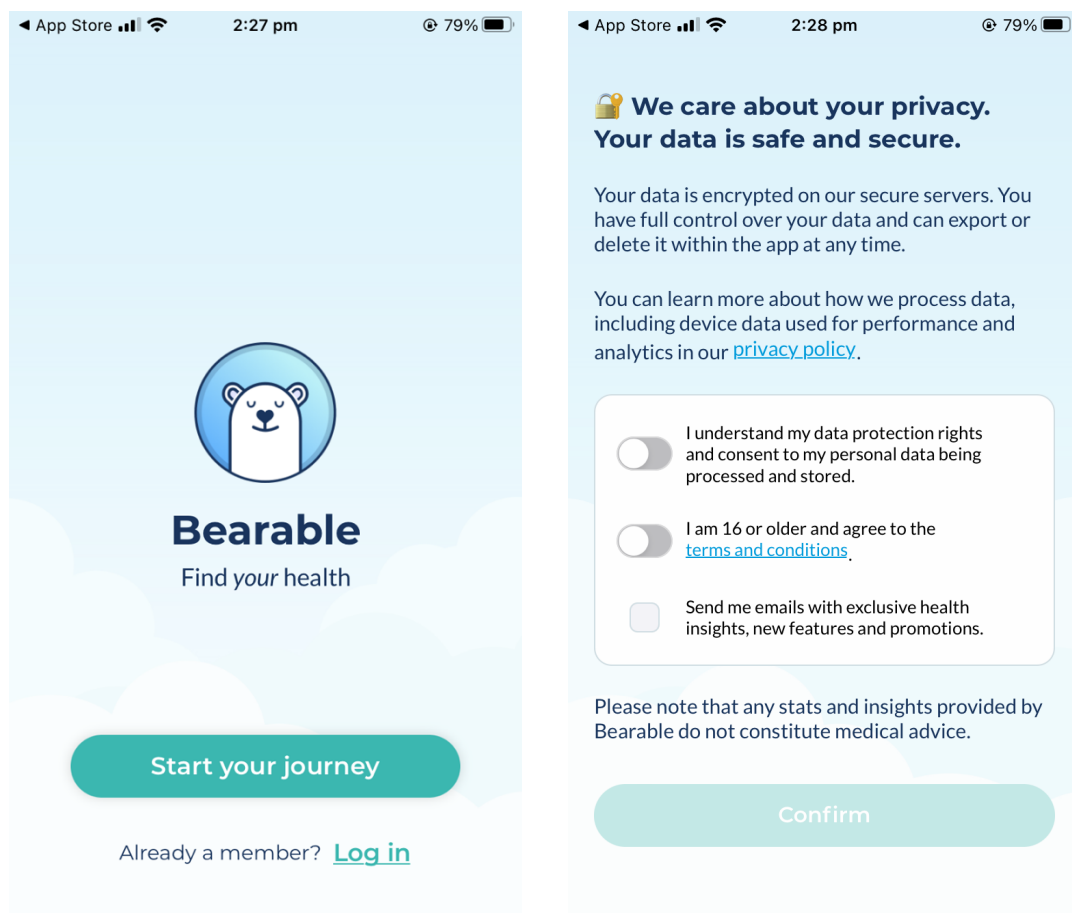
Bearable's unsubscription:

On the subscription front, while the App does require one to put in their credit card details for the trial version, the unsubscription process is relatively simple. Unsubscription is not unnecessarily obstructed by confusing options or discounted offers. Usually, Apps that operate through Apple's payment ecosystem only permit users to unsubscribe from the web-browser, creating additional hurdles to the termination process (as demonstrated using Youper's process above). Alternatively, some Apps also instruct the user, at the time of purchasing a subscription, that the subscription can only be terminated under the Apple-account settings.

