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A Belgian platform for well-being and mental health apps: Exploring end users' attitudes, interaction and perceived strengths and limits

Eva Van Assche^{a*}, Fien Buelens^a, Annelien Mees^b, Jana Verplancke^c, Sandra Beelen^d,
& Tom Van Daele^{a,e}

^a *Psychology and Technology, Centre of Expertise
Care and Well-Being, Thomas More University of
Applied Sciences, Antwerp, 2018, Belgium*

^b *Bachelor Applied Psychology, Howest University
of Applied Sciences, Bruges, 8000, Belgium*

^c *SAM, Institute for People and Society, Antwerp,
2140, Belgium*

^d *Bachelor Social work, Artevelde University of
Applied Sciences, Ghent, 9000, Belgium*

^e *Centre for Technological Innovation, Mental
Health and Education, Queen's University Belfast,
Belfast, United Kingdom*

Abstract

A plethora of well-being and mental health apps and websites are available online. However, keeping up with this ever-changing field and assessing the quality of applications proves challenging. The platform onlinehulp-apps.be was created to bundle relevant, screened apps for inhabitants of Flanders (Belgium). In this user study, novice users (i.e., applied psychology bachelor students with little to no prior experience with the platform) were asked to solve hypothetical cases where a professional uses onlinehulp-apps.be to find suitable apps. They then reported on their experience and evaluation of the platform. Their attitudes towards the platform were assessed in a pre-post design to investigate any changes in attitudes before and after using the platform to complete the cases. Results showed an overall positive attitude towards the platform, with minor suggestions primarily relating to adding more themes in which apps are classified.

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1. Introduction

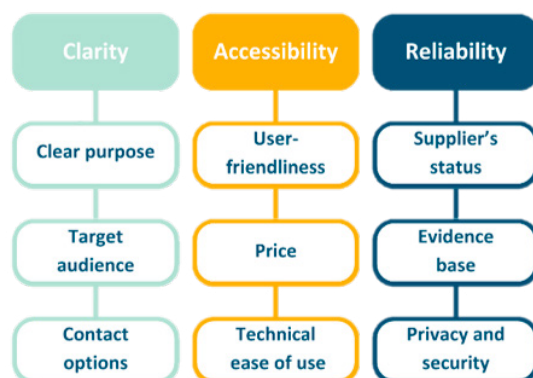
In today's world, well-being and mental health have become a critical concern, with many individuals seeking support for various issues, ranging from social relationships, education, and stress to depression, anxiety, and addiction. However, the demand for help often surpasses the capacity of services, leading to lengthy waiting lists and delayed access to often crucial care [1].

The use of technology has been suggested as a convenient and accessible part of the solution [2]. Digital interventions and apps and websites (which for ease of reading, we will abbreviate as 'apps', moving forward) can be used in different modalities, a distinction is often made between pure self-help, guided self-help and blended support or therapy. Self-help apps generally have comparable effectiveness to traditional face-to-face psychotherapies, particularly for addressing mild to moderate symptoms [3]. Apps are however especially promising when used guided, i.e., supplemented with human support and guidance [4]. This not only enhances their overall efficacy [5], but also helps to counteract the rapid decline in continued use often seen for pure self-help apps [6]. In routine care, blended support or therapy seems often preferred, which combines the use of apps with face-to-face interventions [7].

The increasing interest in well-being and mental health apps is directly reflected in the countless options of apps available online. However, for social workers, psychologists, community workers, other professionals and the clients themselves, it is difficult to keep up with this quickly evolving field and to assess the quality of these apps. Therefore, in January 2021, the platform 'onlinehulp-apps.be' was launched which bundles relevant, screened, high-quality apps currently available in Flanders (Belgium) (<https://www.onlinehulp-apps.be/>). Users can confidently use the platform knowing that each app has undergone evaluation on a number of essential criteria. Similar initiatives have been developed in other countries, such as MindApps in Denmark and MINDapps in the United States.

A screening framework was developed based on national and international existing criteria and screening instruments (e.g., [8];[9]), which was subsequently evaluated by a steering committee of 75 welfare and mental healthcare organizations. Every app is screened on nine criteria related to three topics: (1) clarity, (2) accessibility, and (3) reliability. For the selection of apps to be screened, input is listed from field professionals, app developers, and the screening team to prioritize commonly used apps. Screening is done by the partner universities of applied sciences from the Onlinehulp Vlaanderen network (<https://onlinehulp-vlaanderen.be>). The key screening criteria are presented in Figure 1.

Figure 1. Nine key screening criteria related to three general topics to evaluate apps and websites



By means of a solid search function and an ordering of apps via specific themes (e.g., anxiety, sexuality, depression, education), visitors can browse through detailed overviews of currently 175 apps and websites. The platform amassed a total of over 84.469 unique visitors since its launch.

