Online Depression Interventions: Exploring Acceptance Factors from User Experiences and Developer Perspectives

Masterarbeit

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1 Introduction

Depression is one of the most widespread disorders in Germany. There is a large discrepancy between the need for therapy and the available treatment places. This has increased, especially due to the recent Covid-19 pandemic. The need for alternative and complementary treatment methods in depression therapy is therefore very high. One possibility to close this gap is the use of online depression interventions. This master thesis investigates the acceptance of such interventions.

1.1 Motivation and Relevance

Depression is a widespread mental disorder. The probability of developing depression in the course of one's life is 16.2 % (Kessler et al., 2003). In Germany, a total of 9.2 % of people were affected by depression in 2019 (Hapke et al., 2019). As a result of the Covid-19 pandemic, the number of young people with clinically relevant depressive symptoms more than doubled (Naumann et al., 2021). Similarly, 44 % of people diagnosed with depression showed worsening of their symptoms due to the fall 2021 lockdown (Czaplicki et al., 2022). Thus, the need for guideline-based treatment is greater than ever. However, the supply of thera-py places cannot meet this need. Almost half of patients wait at least three to nine months to start their treatment (BPtK, 2021).

To overcome this gap between need and supply of psychotherapy, the use of internet-based interventions is an option. These are cost-effective and deliver proven therapy methods in the form of applications ("apps") in accompanied or unaccompanied form (Mitchell et al., 2021). Several studies have proven the effectiveness of such apps in the past (Schröder et al., 2016). Despite the proven effectiveness, uptake is low (Crisp & Griffiths, 2016).

In recent years, several studies have been conducted to investigate acceptance and identify factors that promote acceptance (e.g., Dockweiler et al., 2017; Dockweiler et al., 2019; Hafner et al., 2021). One perspective missing from these studies is that of the developers of such apps. Assessing acceptance factors from another perspective can broaden the identification of acceptance-enhancing measures.

To complement the developers' perspective, looking at user experiences in the form of app review analyses is a suitable approach, since reviews include direct feedback on the developers' products and are based on an existing usage experience.

Such analyses of reviews of apps for depression treatment have already been conducted in some studies. In 2018, Stawarz et al. examined the functionality of apps and the attitude of users toward various app features. Another study examined how the services offered by apps affect users' opinions (Meyer & Okuboyejo, 2021). The studies described are not up to date or look at apps that are less relevant for the German market because they are either not available or do not offer a German-language version. Meyer & Okuboyejo (2021) also look at user opinion based on only one app property. For these reasons, an adapted view of user opinions on apps in the German market is important.

1.2   Objective and Research Questions

This master thesis is carried out within the project "Accept*D: Do depressed patients and their practitioners accept online health services? - A Study on Acceptance and Critical Success Factors". Within the framework of this project, the aim is to develop an acceptance model in the field of online depression interventions. To create this model, factors that determine patients' and health care providers' intention to use Internet-based interventions for depression will be identified. The project is divided into two parts. In the first step, expert interviews with different stakeholder groups, e.g., patients, therapists, and also developers of online depression interventions, will be conducted to identify critical success factors that influence acceptance. In a second step, an acceptance model will be developed from these factors, which will then be validated in a quantitative survey.

The aim of this master thesis is to identify acceptance factors that influence the use of Internet based Interventions for depression from the perspective of developers, through conducting expert interviews. In order to look at an additional perspective, user evaluations of selected interventions are examined using a text mining approach. Based on this approach, the following research question (RQ) is answered:

RQ: How is the acceptance of online depression interventions perceived from developers' perspectives and user views?

8   Conclusion

Internet-based interventions for depression can be a valuable complement to conventional treatment methods in depression therapy. Despite proven efficacy of programs that rely on behavioral therapy elements, there is still a lot of skepticism or even rejection among patients and health care professionals. In past studies investigating acceptance, the perspective of developers has not been represented to date.

The aim of this thesis was therefore to gain insights from the perspective of developers of online depression interventions on the topic of acceptance of such apps by conducting expert interviews. Six main acceptance factors that determine the intention to use for patients and four for health care providers were identified. Three of the factors, i.e., spread of information, quality criteria, and data security, are identical for both sides. The three additional success factors on the patient side are reimbursement option, user-friendliness and self-efficacy. The fourth success factor for a higher willingness to use among physicians and therapists is adequate remuneration.

In addition, a sentiment analysis of app reviews was carried out with the aim of obtaining information about positively and negatively evaluated app features from a different perspective, the user perspective, and to be able to draw conclusions about success factors from this. It was possible to identify that the user response to the apps studied was predominantly positive. The features extracted from the reviews allowed the assumption that users want free interventions and consider the possibility for personal contact as important. In addition, the dependence of the users' opinions conveyed in the reviews on various app features was investigated. For this purpose, the changes in the sentiment score were considered with regard to various properties, such as the presence of a certification. Although minor influences were found, due to the small sample size, it is not possible to make a statement about whether and to what extent the app properties under consideration have a significant influence on the opinion conveyed in the app reviews.

In summary, the acceptance factors identified from the developer interviews provide a basis for portraying the acceptance of and intention to use online depression interventions. They also provide a starting point for additional interviews with different stakeholder groups. The analysis of app ratings based on users' personal experienc-

es offers a useful complementary perspective for the identification of relevant factors influencing user acceptance. However, this requires that a sufficiently large set of apps is studied to ensure significance in the impact of different app properties on user satisfaction. These and other limitations of this master thesis were identified and recommendations for further research were derived.