Bearable, however, directs the user to Apple's subscription directly via an in-app link, making the process smoother. Despite the additional step of having to provide feedback before termination, the provision of an in-app link to the Apple settings page makes the process relatively smoother.
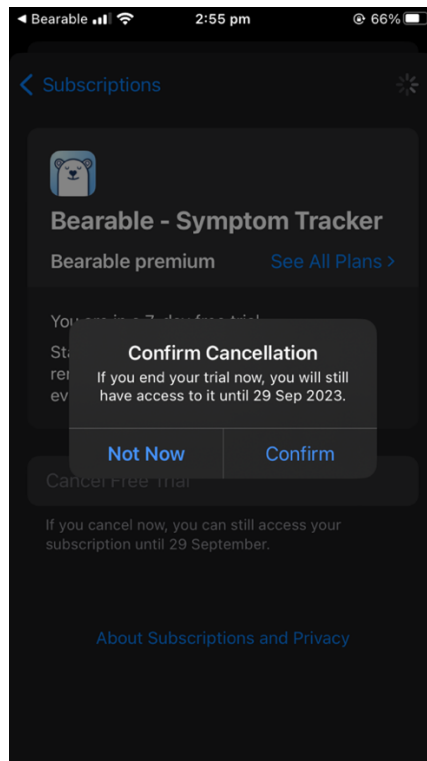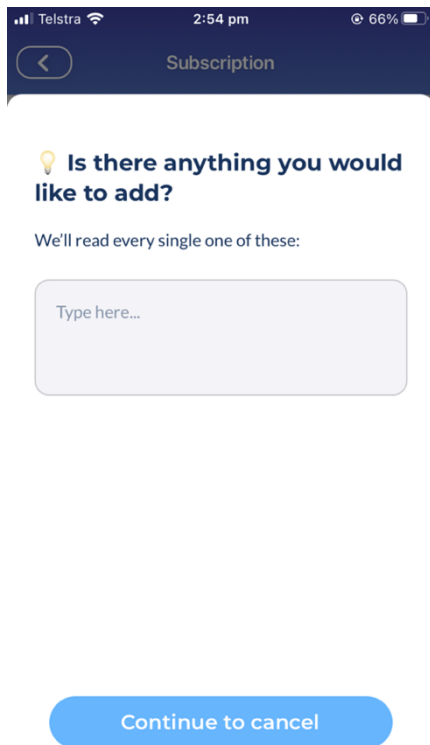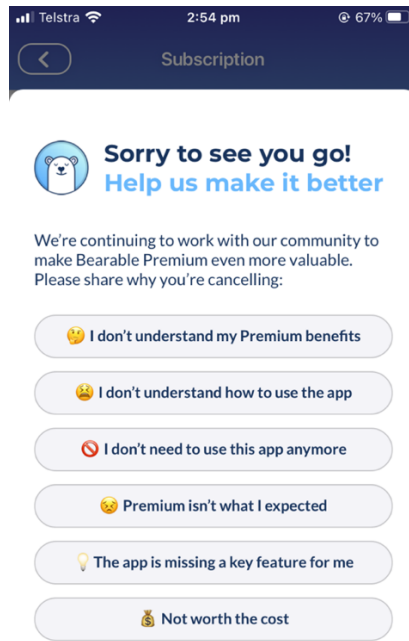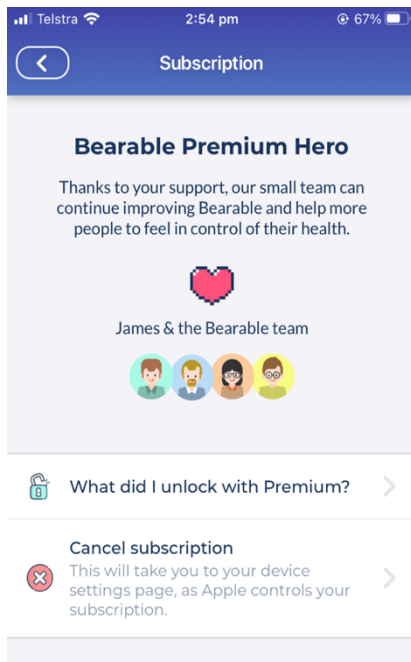
Bearable's contractual disclaimers:

The contractual disclaimers in the terms do not contradict the App's dominant representations. The App presents itself as a symptom and mood-tracker, and its terms are consistent with its representations. As opposed to disclaiming liability for inaccuracies or errors in its representations, or for the usage of the App as presented in its advertising claims, the App only disclaims liability for uses beyond its intended scope. As of 23 September 2023, the App's terms state the following:

LIMITATION OF LIABILITY ▲

WE DO NOT ASSUME ANY GUARANTEE OR SPECIFIC LIABILITY AS TO THE SERVICE AND WITH REGARD TO THE PURPOSE OF YOUR USE. IN PARTICULAR, WE ARE NOT RESPONSIBLE IF CONSUMERS USE THE SERVICE FOR MEDICAL PURPOSES WHICH CONTRADICT THE EXPLICIT INTENTION OF OUR SERVICES.

BEARABLE EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY FOR YOUR USE OF THE SERVICE FOR MEDICAL PURPOSES OR ANY OTHER PURPOSE THAT IS AGAINST THE INTENDED USE OF THE SERVICE.

Product descriptions shall not be deemed guaranteed unless separately agreed in writing. We do not warrant that the Service can be used to achieve particular interests or that the output of the Service is complete and accurate. Rather, the Service shall only represent a tool that helps track and monitor according to the information provided by you.

10. Conclusion

Mental Health and wellbeing apps may offer support to some people in some circumstances. The potential for harm should also be addressed. There is no one easy response to these issues. Instead, we advocate a layered approach.

We suggest that:

i.   the providers of mental health apps should seek to live up to their own promoted commitment to improving mental health and well-being by using best practice in all aspects of the design of their product, including marketing, data processing and the fine print terms offered;

ii. third party rankings of mental health apps can improve practice but there needs to be agreed and consistent criteria for this;[39]

iii. greater oversight through the Therapeutic Goods Administration;

iv. scrutiny by the gatekeepers to consumers' access to the apps – such as mental health professionals, who may recommend the products, and employers, who may sponsor them;

v.   robust enforcement of consumer protection laws including prohibitions on misleading conduct and unfair contract terms by the ACCC;

These issues are discussed more fully in our forthcoming article 'Automating Mental Health Support'.

11. Appendix

Table 1: Automated Mental Health Apps

Name	Category	Available for employees
Ranked by Mozilla		
Bearable	Mood tracking	Research institutions and foundations
Better	Mindfulness and mood tracking	Y
Calm	Meditation	Y
Happify	Mood tracking and CBT	Y
Headspace	Mindfulness	Y
MindDoc	Mood tracking	Y (including insurance companies and universities)
Moodfit	Mood tracking	Y
Youper	Mental health (CBT) chatbot	N (but one year free for college students)
Woebot	Mental health (CBT) chatbot	Y
Wysa	Mental health (CBT) chatbot	Y
Australia		
Smiling Mind	Mindfulness, including for children	Y and schools
Other		
Replika	Relationship chatbot	N
Elomia	Mental health chatbot	Y

Table 2: The technology of automated mental health apps

Name	Category	Tech offered: tracking, recommender or chatbot	Website refers to data, AI, LLMs or ML	Website explains use of technology
Ranked by Mozilla				
Bearable	Mood tracking	T	N	N
Better	Mindfulness and mood tracking	R	N	N
Calm	Meditation	R	N: let's personalise your experience	N
Happify	CBT and mood tracking	R, T	N	N
Headspace	Mindfulness	R, T	N	N
MindDoc	Mood tracking	T, R	N	N
Moodfit	Mood tracking	T, R	N	N
Youper	Mental health (CBT) chatbot	C (conversational)	Y: clinically effective mental health solutions powered by Artificial Intelligence	Y: Youper combines psychology and artificial intelligence to understand users' emotional needs and engage in natural conversations.
Woebot	Mental health (CBT) chatbot	C, T (conversational)	Y: NLP app based approach	Y: Our proprietary technology combines decades of research in psychology with advanced AI[40]

Wysa	Mental health (CBT) chatbot	C (prompts and conversational)	Y: clinically validated AI	Y:
Australia				
Smiling Mind	Mindfulness	R; Google home	N	N
Other				
Replika	Companion bot	C (conversational)	Y: the AI companion	Y: AI stands for Artificial Intelligence. It means that every time you get a reply from Replika, you interact with a sophisticated neural network machine learning algorithm
Elomia				

