Summary

The relevance for mental health, not just for the benefit of the individual, but for society as a whole, is well established (Christakis & Fowler, 2009). If not resolved, this will be- come an issue for decades, both to the detriment of wider societal mental health, as well as at the cost of individual quality of life.

Research questions

» Which set of interventions could be re-inter- preted using multimodal and non-language based approaches to improve inclusiveness of youth mental health (YMH) technology?

» Which set of modalities for input and output may be used for improving inclusiveness of YMH technology?

» How could a platform, making use of mul timodal input and output, and also offering interchangeable, customizable compo nents, look like?

» What would be a suitable user interface, offering usability and positive user experience, and sufficient guidance in how and what to select, to enable both direct use, as well as use mediated by caregivers?

Planned contributions

Reinterpreting a set of YMH interventions to make them usable in a multimodal, inclusive and non-language based way.

Identifying inclusive and non-language based technological modalities for input and output in YMH applications.

Developing an architecture using these mo dalities, which allows the creation of cus tomizable, engaging YMH applications.

Designing a user experience optimized user interface for the toolkit, for both young people and also their caregivers.

Large-scale study with diverse Austrian youth to identify points of interest for further research in this area.

Preliminary results

Research questions

Background: There is a range of literature showing that the use of multimodality correlates both with increased effectiveness of, as well as increased engagement with mental health interventions (see „Related works”).

Motivation: One way young people receive mental health support is through smartphone apps. Subsequently, the question is raised how well these apps do with regards to multimodal intervention delivery.

Methods: We collected 279 smartphone applications connected to mental health. By analysing their descriptions, we classified them as belonging to assessment, prevention, treatment, or education about mental health.

Additionally, we classified them along their target audience, as for children, adolescents, adults and seniors. Through this, we identified 29 prevention apps aimed at adolescents.

Next, we analysed how these 29 prevention apps incorporated multimodal delivery of interventions and mapped, whenever possible, the use of certain interventions onto the modalities they’ve been presented with.

Results: With few exceptions, there was an underwhelming use of multimodality in the 29 prevention apps we identified. Input was dominated by single-tap touch, and output modalities, though more diverse, were still primarily static text alongside static images.

Related works

Sin & Lappin (2009) reviewed 51 positive psychology intervention modules with 1058 266 participants and found significant impact on wellbeing. However, responsiveness to individual differences seems highly important, although a multimodal toolkit would support.

Silverstone et al. (2016) conclude a review of existing mental health technologies by recommending a stronger use of multimodal solutions and emphasizing the potential of multimodal solutions in this space.

Clarke, Kuosmanen & Barry (2015) conclude a review of existing mental health technologies by pointing out the effectiveness of specifically mod- ularised interventions for promotion of mental health.

Taylor, Leslie, Grampian & Boddie (2017) point towards high potential of computerised therapy has significant potential for educationally alienated children, adolescents and adults. Through this, we identified 29 prevention apps aimed at adolescents.

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References

Almirall & Chronis-Tuscano (2016) emphasize the necessity of adaptive interventions in support of child and adolescent mental health, because needs and preferences change over time.

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