Evaluating the Efficacy of a Specialised Mobile Application in Addressing Eating Disorders

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Abstract

This study explores user perceptions and needs regarding features proposed in *Peace Pulse*™, a conceptual mobile application designed to support individuals with eating disorders. The app integrates Cognitive Behavioural Therapy (CBT) exercises, dietary tracking, and personalised feedback. Through a structured online survey, we evaluate user attitudes, expectations, and barriers toward such an intervention. Participants were divided into two groups: those who had used specialised mental health apps and those who had not. Survey results show that *Peace Pulse*™ aligns well with preferred features and is perceived as potentially helpful, especially by individuals hesitant to pursue clinical treatment. The findings serve as a roadmap for refining the app to enhance privacy, accessibility, and therapeutic value.

Keywords: Eating Disorders, CBT, Mobile Health App, Mental Health, Anorexia, Bulimia, Binge Eating

Introduction:

Eating disorders (EDs) are serious mental health conditions that affect how people eat and how they feel about their body shape or weight. The most common types include anorexia nervosa, bulimia nervosa, and binge-eating disorder. These conditions can be dangerous and have long-term effects on both physical and emotional health. Studies show that about 9% of the global population struggles with an eating disorder—but sadly, many people don't get the help they need. This can be because of shame, fear, judgment from others, or simply not having access to affordable and timely care (Esbenshade & Venegas, 2024).

Traditionally, people with eating disorders are treated with in-person therapy, nutrition counselling, and regular medical checkups. But for a lot of people, these options are hard to access. They might be too expensive, too far away, or feel too overwhelming—especially for someone who's just beginning to recognize they need help.

That's where digital tools come in. Over the past few years, apps and online support systems have started to play a bigger role in helping people with mental health challenges. These tools are private, available anytime, and can feel safer or easier to use—especially for teenagers and young adults, who often turn to their phones first before asking for help in person.

One example is Peace Pulse™, a mobile app designed to support people who are dealing with disordered eating. Still in its early stages, the app plans to include features like Cognitive Behavioural Therapy (CBT) techniques, self-monitoring tools, custom reminders, and uplifting content. It's not meant to replace doctors or therapists, but instead, to act like a supportive companion—especially for those who are just starting their recovery or feel too anxious or ashamed to talk to someone face-to-face.

Objective

This study evaluates user attitudes, needs, and concerns related to the features proposed in the Peace Pulse™ app to inform its future development. It specifically examines whether participants view the app as a viable support tool and which functionalities they consider most useful or necessary.

Methodology

A perception-based online survey was conducted via Google Forms and distributed across social media and eating disorder support communities. Respondents were grouped into:

- Category A: Individuals who have not used specialised apps (N=65)
- Category B: Individuals who have used such apps (N=47)

Demographic Overview:

- Total participants: N=112
- Age range: 13–35 years
- Gender: 82 Female, 27 Male, 3 Other/Prefer not to say
- Location: Primarily UAE, with some international participants
- Education: Mostly high school and undergraduate students

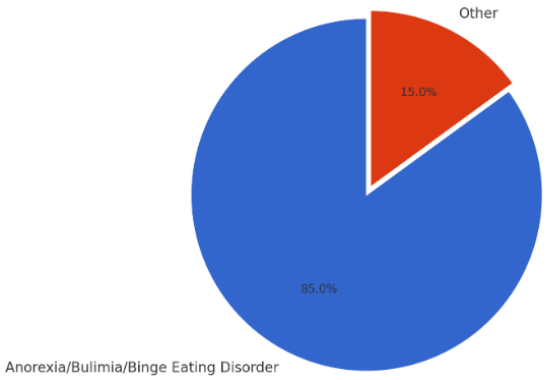
To uphold ethical standards, the survey was anonymous and did not include intrusive or diagnostic questions.

Results

Category A: Non-App Users

Figure 1: Diagnosed Eating Disorder Types (N=65)

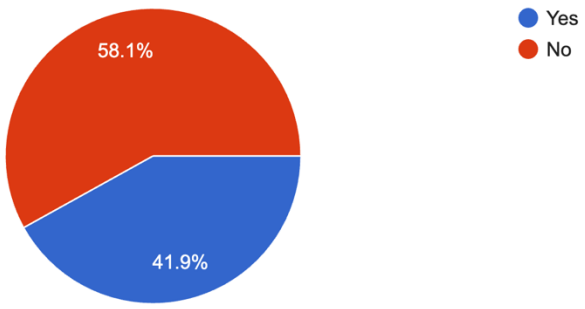
85% of respondents reported anorexia, bulimia, or binge eating disorder.



