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Understanding the Digital Mental Health Landscape: Market Dynamics and Consumer Behavior in Europe

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Abstract

Mental Health is an increasingly important issue. Along with the advances in technology, digital mental health interventions have been trending due to several factors, namely, the stigma associated with presential therapy and the fact that it provides a service that's 24/7 hours available. This research aims to examine what drives customers to choose and use digital mental health support apps in Europe, along with their preferences. Additionally, a semi-structured interview was conducted to better understand the effect and preferences on app design.

Multiple methods were employed to accomplish this, including preliminary interviews, perceptual mapping, and conjoint analysis.

Keywords:

Mental Health Apps, Digital Mental Health Interventions (DMHIs), Artificial Intelligence (AI), Market Research, Perceptual Mapping, Conjoint Analysis, Consumer Preferences, Consumer Perception, Mental Health App Design, Europe.

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1. Introduction

In the past few years, due to the growing prevalence of smartphone usage and app technology, coupled with increasing awareness of mental health issues and the demand for easily accessible support, mental health apps have been brought to attention. The use of smartphones is private and not limited by geographic boundaries, which makes this technology very appealing to customers since they can use it every time, everywhere. These apps were made to promote better mental health and overall well-being, from facilitating mental disorders' recovery to reinforcing healthy emotional practices, and some even remind the users of their current goals and aspirations as the day progresses (Boucher et al., 2021; Bakker et al., 2016).

Mental health is an increasingly important subject in today's society. Before the COVID-19 pandemic, at least 84 million people across the European Union (EU) suffered from mental health conditions, according to the Organization for Economic Cooperation and Development (OECD)(2022), of which 14 million were young people aged 15 to 29. Anxiety and depression, along with alcohol and drug use disorders, bipolar disorder, and schizophrenia, were the most prevalent mental health issues. In the EU, approximately 25 million people (5.4% of the population) were impacted by anxiety disorders, 21 million (4.5%) struggled with depressive disorders, and 11 million individuals (2.4%) dealt with alcohol and drug use disorders (Council of the European Union, 2024).

According to the 2022 World Health Organization (WHO) report, there was a 25% increase in global anxiety and depression during the initial year of the pandemic. Furthermore, the 2022 OECD "Health at a Glance Report" showed that in several member countries, the prevalence of anxiety and depression symptoms among young people more than doubled compared to pre-pandemic levels.

In 2020, 3.7% of all deaths in the EU resulted from mental and behavioral disorders (Eurostat, 2024). Recent data from June 2023 shows that 1 in 2 people felt depressed or anxious

in the last 12 months (46% of the EU population). The European Commission (EC) also reported an increase of 22% in the perception of loneliness in the EU (Council of the European Union, 2024).

Since the pandemic, this has become clear: mental health has worsened on a global scale, and improving it it's a social and economic necessity for the EU and its member states. A recent UNICEF report reveals that suicide is the second most prevalent cause of death for youths in Europe, just behind road accidents (UNICEF, 2024). Despite this, close to 50% of young people in the EU have stated that they have not received the mental health care they need, which is significantly higher than the 23% of adults in similar situations. Additionally, a quarter of EU residents encountered difficulties in accessing mental health services for themselves or their family members in 2023. The primary issues include long waiting lists or delays before diagnosis or treatment, high costs, and a lack of awareness about qualified healthcare providers (Council of the European Union, 2024).

On 23 November 2023, the 27 EU member states in the Council adopted resolutions on young people and mental health. These offer guidance on how to address this issue, with several actions, among which it is important to mention: enhancing accessibility to mental health care, promoting research on mental health outcomes, and fostering a safer and healthier digital space including fighting against hate, violence, and abuse in the media and on social media (Council of the European Union, 2024). To further support this, the WHO, in the document "WHO European Framework for Action on Mental Health 2021-2025", stated that "the emergence of digital technologies that are increasingly accessible to the public is another opportunity that can be explored and exploited." The entity emphasizes the importance of approaching the integration of digital technologies into mental health resources with caution, particularly in terms of regulation and professional standards, despite acknowledging their potential to improve access.

In the field of mental health technology, the development of mental health apps is newly emerging. Throughout the globe, more than 10.000 apps addressing anxiety, depression, and other mental health concerns have been launched into the market (Boucher et al., 2021; Kaveladze et al.,2022).

As a result of COVID-19 preventive measures, the pandemic accentuated the issues of social inequality, unemployment, and poverty significantly contributing to mental health struggles, leading to the increase of digital mental health solutions, such as virtual therapy sessions and the incorporation of digital tools for assessment and therapy (Martinez-Martin et al.,2020; McCartan et al, 2021; Inkster et al.,2021). A study by Inkster et al. (2021) compiled information from more than 50 digital service platforms and concluded that, during this period, the presence of these platforms was essential to respond to the needs of a population that was feeling more anxious and depressed due to several reasons, among them, the isolation and the financial difficulties linked to the coronavirus outbreak.

It's key to acknowledge that, currently, mental health apps moved beyond focusing solely on individual diagnoses. These digital solutions target a broad spectrum of mental health disorders and wellness aspects, and some of them are being used as initial screening tools by healthcare providers (Agarwal et al., 2022).

The growing prevalence of mental health disorders across Europe, along with the increasing use of digital treatments, highlights the significance of comprehending consumer attitudes toward mental health applications. These apps can improve the availability, privacy, and affordability of mental health care (Agarwal et al., 2022). However, users continue to experience uncertainty about effectively navigating and utilizing digital mental health platforms (Borghouts, et al. 2021). This highlights the necessity for further research, as it emphasizes the discrepancy between the potential advantages of these tools and their actual usage. This thesis aims to address this gap by identifying the factors that contribute to or impede consumer

participation. Through an examination of customer preferences, such as usability, trust, privacy, and personalization, as well as the reasons behind app usage, this thesis aims to uncover actionable insights for app developers and marketers. This work project will rely on perceptual mapping and conjoint analysis to evaluate consumer perceptions of leading apps and pinpoint the features that users prioritize.

Moreover, the design of mobile applications plays a central role in shaping user experiences and has far-reaching implications for consumer behavior, particularly in the realm of digital mental health. As society becomes increasingly reliant on technology for mental health support, understanding the psychology behind app design and its impact on consumer preferences has become a critical area of study. Mobile apps are not merely tools; they are environments where users interact, engage, and seek solutions to their mental health challenges. As such, app design must align with psychological principles to ensure that these environments are accessible, effective, and ethically responsible (Torous et al., 2018).

In the bonus segment, it was analyzed that digital mental health applications are uniquely positioned at the intersection of technology and well-being. Unlike generic apps, they cater to vulnerable populations who often face significant emotional and cognitive challenges. This makes design especially pivotal in creating interfaces that reduce stress, build trust, and foster positive behavioral outcomes. Research highlights that user engagement, retention, and the perceived effectiveness of digital mental health interventions are heavily influenced by the design features of the applications themselves (Denison-Day, Muir, Newell & Appleton, 2023). This dissertation segment focuses on three critical aspects of app design - intuitive functionality, visual aesthetics, and ethical considerations - to explore how they influence consumer preferences and psychological well-being. hese aspects were examined through a combination of academic research, industry insights, and an interview with an expert in mobile product design, offering a comprehensive view of how design principles can be effectively applied and

their connection to psychological effects. Ultimately, the analysis aims to bridge the gap between technology and psychology, providing practical recommendations for developers and stakeholders in the digital mental health field.

The decision to concentrate on the European market is underpinned by several critical factors. As mentioned, mental health is a growing concern across Europe, and several renowned organizations highlight the significant prevalence of mental health conditions, particularly among young people, with many facing barriers to care, including long waiting times, high costs, and limited awareness of available resources (WHO, 2022; UNICEF, 2024; Council of the European Union, 2024). In response to these challenges, European policymakers have prioritized mental health and recognized digital technologies as a vital opportunity to improve access to mental health care through necessary regulatory measures. To supplement the prior information, the recent emphasis on data privacy through the GDPR further reinforces the importance of understanding consumer trust and behaviors in this region (European Commission, 2024).

Given these dynamics, this thesis seeks to explore the preferences and motivations of European consumers, offering insights into market gaps, consumer trust, and the role of app design. Towards the thesis's conclusion, the key findings of the research will be outlined, their implications for the digital mental health app market in Europe, and practical recommendations while addressing limitations and suggesting directions for future studies.

2. Market Overview

2.1. Target Demographics and User Segments

According to the European Parliament, the pandemic and its economic fallout significantly worsened mental health, with young people, the elderly, and vulnerable groups most severely affected. Regarding gender, women are at a higher risk of anxiety and depression, while men experience higher suicide rates - in 2019, 8.7% of women and 5.5% of men in the EU reported suffering from ongoing, severe depression. Furthermore, nearly half of the population between the ages of 15 and 24 in Europe have untreated mental health needs. The economic impact of mental health concerns comprises roughly 4% of the EU's Gross Domestic Product, corresponding to €600 billion annually, in addition to indirect and emotional costs. To address these issues, mental health care providers are integrating digital options (Amand-Eeckhout, 2023).

Considering the factors discussed, and due to their broadly accessible and budget-friendly characteristics, mental health apps have started to emerge. In fact, by definition, these platforms can be categorized as a subset of Digital Mental Health Interventions (DMHIs). These alternatives function as replacements for traditional therapeutic methods, frequently demonstrating greater accessibility and attractiveness. For example, it's common for younger populations to engage with online and mobile platforms that incorporate Cognitive Behavioral Therapy (CBT), a recognized psychological methodology proven effective for its efficacy in addressing a range of issues, including depression, anxiety disorders, substance use disorders, relational barriers, eating disorders, and severe mental health conditions (American Psychological Association, 2017). Nevertheless, there is apprehension regarding the lack of extensive research on this particular age group despite the growing abundance of available applications. When creating designs that are appropriate for young people, it’s important to

consider aspects such as language, privacy, and the involvement of parents (Lattie, Stiles-Shields & Graham, 2022). Melcher et al. (2020) conducted a study that examined the opinions of college students aged 18 to 25 about these apps and their limitations, observing that there was limited participation despite the opportunity to enhance access to services. The research findings suggest that traditional platforms frequently do not fulfill the requirements of students, emphasizing the importance of integrating secure, private, user-friendly, reliable, and tailored features to effectively address the unique needs of this group. As for adult users, DMHIs should be grounded in extensive research (particularly for computer and internet-based treatments with human support) and should tackle any concerns or minimal technological competence within this particular age group (Lattie et al., 2022). Concerning the elderly, Nikou et al. (2020) stated that while seniors may not currently require the technology, they appreciate its availability for future use and believe that online healthcare portals can assist them in prolonging independent living at home.

