How is Your Mood Today? - A Taxonomy-based Analysis of Apps for Depression

Completed Research

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Abstract

Depression is a serious disease that affects partners, families, friends, and societies. Applications for depression therapy support assist users in daily life to cope with depression challenges. While the services provided can be advantageous, the benefits and apps provided in the market can be overwhelming and fragmented for its intended users. A rigorous classification and clustering of this important domain is still missing. We deduce insights examining a taxonomy and conducting a cluster analysis. We classify 55 applications into eleven dimensions and 46 corresponding characteristics. We identify six clusters of archetypical application configurations. Our procedure classifies this application domain and enables directions towards more tailored research for this eHealth and mHealth artefacts. (Potential) users and application developers can use our results and findings to improve their usage and development and select the most suitable application for their medical needs and interests.

Keywords

Depression, applications, taxonomy development, cluster analysis, archetypes.

Introduction

The future of healthcare services is more patient-centered, as today's user is active and well informed. Health insurances encourage the distribution and use of online services such as online treatment programs for widespread diseases, e.g., mild and moderate depression. This encouragement makes the characteristics and acceptance of online treatments an important field of research. Depression poses a major societal challenge due to the high costs of treatment and because depression burdens high costs on sufferers, their families, caregivers, and employers. In addition, accelerated through the COVID-19 pandemic, the prevalence of depressive symptoms in the U.S. was more than 3-fold higher than before the pandemic situation (Ettman et al. 2020). Generally, depression should be treated with psychopharmacological medication and/or psychotherapy (Butler et al. 2006). In contrast, only 50% of depression patients consult a physician or psychotherapist, and only one-third of these receive therapeutic interventions (e.g., Wittchen et al. 2002). A study by the Federal Chamber of Psychotherapists in Germany identified a significant gap in the supply of psychotherapy, indicating a waiting time until psychotherapy starts is around six months (Federal Chamber of Psychotherapists 2022a). The need for depression and accessible places of therapists became apparent (Federal Chamber of Psychotherapists 2022b). One of the possibilities to close this demand and supply gap for psychotherapy is electronic health (eHealth) applications („apps"). Some of these apps, such as internet-based cognitive-behavioral therapies (iCBT), are evidence-based treatment options for patients with depression. They can be considered as a convenient, widely available, and clinically effective form of psychotherapy for treating mild and moderate depression. iCBT has proven efficacy in treating depression, either self-guided or guided (Cuijpers et al. 2019). Therefore, the usage of iCBT is