Co-funded by the European Union

MASARYK UNIVERSITY

WELLBEING IN SCHOOLS

WellbeingInSchools

Enhancing Resilience and Well-being of All Students in Primary Schools

2024-1-CZ01-KA220-SCH-000245017

Desk Research Report: Mindfulness Apps for Wellbeing in Schools Project

Author: Sheri Leigh Kingsdorf

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Table of Contents

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Project Overview

WellbeingInSchools is a co-funded Erasmus+ project that aims to enhance the social and emotional well-being and resilience of students and teachers through the implementation of Mindfulness-Based Intervention (MBI) practices in schools. The project brings together expertise from universities and educational organizations across five European countries: Czechia, Greece, Slovakia, Ireland, and Finland.

The project's primary objectives focus on developing and implementing comprehensive MBI resources that can be effectively integrated into school environments. At its core, the project aims to develop an innovative toolkit for teachers alongside a mobile app designed for both teachers and students. These digital resources will be complemented by a pyramidal training program, where each participating country will train 3-4 trainers who will subsequently share their knowledge with at least 5 additional teachers in their respective countries. This training model ensures broader dissemination of MBI practices and sustainable implementation within schools.

A key component of the project is the development of the MBI toolkit, which will provide educators with detailed guidelines for curriculum integration, practical examples of MBI implementation, and assessment tools for personalizing MBI practices. The toolkit will also include specialized support materials for addressing special education needs, ensuring inclusivity in mindfulness practice implementation. Alongside the toolkit, the mobile app development forms a crucial technological component, featuring a user-friendly interface accessible to both teachers and students, varied MBI practices, progress tracking features, and multilingual support to ensure broad accessibility across participating countries.

The development of these digital tools, particularly the mobile app, represents a crucial component of the project's strategy to make MBI practices more accessible and engaging for both teachers and students. This desk research specifically informs the mobile app development phase, ensuring that the final product incorporates best practices while addressing gaps in current offerings, particularly regarding educational integration and accessibility. This research is crucial for ensuring the project's outputs meet user needs while incorporating proven successful elements from existing solutions.

Methodology

This desk research involved a systematic review of publicly available mindfulness-based applications. Apps were identified through app store searches (e.g., Google Play Store, Apple App Store) using keywords such as “mindfulness”, “meditation”, “calm”, “wellbeing”, and “relaxation”. Given the nature of the project, apps targeting their usage at children, schools, and teachers, were given priority for the review. Additionally, partners in each country were encouraged to find local content-relevant apps, if possible. In total, 17 apps were selected for in-depth review. For each app, information was collected based on the following categories (see Figure 1 for count across each category):

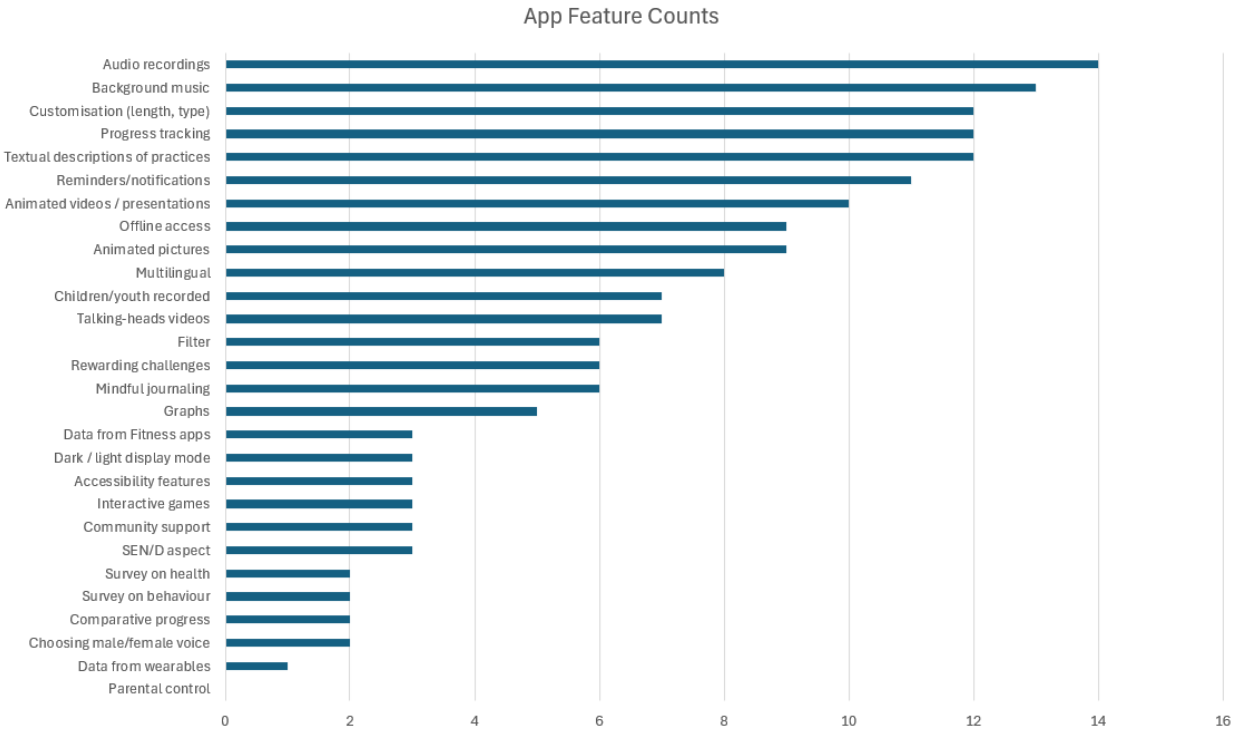
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