Table 3: Principles of responsible or ethical AI in mental health apps

Name		Website addresses possible bias	Website considers accessibility, equity or diversity	Website considers ethics of automating mental health support
Bearable	Mood tracking	N	N	N
Better	Mindfulness and mood tracking	N	N	N
Calm	Meditation	N	N	N
Happify	Mood tracking and CBT			
Headspace	Meditation and mindfulness	N	N	N
MindDoc	Mood tracking	N	N	N
Moodfit	Mood tracking	N	N	N
Youper	Mental health (CBT) chatbot	Y	N	Y: extensive discussion of AI safety including involving LLMs[41]
Woebot	Mental health (CBT) chatbot	N	N	N
Wysa	Mental health (CBT) chatbot	N	Y: https://www.wysa.com/accessibility-statement	N
Australia				
Smiling Mind	Mindfulness, including for children	N	Refers to different demographics, Indigenous language program	N
Other				

Replika	Mental health chatbot	N	N	N

Table 4: Research studies on mental health apps

Name	Category	Website quantifies benefit	Reports research showing positive outcome	Refers to benefits of practices when provided directly by a human	Link to research	Research team includes app company	Qualifications in research
Mozilla							
Bearable	Mood tracking	N			N		
Calm	Mindfulness and mood tracking	Y	Y		Y	Y	Y[42] including for diversity[43]
Happify	Meditation	N			N		
Headspace	CBT and mood tracking	Y	Y	Y	Y – via blog[44]	Y[45]	Y[46] including diversity[47]
MindDoc	Mindfulness	N	NA[48]		Y	Y	
Moodfit	Mood tracking	N			N		
Moodscope	Mood tracking	N	Y		Y	Y	Y[49] One study only with qualified results
Youper	Mental health (CBT) chatbot	Y	Y		Y	Y	Y[50] two studies
Woebot	Mental health (CBT) chatbot	Y	Y		Y	Y	Y[51] three studies
Wysa	Mental health	N	Y		Y	Y	Y[52]

	(CBT) chatbot					
Australia						57
[Smiling Mind](#)	Mindfulness	N	Y[53]	Y	Y	Y	Y[54]
Other						
[Replika](#)	Mental health chatbot	N			N		

Table 5: Privacy and mental health apps

App	Category	Sell your personal data	Collect data from 'other sources	Use of data for marketing	Share aggregated data-employers	Share aggregated data-research	Training the chatbot
Bearable (GDPR compliant)	Mood tracking	No	No but does collect Google Fit and Apple Health Kit	Yes			NA
Better	Mindfulness and mood tracking	[may share anonymised data outside policy]	Yes	Yes			NA
Calm	Meditation		Yes	Yes		Yes	NA
Happify	CBT and mood tracking	No	Yes	Yes			NA
Headspace	Mindfulness		Yes	Yes	Yes		NA
MindDoc (GDPR compliant)	Mood tracking			Yes (and to advertisers) but not sensitive information[55]			NA
Moodfit	Mood tracking	No (may share anaonmysed, aggregated data)					NA

Youper	Mental health (CBT) chatbot		No			Yes (deidentifed)
Woebot	Mental health (CBT) chatbot	No		Yes	Yes and personal data by invitation Not transcripts	To improve service
Wysa	Mental health (CBT) chatbot				Yes		Yes
Australia						
Smiling Mind	Mindfulness		From employer in some instances	Yes but clear opt out		Yes	NA
Other						
Replika	Mental health chatbot		Messages through app	Yes			Yes