2.2. Growth and Trends in the Digital Mental Health App Market

More than two decades ago, the field of consumer research was radically redefined by the advances in information technology. This shift was predicted to have much impact on how knowledge was created and diffused and the very procedures of research. As such, up-to-date research techniques are supposed to recognize not only the central role of the Internet as a tool for consumers but also its nature as a dynamic platform where trends are created (Johnson, 2001). Lamberton & Stephen (2016) studied the changes between 2000 and 2015 in social media, digital, and mobile marketing. The transformation narrates the evolution from passive to interactional touchpoints, whereby online word-of-mouth stands as the central driver of digital marketing performance and, eventually, consumer behavior and marketing outcomes.

Shaheer, Li & Priem (2020) suggest that companies can benefit from targeting lead markets with shared preferences when expanding internationally. These markets, with shifting

demand, can accelerate technology adoption. The authors assert that organizations must strike a balance between reaching out to highly engaged users with ensuring they have the necessary technical and marketing capabilities to effectively promote their products. This is pivotal, as comprehending user preferences and executing effective marketing strategies are fundamental to achieving success in competitive marketplaces.

According to Grand View Research, the global mobile application market was valued at US$ 252.89 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 14.3% from 2024 to 2030. The 2023 revenue in the mental health apps market in Europe was US$ 1,651.3. This sector is projected to see substantial growth, generating a revenue of US$ 4,771.3 by 2030. Also, in 2023, iOS dominated the European market, accounting for 48.93% of total revenue. Concerning the statistical landscape in Europe, France has the highest growth rate, reflecting a CAGR of 16.9% from 2021 to 2027, while the UK market follows closely with a 15% CAGR during the same time frame. In addition, it's projected that Germany will achieve a market value of $683.2 million by 2027.

It should be highlighted that there is limited research regarding the top European competitors in the mental health app market. While detailed usage statistics for Europe are lacking, some global rankings provide insights. For instance, HelpGuide.org lists Brightside, Headspace, Noom Mood, and Mindfulness.com as top apps for 2024, whereas Fortune highlights BetterHelp, Brightside, Talkspace, Headspace, and Calm. However, these findings are based on incomplete evidence and cannot be fully verified. The five most downloaded apps related to health and meditation globally are, in this order, BetterSleep: Relax and Sleep, Calm, Sleep Monitor: Sleep Tracker, and Headspace: Sleep and Meditation (Statista, 2024). However, regarding revenues, by the year 2023, Calm and Headspace were the top apps in the wellness market, according to Business of Apps (2024).

On the subject of the advance of these technologies, it's essential to point out the use of several mechanisms: Artificial Intelligence (AI) and Machine Learning (ML), to interpret user behavior and offer customized guidance and support, and Natural Language Processing (NLP), that allows applications to interpret text or speech to identify emotional tones and shifts (Agarwal et al., 2022). For example, AI can enhance individualized healthcare by streamlining the storage and analysis of user information, enabling users to recognize patterns in the progression of their symptoms. As a result, this could lead to better self-management and a reduced likelihood of relapse, especially for individuals without access to a mental health professional (Boucher et al., 2021). Mental health apps also offer a range of features, including mood tracking, exercises in CBT, assistance from AI chatbots, tools for mindfulness and meditation, connection to mental health professionals, and integration with wearable devices for comprehensive data collection. While these apps could greatly expand access to mental health support, it's important to note that only a small number have been professionally assessed. This highlights the need for stricter guidelines and oversight in the creation and review of these apps (Agarwal et al., 2022).

The concept of gamification also plays a key role. This method applies game-like elements (e.g. point scoring) to increase user engagement. However, challenges remain, such as maintaining user interest, simplifying game mechanics without trivializing health issues, and addressing privacy and screen-time concerns. Effective gamification strategies should be grounded in behavioral science and developed collaboratively with users and healthcare professionals (Castellano-Tejedor & Cencerrado, 2024).

In addition, chatbots represent a form of AI that is increasingly used in digital mental health interventions for a variety of conditions beyond depression and anxiety, including autism, post-traumatic stress disorder, substance use disorders, and stress (Boucher et al., 2021; Van der Schyff et al., 2023). Chatbots serve multiple purposes, such as delivering content,

providing support, screening, education, therapy, behavior monitoring, and relapse prevention. While they can't replace traditional psychotherapy, they can offer interventions that require less therapeutic expertise and track patients' progress, including monitoring symptoms, physical activity, sleep, and social media use (Boucher et al., 2021; Van der Schyff et al., 2023). Chatbots also act as personal health companions, promoting wellness and supporting mental health routines, with access to supplementary mental health assistance. However, despite their growing use, few chatbot-based DMHIs have proven efficacy or undergone rigorous testing, and further research is needed to compare their effectiveness to other digital mental health solutions (Boucher et al., 2021; Dutta & Mishra, 2024).

3. Literature Review

3.1. Theoretical Frameworks on Consumer Behavior in Healthcare

It's important to understand consumer behavior through some theoretical frameworks. It's possible to use the Theory of Consumption Values (TCV) to understand how users interact with healthcare apps. This theory offers a valuable understanding of consumers' expectations of products and services, proposing that consumer decisions are shaped by five core values: functional, social, emotional, epistemic, and conditional values (Sheth Newman, & Gross, 1991). Chakraborty & Paul (2023) highlighted the TCV's efficacy in analyzing user engagement with mental health apps. These platforms are in line with the five consumption values, providing insights into consumer decision-making and adoption factors. When an app is perceived as beneficial, socially significant, emotionally appealing, unique, and tailored to the user's needs, users are more likely to engage with it. Functional, conditional, and epistemic attributes relate to its advantages, productivity, and originality, whereas its emotional attribute arises from factors such as convenience, enjoyment, and curiosity. Although authors mention that the societal aspect has declined in importance, especially in widely used services such as

healthcare apps, which are commonly adopted nowadays and not seen as exclusive, it's shown that it can still indirectly influence purchase intent, suggesting that an app's other qualities can drive interest and boost brand popularity. Moreover, when users perceive high value in areas like usability, emotional well-being, and knowledge, they are more likely to use the app.

Another theoretical framework is the Health Belief Model (HBM), which explains health behaviors by analyzing perceptions of vulnerability, severity, benefits, and barriers, along with cues to action and self-efficacy (Rosenstock, 2000). Crookston et al. (2017) stated that integrating principles of HBM can greatly improve the effectiveness of mental health support apps, by offering a structure to comprehend the reasons behind changes in behavior, enabling app developers to create successful apps that tackle these changes. For example, the study stresses the role of self-reliance in mental health, indicating that using a mental health app was linked to increased confidence and independence, implying a positive impact on self-esteem. This highlights the significance of developing applications that boost users' self-assurance to assist them in making long-term modifications to their conduct.

Moreover, Attie & Meyer-Waarden (2023) combine the Technology Acceptance Model (TAM) and the Uses and Gratifications Theory (UGT) to analyze user engagement with digital mental health apps. TAM, developed by Davis, Bagozzi & Warshaw (1989), suggests that the use of technology is driven by perceived usefulness and ease of use, while UGT, introduced by Katz et al. (1974), focuses on purposeful media consumption to fulfill user needs. Their study applies these theories to sleep apps (the most common category of mental health apps), showing that users choose apps based on personal goals and needs. It also highlights how personality traits and privacy concerns affect user experiences. The findings indicate that users have higher expectations of sleep apps' benefits before use, emphasizing the role of perceived usefulness in adopting mental health technologies (Attie & Meyer-Waarden, 2023).

To conclude this topic, O'Connor et al. (2021) examined the impact of Healthcare Patient Portals (HCPPs) — secure online platforms enabling patients to manage their health records —on customer experiences using the Regulatory Focus Theory. This theory (Higgins, 2012) outlines two motivational focuses: promotion focus (growth and achieving goals) and prevention focus (safety and avoiding risks). The study highlights how these focuses shape attitudes toward HCPPs, which, despite benefits like improved care quality and reduced medical errors, face challenges such as data overload, communication barriers, and privacy concerns. These issues, leading to a decrease in digital engagement, underscore the need to prioritize trust and address user experience factors in developing these types of technologies.

3.2. Consumer Preferences in Digital Healthcare

The concept of "networks of desire," introduced by Kozinets, Patterson & Ashman (2017), refers to the evolving systems of technology, consumers, and both virtual and physical products that shape consumer behavior. These networks influence consumer interest within the social sphere and among interconnected participants. Moreover, the authors argue that technology doesn't simply rationalize desire but intensifies it through three mechanisms: discipline, which guides behavior toward socially acceptable actions (like sharing food photos); abstraction, which detaches desire from the physical and focuses on visual and virtual consumption; and extremifying, which amplifies consumption through public involvement and attention-seeking behavior. This principle can be utilized to analyze how users interact with mental health apps, especially those with social features or gamified elements.

Furthermore, Mick & Fournier (1998) explored the paradoxes of technology, such as Control/Chaos and Freedom/Enslavement, which influence consumer behavior. They outlined two strategies for managing these tensions: avoidance, by limiting use, and confrontation, by adapting or simplifying technology. The study emphasizes that the consumer-technology

relationship is an ongoing negotiation, not just a trade-off of benefits and costs, balancing convenience with challenges like privacy concerns in apps.