To start with, participants were asked if they required medical intervention in their treatment to understand whether participants prefer medical treatments or not:

Figure 2: Preference for Medical Intervention (N=65)

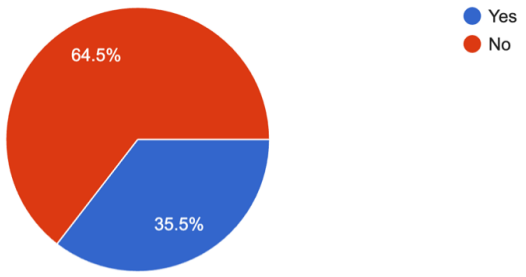
42% preferred or required medical intervention.



To broadly divide participants into two categories for easier interpretation of data, they were asked if a specialized application was used in their recovery process:

Figure 3: Prior Use of Specialised App (N=65)

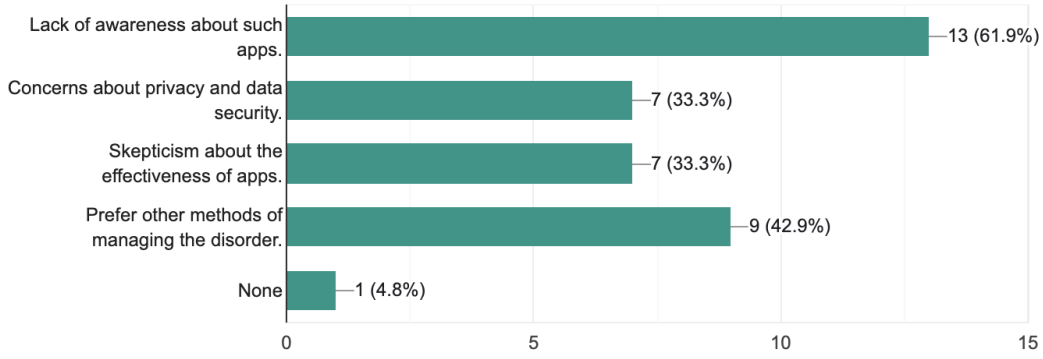
Only 64.5% had tried any app.



To have an idea of the possible reasons people did not approach the application-based treatment, we asked them to choose from some possible reasons which influenced their decision:

Figure 4: Barriers to App Use (N=47)

Top reasons: privacy concerns, preference for in-person support, lack of awareness.



To evaluate whether they would be open to using an application in the future and if the features they would desire to have in the application match the features our application, Peace Pulse offers:

Figure 5: Openness to Using App in Future (N=65)

42.9% are definitely open to using an app.

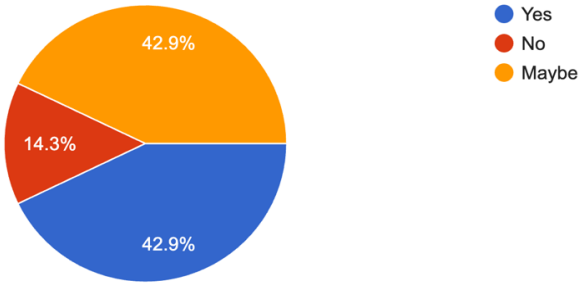
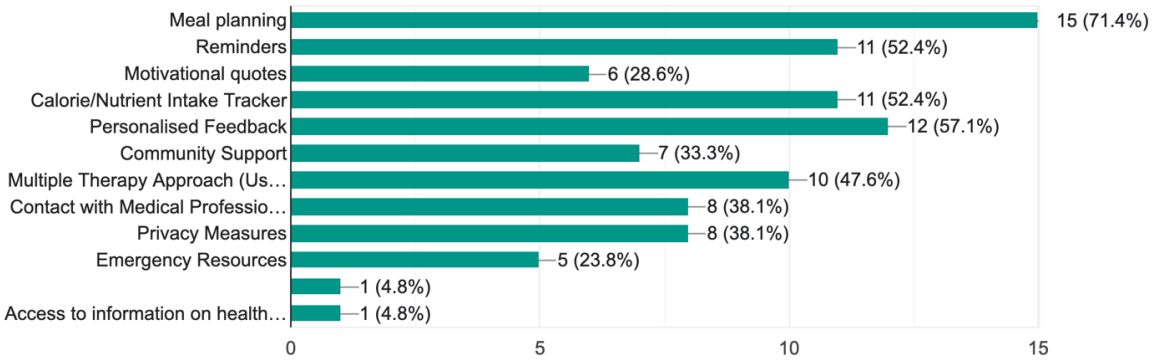


Figure 6: Desired Features in App (N=65)

Top features: meal planning, reminders, personalized feedback, calorie tracker.

