American Psychological Association

Technology, Mind & Society
2021 Conference Proceedings

© 2021 American Psychological Association
ISBN:

http://dx.doi.org/10.1037/xxxxxxx

Abstracts of the 2021 Technology, Mind, & Society Conference

Differential treatment response among people engaging with a digital mHealth intervention for depressive symptoms: a repeated measures latent profile analysis

Nicholas C. Peiper (Meru Health, University of Louisville), Benjamin W. Nelson (Meru Health, University of North Carolina Chapel Hill), Silvan Hornstein (Meru Health), Adam Pettitt (Meru Health, University of Oregon), Kristian Ranta (Meru Health), and Valerie L. Forman-Hoffman (Meru Health, The University of Iowa).

Major depression affects 10% of the U.S. adult population annually, contributing to significant comorbidity, impairment, and disability totaling $200 billion. Treatment response to depressive symptoms is a non-linear process characterized by combinations of gradual changes and abrupt shifts, although less is known about differential treatment response among people engaging in digital mobile health (mHealth) interventions. This study examined changes in depression symptoms among 575 people who completed a 12-week mHealth intervention called Meru Health from March 2020 to February 2021. Repeated measures latent profile analysis (RMLPA) was used to classify patient subtypes with Patient Health Questionnaire-9 (PHQ-9) scores collected biweekly. Overall, the average PHQ-9 score was 11.3 at baseline and 5.2 at week 12. RMLPA yielded three subtypes of treatment response: “mild” depression (60.7% of the sample), “moderate” depression (31.8%), and “severe” depression (7.5%). The mild and moderate depression subtypes exhibited large reductions in PHQ-9 scores from baseline to week two, indicative of sudden gains, followed by gradual reductions for the remainder of the intervention. The high depression subtype demonstrated only gradual reductions. Clinically significant reductions in depression occurred for the mild and moderate depression subtypes, while the severe subtype was more resistant to treatment. Limitations of this study included focusing only on treatment completers, lack of control groups, reliance on patient reports, and confounding effects of the COVID-19 pandemic. The results indicate that digital mHealth interventions have the potential to lead to sudden and sustained gains in depressive symptoms, although future research is needed to address treatment resistant subpopulations.