

RESEARCH SNAPSHOT

From the CIPHER Knowledge Translation Team

Canadian Institute for
Pandemic Health
Education and Response

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Institut canadien
d'éducation et d'intervention
en santé en cas de pandémie



Mobile Health Apps for Military Members (MM's) & Public Safety Personnel (PSP). Can an App Help Build Resilience?

WHAT YOU NEED TO KNOW

Digital health is the use of electronic services to provide health care and information to targeted populations. Mobile health (mHealth) apps offer tools to help build psychological resiliency, self-regulatory, and coping strategies for military members (MMs), public safety personnel (PSP), and Veterans. Healthcare practitioners (HCPs) have started to recognize the complementary role mHealth apps play outside the clinical setting, as mHealth interventions are immediate, low cost, and easy to access. mHealth apps may also provide a first step toward help seeking behaviors for those unwilling or unable to access professional mental health supports.

WHAT IS THIS RESEARCH ABOUT?

Psychological resiliency describes a protective factor in the face of emotionally, physically, and psychologically challenging or distressing situations. In the face of challenge, while drawing on internal and external resources, resilient individuals are still likely to engage in healthy, meaningful, and productive activities that can help protect their mental health. Compared to the Canadian general population, MMs, PSP, and Veterans are more vulnerable to occupational and operational stress injuries due to various job demands, prolonged stress, and increased exposure to potentially traumatic events. These populations can face various barriers to accessing mental health services including shift work and stigma. As such, psychological resiliency may provide a buffer against mental health decline. This study assessed the usefulness and quality of 22 mHealth apps created for MMs and PSP with the intended effect of building psychological resilience. The researchers recommend that MMs and PSP use the highlighted apps in cooperation with a HCP, but realize that many will access and use the apps on their own.

WHAT DID THE RESEARCHERS DO?

With over 325,000 mHealth apps available for download, and with little regulation in the creation of these apps, the research team scanned the mHealth scientific literature and identified 691 initial articles and 22 mHealth apps using the following inclusion and exclusion criteria:

Eligibility criteria for scoping literature review

Inclusion Criteria	Exclusion Criteria
Studies published from 2000 and onward	Data not targeted for MMs or PSP
Articles with participants 16 years or older	Studies published in other languages than English
Articles addressing resiliency, hardiness, or coping	No useful outcomes

After applying the inclusion and exclusion criteria, 32 of the 691 articles were deemed relevant and useful.

Eligibility criteria for mHealth apps

Inclusion Criteria	Exclusion Criteria
Apps had to be available on the Apple App store or Google Play Store	Apps that were not free to download or not available in Canada
Apps that were intended for use by MMs and PSP	Apps that were not available in the English Language
Apps were free to download	Apps that were not yet released for use

From the 32 articles identified, 22 mHealth apps emerged.



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KEYWORDS: occupational stress injury, trauma, mHealth, resilience, mental health, military, veteran, public safety personnel, mobile phone

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WHAT DID THE RESEARCHERS FIND?

The researchers noted the following highlights:

- 11 of 22 apps were tested in randomized control trials.
- 7 of 22 apps were tested using other methods such as questionnaires and interviews.
- 5 of the 22 apps had not been research trialed.
- Most of the apps targeted resilience using mindfulness strategies, and components of: psychoeducation, cognitive behavioral therapy, and acceptance and commitment therapy.

11 of the 22 apps were developed using evidence-informed practices, including:

- Virtual Hope Box
- eQuoo
- Mindfulness Coach
- Resilience@Work/Mindarma
- PE Coach
- R2MR
- High Res
- PTSD Coach
- CBT-I Coach
- PHIT for Duty
- Stay Quit Coach
- The **eQuoo** app was demonstrated to significantly improve the traits of resilience, personal growth, and positive relationships.
- **Resilience@Work/Mindarma** showed improved adaptive resilience and psychological flexibility, as well as increased optimism, mindfulness, and likelihood of seeking help from others.
- **R2MR** increased resilience and help-seeking behaviors while also reducing mental health stigma.
- **PTSD Coach** may help manage and reduce symptoms of PTSD, but is recommended to be used with a HCP and not independently.

- Of the 11 evidence-based apps, **R2MR** and **PTSD Coach** scored highest on the Alberta Rating Index for Apps (56 out of 72) which indicates greater usability and security features.

HOW CAN YOU USE THIS RESEARCH?

As a HealthCare Provider:

As a HCP, you may want to provide various resources for your clients/patients that they can engage with beyond your face-to-face interactions. For example, if MMs or PSP encounter stressful scenarios, they may be able to address their reactions and feelings in real time with the help of a mHealth app, and bring their experiences back to the therapeutic setting for discussion.

As a MM, PSP, or Veteran:

If you are accessing mental health services, you can begin a conversation with your HCP regarding the various mHealth apps outlined within this study. You can work together to create a plan for when and how to use the apps. If you are unable or reluctant to access mental health services, you can explore the various apps on your own and take some initial steps toward building psychological resilience, self-regulatory, and coping strategies.

Within the context of COVID-19:

The COVID-19 Pandemic has strained healthcare systems across Canada. Given current costs and time constraints, mHealth apps may provide one possible method for MMs & PSP to learn positive coping strategies while building psychological resilience.

CITATION

Voth, M., Chisholm, S., Sollid, H., Jones, C., Smith-Macdonald, L., & Brémault-Phillips, S. (2022). Efficacy, effectiveness, and quality of resilience-building mobile health apps for veteran, and public safety personnel populations: Scoping literature review and app evaluation. *JMIR mHealth and uHealth*, 10(1), e26453-e26453. <https://doi.org/10.2196/26453>

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