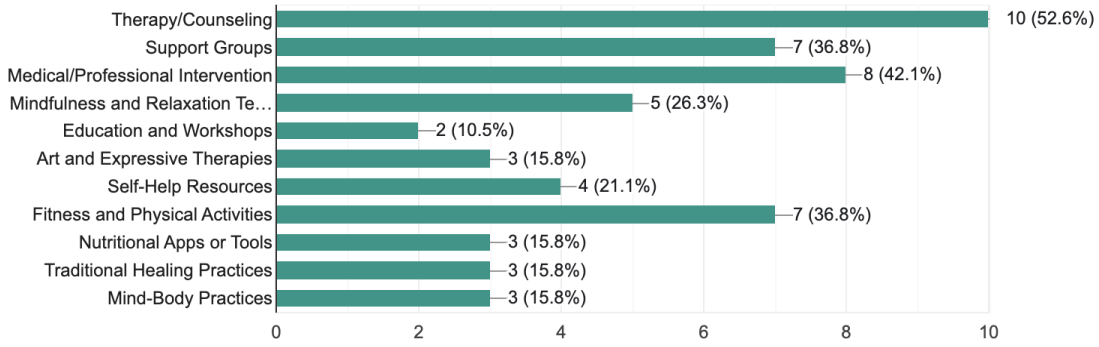


To further deepen our understanding of the mental blocks participants faced due to which they chose not to use specialized applications in their treatment process:

We also asked them what other methods they would choose to use in their treatment process so we could further improve the efficacy of our app by implementing them:

Figure 7: Preferred Alternative Treatments (N=65)

Counselling/therapy was most preferred apart from medical intervention.



Category B: App Users

To have an idea of the effectiveness of said application used, we asked them a series of questions about the overall effectiveness, the improvement they faced, the helpfulness of the application, and the specific features they found useful:

Figure 8: Perceived Improvement (N=47)

66% reported moderate to significant improvement using an app.

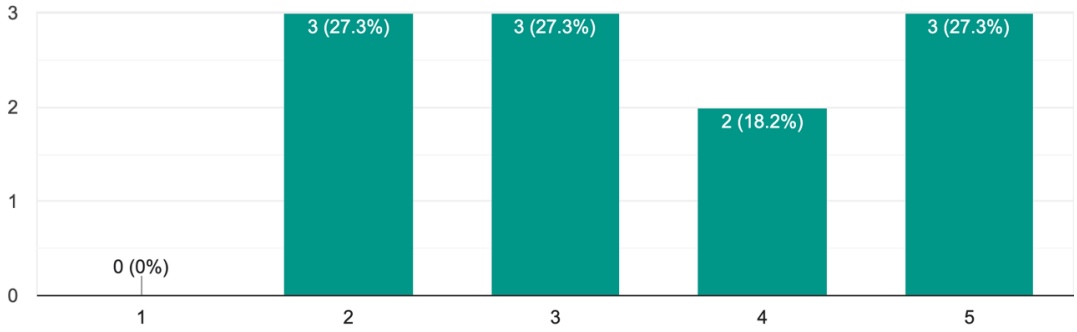


Figure 9: Features Found Most Helpful (N=47)

Same as above: personalised feedback, meal planning, reminders.

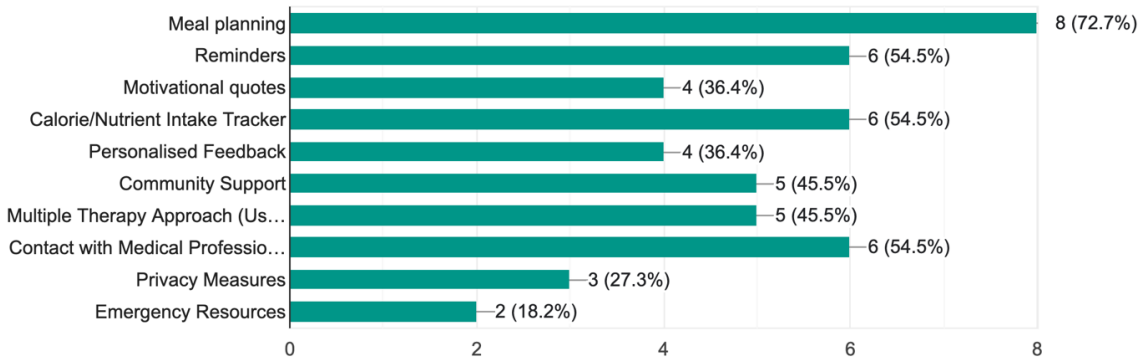
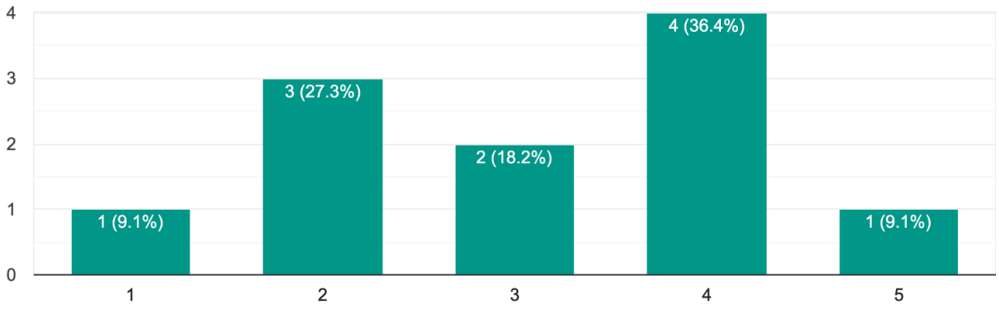