Table 6: Dark patterns in mental health apps

App	Collect data before signing up (though survey)	Bundled consent	Free trials requiring a credit card	Nagging, shaming, discounting when cancel subscription
Ranked by Mozilla				
Bearable	No	No	Yes	No
Better			No free trial	
Calm	No	Yes	Yes	No
Happify	Yes	Yes	No free trial	
Headspace	No	Yes	Yes	Yes
MindDoc	No	No	Yes	No
Moodfit	No	Yes	Yes	No
Youper	Yes	Yes	Yes	No, but obstructs in other ways
Woebot				
Wysa	No	Yes	Yes	No, obstructs termination by not providing an option in the app
Australia				
Smiling Mind	Yes	Does not ask consent for privacy policy	-	
Other				
Replika	No	Yes	Does not offer free trial	

Table 7: Headline claims and contractual disclaimers

Name	Headline claims (website/app store	Medical limitations	Contractual disclaimers	Unilateral variation	Pop up at registration
Ranked by Mozilla					
Bearable	Feel more in control of your health. Get a detailed view of your symptoms & treatments – so you can find what works best for you.	Yes	Yes	Yes	Subtle – emphasises user control of health
Better	Better is a powerful mental health app that gives you all the information you need for a better life and better sleep. It's made by leading mental health experts who provide the ongoing mind and sleep audios.	Yes	Yes	Yes	
Calm	Our goal is to help you improve your health and happiness	yes	Yes	Yes	No – personalised responsibility

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Happify	Overcome negative thoughts, stress & life's challenges!	yes	yes	yes	No
Headspace	Be kind to your mind	Yes	yes	yes	No
MindDoc	Mental Health Starts with You MindDoc supports you on your journey toward better mental health.	1. Qualified: We expressly point out that the services offered via the app are no substitute for a diagnosis or medical or psychotherapeutic treatment. If you have suicidal thoughts or need medical help for	Qualified	Qualified	

		other reasons, please consult a local doctor or therapist, or in urgent cases an emergency ambulance.			
[Moodfit](#)	Tools & Insights for Your Mental Health	Yes	Yes	No	
[Youper](#)	Empathetic, safe, and clinically validated chatbot for mental healthcare	Yes	Yes	yes	No
[Woebot](#)	Behavioral health, at scale Meet Woebot, the mental health tool that answers the skyrocketing need for mental health care, and breaks down the systemic constraints that block equal access	Yes	Yes	Yes	Yes: Woebot for Adults is not evaluated, cleared or approved by FDA. It may be considered as an adjunct to clinical care, it does not replace clinical care.

	to it. Designed by humans, powered by AI, and grounded in science, Woebot easily integrates with health systems to provide evidence-based behavioral health solutions that get people off a waitlist, and onto a path to feeling better				
Wysa	Mental health that meets people where they are. Wysa's clinically validated AI gives immediate support as the first step of care, and human coaching for those who need more. Transform how supported your teams and families feel.	Qualified	Yes	Yes	No
Australia					

Smiling Mind	To provide accessible, life-long tools to support healthy minds.	Yes (qualified by ACL)	Yes	Yes	No
Other					
Replika	The AI companion that cares	Yes	Yes	Yes	Yes – 'I am not in crisis'

Table 8: Third party assessments of mental health apps

Name	Awards or Industry recommendations on website	Mozilla[56]	Psyberhealth[57]	Forbes[58]	Healthline[59]
Bearable	Y	Neutral	Credibility: 2.33 User experience: 4.06 Transparency: NA	Top 5	
Better					
Calm	N	Neutral	Credibility: 4.67 User experience: 4.40 Transparency: acceptable	Top 5	Best for sleep
Happify	Y	Privacy not included	Credibility: 5 User experience: 4.59 Transparency: Acceptable	Top 5	Best for boosting mood
Headspace	Y	Privacy not included	Credibility: 5.00 User experience: 4.97 Transparency: Acceptable	Top 5	Best for meditation
MindDoc*	N	Privacy not included	Credibility: 2.27 User experience: 4.31		

			Transparency : Acceptable		
Moodfit*	Y	Neutral	Credibility: 2 User experience: NA Transparency : NA		
Woebot*	Y	Neutral	Credibility: 5 User experience: 4.64 Transparency : Acceptable		
Wysa*	Y	Thumbs up	Credibility: 4 User experience: 4.54 Transparency : Acceptable		
Youper*	Y	Privacy not included	Credibility: 2.67 User experience: 4.33 Transparency : Questionable		
Australia					
Smiling Mind	Y		NA		
Other					
Replika*	Y	Privacy not included	Credibility: 2.67 User experience: 4.24 Transparency : Acceptable		

[1] For the apps studied see Table 1.