Additionally, the mobile app industry's rapid growth underscores the need to understand factors influencing app usage. Ghose & Han (2014) found that factors like detailed descriptions, screenshots, in-app purchase options, app longevity, developer credibility, and positive user feedback significantly boost app popularity. In contrast, large file sizes and intrusive features diminish user interest. Pricing also plays a key role, with older male users less sensitive to price than younger females, indicating the need for demographic-specific pricing strategies. The findings indicate that a pricing reduction strategy is more effective in driving demand on Google Play than on the Apple App Store, with a 50% discount proving to be the most successful in optimizing app sales revenue. Additionally, price changes in social networking and multimedia apps can impact demand in both categories, highlighting the importance of strategic development, promotion, and pricing.

Expanding on this point, Arora, Ter Hofstede & Mahajan (2017) investigate how providing free versions of mobile apps influences the uptake of paid versions. Their analysis of Google Play data reveals that free versions often decrease paid app adoption, especially for hedonic apps like games, challenging the belief that free versions boost sales by reducing uncertainty. For utilitarian apps, which are practical and task-oriented (Dhar & Wertenbroch, 2000), the effect is less pronounced. The study also highlights that developer credibility drives initial acceptance, while positive user feedback becomes crucial as the app gains traction, emphasizing the complexity of free versions' impact on paid app uptake.

It's also relevant to refer to branded apps, that typically fall into two categories: entertainment-focused apps that evoke emotional connections, and informational apps that stimulate cognitive responses. Research shows that informational apps foster positive brand beliefs, while entertainment apps encourage favorable brand attitudes. However, prolonged use

of entertainment apps can reduce logical thinking and brand loyalty, while educational apps enhance analytical skills and lessen emotional attachment (Van Noort & Van Reijmersdal, 2019). These insights are crucial for understanding how app features influence user engagement and brand perceptions, especially in the mental health app market, where understanding user engagement drivers can guide feature design and marketing strategies, ultimately influencing how users perceive and interact with mental health brands.

A study by Alqahtani & Orji (2020) revealed that the primary factor influencing user satisfaction and engagement with mental health applications is their ease of use. Users preferred apps with simple, user-friendly designs, visually appealing interfaces featuring attractive colors, graphics, and charts, and clear instructions that ensured satisfaction and comprehensive support in utilizing app features. Beyond usability, users valued a diverse range of features, such as various meditation techniques, mood, sleep, and medication tracking options, along with activities, games, and coping strategies. Customization was another key preference, with users appreciating the ability to tailor the app's visual design, themes, reminders, and breathing exercises to their individual needs, as well as control over sound, data entry, and task management to avoid feeling restricted. Trust and security were equally important, with users favoring apps backed by scientific evidence, free of advertisements, and capable of producing accurate results. Safeguarding sensitive information through passcodes and robust privacy policies was a priority, along with responsive customer support to address concerns and resolve app-related issues.

However, Etkin (2016) explores the negative effects of individualized assessment, arguing that while tracking performance can increase productivity, it may reduce enjoyment, long-term engagement, and overall satisfaction. The study found that focusing on measurable outcomes transforms enjoyable tasks into burdensome ones, diminishing intrinsic pleasure. For instance, participants showed higher participation in activities like coloring and walking, but

their enjoyment decreased. Additionally, monitoring tasks led to reduced long-term engagement. The study suggests that treating enjoyable activities as obligations can harm well-being. Similarly, Pieritz (2021) found that users were more active when given the freedom to explore activities but preferred more guidance, indicating that a balance between independence and tailored recommendations might be most effective.

In another topic, Reeck et al. (2023) argue that mobile app developers can boost user adoption by using cost-effective design strategies. Their research, including six experiments and a field study, shows that altering the sequence, colors, and wording of app options can positively influence user behavior across various app categories and demographics. Simplifying choices and using the color blue, which represents 'go' or 'turn on', helps reduce uncertainty and improve acceptance. Additionally, framing approval as the default process can increase acceptance, particularly in regulated industries such as healthcare. The authors also highlight that breaking decisions into multiple steps may increase perceived risk, suggesting that combining advertising efforts with choice architecture to improve app feature adoption and advocate for further research to enhance mobile app marketing strategies.

3.3. Motivations for Using Digital Mental Health Apps

Various factors enhanced the accelerated growth and utilization of mental health applications, for instance, the growing understanding of mental health conditions, ongoing stigma associated with pursuing conventional mental health services, demand for greater access to confidential mental health support, progress in mobile technology and application innovation and increasing embrace of digital tools for health care management (Agarwal et al., 2022).

Gbollie et al. (2023) found that while students show strong interest in digital mental health tools — 60.4% are open to online therapy, 68.5% to online resources, 53.6% to apps, and 34.2% to chatbots — actual adoption remains low, with only 12.4% using apps and 9.2% seeking online counseing. Positive attitudes stem from trust in digital safety, belief in AI's

effectiveness, and data protection. However, reliance on online searches and social media to find apps raises concerns about privacy and reliability, emphasizing the need for better regulation and evidence-based resources to improve adoption. Moreover, Gaczek et al. (2023) showed that trust levels affect adherence to AI-generated medical advice. Patients resist AI recommendations more after favorable diagnoses but follow them equally to human advice when diagnoses are unfavorable, prioritizing self-preservation. The authors suggest reserving AI advice for severe cases while human practitioners handle less serious ones to optimize the trust dynamic.

Borghouts et al. (2021) identified three primary areas influencing DMHIs. First, user-related factors include demographic aspects such as age, gender, personality traits, mental health conditions, attitudes toward mental health and DMHIs, familiarity with technology, and how easily DMHIs fit into users' routines, all of which affect engagement. Second, program-related factors, such as the trustworthiness of content, alignment with user needs and cultural values, perceived utility, level of support, and sense of social interaction, play a crucial role in user involvement. These factors also depend on the clarity and usability of the presented data. Third, technical and environmental considerations, such as technical glitches and usability challenges, may hinder access, though the digital format offers adaptable resource availability. Privacy remains a significant concern, requiring assurance of data security, while feedback from others about DMHIs can either encourage or discourage their use. Effective utilization also depends on user education and clear identification of interventions. Additionally, organizational barriers, such as staff shortages or lack of management support, must be addressed.

According to Melcher et al. (2022), students' main reasons for using apps are to handle stress and improve sleep, especially during busy academic schedules. The cost of apps was also an important factor for many students, who preferred free apps or trials because of their limited income as full-time students. Premium features and subscriptions were often ignored due to

concerns about expenses. Research shows that DMHIs provide key advantages for individuals with severe mental health disorders, especially those who face barriers to traditional therapy, such as stigma, skepticism, or symptoms like cognitive impairments and social difficulties. DMHIs improve accessibility, foster independence, support self-guided progress, and ensure privacy (Tremain et al., 2020).

3.4. Perceived Benefits and Limitations of Digital Mental Health Apps

Wies, Landers & Ienca (2021) explored the ethical opportunities and challenges of digital mental health tools for individuals aged 0 to 25, summarizing both benefits and emerging concerns. One of the primary benefits is improved healthcare accessibility - digital platforms, including mental health apps, offer cost-effective, 24/7 support without location constraints, making them especially beneficial for individuals experiencing mild to moderate mental health challenges in areas with limited resources. Additionally, these platforms promote autonomy and empowerment by allowing users to engage in their treatment at their own pace, integrating coping strategies into their daily lives. Young people, in particular, find these platforms appealing due to their comfort with technology, preference for anonymity, and openness to digital mental health solutions.

It is evident that digital tools come with their own set of challenges. While effective for monitoring, they face limitations in clinical applications, for instance, the over-reliance on algorithms to predict critical issues, such as suicide. Furthermore, ethical concerns about privacy, confidentiality, and data security persist. Risks include unauthorized third-party access to sensitive information and the potential for negative consequences in personal, professional, and educational realms. Patient trust is another issue, as breaches in confidentiality can damage therapeutic relationships, making users hesitant. Many users are skeptical about the amount of data collected and the evolving nature of technology. Moreover, there are concerns about stigmatization, particularly for young people whose personal data may be exposed or misused,

contributing to issues like cyberbullying and self-harm. Accessibility also remains a matter, as well as socioeconomic factors, lack of internet access in rural areas, and high technology costs create barriers for some individuals to benefit from digital mental health tools. Cultural and resource differences between countries further exacerbate these challenges, with some regions unable to provide sufficient care for less severe cases. Although some tools have been developed to assist low-income or disabled individuals, many remain insufficiently inclusive or engaging (Wies et al., 2021).

There are also issues about unclear rules regarding data breaches and misuse of technology, which undermine trust in digital mental health tools. Additionally, uncertainty about the effectiveness of these tools and challenges in translating research into practical use further contribute to skepticism. Many apps lack proper professional reviews, making their reliability uncertain. Experts suggest establishing clearer ethical guidelines for digital mental health (Wies et al., 2021; Melcher et al., 2022). Relying on digital tools raises preoccupation about the doctor-patient relationship, young adults' social skills, and overdependence on professional help. Some apps could encourage addiction and reduce personal health responsibility while mishandling personal data erodes trust. There are also concerns about confidentiality and the relevance of traditional therapeutic standards for digital tools, particularly chatbots. Although these technologies can improve care, they are not comprehensive solutions and must prioritize ethical considerations. Future research should address the needs of specific demographics, like young people with mild symptoms, and combine technical solutions with ethical guidelines to ensure data protection, affordability, and accessibility, especially in underserved areas. Collaboration between governments and schools is key to integrating these tools into school-based mental health programs (Wies et al., 2021). Some authors identify other barriers to the effective use of mental health apps, including the overwhelming number of choices and challenges related to customer support quality (Phogat

& Verma, 2023). Przybylski & Weinstein (2017) challenge the "displacement hypothesis," which links excessive screen time to negative well-being, by introducing the "digital Goldilocks hypothesis." The authors argue that while too much screen time can harm adolescent mental health, moderate use might be neutral or even beneficial. Their study of over 120,000 teenagers in England reveals that excessive screen use reduces well-being, but the impact is minimal if the screen time is moderate. The study highlights that activities like gaming and smartphone use show lower thresholds for negative effects, particularly on weekdays. Cohen et al. (2020) emphasize the importance of continuously monitoring and updating AI systems to address challenges and evolving standards. AI can inherit biases from its training data, leading to inconsistent mental health app recommendations. While restricting AI modifications may retard progress, unrestricted learning could pose risks. Ongoing monitoring is crucial to ensure ethical AI use, detect problems, and ensure regulatory compliance across regions (Cohen et al., 2020; Benjumea et al., 2020). Additionally, Sweeney et al. (2021) found that mental health professionals recognize the value of chatbots, with 79% agreeing they help users manage their health. Furthermore, 71% see chatbots as improving access and providing faster assistance, while 81% appreciate reduced travel time. Experienced professionals are generally more supportive of chatbots, however, concerns persist, such as chatbots' inability to understand emotions (86%), inaccurate client assessments (73%), privacy issues (59%), and the potential disconnection clients may feel (90%).