Figure 10: Overall App Effectiveness (N=47)

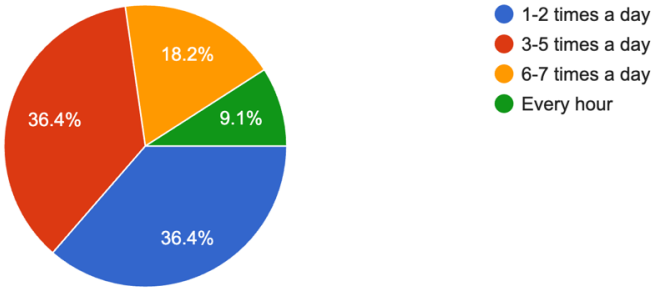
Most users rated apps as moderately effective.



To evaluate the preferred frequency of use of the application we asked participants about how many times a day they used their specialised application:

Figure 11: Frequency of App Use (N=47)

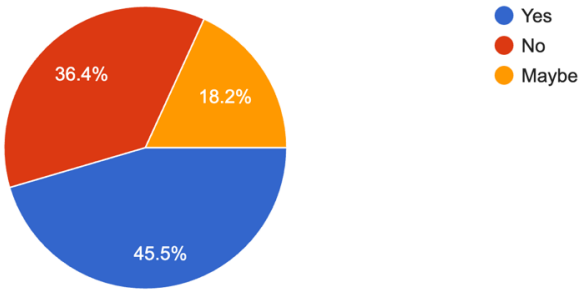
Most used the app 1–2 times daily.



Finally, we asked participants if they preferred the application-based treatment more than medical intervention:

Figure 12: App vs Medical Intervention (N=47)

45.5% preferred app-based support due to convenience and reduced stigma.



Discussion

The findings from the study show that Peace Pulse™ really connects with what users want and need emotionally, especially when it comes to support during eating disorder recovery. People especially liked features like meal planning, personalized feedback, daily reminders, and tools to track their progress. These features helped them feel more in control of their recovery and gave them the emotional support they often miss in traditional treatment.

Users who had tried other mental health apps before said they noticed clear improvements in how they felt, sometimes even significant ones. Many shared that using

an app felt safer and more private, especially if they were afraid to talk to someone face-to-face due to stigma or fear of being judged. The fact that users opened the app once or twice a day also shows that they didn't see it as just a backup for emergencies, they actually made it part of their daily routine.

But the study also found some important concerns. People who hadn't used mental health apps before were often worried about privacy, not knowing enough about how the app works, or simply felt emotionally unsure about using one. This shows a clear need for better education, transparency, and strong privacy protections.

Some participants also said they would prefer a mix of support options, using the app along with live therapy or moderated group chats. This "hybrid" model could make the experience feel more personal and help those who might otherwise fall through the cracks.

One of the biggest takeaways is that many users liked the idea of having self-help tools that don't require constant check-ins with a doctor or therapist. It made the recovery process feel less overwhelming and more comfortable to start. This supports the idea that Peace Pulse™ can be a gentle first step for people who are just beginning to seek help.

Conclusion

This study shows that Peace Pulse™ fits well with what people want and expect from a support tool for eating disorders. Its focus on things like privacy, flexibility, and making users feel emotionally safe really matters to both those who already use mental health apps and those who haven't yet.

Although it's not meant to replace professional therapy, Peace Pulse™ can still be a helpful starting point. It gives people a simple, non-intimidating way to check in with themselves, track their progress, reduce harmful habits, and feel like they're more in control of their recovery journey.

Limitations:

This study is based on self-reported perceptions, which may be influenced by memory bias, social desirability, or the participant's current emotional state. The survey was distributed via social media and support forums, which may have skewed the sample toward individuals already aware of or comfortable discussing mental health. Additionally, since *Peace Pulse*™ is still in the conceptual phase, the study does not measure actual behavioural outcomes—only perceived usefulness. Future research should incorporate beta testing, feedback from healthcare professionals, and a broader demographic scope.

Next Steps:

- Integrate advanced encryption and optional anonymity settings
- Expand awareness through targeted outreach and partnerships
- Build a beta version for limited testing
- Launch a follow-up longitudinal study to assess psychological and behavioral outcomes

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