[2] https://foundation.mozilla.org/en/privacynotincluded/articles/are-mental-health-apps-better-or-worse-at-privacy-in-2023/

[3] See also further Jeannie Marie Paterson and Swetha Meenal Ananthapadmanaban, 'Automating Mental Health Support' (forthcoming),

[4] For the technology used see Table 2.

[5] Cf https://theconversation.com/ai-chatbots-are-still-far-from-replacing-human-therapists-201084.

[6] For the extent to which apps referred to the uses raised by digital or AI ethics principles see Table 3.

[7] See eg Australian Government Department of Industry, Science, Energy and Resources, 'Australia's Artificial Intelligence Ethics Framework' (2019) <https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework> .

[8] https://www.youper.ai/new-about-us.

[9] For the promoted efficacy of the apps further Table 4.

[10] For an assessment of the privacy policies see Table 5.

[11] https://www.ftc.gov/news-events/news/press-releases/2023/03/ftc-ban-betterhelp-revealing-consumers-data-including-sensitive-mental-health-information-facebook?utm_source=govdelivery.

[12] ABC Science, 'Replika Users Fell in Love with Their AI Chatbot Companion', ABC News Science (1 March 2023) https://www.abc.net.au/news/science/2023-03-01/replika-users-fell-in-love-with-their-ai-chatbot-companion/102028196 accessed 23 May 2023; McLean, D., 'I Tried the Replika AI Companion and Can See Why Users Are Falling Hard – the App Raises Serious Ethical Questions' (2023) https://theconversation.com/i-tried-the-replika-ai-companion-and-can-see-why-users-are-falling-hard-the-app-raises-serious-ethical-questions-200257 accessed 23 May 2023.

[13] https://www.garanteprivacy.it/home/docweb/-/docweb-display/docweb/9852506#english

[14] https://foundation.mozilla.org/en/privacynotincluded/articles/are-mental-health-apps-better-or-worse-at-privacy-in-2023/.

[15] https://foundation.mozilla.org/en/privacynotincluded/articles/are-mental-health-apps-better-or-worse-at-privacy-in-2023/

[16] https://foundation.mozilla.org/en/blog/shady-mental-health-apps-inch-toward-privacy-and-security-improvements-but-many-still-siphon-personal-data/.

[17] APP 3.2.

[18] APP 3.3.

[19] APP 7 recommends that personal information collected from an individual can only be subject to marketing if the individual would "reasonably expect their personal information to be used for the purpose of direct marketing (APP 7.2)". Even where there is a reasonable expectation in this regard, the APPs require the organisation to provide a simple means for the individual to opt out of marketing.

[20] See discussion in Damian Clifford and Jeannie Paterson 'Consumer Privacy and Consent: Reform in the Light of Contract and Consumer Protection Law' in (2020) 94(10) Australian Law Journal.

[21] https://cprc.org.au/in-whose-interest/.

[22] https://www.ag.gov.au/rights-and-protections/publications/privacy-act-review-report.

[23] Cf Kemp, Katharine, Your Body, Our Data: Unfair and Unsafe Privacy Practices of Popular Fertility Apps (March 22, 2023), 18 Available at SSRN: https://ssrn.com/abstract=4396029 or http://dx.doi.org/10.2139/ssrn.4396029.

[24] Chris Culnane, Benjamin I P Rubinstein and Vanessa Teague, 'Health Data in an Open World: A Report on Re-identifying patients in the MBS / PBS Dataset and the Implications for Future Releases of Australian Government Data' (University of Melbourne, 18 December 2017).

[25] Cf Kemp, Katharine, Your Body, Our Data: Unfair and Unsafe Privacy Practices of Popular Fertility Apps (March 22, 2023), 21.