3.5. Regulatory and Data Privacy Challenges

Displaying the General Conditions of Use (GCU) transparently can reduce consumers' feelings of intrusion from retargeted ads and enhance the app's ethical image. While Low GCU visibility leads to frustration, a clear presentation of GCU terms helps users recognize their role in receiving personalized ads, reduces privacy concerns, and transparency encourages responsibility for data practices. This highlights the importance for app managers to foster trust

by making GCU easy to understand and addressing ethical issues. Future research could focus on GCU visibility, consumer ethics, and proactive transparency in advertising (Toti & Steils, 2024).

The General Data Protection Regulation (GDPR), which sets out uniform rules for data protection, was enforced across the EU in 2018. It sets standards for managing the personal data of EU citizens, strengthens privacy protections and individual control, and standardizes data protection laws throughout the EU. The regulation not only impacts the EU but also aims to set global standards for data privacy and trust in digital tools, especially in the evolving digital sector (International Business Machines Corporation, 2018). Marelli, Lievevrouw & Van Hoyweghen (2020) discuss the challenges of GDPR in effectively controlling data practices in digital health technologies, as standard security measures fail to address issues arising from big data. The increasing complexity of digital environments complicates the distinction between medical and non-medical data, and current user consent practices often fail to adequately protect data. Martinez-Martin et al. (2020) stress the significance of digital mental health tools adhering to ethical standards despite looser regulations during the pandemic. The authors underscore the need for further examination to comprehend the implications of this change and urge policymakers to establish new guidelines to safeguard privacy and fairness. For example, involving users in decision-making can help prevent new disparities in mental health services. On this topic, the European Commission presented a white paper on AI in 2020, establishing a European framework that balances encouraging AI progress while overseeing its risks. A key priority of this initiative is the integration of AI into healthcare, addressing concerns around privacy, the accuracy and fairness of AI models, and transparency. This document advocates for a risk-based regulatory approach, proposing mandatory requirements for high-risk applications like healthcare AI-based platforms, focusing on training data, human oversight, and ensuring robustness to mitigate risks such as bias and data privacy issues.

4. Methodology

This research aims to explore the market for digital mental health apps, with a focus on understanding consumer preferences, expectations, and skepticism regarding their effectiveness. By systematically analyzing interviews and survey data, this thesis highlights differences between consumer and expert perspectives and identifies the key factors necessary for adapting these applications successfully.

The methodology employs a hybrid approach, combining both qualitative and quantitative research methods. In the initial qualitative phase, preliminary interviews were conducted with both professionals and general users to gather early insights. Conducting preliminary interviews is a crucial step in research as it helps refine research objectives, identify key themes, and understand the context in greater depth. For example, Bryman (2016) emphasizes that preliminary interviews allow researchers to test the feasibility of their questions and methodologies, ensuring a more focused and effective study.

The second part of the research incorporates two distinct surveys, employing quantitative methods to gather deeper insights into participants' perceptions of these apps. These surveys were designed to provide a clearer understanding of user priorities and attitudes toward different features and functionalities.

To analyze the data, the thesis integrates two complementary methodologies: perceptual mapping and conjoint analysis. Perceptual mapping offers a visual representation of consumer perceptions, illustrating how app features are viewed relative to one another. Meanwhile, conjoint analysis delves into the decision-making process by identifying the specific attributes and combinations that consumers prioritize. Together, these methods provide a comprehensive understanding of user preferences and the competitive positioning of leading brands.

The first survey focused on collecting detailed information about consumer preferences, particularly the key features that users value most in digital mental health applications. A

convenience sampling method was used to gather responses, utilizing personal networks to recruit participants, ensuring the survey reached a diverse audience within the constraints of available resources. This data was used to develop a perceptual map, offering a clear, visual overview of consumer attitudes. Perceptual mapping, widely used in marketing research, provides a valuable tool for visualizing consumer preferences and competitive positioning (Kotler & Keller, 2020).

The second survey was structured to conduct a conjoint analysis. This approach simulates real-world decision-making by presenting participants with different combinations of app attributes and asking them to evaluate their preferences. This method provided an in-depth understanding of how users weigh specific features and trade-offs when choosing an app. Participants were recruited using a snowball sampling technique, where initial respondents recommended others who met the study's criteria (Etikan, Alkassim & Abubakar, 2016). Once the data reached saturation—when no new insights were emerging—recruitment was discontinued, as suggested by Strauss and Corbin (1988).

Finally, this thesis includes an interview with an industry expert to gain a broader perspective on emerging trends and evolving consumer preferences. The interview also explored the growing intersection between mental health and digital tools, offering valuable insights into future opportunities for app development and innovation-

4.1. Choice of Brands

In this thesis, four applications were chosen strategically after team collaboration and conducting extensive research so that the overall perception and application mix that the consumers will select could be gauged. To develop these options, the following characteristics were considered: their presence and user base in Europe, coverage of features and functionalities, features that addressed various mental health aspects (meditation, therapy, self-care, etc.) with both paid and free options, and different types of apps (AI, guided, non-guided).

Wysa is a mental health app that uses evidence-based cognitive-behavioral techniques (CBT), dialect behavioral techniques (a comprehensive behavioral treatment for chronically suicidal individuals that focuses on teaching patients skills to manage their emotions and behaviors (Linehan, 1987), yet it was shown to be effective for a wider range of conditions characterized by emotional and behavioral dysregulation, such as substance use and eating disorders (Dimeff & Koerner,2007)), meditation, breathing exercises, yoga, and motivational interviewing, among other mechanisms. These tools are delivered through an AI-powered penguin avatar, which evolves and becomes more insightful as users interact with it. However, its feedback is limited, and the app is designed to provide evidence-based tools to help users manage emotions and enhance mental well-being within a self-help framework. It is not intended to diagnose, treat, or cure any condition or disorder or to provide support during emergencies related to abuse, or critical mental health issues that may result in thoughts of self-harm or suicide. Wysa is available in over 30 countries worldwide, and has over 1 million downloads, offering support to individuals of all ages who experience stress, anxiety, and emotional distress. The app is free with premium options available. These premium features vary in price, depending on your location and the services you select, such as coaching sessions, guided support, or additional advanced features (Wysa, 2024). In Portugal, the prices are represented in Table 1.

Relating to the marketing strategy, the platform prioritizes producing educational content tailored to its audience, having a presence in social media, and seeking to engage with users through these channels. One of Wysa's cornerstone tactics is content marketing and search engine optimization (SEO), a technique that involves optimizing a website to appear at the top of search engine results for specific keywords by considering various factors, with the primary focus on using relevant keywords that attract users through search engine searches (Yalçın & Köse, 2010). The deliberate focus on value-driven content ensures that users perceive Wysa as trustworthy and knowledgeable (IIDE,2022).

Social media marketing plays a pivotal role in Wysa's efforts to engage its audience and build brand awareness. The brand is active on popular platforms such as Facebook, Instagram, and LinkedIn, where it interacts with its audience through posts, stories, and updates. With 60,7 thousand followers on Instagram and 24 thousand on LinkedIn, Wysa demonstrates a strong ability to connect with diverse demographic groups. These platforms serve as key channels for fostering community and extending Wysa's digital footprint (IIDE,2022).

Wysa's digital presence is further enhanced through its user-centric approach, which involves incorporating feedback from a wide range of user groups. Students, caregivers, under-represented communities, and individuals with chronic conditions contribute to the progressive enhancement of the app. This continuous improvement cycle ensures that the app remains relevant and effective in addressing users' needs. Additionally, Wysa partners with corporations, healthcare providers, and government agencies to extend its reach through employee assistance programs. This Business-to-business (B2B) strategy complements its freemium business model. This dual approach not only broadens accessibility but also encourages users to transition to paid plans after experiencing the app's value. Notably, the company's marketing efforts emphasize authentic engagement and trust-building, as

highlighted by Sarah Baldry, Wysa's Chief Marketing Officer (IIDE, 2022; Brand Innovators, 2024; Wysa, n.d.).

An area for potential growth in Wysa's marketing strategy is influencer marketing, which remains untapped. Incorporating influencers could amplify Wysa's reach, particularly among younger audiences and niche communities. Nevertheless, Wysa's collaborative content creation approach, involving therapists to ensure accuracy and credibility, underpins its commitment to delivering life-changing value. This robust, multifaceted strategy positions Wysa as a trusted ally in mental health support (IIDE,2022).

Table 1 - Wysa Subscription Prices in Portugal

Type	**Price**
Wysa Premium (Monthly)	€11.99
Guided Support (Weekly)	€29.99
Therapist Access (Monthly)	€59.99
Wysa Premium (Annual)	€63.99
Video Therapy Session	€179.99

Headspace is a mobile app that prioritizes mindfulness and meditation to enhance the quality of sleep, decrease stress and anxiety, and foster general well-being. The app provides guided meditation sessions led by experts, personalized mental wellness coaching, and a variety of mindfulness activities designed to meet users' specific requirements. With a library of over 500 guided meditations of varying lengths, Headspace encourages daily meditation.