- **Basic Information:** Author (Provider), Title, Web link, Target group, Language, Country of origin, Mobile / Computer App / Website
- **Content Delivery Logic:** Course Logic vs Repository Logic
- **Content Characteristics:** Topics covered, Types of content, Structure
- **Accessibility & Inclusivity:** SEN/D aspect, Accessibility features
- **Audio-Visual & Textual Content:** Audio recordings, Choosing male/female voice, Background music, Animated videos / presentations, Talking-heads videos, Children/youth recorded, Textual descriptions of practices, Animated pictures, Graphs
- **Engagement & Personalisation Features:** Progress tracking, Comparative progress, Reminders/notifications, Mindful journaling, Rewarding challenges, Customisation (length, type)
- **Community & Support Features:** Community support, Interactive games, Parental control
- **Technical & Functional Features:** Offline access, Multilingual, Filter, Dark / light display mode
- **Data Collection & Integration:** Survey on behaviour, Survey on health, Data from wearables, Data from Fitness apps

The review was conducted through examination of app store descriptions, developer websites, and where possible, publicly available information about the app's content and features (e.g., screenshots, demo videos, user reviews, and free trial versions). In the case of freely available apps, or apps with trials that did not require credit card information, the apps were downloaded onto partner devices and trialed.

Figure 1.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Summary of Reviewed Apps

A collection of 17 mindfulness and meditation-based apps, designed or likely accessible for use in educational settings, were reviewed. While most apps were from English-speaking countries (primarily the US), there were also offerings from Finland, Czech Republic, and India. The majority of the apps served both students and teachers, though some were specifically targeted at either students or teachers. While English was the predominant language, several apps like Insight Timer, Noepanikař, and Aura offered multiple language options. Overview data on the apps can be found in Table 1.

Table 1.

Mindfulness and Meditation Apps

App Name	Target Group	Languages	Country
Smiling Mind	Both	English	Australia

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Všímavec	Students	Czech	Czechia
Calm	Both	English	US
Headspace	Both	English	UK, US
Dreamy Kid	Both	English	US
Insight Timer	Both	Multiple (15+)	Australia
Healthy Minds Innovations	Both	English	US
GoNooodle	Both	English	US
Happify	Teachers	10 languages	US
Tapping Solution	Teachers	English	US
Waking Up	Students	English	US
Deep Breathing Exercises	Both	English	US

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Mindful Powers	Students	English	US
Magis	Students	Finnish & English	Finland
Noepanikař	Both	Multiple (10+)	Czech Republic
Breathe	Both	English, French, Dutch	India
Aura	Both	7 languages	US

Category-wise Analysis of Mindfulness Apps

This section provides a summary analysis for each category, based on the review of the 17 apps.

Platform (Mobile / Computer App / Website)

The platforms offered (mobile apps for iOS/Android, computer applications, websites) were analyzed to understand accessibility and user experience considerations. The majority of the apps (n=9) offered experiences across multiple platforms. After that, mobile-only access was most common (n=5). Relatively few of the apps were available across only website and computer applications, 2 and 1, respectively.

Content Delivery Logic (Course vs Repository

This category differentiated between apps that offer structured, progressive courses versus those that provided a repository of individual practices that users could access freely. Apps like Smiling Mind, Všímavec, and GoNoodle used repositories, while Calm and Headspace blended repositories with courses. Waking Up and Healthy Minds Innovations focused on structured learning. Unique approaches included Magis (gamified mindfulness) and Nopenaiak (mental health first aid). Aura integrated both models with personalized recommendations, journaling, rewards, and access to

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

professional coaching. Overall, while repository logic was more common, course logic may be more suitable for beginners.

Content Characteristics

Topics Covered

The apps covered a wide range of topics related to mindfulness, mental health, and personal development. Common themes included mindfulness, stress management, emotional regulation, sleep improvement, mental fitness, relationships, self-confidence, and productivity. Specific topics also address areas like anxiety, depression, kindness, compassion, connection, loss, social-emotional learning (SEL), physical activity, and various life skills. See Figure 2 for a word cloud depiction of the topic areas across the 17 analyzed apps (the largest words align with the most common app descriptors of topics covered).

Figure 2.