As we continuously aim to improve the platform, one of the aspects we focus on is the end-user experience. In the current user study, we therefore focused on novice users' use and evaluation of the platform, as well as their attitudes towards the platform. Ethical approval for this study was obtained from the ethics committee of Thomas More University of Applied Sciences, Antwerp, Belgium (ECTP2324-05).

2. Methods

2.1. Participants

Fifty-five bachelor students in Applied Psychology took part in the study. Their mean age was 19.4 years ($SD = 2.75$) with ages ranging from 17 to 36 years. They were in the first semester of their first bachelor year, had no prior training on the platform and were not taught by any of the researchers. The majority ($N = 51$) had no previous experience in using the platform, while four participants reported having used the platform before. Forty-six were female, eight were male and one non-binary.

2.2. Instruments

To simulate searching for an app or website in a professional setting, we created eight cases. Each case describes a real-life situation of a client dealing with a specific issue (e.g., stress, depression). The goal was for a professional to find the most suitable app for each case (see Appendix A).

Participants' attitudes towards the platform were measured using a modified short version of the Flemish UTAUT questionnaires (De Witte & Van Daele, 2017) consisting of ten items. Intention to use a technological application, or in this particular study, the platform *onlinehulp-apps.be*, was predicted using six factors: outcome expectation, effort expectation, social influence, facilitating conditions, hedonic motivation, and price value. An example of the social influence item was: *People who are important to me think I should use the platform*. Responses were given on a 5-point Likert scale ranging from 1 'Totally disagree' to 5 'Totally agree'. This resulted in an overall score ranging from 0 to 30, with higher scores indicating more positive overall attitudes.

The usability of the platform was assessed using the System Usability Scale (SUS [10] consisting of ten items. Scoring was done on a similar 5-point Likert scale ranging from 1 'Strongly disagree' to 5 'Strongly agree'. Scores are transformed leading to an overall score between 0 and 100, with higher scores indicating higher usability levels.

Users' evaluation of and experiences with the platform were measured with a self-developed questionnaire exploring 1) positive and negative points of the platform, 2) whether users found the necessary information to solve the cases, 3) search strategies used, 4) available themes, and 5) intended future professional use.

2.3. Procedure

Following informed consent, participants were presented with the *onlinehulp-apps.be* platform on a desktop PC and were shown its basic search functions after which they completed the UTAUT attitude questionnaire. Then, each participant was given 20 minutes to solve three cases in which a professional is looking for an app around a particular topic. They were instructed to rely on the platform to look for the most suitable app for each case. After solving the cases, they were again presented with the UTAUT, followed by the SUS and the questionnaire on user experience.

3. Methods

3.1. Attitudes and Usability

Before using the platform, participants had an average attitude score of 22.76 out of 30 ($SD = 2.50$), based solely on a description and demonstration of the platform's functionalities. This score indicates that the majority of participants initially held a positive view. After completing the cases and using the platform, the attitude score increased significantly to 26.07/30 ($SD = 1.99$). This improvement, $t(54) = 9.21$, $p < .001$, demonstrates that using the platform positively influenced the participants' perceptions. Furthermore, the SUS revealed an excellent mean usability score of 83.64 ($SD = 8.83$). The scores ranged between 60 and 100, indicating high levels of user satisfaction with the platform's usability.

3.2. User Experience

Qualitative data on user experience revealed that the majority of participants ($N = 48$) generally found the platform to be user-friendly, "Yes, it was quickly clear how to use this site. You can easily filter by e.g. target audience or theme and there was also a search bar at the top that you could use to look for more specific things". The most frequently mentioned positive aspects of the platform were its ease of use ($N = 26$), clarity and straightforwardness ($N = 25$), user-friendly search filters ($N = 11$), useful themes ($N = 8$), clear description of the apps ($N = 7$) and the platform's clear lay-out ($N = 7$). Seventeen participants suggested improvements with the most common suggestion being to provide an equal amount of information about each app ($N = 3$). Most users ($N = 45$) indicated that specific themes, which categorize the applications on the website, were sufficient to help them find their way. Ten participants recommended adding extra themes to the current selection, with themes related to bullying ($N = 5$) and relationships ($N = 3$) being the most frequently suggested ones. In terms of search methodology, 27 participants reported using both the search bar and the themes to find relevant apps, 15 used only the themes, while 13 used only the search bar. Some participants adjusted their search strategies during the assignment, resulting in 53 participants finding relevant apps to solve the cases. Additionally, the majority of participating students ($N = 40$) expressed intentions to use the platform in their future professions.

4. Discussion and Conclusion

This study with novice users provided first insights into the usability and perception of onlinehulp-apps.be, currently bundling 168 screened apps and websites in the welfare and mental healthcare domains. Well-being and mental health concerns are unfortunately omnipresent in today's world, and using apps and websites has emerged as part of the solution for unmet needs in accessibility to support services. It is therefore promising to see that results on the evaluation and usability of the platform were largely positive, with an increase in positive attitudes after using the platform and high usability scores. A large majority of the participants successfully found relevant apps to address the given real-life scenarios of clients. Minor suggestions for improvement related to adding extra themes to the platform related to bullying and relationships. Also important to note is that the majority of participants intend to use the platform in their future professional career.