Moreover, the app provides sleep podcasts, soothing music, and calming soundscapes to aid in relaxation. For those in need of extra support, the app offers access to a mental coach

for appointments or text communication as required. Individuals can monitor their mental well-being, establish objectives, and receive daily prompts to maintain regularity. Additionally, they have the opportunity to communicate their observations with their mentor to remain in accordance with their goals.

The cost depends upon the area, and the specific charges are adjusted to the local currency under the user's location. The cost of coaching depends on the subscription plan. In Portugal, for example, a 7-day free trial is followed by a monthly payment of 12.99€ (other subscription plans can be found in Table 2). With a user base exceeding 70 million worldwide and with over 10 million transfers, Headspace offers a personalized experience suitable for everyone. The software provides diverse functionalities, including a personalized timetable with suggested activities, a module for discovering customized content, and progress tracking for overseeing meditation duration and completed sessions. Users can personalize session lengths, ranging from 3 to 20 minutes, and the program is adaptable across multiple operating systems like iOS, Android, and the web. Headspace is heavily based on thorough scientific research, with its methods and activities backed by evidence from reputable scientific journals. Furthermore, the platform provides comprehensive modules on subjects like the fundamentals of meditation and mindful eating to improve user contentment, as well as a user-friendly interface for easy navigation (Headspace, 2024).

Regarding Headspace's marketing strategies, it’s essential to highlight its multi-faceted approach to building brand awareness, driving user acquisition, and fostering community engagement. Headspace utilizes emotional storytelling in its advertising, which resonates deeply with its target audience. By focusing on relatable challenges such as stress and anxiety, rather than purely promotional content, Headspace connects with users on a personal level. This emotional appeal makes the app memorable and approachable, positioning it as an ideal solution for mental health and well-being. In addition to this, Headspace has formed strategic brand

partnerships to extend its reach and enhance credibility. Partnerships with brands, such as Nike and NBA, have been crucial in reaching broader, yet highly relevant, audiences. Integrating Headspace's meditation content into the Nike Training Club app helps engage fitness enthusiasts, while collaborations with NBA athletes promote mental health awareness through the "Performance Mindset" program, leveraging the influence of athletes to amplify the message. Headspace's value-first marketing strategy further strengthens its position in the market. The brand provides accessible resources upfront, such as free website content, guided meditations, and articles on mental health. Its robust YouTube channel offers diverse videos on topics ranging from mindfulness to sleep, building trust, and positioning Headspace as a thought leader in mental well-being.

Moreover, playful in-app extras like stickers for iMessage not only enhance the user experience but also promote positive brand associations, reinforcing the brand’s commitment to creating value for its users. Lastly, audience segmentation is a key component of Headspace's strategy. Tailoring content to specific demographics—such as offering Headspace for Work programs and kid-friendly mindfulness playlists—ensures that the brand addresses a wide range of needs. For example, “Find Your Force With Star Wars And Headspace” targets older kids and teens by leveraging the popularity of the Star Wars franchise. By adopting a multi-channel marketing approach, including email marketing, social media, and outdoor advertising, Headspace ensures that its messaging is consistent across touchpoints, further reinforcing its brand presence and fostering a sense of community among its users (Kimp.io, 2024.; Illuminz, 2024).

Table 2 - Headspace Subscription Prices in Portugal

Type	Price
Monthly Subscription	€12,99
Annual Subscription	€57,99
Headspace Plus	€94.99

Calm is currently the number one app for sleep, meditation, and relaxation. The platform provides an extensive library with guided meditations, more than 500 sleep stories, breath work, exclusive music, and stretching exercises. It incentivizes mindfulness through 7 and 21-day mindfulness programs that address anxiety, stress, and self-esteem, among other topics.

In terms of users, the app primarily targets English-speaking countries but has expanded its reach to other regions and is now available in multiple languages, including German, French, Spanish, Korean, Portuguese, and Japanese. Calm appeals to more tech-oriented individuals, who have higher education and substantial incomes, making it logical to offer mental health services through a subscription mode. Regarding the price, Calm offers different prices according to the country. For example, in Portugal, users can currently start with a free 7-day trial, and after the trial ends, they are charged €4.17 per month. Additional subscription plans are listed in Table 3. The app has received several awards, namely "Best of 2018 Award Winner" and "2017 App of the Year", both by Apple, and "Happiest App in the World" by the Center for Humane Technology. Only in the first quarter of 2023, there were 3.63 million downloads of the application in Google Play and App Store according to Statista (Statista, 2023). Regarding distribution channels, it is important to mention the App Store (iOS) and

Google Play (Android), the website, corporate partnerships, and health and wellness platforms (Calm, 2024).

In terms of marketing strategies, content marketing is key – the app provides articles, podcasts, and videos containing tips on how to deal with stress, sleep disorders, and other well-being-related issues (ProductMonk, 2024). Calm's marketing strategy has solidified its position as a leading meditation and mindfulness app. A key element of its strategy is content marketing and SEO, through which Calm creates high-quality, SEO-optimized material on mental health and wellness topics. This effort drives organic traffic to its platforms, establishes the brand's authority in the wellness domain, and builds connections with well-established sources. The content strategy includes providing free resources, offering in-depth statistics and research, crafting engaging headlines, and appealing to readers' emotions to build stronger connections (Foundation, 2024).

The brand adopts a multi-platform strategy to reach its audience, utilizing its website, YouTube, social media channels, and mobile app advertising alongside traditional media like radio and television (TV). Notably, YouTube contributes over 50% of Calm's organic social traffic. Their YouTube content is tailored around high-intent keywords, such as sleep and relaxation, with optimized titles and descriptions to enhance visibility. The inclusion of full-length, practical content, like eight-hour sleep sound videos, ensures user engagement while boosting search rankings. Additionally, their influencer marketing strategy includes collaborations with celebrities such as LeBron James and Matthew McConaughey, who lend their voices to create sleep stories and meditations. These partnerships make mindfulness more relatable and engaging, appealing to a broad audience. Beyond individual consumers, Calm strengthens its presence through corporate partnerships, offering wellness programs for employees and collaborating with companies like American Airlines to provide in-flight content (MusedDesign, 2023).

Community engagement is another pillar of Calm's marketing strategy. By fostering a supportive community, encouraging user testimonials, and promoting positive interactions within their content's comment sections, Calm builds loyalty and trust among users. This comprehensive approach, combining impactful content, strategic collaborations, and a focus on community, has been instrumental in Calm's remarkable success in the competitive digital wellness market (ProductMonk, 2024).

Table 3 - Calm Subscription Prices in Portugal

Type	Price
Calm (Monthly)	€12,99
Calm Premium (Monthly)	€15.99
Calm Premium (Annual)	€49.99

BetterHelp is the most extensive online therapy platform globally, with more than 1 million transfers. It's an app that provides remote therapy and promotes mental health, offering professional assistance when dealing with depression, anxiety, along other challenges.

The platform has over 30,000 licensed, certified, and specialized therapists that match each user, regarding the user's needs, interests, and geographical context. The subscriber can maintain a consistent interaction with the therapist, schedule real-time sessions, or simply message the professional, creating a non-ending conversation. The user also has access to webinars regarding relevant topics. It's relevant to mention that all of the therapists have a master's or a doctorate in their areas of expertise (BetterHelp, 2024).

Initially, the user fills out a survey, and then it is paired with a professional based on all the characteristics that the user looks for. Then, after that match, the user and the therapist can schedule the appointments according to what is preferable for the user. The therapy session can

be done anywhere in the world, from any device that's connected to the internet. The price of the app varies according to the location, availability of professionals, and user's priorities. It can go from 40€ to 90€ per week, billed every 4 weeks, and includes unlimited text, video, and audio messaging as well as weekly live sessions (BetterHelp, 2024).

Regarding its marketing strategy, although the platform uses influencers and social media to draw users' attention, BetterHelp doesn't constrain its sponsorships to prominent mental health influencers. A key pillar of BetterHelp's approach is influencer marketing, particularly on YouTube. By launching over 1,900 videos in just 90 days, they collaborate with creators across various genres to explore new audience segments and messaging strategies. The company partners with creators across diverse categories, such as entertainment, science and technology, and health and fitness. This approach is unique because each creator provides a different angle for presenting BetterHelp to their audience, helping the brand pinpoint the areas most aligned with its objectives and discover communication methods that resonate more effectively with various groups, allowing BetterHelp to connect with diverse demographics and refine its campaigns (The Outloud Group, 2024).

The company also prioritizes content marketing by developing educational materials that raise awareness of mental health issues, seamlessly integrating these efforts into its advertising. Brand partnerships further amplify their reach; for example, collaborations with Noodles & Company offered customers free therapy trials, while partnerships with HumanForest sponsored eco-friendly eBike rides in London. These innovative tie-ins help BetterHelp embed its services into everyday experiences (TheBigMarketing.com, n.d.; QSR Magazine, 2022; Startups Magazine, 2023).

To scale effectively, BetterHelp employs platforms like Popular Pays to manage influencer campaigns, enhancing ad performance and cost-efficiency. Their advertising spans multiple platforms, including social media, search engines, radio, and TV, while creative

formats such as animations, videos, and cinematography keep their campaigns engaging and evolving. Data-driven decision-making also ensures real-time optimization of campaigns, allowing them to adapt to audience needs dynamically (Popular Pays, n.d.).

While these strategies have driven significant growth, BetterHelp has faced criticism over certain marketing choices, such as partnerships perceived as insensitive. This underscores the need for thoughtful and ethical marketing, where trust and credibility are essential (Latana, n.d.).

Each of these apps represents a unique approach to mental health support within the digital landscape. Calm and Headspace offer structured mindfulness and relaxation exercises; BetterHelp provides direct access to licensed therapists and Wysa offers an AI-driven approach with CBT. Together, they illustrate the range of services available in digital mental health and reflect broader trends in mental health accessibility, self-management, and therapeutic engagement through technology.

4.2. Perceptual Map

A perceptual map compares consumers' perceptions of different brands or products, using a matrix to represent their key features and characteristics. Customers are asked to annotate a two-dimensional "map," with the axes representing attributes they believe are significant, to indicate the specific location of a product or brand (Carroll & Green, 2003).