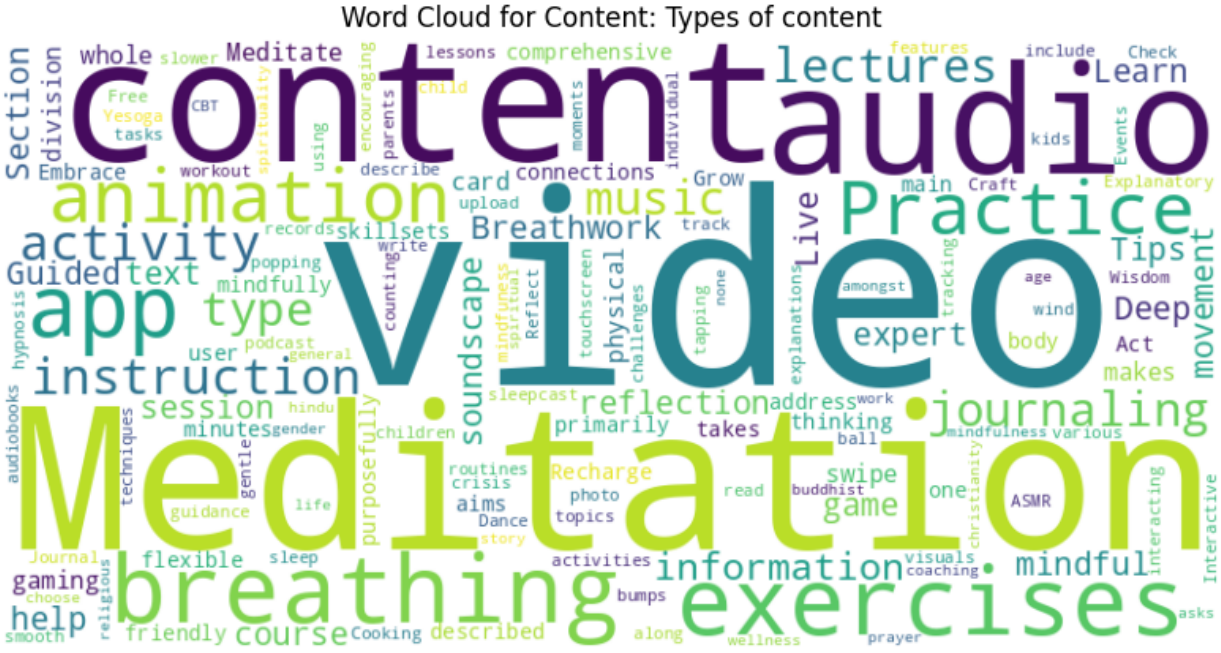
Types of Content

The content types across the apps were diverse and included guided meditations, explanatory videos, audio tracks, journaling, interactive games, breathing exercises, mindfulness activities, and physical exercises. Other content types included lectures, courses, podcasts, sleep music, soundscapes, hypnosis, ASMR, tapping meditations, and expert guidance. Many apps offered a combination of text, video, and audio content, with some providing specific features like check-ins, reflections, live events, and challenges. See Figure 3 for a word cloud depiction of the types of content areas

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

across the 17 analyzed apps (the largest words align with the most common app descriptors of types of content covered).

Figure 3.

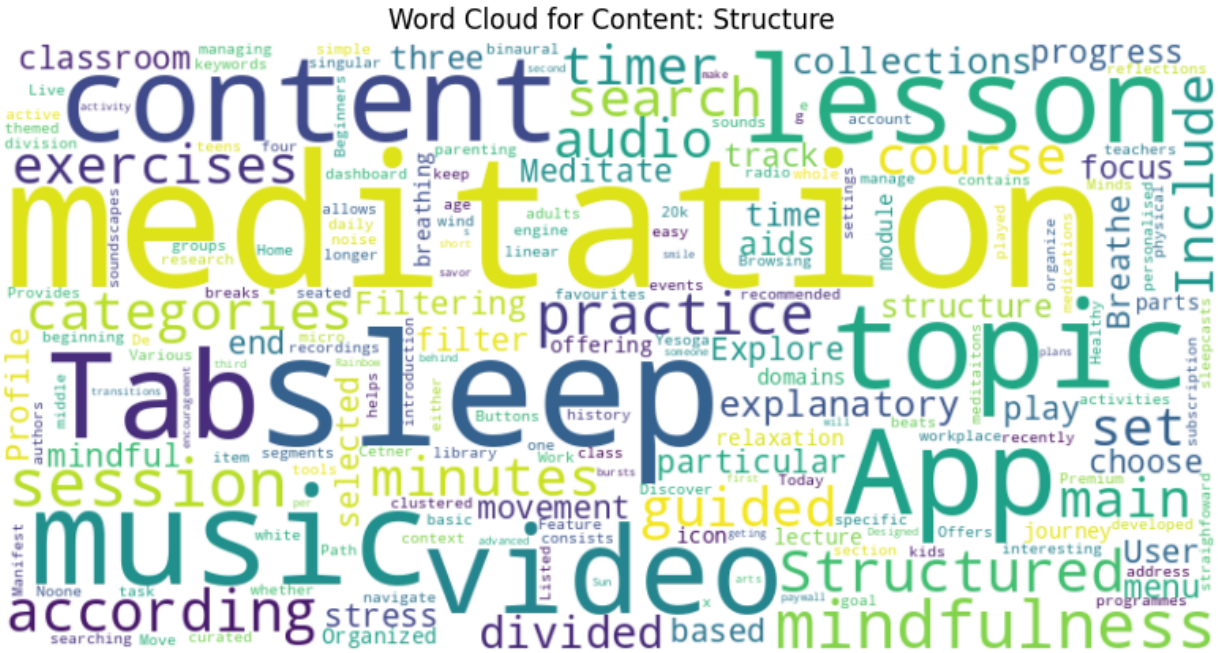


Structure

The structure of the apps varied but generally included organized sections or categories to help users navigate the content. Common structural elements included sessions or collections grouped by topics, filtering options by keywords, age groups, and context, and main menus with tabs for different content areas. Some apps offered linear paths or journeys, while others provided customizable options based on user preferences and goals. Features like search engines, personalized recommendations, and progress tracking were also observed. See Figure 4 for a word cloud depiction of the structure across the 17 analyzed apps (the largest words align with the most common app descriptors of structure).

Figure 4.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Accessibility & Inclusivity

Overall, very few apps (n=3) explicitly addressed the needs of users with Special Educational Needs and Disabilities (SEN/D). This may have included features like adjustable pace, simpler language, visual aids, or specific content modifications. This was similar for the review of accessibility features like screen reader compatibility, adjustable font sizes, color contrast options, and navigation aids (n=3).

