



# The Impact of Mobile Technology-Delivered Interventions on Youth Well-being: Systematic Review and 3-Level Meta-analysis

*“[Mobile technology-delivered interventions] have the potential to improve multiple aspects of youth well-being, and may confer significant, durable benefits in a broad array of domains, particularly for youth who are not otherwise getting their mental health needs met” (p. 20).*

## 1. WHAT IS THE RESEARCH ABOUT?

This research is about the efficacy and impact of mobile technology-delivered interventions, primarily comprising mobile apps for phones and tablets (for example, that offer guided meditations and information on building healthy habits), on the mental health and wellbeing of youth. There are many of these types of interventions that are geared toward youth due to the high prevalence of young people facing mental health issues, and the inequity in access to community-based mental health resources and services for youth.

## 2. WHERE DID THE RESEARCH TAKE PLACE?

This research took place in the United States.

## 3. WHO IS THIS RESEARCH ABOUT?

This research is about the experiences of children and youth between the ages of two and 27, who are the target users of the mobile technology-delivered interventions studied.

## 4. HOW WAS THE RESEARCH DONE?

Researchers conducted a *literature review*, using **five** *systematic search* strategies to have an unbiased and representative sample of both published and unpublished reports. The **strategies** included:

- **using academic databases;**
- **looking through the reference lists** of each study found;
- **searching the content of different journals** that were most likely to publish studies related to this topic;
- **searching the contents of relevant academic conferences;** and
- **contacting authors with work related** to the study.

Researchers excluded mobile technology-delivered interventions that focused on academics and physical health.

The authors selected **38 studies** that they determined to be of the highest-quality. In total, the literature evaluated **83** wellness and mental health-focused mobile technology-delivered interventions used by **19,748** youth.

These studies underwent a *meta-analysis* (a statistical analysis that combines results from a large number of studies) to determine the impact of wellness and mental health-focused mobile technology-delivered interventions. Because most studies reported on multiple effects, the authors analyzed three sources of *variance* (a measurement of how far a data set is spread out, indicating where there is a lack of consistency or a fixed pattern) to understand the differences in **effect size** and to determine the efficacy and impact of the interventions studied **across all of the evidence reviewed**:

- i. sampling variance: how varied the results were from across the samples studied
- ii. within-study variance: how varied the results were within each study
- iii. between-study variance: how varied the results were between studies

This analysis examined a variety of psychosocial effects, such as general wellbeing and distress, psychological disorders, psychosocial strategies and skills, and health-related symptoms and behaviours.

## 5. WHAT ARE THE KEY FINDINGS?

This research surfaced five key findings:

- i) Mobile technology-delivered interventions had the most **positive impact** on **psychosocial strategies and skills** (e.g. emotional self-awareness) and **internalizing symptoms** like depression, followed by **general psychological distress and wellbeing, health concerns and health-related behaviours**, and other **non-internalizing mental health concerns** (e.g. attention difficulties).
- ii) These interventions had the least effect on outcomes like **knowledge, peer relationship quality**, and **stereotype threat** (the fear of conforming to stereotypes of one's social group).

iii) **Mobile technology-delivered interventions were effective** on a variety of outcomes, such as mental and physical wellbeing, regardless of whether they included additional features like **social networking, gamification, or tailoring** (when the content is designed to shift based on user responses).

iv) These interventions had a similar impact on youth outcomes *whether or not* the app was information-only, offered resources for clinical care, or had a waitlist for use.

v) Only interventions that were **prescribed for frequent and consistent use** (e.g. once a week) showed significant effects.

These findings indicate that mobile technology-delivered interventions can be effective in responding to a variety of youth developmental challenges – considering youth mental health and wellbeing more broadly – and mitigating cognitive, behavioural, and social risk factors that are associated with poor youth mental health.

## 6. WHY DOES THIS RESEARCH MATTER FOR YOUTH WORK?

This research is important because mobile technology now comprises the dominant tools for communication and knowledge consumption, especially among young people. Due to an increase in the need for mental health services among youth and discrepancies in access to mental health resources and services in communities, mobile technology-delivered interventions can be a useful and consistent approach for youth workers to reach youth and support the promotion of improved mental health and wellbeing.



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