Perceptual maps often show how the product or service is viewed based on several factors, including cost, reputation, quality, customer service, and status. Market segmentation, determining whether a product has flaws, and gaining insight into customer preferences and perceptions are just a few marketing uses for mapping. Mapping is also important to identify a company's perception of the shifting perceptions of its target audience (Oxford University Press, 2024).

This technique can be a very powerful and useful tool when comparing digital apps or platforms for mental health, as it provides several strategic advantages. It enables a visual representation of how various apps are positioned about one another according to their main characteristics like perceived efficacy, available features, and user experience. This visual representation of the competitive landscape makes it easier to understand how each app sets itself apart in a crowded market. A perceptual map can also be useful to identify potential gaps in the market and reveal areas with little to no app presence. These gaps could represent untapped opportunities for innovation or fresh growth, enabling businesses to meet unmet customer needs and desires. In the context of mental health apps or platforms, where user trust and perceived efficacy are paramount, the map enables us to visualize how consumers view different platforms. Through its ability to distinguish between applications that are viewed as more basic or narrow and those that are recognized as premium or comprehensive, it facilitates the development of a better and deeper knowledge of customer preferences and perceptions (Carroll & Green, 2003).

Moreover, perceptual mapping represents a valuable tool for benchmarking since it allows us to compare both the strengths and weaknesses of different brands on the market. For instance, it could be that some platforms offer a wide range of features but lag in ease of use, or it could be that others prefer to give priority to different attributes but offer less complete services. The comparison is fundamental when talking about mental health because user experience and “brand loyalty” are vital to long-term success (Oxford University Press, 2024).

Lastly, perceptual mapping allows us to guide decisions on branding, marketing, and product development. Businesses may make better decisions about where to allocate their resources, whether it is for increasing features, boosting user experience, or optimizing marketing strategy, by knowing how people see various applications (Oxford University Press, 2024).

4.2.1. Survey structure and design

Constructing the perceptual map involved a collection of comprehensive data, which was, in this case, obtained through an anonymous questionnaire meant to understand the views and opinions of targeted consumers towards the software-based mental health technologies. Specifically, it was built a 28-question survey to explore customer preferences and motivations for using digital mental support apps to enhance mental health. Respondents' insights help to understand how popular apps such as Headspace, Calm, BetterHelp, and Wysa are perceived in terms of usability, effectiveness, and overall value.

Regarding the structure of the survey, it's relevant to point out certain aspects. For instance, in case the first question of the survey, "Are you using or have you used any of the mental health apps below?", was negative, the questionnaire would end automatically. From question 2 to question 23, participants were asked to rate on a scale from 1 to 5 (where 1 is the minimum and 5 is the maximum) different attributes related to the four examined brands. Furthermore, we asked how the respondents see apps' reputations and if they would recommend these apps. Finally, the survey concluded by asking six demographic questions inquiring about age, gender, nationality, residence, level of education, and current occupation.

4.2.2. Choice of attributes:

The selection of attributes for evaluating digital mental health apps was guided by insights gained through preliminary interviews with experts and users. These conversations provided diverse perspectives on how digital mental health solutions are perceived and what factors influence their effectiveness and user appeal. Based on these insights, 20 main attributes were identified: authenticity, level of engagement and motivation, approachability and user-friendliness, empowerment, relatability, empathy, personalization, innovation, emotional support, calming and relaxing effects, human connection, measurable progress, creativity, credibility, trustworthiness, security, affordability, expensiveness, reputation, and

recommendation. These attributes reflect the multifaceted nature of user expectations and experiences, serving as a robust framework for analyzing and comparing different digital mental health apps. In the following lines, a further deep dive into the choice of each attribute will be made.

1. **Authenticity:** Users seek genuine interactions and experiences that resonate with real-life challenges. Authenticity builds trust and engagement, especially when dealing with mental health, where sincerity is crucial. Apps that offer genuine content, avoid exaggerated claims, and provide real user stories can enhance user confidence (Koh, Tng, & Hartanto, 2022).
2. **Level of Engagement and Motivation:** Digital mental health apps must keep users consistently involved. For this reason, engagement features like reminders, gamification, or rewards can maintain motivation and ensure that users continue to benefit from the app over time rather than abandoning it after brief use (Santoso et al., 2021).
3. **Approachability and User-Friendliness:** Apps must be easy to navigate, have clear instructions, and feel welcoming. A complex or unintuitive interface can deter users from seeking help or maintaining usage (Alqahtani & Orji, 2020).
4. **Empowerment:** Effective mental health apps should help users feel more in control of their mental well-being. Empowering tools could provide users with actionable insights, skills, or self-management strategies, enhancing their sense of autonomy (Schueller & Torous, 2020).
5. **Relatability:** Users need to feel that the app understands their unique challenges. This is why content that reflects diverse experiences or offers relatable stories can foster a deeper connection and make users feel seen and understood (Alqahtani & Orji, 2020).

6. **Empathy:** Apps that convey understanding, compassion, and sensitivity can create a comforting environment, making users more likely to trust and use the app regularly (Alqahtani & Orji, 2020).
7. **Personalization:** As mental health journeys are unique, apps should be able to tailor experiences, content, or therapy plans to individual needs and increase relevance and effectiveness, making users feel the app is designed for them specifically (Kabacińska et al., 2022).
8. **Innovation:** In a rapidly evolving digital landscape, innovative features (e.g., AI-driven therapy) can differentiate an app and provide novel ways of delivering mental health support, enhancing user engagement (Huberty, Beatty, & Yourell, 2024).
9. **Emotional Support:** Users often turn to mental health apps for immediate comfort and reassurance. Apps that provide emotional support through features like guided meditations, affirmations, or crisis support are highly valued (Pywell et al.,2020).
10. **Calming and Relaxing Effects:** Stress reduction is a primary goal for many users. Features like soothing sounds, mindfulness exercises, or calming visuals can significantly enhance the app's effectiveness in promoting relaxation (Borghouts et al.,2021).
11. **Human Connection:** Despite being digital, mental health apps benefit from incorporating human interaction, such as access to therapists, group sessions, or peer support. This connection can mitigate feelings of isolation and foster a sense of authenticity as well (Alqahtani & Orji, 2020).
12. **Measurable Progress:** Tracking improvements help users stay motivated and reassured that they are making progress. Metrics, journals, or dashboards displaying progress can validate users' efforts and enhance their commitment (Crookston et al., 2017).

13. **Creativity:** Creative exercises (e.g., journaling prompts, and art therapy) can provide alternative methods for users to express and process their emotions, appealing to those who may not respond well to traditional therapeutic techniques or may be skeptical about therapy in general (Bakker et al., 2016).
14. **Credibility:** Users need assurance that the app is based on scientific research or expert endorsement. Credible apps that cite studies and involve licensed professionals are more credible (Nogueira-Leite, Diniz & Cruz-Correia, 2023).
15. **Trustworthiness:** Given the sensitive nature of mental health, users need to trust that the app will handle their data and experiences responsibly. Transparency about practices and data usage is vital for building trust among users (Cohen et al.,2020).
16. **Security:** Mental health data is highly personal. Ensuring robust security measures (e.g., encryption, and privacy policies) is critical for user confidence and adherence to regulatory standards (Cohen et al.,2020).
17. **Affordability:** Many users may be deterred by the high costs of therapy. Affordable options increase accessibility, allowing a broader population to benefit from mental health support without financial barriers (Koh, Tng, & Hartanto, 2022).
18. **Expensiveness:** Some users may associate higher costs with premium quality. Evaluating whether the app justifies its cost based on the features offered helps understand perceptions of value (Koh et al., 2022).
19. **Reputation:** A strong reputation, driven by user reviews, expert endorsements, or brand recognition, influences trust and adoption rates. Positive word-of-mouth can significantly impact app success (Al-Shamaileh & Sutcliffe, 2023).
20. **Recommendation: Apps** users would recommend to friends or family indicate high satisfaction and effectiveness. This reflects real-world confidence in the app's ability to provide genuine support (Al-Shamaileh & Sutcliffe, 2023).

4.2.3. Data collection

The survey was officially launched online on October 9th, 2024, and eventually concluded on October 30th for a total of 21 days of duration. It was mainly spread through personal social media networks such as Instagram, Facebook, and LinkedIn, as well as through WhatsApp groups, familial connections, work colleagues, friends, and acquaintances. The goal was to collect respondents from different nationalities. As a result, respondents came mainly from Germany, Italy, Norway, and Portugal.

4.3. Conjoint Analysis

In order to understand what attributes consumers mostly value in mental health apps, a conjoint analysis was performed as part of the study. Different product features were analyzed to identify the attributes that influence consumers' preferences and willingness to buy.

The conjoint analysis is a methodology where participants of the research are prompted to evaluate products with different combinations of attributes to observe the trade-offs they are willing to make and what is the relative importance they put on each presented attribute. This methodology dates back to the 1960s with its roots in psychology. However, the application of the methodology in marketing was popularized in the 1970s by Paul Green from the University of Pennsylvania. Since the start of its practical applications, conjoint analysis has received widespread attention in both academic and industry settings as a powerful tool to understand consumers' trade-offs in multi-attribute products and services (Green & Srinivasan, 1978).

In the context of this research, a conjoint analysis survey was applied to provide a detailed understanding of European consumers' expectations and preferences in mental health apps, highlighting the most valued attributes of these digital solutions.

4.3.1. Survey Structure and Design

A conjoint analysis for this study was conducted using the Conjointly platform, a tool specialized in creating different types of conjoint surveys. This specific platform enabled the design of a structured survey that captures consumer preferences for mental health support apps through a series of choice scenarios.

In the survey, the respondents were presented with a selection of app profiles displaying different sets of specific attributes. They were prompted to choose their preferred option, considering the combined levels of attributes of the presented apps. This specific type of conjoint survey in a choice-based format provided an accurate depiction of respondents' preferences through trade-offs, similar to real-life scenarios and consumer behavior.