Audio-Visual & Textual Content

Overall, nine areas encompassed audio-visual and textual content. These included:

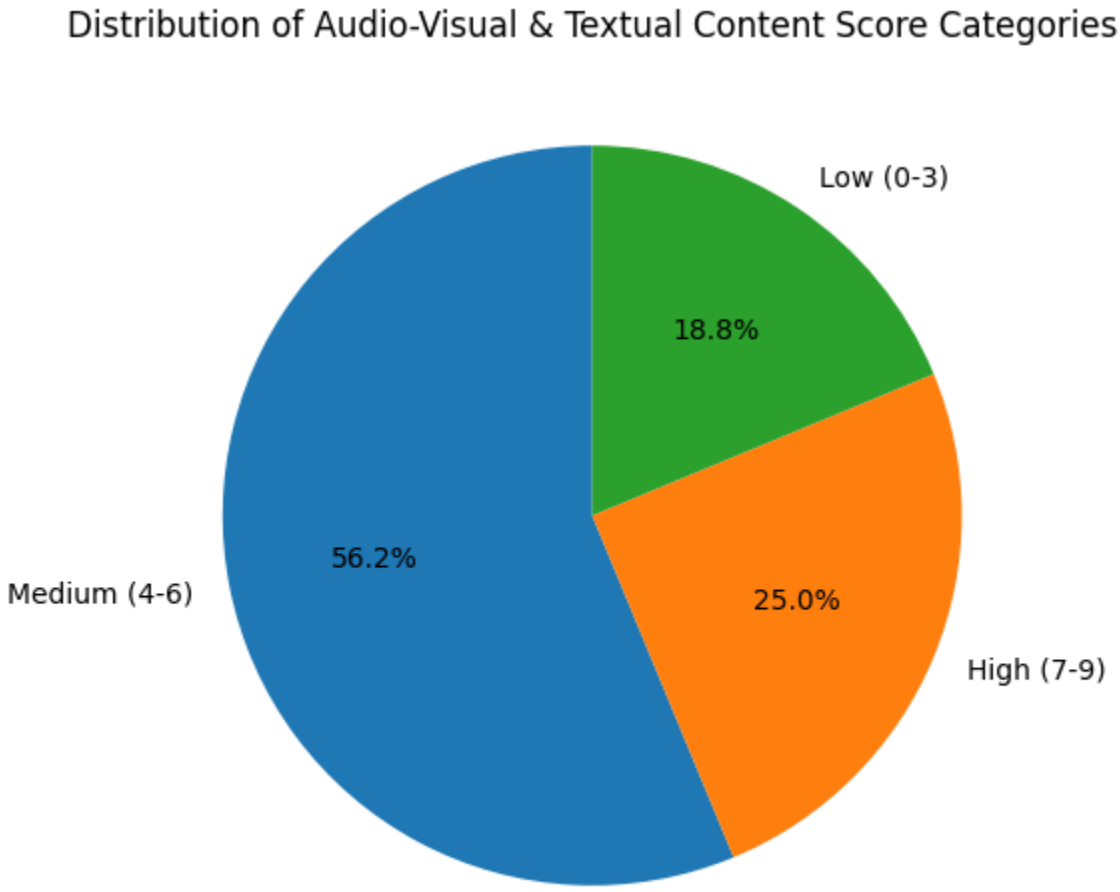
- **Audio recordings**
- **Choosing male/female voice:** The option to select voice gender.
- **Background music:** The use and type of background music (e.g., ambient, nature sounds, instrumental) and options to control or disable it.
- **Animated videos / presentations:** The use of animated videos for explaining concepts, guiding practices, or enhancing engagement.
- **Talking-heads videos:** The presence of videos featuring instructors or experts.
- **Children/youth recorded:** The use of recordings specifically featuring children or youth voices.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

- **Textual descriptions of practices:** Availability of textual descriptions alongside audio guidance.
- **Animated pictures:** Use of animated pictures or illustrations to support practices, explain concepts, or enhance visual appeal.
- **Graphs:** The use of graphs to visualise progress, statistics, or data.

Of these components, audio recordings (n=14) and background music (n=13) were most prevalent, with the ability to select a gendered voice least available (n=2). In terms of the apps overall development of audio-visual and textual components, as shown in Figure 5, the majority of apps (56.2%) had about half of the reviewed components.

Figure 5.



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Engagement & Personalisation Features

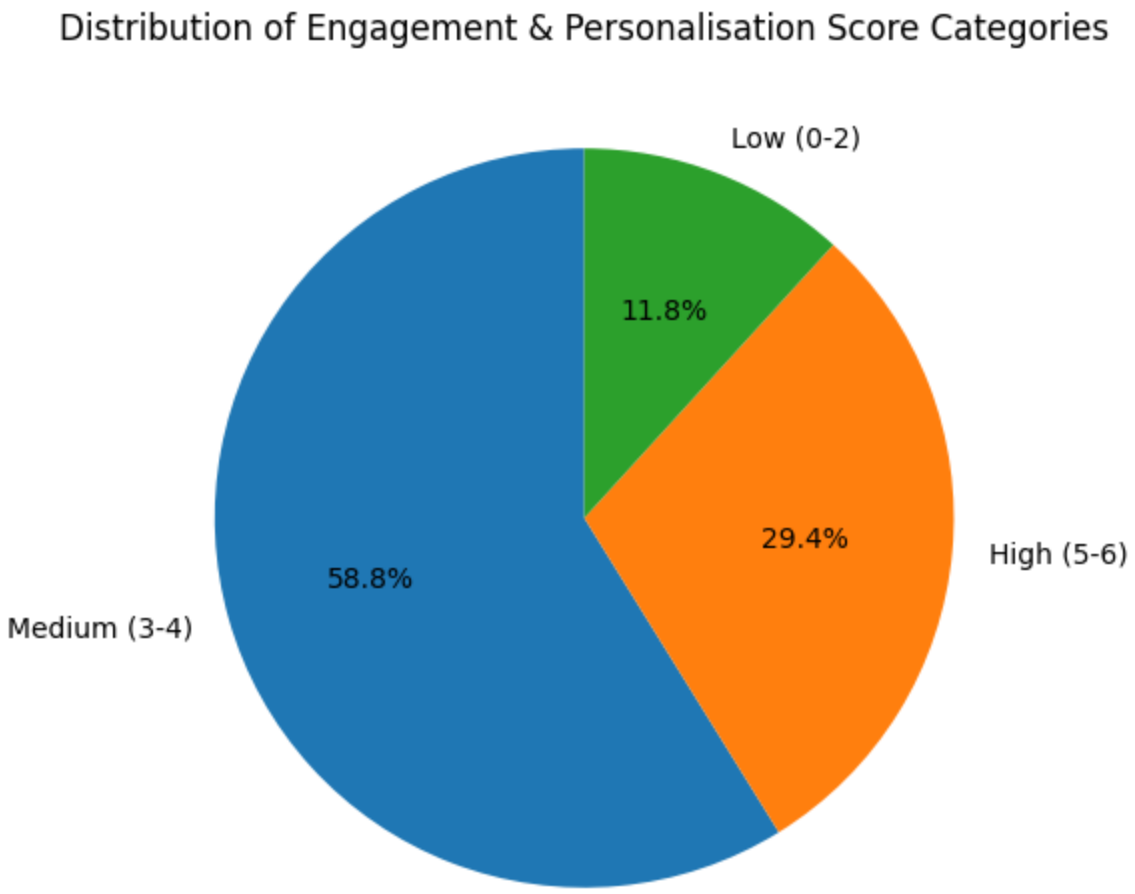
Overall, six areas encompassed engagement and personalization features. These included:

- **Progress tracking:** Features for tracking user progress (e.g., session completion, time spent practicing, streaks).
- **Comparative progress:** Features allowing users to compare their progress to others (anonymously or within a community).
- **Reminders/notifications:** Customizable reminders to practice/use the app.
- **Mindful journaling:** In-app journaling features to support reflection.
- **Rewarding challenges:** Gamification elements like rewarding challenges or badges to enhance motivation and engagement.
- **Customisation (length, type):** Options to customize the length and type of practice.

Of these components, progress tracking (n=12) and customization (n=12) were most prevalent, with the ability to view comparative progress the least available (n=2). In terms of the apps overall development of engagement and personalization features, as shown in Figure 6, the majority of apps (58.8%) had about half of the reviewed components.

Figure 6.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Community & Support Features

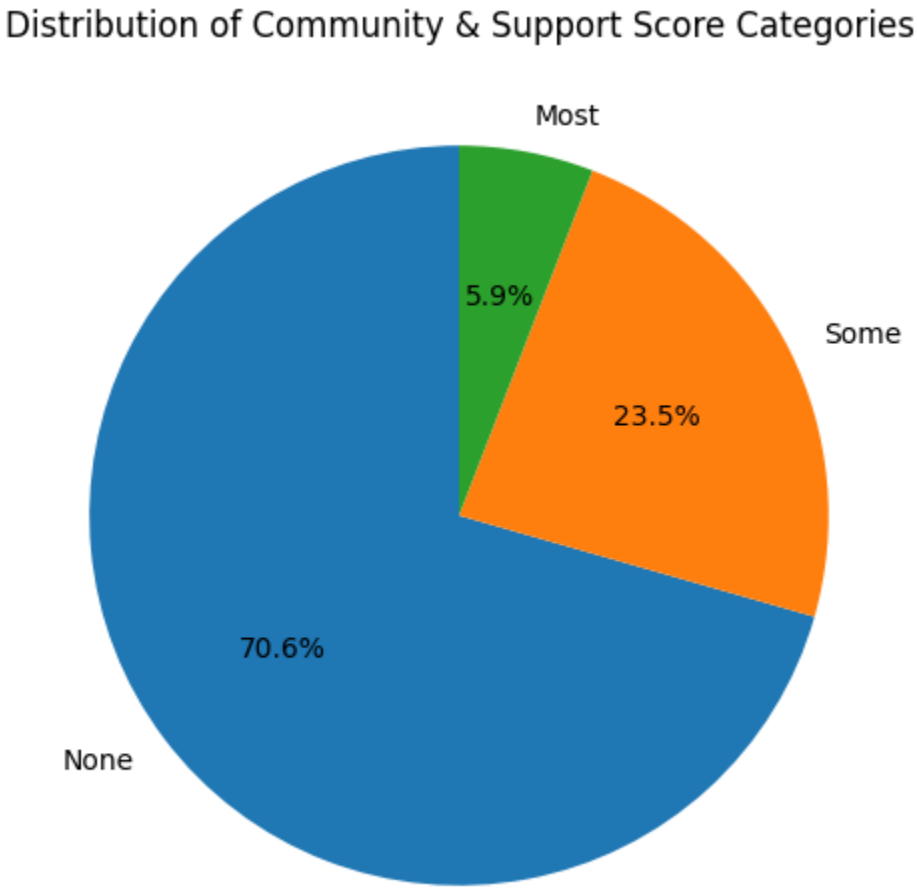
Overall, three areas encompassed community and support features. These included:

- **Community support:** Features enabling community interaction (e.g., forums, sharing experiences, group challenges).
- **Interactive games:** The inclusion of interactive games/challenges/role-plays related to mindfulness or similar practices to make learning more engaging.
- **Parental control:** For apps targeting children and youth, parental control features (e.g., monitoring usage, setting limits, content filtering) for safety and responsible use.

Of these components, only community support and interactive games were found, and with very low frequency, 3 instances of each. As a result, as shown in Figure 7, the majority of the apps (70.6%) did not have any of these components.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Figure 7.