[26] National Health and Medical Research Council, Guidelines Approved Under Section 95A of the Privacy Act 1988 (NHMRC Publication reference: PR2, March 2014) <www.nhmrc.gov.au/guidelines/publications/pr2> [ISBN Online: 978-1-925129-07-6].

[27] Id.

[28] See Table 6.

[29] Consumer Policy Research Centre, Duped by design- Manipulative online design: Dark patterns in Australia, June 2022.

[30] Id.

[31] Ashley Firth, Practical Web Inclusion and Accessibility (London, UK: Apress, 2019) 233.

[32] *Privacy Policy*, Sᴇɴsᴀ.ʜᴇᴀʟᴛʜ, https://sensa.health/privacy-policy/ (Last visited, May 22 2023)

[33] European Data Protection Board (EDPB), "Guidelines on Dark Patterns in Social Media Platform Interfaces" (2022) https://edpb.europa.eu/system/files/2022-03/edpb_03-2022_guidelines_on_dark_patterns_in_social_media_platform_interfaces_en.pdf at 16.

[34] Consumer Policy Research Centre, Duped by design- Manipulative online design: Dark patterns in Australia, June 2022.

[35] See Table 7.

[36] Nicole Wetsman, *Mental Health App Privacy Language Opens Up Holes for User Data*, Tʜᴇ Vᴇʀɢᴇ (May 4, 2022, 11:30 PM), https://www.theverge.com/2022/5/4/22985296/mental-health-app-privacy-policies-happify-cerebral-betterhealth-7cups

[37] See further Table 8.

[38] Elomia, https://elomia.com/ (last visited May 16, 2023)

[39] See https://foundation.mozilla.org/en/blog/shady-mental-health-apps-inch-toward-privacy-and-security-improvements-but-many-still-siphon-personal-data/

[40] https://woebothealth.com/what-powers-woebot/
[41] https://www.youper.ai/safety.

[42] See eg Huberty J, Puzia ME, Larkey L, Vranceanu AM, Irwin MR. Can a meditation app help my sleep? A cross-sectional survey of Calm users. PLoS One. 2021 Oct 22;16(10):e0257518. doi: 10.1371/journal.pone.0257518. PMID: 34679078; PMCID: PMC8535359; Huberty JL, Espel-Huynh HM, Neher TL,Puzia ME
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Characteristics and Usage Patterns Among 12,151 Paid Subscribers of the Calm Meditation App: Cross-Sectional Survey
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[44] https://www.headspace.com/science/meditation-research

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[55] Cf headline statement: Your data is completely safe with us. We don't share it with anyone and don't use it to run ads. We don't use e-mails or social media info to learn about our users. Security is our top priority!

[56] A product will earn the *Privacy Not Included warning label if it receives two or more warnings from us on the following criteria: How the company uses the data it collects on users. We ding companies for selling users data or collecting more data than is necessary for general business purposes, for example, buying data from data brokers. How users can control their data. We ding a company if they don't have a clear and manageable way for users to delete their data from the company or explain how long they retain users' data. What is the company's known track record of protecting users' data? We ding a company if they have a bad track record of not protecting users' data based on known and reported security breaches, leaks, or vulnerabilities. Finally, we ding a company if we can not confirm if the product meets our Minimum Security Standards. In rare exceptions we might ding a company if they only receive one warning from us if we determine that warning is particularly concerning for consumers.

[57] Criteria:
- Credibility
    - We look at the research supporting the technology and the credibility of the development process.
- User Experience
    - We explore how fun, functional, easy-to-use, engaging, and interesting the technology is.
- Transparency
    - We review privacy policies to see if key pieces of information about what happens with entered data are available

[58] We chose the best apps based on their mental health focus, user-friendly interface, availability, and techniques they offer.

[59] **Healthline only shows you brands and products that we stand behind.**

Our team thoroughly researches and evaluates the recommendations we make on our site. To establish that the product manufacturers addressed safety and efficacy standards, we:

- **Evaluate ingredients and composition:** Do they have the potential to cause harm?
- **Fact-check all health claims:** Do they align with the current body of scientific evidence?
- **Assess the brand:** Does it operate with integrity and adhere to industry best practices?

THANK YOU

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