The duration of the survey was designed to be approximately 5-10 minutes. The survey was designed for people living in Europe and aimed at recording the preferences that are unique to that specific demographic. To ensure clarity and that the terms are easy to understand, the presented options were written in concise language, and some of the terms were accompanied by straightforward descriptions, allowing for quick assessment and differentiation of options. This approach allowed to maintain a better balance of respondents' experience and comprehensiveness, which is an integral part of accurate data collection. At the end of the survey, a section was included with demographic questions. The set of questions was designed to understand research participants' age group, gender, level of education, occupation, nationality, as well as prior experience with mental health apps.

4.3.2. Choice of Attributes

When conducting a conjoint analysis survey, choosing the right attributes is an essential part as it will help identify the factors that are instrumental in consumers' decision-making processes. This step provides insights not only into user preferences but also into trade-offs they are willing to make.

For this study, the attributes included in the survey were selected considering the insights gathered from preliminary interviews. These initial interviews helped identify characteristics and features that prospective or current users of mental health apps look for in these digital support solutions. The attributes included in the survey are presented as follows:

1. **Brand:** Brand equity, including factors such as perceived quality and brand awareness, plays a vital role in the decision-making process of consumers (Aaker, 1991). This attribute was also mentioned as an influential factor in the interviews conducted. Some interviewees mentioned associating well-known and widely used brands with more trust and credibility. Some of the most widely used mental health apps were chosen to be included in the survey - Headspace, Calm, BetterHelp, and Wysa.
2. **Cost/Pricing Structure:** Flexible options for app pricing can influence whether a potential user wishes to test the apps before long-term commitment (Runge et al., 2022). The pricing was highlighted as an influencing factor by interviewees when choosing a mental health support app. The various pricing options included in the survey were: Annual subscription, Freemium model (free basic features with optional premium upgrades), Lifetime access, and Free trial followed by subscription. This enabled a balance between different payment models for people to consider and assess the importance they put on each.
3. **Type of Mental Health Support:** When considering mental health support, consumers can opt for different forms of solutions, such as structured therapy, self-help tools, or community-shared resources. Insights from initial preliminary interviews highlighted that preferences for support types in mental health apps are highly individual. While some people prefer therapist-led support, others prefer more self-guided formats. The various options provided in the survey were Therapy (e.g., Cognitive Behavioral

Therapy via phone, chat, or video), Self-help tools (meditation, journaling), and Peer support communities.

4. **Additional Features**: Complimentary functionalities can potentially foster consumers' perceived value of mental health apps (Kim et al, 2013). As concluded from the insights from interview participants, features like gamification and wearable integration options can trigger a more long-term use for some consumers. To identify the added importance consumers put on some features, the following options were integrated into the survey: Integration with wearables, Daily check-ins or reminders, Offline access to content, Gamification, and No additional feature.
5. **Interaction Mode:** Acknowledging the importance of the format through which consumers interact with mental health apps, interaction mode was also included in the survey as a key attribute. Preliminary interviews underlined various types of user preferences, where some interviewees leaned towards live interactions while others favored self-paced resources. The survey included the following modes of interaction: One-on-one counseling (live interaction), Pre-recorded content, AI-based interaction, and Text-based resources.
6. **Platform Accessibility:** This attribute can potentially play a deciding role in apps' usability and adoption by consumers. This is especially relevant with the continuous mobile device usage growth in Europe (Statista, 2024). Therefore, to understand how platform accessibility influences consumers' preferences for mental health support apps, the survey had the following two options: "Mobile app" and "Web-based (accessed via web browser)."
7. **Personalization Features:** Personalization increases user engagement by customizing experiences to the needs of individual users. Several interviewees highlighted personalized solutions and features in mental health support apps as an important aspect

of these apps. Research also shows that personalization in digital health solutions can potentially enhance user satisfaction and foster outcomes through a more personalized experience (Cancela et al., 2021). For this attribute, the survey included such options as standard programs, tailored programs based on user data or preferences, and AI-guided programs, allowing for future assessment of how much importance consumers place on personalization features in mental health support apps.

8. **Mental Health Focus Areas:** The focus areas offered by different mental health support apps vary, addressing concerns such as anxiety, overall well-being, or sleep improvement (Braun, 2024). Insights drawn from the preliminary interviews reveal that consumers might seek mental health support apps that tackle specific mental health needs. This attribute can, therefore, potentially influence the platform they choose. The options covered by the survey were Anxiety and stress management, Depression support, Mindfulness and relaxation, Sleep improvement, and General emotional well-being.
9. **Monthly Fee:** The price of a product or a service is often an important consideration (Zeithaml, 1988). This is even more often the case for services that might require ongoing commitment. The preliminary interview findings reveal that consumers are price-sensitive and closely weigh perceived value with the price of the service. The fee options in the survey included specific monthly levels - 4.20€, 11.99€, 12.99€, and 200€ - showing a range from budget-friendly to premium options of pricing to understand how participants value price relative to other attributes.

To ensure that the survey reflects realistic user experiences, the “Applicability of levels across brands” section was used on Conjointly, to assign levels of attributes to specific brands. This allowed for better alignment of attribute options and specific functionalities with what each app offers in reality.

4.3.3. Data Collection

The conjoint analysis survey was launched on October 15, 2024, and was concluded on November 17, 2024, being live and distributed for about one month. To ensure high reach and engagement, different channels, such as survey distribution platforms, social media channels, and personal networks, were used to distribute the survey. The survey distribution strategy was to reach people residing in Europe, resulting in people from 45 countries participating in the survey. Notably, the majority of the respondents were from Europe. Namely, a considerably high number of respondents came from Denmark, Germany, Italy, Portugal, and other countries in Europe. Eventually, 100 responses were filtered out through the quality filtering function on Conjointly. After securing a total of 100 responses, the segmentation tool was used on Conjointly to filter out responses from people who did not live in Europe, resulting in a final number of 83 responses to be analyzed in the thesis.

5. Conclusion

5.1. Discussion

This section of the research will outline the key findings related to our initial research topic and the thesis's limitations. Toward the end of this chapter, several managerial recommendations will be proposed.

The study commenced with several preliminary interviews conducted with industry experts and consumers. The insights from these interviews, alongside comprehensive research, enabled us to identify four different mental health apps currently active in the European market, each characterized by a distinct market position: Calm, Headspace, BetterHelp, and Wysa.

Through the construction and analysis of the perceptual map, several key insights emerged: Calm stands out for its ability to balance emotional appeal with reliability, and this could explain why it is a preferred choice for users seeking both engagement and functionality. In contrast, apps like BetterHelp lack emotional resonance and practical dependability, suggesting areas for potential improvement. This differentiation shows users' diverse priorities, from emotional support and connection to practical utility and trustworthiness. However, no app fully satisfies the demand for both emotional resonance and high reliability, which could represent an opportunity for innovation particularly in areas such as integrating professional support and improving emotional responsiveness. Developers should concentrate on improving app reliability and trust while maintaining or enhancing emotional engagement.

Attributes such as *"Calming and relaxing*" and "*Approachable and User-friendly*" proved to have high scores, emphasizing the importance of user experience and emotional support, as highlighted in the literature review. However, attributes like "*Authentic*" and "*Empathetic*" scored lower, indicating opportunities for developers to better meet user expectations in terms of genuine and responsive interactions.

The conjoint analysis survey was another key component for identifying consumer preferences for digital mental health apps in Europe. Through the simulation of real-world decision-making scenarios, the survey uncovered nuanced insights into how respondents prioritize different attributes and attribute levels. Moreover, the survey design enabled the identification of trends and patterns across different demographic segments, allowing for further understanding of user preferences and motivations. Underscoring the need for balance between accessibility, personalization, and cost in designing mental health apps, the survey findings can be leveraged to guide marketing strategies and further product development.

Insights from the conjoint analysis, specifically, indicate that consumers consider the monthly fee to be the most influential factor, highlighting the importance of pricing in digital mental health apps. Moreover, a strong inclination toward mobile app accessibility and interactive features (e.g., gamification) emphasizes consumers' preference for flexibility and engagement when choosing these apps. These findings are, once again, consistent with the insights previously highlighted in the literature review. Although survey results reveal that attribute and level preferences varied to some extent across the apps, the findings of the research provide insights for companies to prioritize attributes accordingly. Underscoring the need for balance between accessibility, personalization, and cost in designing mental health apps, the survey findings can be leveraged to guide marketing strategies and further product development.

Finally, the bonus part interview underscores the importance of integrating intuitive functionality, aesthetically pleasing visual elements, and ethical considerations in the design of digital mental health applications. By aligning these factors with user needs, developers can create impactful tools that not only enhance satisfaction and trust but also contribute meaningfully to users' mental well-being. These findings offer valuable guidance for industry

stakeholders and provide a foundation for future research on the intersection of technology and mental health. Further implications drawn from the study will follow in 8.3. and 8.4.

5.2. Limitations

Several limitations emerged throughout the research, which could have potentially impacted the depth of the findings. The small sample size of 20 active app users in the perceptual map survey may not represent the broader European market, suggesting the need for future research with larger and more diverse samples. This sample primarily consisted of individuals aged 18 to 24, limiting a comprehensive understanding of how various age groups perceive mental health apps. A broader analysis would have been possible by including insights from different generations, enabling comparisons between their attitudes toward these tools. Unfortunately, except for the insights of experts collected during the preliminary interviews, it was not possible to gain perspectives from people aged over 24 years old. While the expert insights provided valuable information on the perceived market viability and usefulness of mental health apps, they did not reflect the broader adult population. Considering that digital mental health apps are relatively new, it would have been particularly insightful to explore the perspectives of older adults who may not have grown up with digital tools to understand their level of trust in using these apps for mental health support.

Further research is also required to evaluate the long-term efficacy of these apps in improving mental health outcomes. Only a few participants had used these apps, and even fewer had done so consistently or over an extended period. This insight would have been crucial to better understand whether users trust these apps over time, as continued usage could indicate both their effectiveness in improving well-being and the users' trust in them. Additionally, if these apps can consistently satisfy consumers' needs, it suggests not only a viable market but also the potential for this market to grow in the future.