Technical & Functional Features

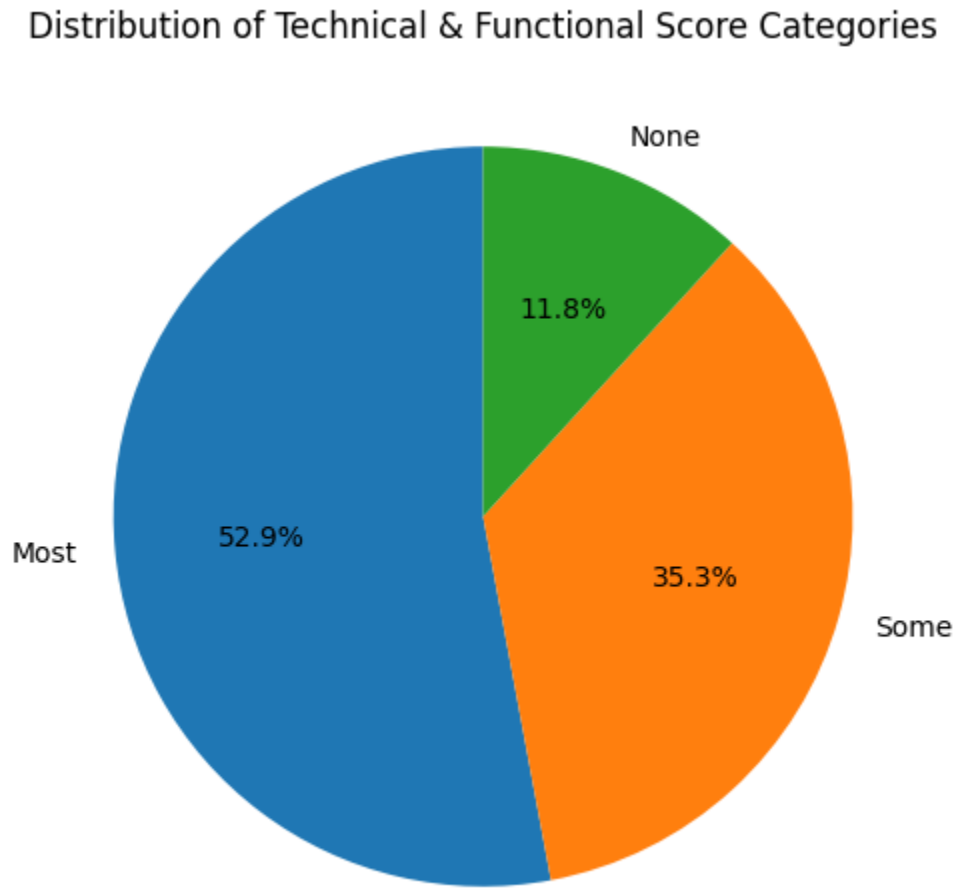
Overall, four areas encompassed technical and functional features. These included:

- **Offline access:** Availability of content to allow for practice without internet connectivity.
- **Multilingual:** Support for multiple languages.
- **Filter:** Content filtering options (e.g., by practice type, duration, topic) for increased navigation.
- **Dark / light display mode:** Options for dark/light display modes for user preferences and accessibility needs, especially for users sensitive to light.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Of these components, offline access (n=9) and multilingual options (n=8) were most prevalent, with dark/light display options the least available (n=3). In terms of the apps overall development of technical and functional features, as shown in Figure 8, the majority of apps (52.9%) had most of the reviewed components.

Figure 8.



Data Collection & Integration

Overall, four areas encompassed data collection and integration features. These included:

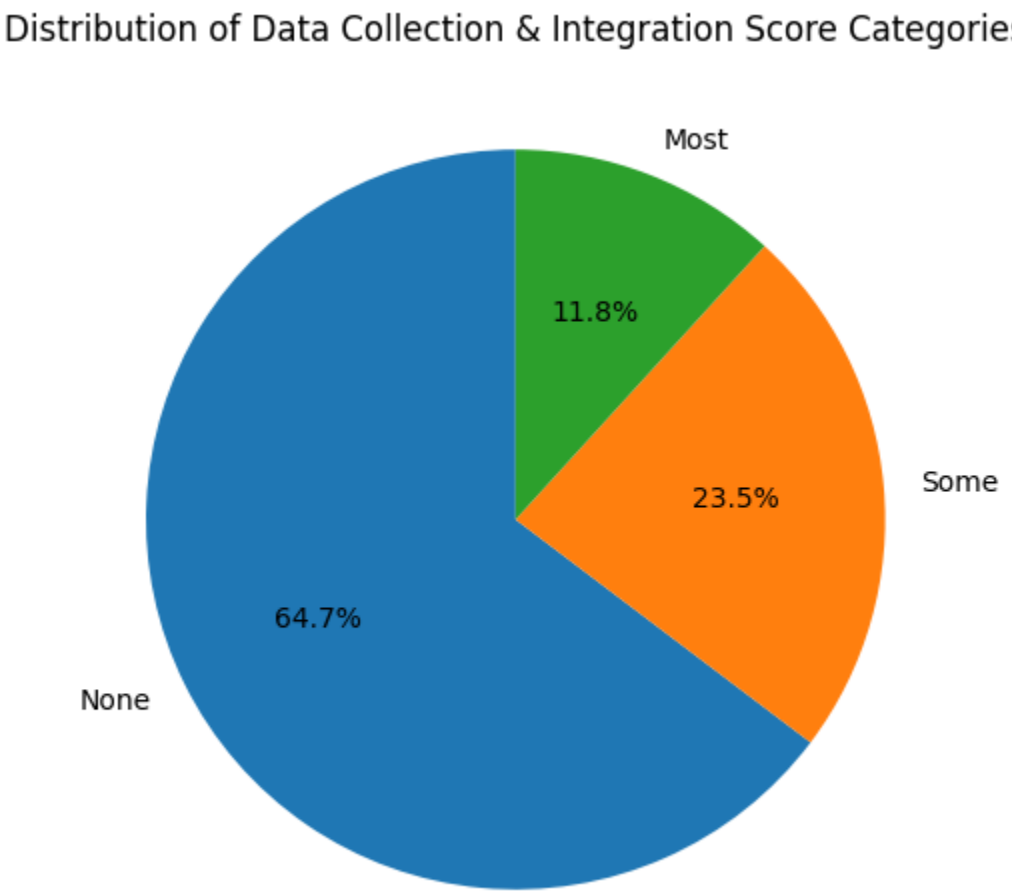
- **Survey on behaviour:** Presence of in-app surveys to collect data on user behaviour related to mindfulness practice or wellbeing outcomes.
- **Survey on health:** Inclusion of health-related surveys to assess need and the impact of practice on user health and wellbeing.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