Appendix A. Eight cases

A.1. Overall introduction of the cases

Dear participant, today you will solve three cases. To solve the cases, you will use the website: www.onlinehulp-apps.be. Here you are completely free to decide how to solve the case. However, it is mandatory to use the website www.onlinehulp-apps.be! The aim is to solve all the cases. You have twenty minutes to answer everything. If you have answered everything or time is up, you may sit and wait quietly. We will come and get you. If you need help you may notify us by raising your hand in the air. Our research team wishes you good luck!

A.2. Case 1 Depressive feelings

Jana is a 28-year-old lady from Mechelen. She works in a Telenet shop and enjoys this immensely. For several years now, she has experienced depressive feelings during the holidays. She then experiences concentration problems, feelings of guilt and enormous fatigue. To tackle her depressive feelings, she contacts the group practice Therapy Mechelen. As there is a long waiting time here, the group practice has recommended looking for apps that offer help with depressive symptoms. Are there any apps that can help Jana with her depressive feelings?

A.3. Case 2 Drug use

Rowan is 19 years old and studies Architecture at the University of Antwerp. Rowan experiences tremendous pressure due to constant design deadlines. He works on this mostly in the evening. To counteract the pressure, he started experimenting with drugs. After discovering marijuana, Rowan smokes a joint several times a week. But he uses these drugs mainly in the evening, making him less productive in completing his assignments. To avoid jeopardizing his academic career, Rowan comes to you. As a psychological counselor, you want to chart Rowan's marijuana use using self-tests. What platform would you use to do this?

A.4. Case 3 Trauma

Devon is a 36-year-old soldier. During a military exercise in Germany, his colleague suffered a heart attack which resulted in his death. Devon was present at the incident and is experiencing symptoms from the event. He is constantly experiencing palpitations. Devon would like to get help in understanding his situation. Which app would you recommend to Devon and why?

A.5. Case 4 Online therapy

Elien is a 56-year-old woman. Elien discovered that her partner Charlotte had been committing adultery. Elien found this out by reading text messages from Charlotte to a friend. In these, she confessed to having committed adultery several times. Elien discovered these messages a few days ago and wants psychological help to process this. It is important for Elien that this is done online with a psychologically trained counsellor. What would you recommend to Elien?

A.6. Case 5 Parent support

Carima, a 38 year-old single mother of Lotte (9 years) and Hannes (11 years) was diagnosed with ASD at the age of 30, a common occurrence in women. Her symptoms became more pronounced after becoming a mother, as the constant emotional and social demands took a significant toll on her. When Hannes was 4.5 years old and Lotte was 2, the children stayed at the residential facility 'De Weijers' at Junitas during the week, returning home on weekends. This arrangement reduced overstimulation, provided calm, and allowed Carima to focus on her own needs. Since March 2022, both children have been living at home again. After school, they attend the day center 'the Passer'. They return home at 7 PM when Carima begins the evening routine. During a conversation at the Passer, Carima expressed the desire for more parenting tips, a listening ear, and connection with peers. She finds it particularly challenging and exhausting to engage in real-life conversations, especially with unfamiliar people. She asks for referrals or directions to relevant services. Which app would you recommend?

A.7. Case 6 Stress

You are working with Paula, a 26-year old mother of two children aged 5 and 7. Counselling began three months ago, and contact with Paula is ongoing through video calls and two weekly home visits. You have observed that Paula is constantly restless and has admitted that she struggles to manage stress. You notice that the kids adopt this behaviour. Fear of failure and panic attacks is central to the family. To address these issues, you are exploring

breathing, mindfulness and calmness techniques to implement during home visits. Additionally, you aim to extend these practices beyond the home visits over time. Are there any apps that could assist the family in this regard?

A.8. Case 7 Digital independence

Ringo is 17 years old and wants to live independently when he turns 18. Although he is eager to take control of his life, he has limited knowledge about living on his own. You decide to get started together! Ringo is highly enthusiastic about digital technology and expresses himself best in the virtual world. While he can navigate real-life situations independently, he prefers the digital realm. Occasionally, during conversations, he becomes distracted by text messages and games, especially when real-life information becomes overwhelming. To address this, you decide to supplement face-to-face conversations with light-hearted strolls and leverage his affinity for digital tools. What apps could you use to support Ringo?

A.9. Case 8 Prevention of bullying

As a care coordinator at De Kleine Wereld primary school in Asse, you are approached by Bart, a third-grade teacher. For several weeks, Bart has observed that some boys have been targeting a girl by taking her school belongings and scolding her. Despite his effort, Bart is unsure how to effectively address the bullying. He seeks concrete tools and strategies to tackle this issue. What would you advise?

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