In addition, not everyone filled out the demographic section of the survey, which limited our ability to gain valuable and reliable insights into users' differences in perceptions according to different nationalities. A broader analysis incorporating an overview of opinions from users from the majority of countries in Europe would have enriched our research by providing a deeper understanding of how different countries approach mental health issues and how people from diverse cultural contexts typically manage and address these challenges. Exploring regional differences in Europe is crucial for understanding how cultural factors influence app adoption and tailoring strategies accordingly.

Several challenges arose with the conjoint analysis survey as well. Initially, collecting enough respondents for the survey proved challenging. To tackle this, more channels were used to distribute the survey to a wider audience. However, limited interest and distribution time among the target segment might have potentially constrained participation in the survey.

Also, technical challenges arose related to the survey platform, Conjointly. A specific question format was used, “block of questions,” for the main analysis question, which included the specific brands and attributes. However, in terms of analyzing the data, restrictions arose as the platform did not allow to create pivot tables between “block of questions” and “multiple-choice questions”/ “Free response” formats, to explore relationships between variables, specifically attribute preferences and demographic insights. This limited the depth of the analysis by preventing getting more insights into how preferences varied across different demographics.

Another limitation to note in the conjoint survey structure is the treatment of “Annual subscription” and “Freemium model” as different levels of the same attribute. This is because the freemium model does not align with the rest of the pricing structures included in the survey, including annual subscription. Future research or survey designs might consider merging the freemium option with subscription options, making it more coherent within the attribute's

structure. The aforementioned limitations highlight improvement areas in outreach strategies as well as survey design for future research to achieve overarching results.

Lastly, it is important to recognize that no current article provides absolute assurance of the effectiveness of mental health apps in fully supporting users independently. Despite the growing adoption and popularity of digital mental health tools, research has highlighted significant limitations in their capacity to replace traditional, face-to-face therapeutic interventions. While some studies suggest that these apps can enhance access to mental health support, reduce stigma, and offer privacy advantages, they still face skepticism from users regarding their long-term efficacy. Many users view these apps as complementary tools rather than stand-alone solutions, often relying on them to supplement, rather than replace, professional mental health services. Furthermore, the insufficiency of high-quality scientific evidence and concerns about privacy and data security contribute to the uncertainty surrounding their overall effectiveness. Therefore, while mental health apps hold promise, more rigorous research and user feedback are essential to determine their true potential in independently managing users' mental health.

5.3. Implications for Managerial Decision

The findings of the research provide added insights into consumer perceptions and preferences for mental health support apps in the European market. These insights can be leveraged to improve marketing strategies to better align with the preferences of the market.

The perceptual map analysis reveals a gap in the market for apps that balance emotional resonance with practical reliability. This indicates a clear opportunity for innovation. Managers should aim to integrate features that enhance emotional support and professional involvement while ensuring high standards of reliability. By bridging this gap, companies could differentiate themselves in a crowded and competitive marketplace.

Additionally, the perceptual map survey highlighted that many of the respondents were not familiar with the apps included in the research. This potentially highlights the need for efforts aimed at enhancing brand awareness and lowering adoption barriers, by educating consumers about app benefits and impact. As the research showed that some consumers value brand equity, managers could explore partnerships, with health professionals for example, that could increase app credibility.

Building and maintaining user trust in mental health apps should be a priority. This is why managers need to focus on enhancing features that provide measurable progress and consistent value. These improvements can encourage long-term usage, which not only reflects the apps' effectiveness but also fosters loyalty and positions them as trusted tools in the eyes of consumers.

Also, the lack of reliable insights on user nationality underscores the importance of understanding cultural differences and regional approaches to mental health. Managers may consider investing in localized market research to better adapt their offerings and marketing strategies to meet the needs of diverse audiences, enhancing the global appeal and relevance of these apps.

Furthermore, the limited representation of older age groups in the research points to an opportunity to expand the target demographic. Managers should explore ways to specifically address the needs and concerns of users who are less familiar with digital tools. Developing user-friendly interfaces and addressing trust barriers for this demographic could unlock significant growth potential in an underserved market segment.

To conclude, given the novelty of digital mental health apps, the market has substantial growth potential. To capitalize on this, managers should consider forming partnerships with healthcare professionals to bolster the credibility of their apps.

The conjoint analysis indicated that the monthly fee was the most important attribute for all brands included in the survey, highlighting its impact on the decision-making of consumers. Considering this, managers should prioritize brands' pricing strategies to offer flexible pricing options and cater to a broader consumer segment. Since conjoint survey respondents showed a high preference for features like gamification and daily check-ins or reminders, managers should consider integrating interactive and habit-forming features to increase user base and retention. The conjoint analysis also indicated a considerable preference for mobile app accessibility. In light of this, managers should highlight mobile-friendly designs, ensuring a seamless user experience. Considering the increasing dependency on mobile devices nowadays, optimizing mental health apps for a better mobile phone experience can increase reach to a broader audience.

5.4. Implications for Future Research

This thesis identified several crucial areas that require further investigation to enhance the understanding of consumer behavior, app development, and the evolving landscape of digital mental health in Europe.

- **Addressing the Limited Sample Size and Demographic Representation:** This thesis acknowledges that sample sizes might not accurately reflect the broader European market, particularly in the perceptual map analysis. Future research should prioritize larger and more diverse sample groups to ensure generalizability and a more comprehensive understanding of user preferences across various demographics. This includes expanding the age range to include a more balanced representation of older age groups to explore their unique needs and perspectives. Additionally, gathering more detailed demographic information, especially regarding nationality and cultural background, is essential to understand how these factors influence app adoption, usage patterns, and perceived effectiveness.

- **Investigating Long-Term App Efficacy and Building Trust:** It's crucial to emphasize the importance of conducting longitudinal studies to evaluate the long-term effectiveness of mental health apps in enhancing mental health outcomes and maintaining consistent user engagement over time. Future research should focus on tracking user experiences over extended periods to determine whether these apps contribute to measurable improvements in mental well-being. This includes exploring the development of user trust over time and identifying the factors contributing to continued app usage. Understanding the dynamics of trust development and the role of app features, design, and content in maintaining user confidence is crucial for promoting sustainable engagement and maximizing the potential of these tools (Wang, Varma, & Prosperi, 2018; Vaghefi & Tulu, 2019; Mercurio et al., 2020).
- **Exploring User Perceptions of AI and Emerging Technologies:** While there's a recognition of the potential of AI-driven features like chatbots and personalized recommendations, it's also acknowledged the user concerns about data privacy, the limitations of AI in replacing human interaction, and the potential for trivializing mental health issues through gamification. Future research should investigate user perceptions and experiences with AI-powered features in greater depth. This could involve assessing user comfort levels with different degrees of AI integration, examining the impact of AI on trust and engagement, and exploring ethical considerations related to data privacy, bias detection, and the potential for misuse (Chaudhry & Debi, 2024).
- **Examining the Integration of Apps with Traditional Healthcare Systems:** This thesis primarily positions digital mental health apps as complementary tools to traditional therapy, acknowledging that user perceptions currently lean toward this viewpoint. Future research should explore the potential for a more seamless integration of these apps into existing healthcare systems. This could involve investigating how

apps can be used to enhance communication between patients and therapists, support medication adherence, facilitate remote symptom monitoring, and complement in-person care. Additionally, studying the effectiveness of collaborative care models that incorporate both traditional and digital approaches could provide valuable insights into how these tools can be best utilized to improve treatment outcomes (Zielasek et al., 2022; King et al., 2023).

- **Addressing Technical Challenges and Survey Design Limitations:** The work project encountered technical difficulties and limitations in survey design that restricted data analysis, particularly in the conjoint analysis. Future research should prioritize addressing these challenges to enhance data collection and analysis capabilities. This could involve exploring alternative survey platforms or question formats to facilitate more robust data exploration and analysis. Additionally, piloting survey instruments with diverse user groups can help identify potential technical issues or design flaws, leading to more reliable and insightful research findings (Van Teijlingen & Hundley, 2002). Furthermore, classifying the Freemium model as a separate level within the pricing attribute highlighted inconsistencies with other pricing options. Future research should consider incorporating Freemium within existing subscription options or reclassifying it to ensure coherence across the other options, improving the accuracy of consumer preference modeling.

5.5. Conclusion

Based on the research, it's evident that there is an increasing demand for mental health apps in Europe. This is attributed to their convenience, cost-effectiveness, and ease of use. Users value apps that effortlessly fit into their everyday lives, emphasizing the significance of usability and adaptability in their design. Despite the assortment of functions offered by these applications, including self-guided meditation, journaling, therapist-led sessions, and AI-

powered interactions, they are predominantly perceived as enhancements to traditional therapy rather than replacements. Research indicates that these apps should prioritize a user-friendly interface, data privacy, and adaptability to succeed in the competitive European market. Concerns about data privacy, especially regarding AI-driven features, are significant, indicating the need for apps to not only comply with regulations like GDPR but also surpass user expectations in ethical data management. Although AI chatbots and gamification have demonstrated potential, as the insights of consumer preferences in the conjoint analysis suggested as well, some individuals express apprehension about relying too heavily on AI and are concerned that gamified elements may trivialize mental health issues. It is crucial to approach the integration of innovative technologies in a balanced manner that takes into account user concerns.

Additionally, research emphasizes the substantial potential of digital mental health apps in addressing unmet needs in mental healthcare. By emphasizing trust, responsible innovation, and attentiveness to user feedback, these platforms can significantly impact the promotion of mental well-being throughout Europe.

Finally, the interview with the expert highlights the significance of intuitive functionality, appealing design, and ethical considerations in creating effective digital mental health applications. Aligning these elements with user needs enhances satisfaction, trust, and overall mental well-being, offering valuable insights for developers and future research.

The growing European market presents opportunities for innovation but requires addressing data security and usability challenges. By prioritizing transparency, ethical practices, and adaptive technologies, digital mental health apps can better meet user needs and improve access to mental health care.

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