- **Data from wearables:** Integration with wearable devices (e.g., smartwatches, fitness trackers) to collect physiological data (e.g., heart rate, sleep patterns) during practice.
- **Data from fitness apps:** Integration with fitness apps to correlate physical activity with practice and wellbeing.

Overall, these components were underrepresented in the apps. As shown in Figure 9, the majority of the apps (64.7%) did not have any of these components.

Figure 9.



Key Findings and Observations of App Features

Overall, the majority of the apps did not have a large number of the features that were assessed during the review. Of the 28 features that were looked at, the highest scoring

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

apps (e.g., Smiling Mind, Aura, Calm, and Headspace) only had a few more than half of these features (see Figure 10). Regarding the relationship of these features, Figure 11 displays a feature correlation heatmap in an attempt to visualize the relationships between components. The matrix reveals patterns in how different app features are related to each other. Strong positive correlations (shown in dark red) appear between certain groups of features, such as between children/youth recorded and animated videos/presentations, suggesting apps that include animations often include youth voice recording. There are also notable correlations between rewarding challenges and talking head videos, suggesting that video-presentations may be most often part of course-style apps that include completion components (i.e., challenges). In another example, audio recordings showed moderate positive correlations with several presentation-related features like music and talking-head videos, suggesting these often appear together in apps. User features with additional notable relationships include multilingual support with textual descriptions and accessibility options, indicating a focus on user customization. Overall, this can be valuable to consider in app design, for identifying which features should be incorporated together to align with what is currently on the market.

Figure 10.

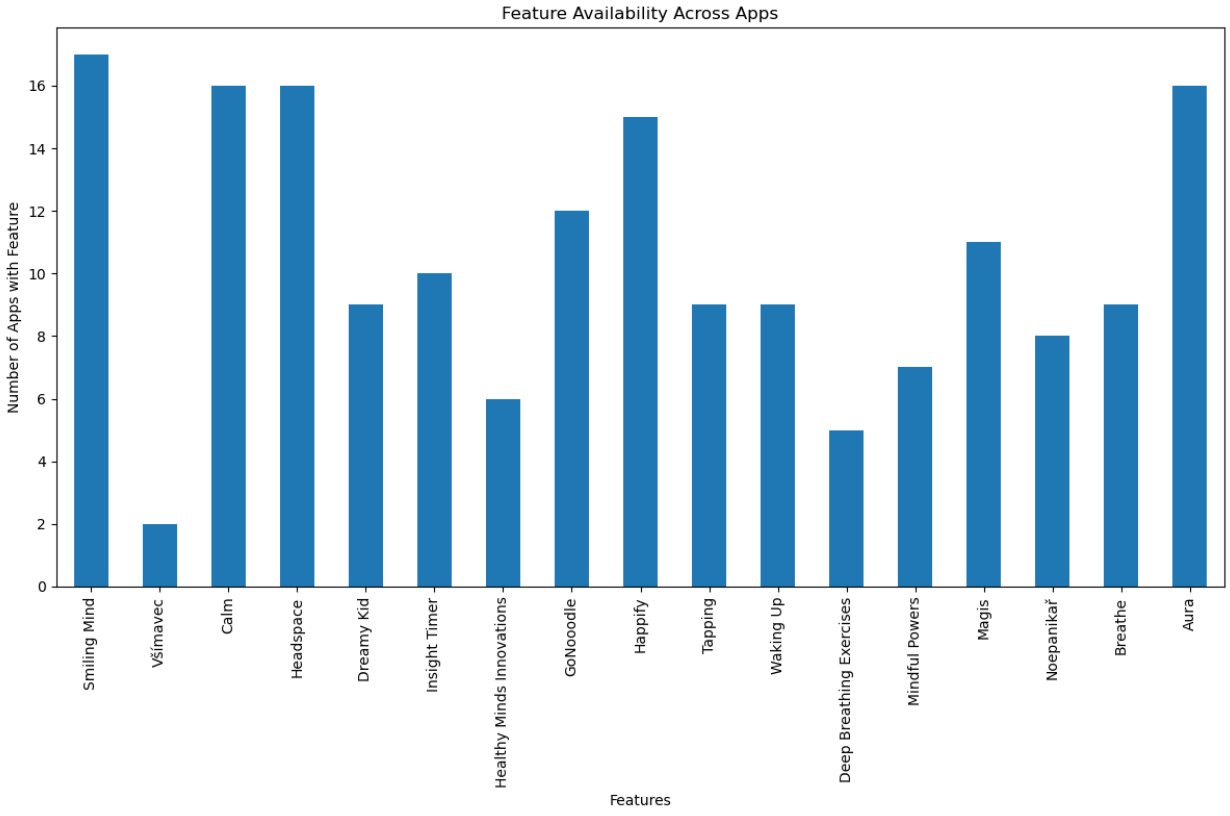
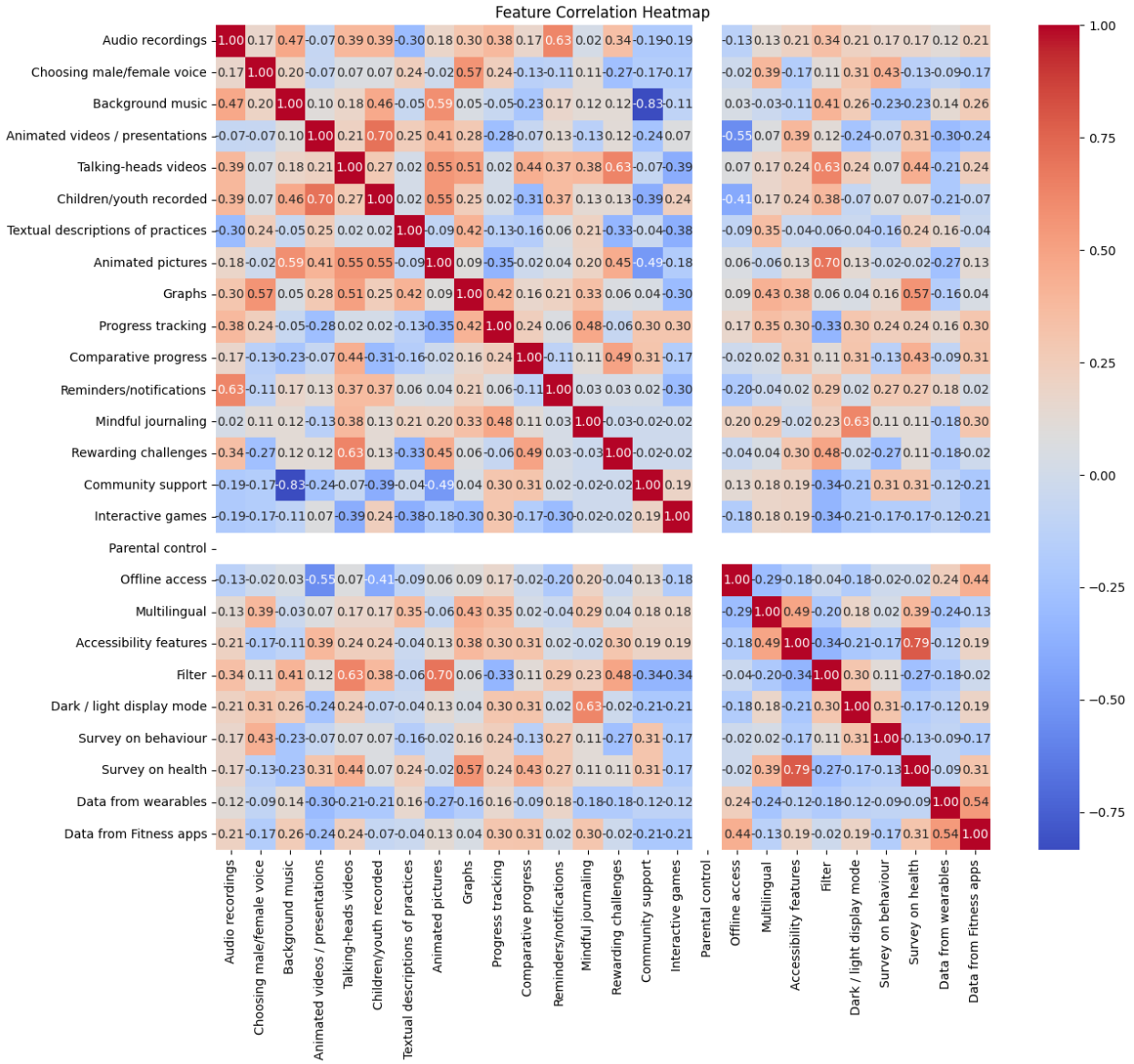


Figure 11.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Implications for the Wellbeing in Schools App

Looking at the robust data presented here, it is clear that many key features are being underutilized in current mindfulness-related apps.

Firstly, accessibility and inclusivity should be prioritized through enhanced accessibility features, multilingual support, and flexible display options to accommodate different visual needs, as these appear to be lacking in the apps that are currently on the market. Engagement could be improved, especially as youth will be the main target audience, by expanding interactive elements, particularly games and collaborative features for classroom settings, which also appeared to be lacking in the reviewed apps. Technical considerations should focus on ensuring offline access for schools with limited internet

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

connectivity and cross-platform compatibility and to prevent interruptions during mindfulness activities like meditation. Content development should emphasize guided meditations and content which are accessible across age ranges and audiences.

Little was found in these apps regarding systematic procedures for classroom integration. Therefore, future apps should align in some way with classroom tools, lesson plans, and data tracking. Driven by what is currently available, it appears necessary to refine the user experience for students with simplified navigation, customizable session lengths or activities, and age-appropriate interfaces. Finally, since educational usage is the overall target, and lacking in most apps, it might be valuable to incorporate app and/or other project materials for developing and accessing support and community features through teacher resource sharing platforms.

Conclusion

This desk research report provides a preliminary overview of the mindfulness app landscape based on a review of 17 different applications. The category-wise analysis highlights common features, content approaches, and areas for potential improvement within existing apps. The findings of this report can be used to inform the development of the WellbeingInSchools app, ensuring it is relevant, effective, and accessible for its target users.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.