



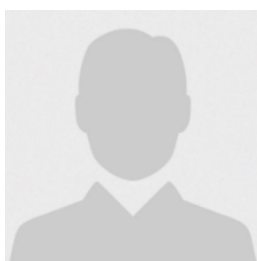
Improving Healthcare Professional Resilience via Virtual Training



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burnout;
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professional resilience;
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Abstract

Healthcare professionals who develop resilience are more likely to recover from adversity. This mixed-methods study investigated the efficacy of an introductory-level, brief virtual resiliency training module for healthcare professionals. The module included evidence-based mindfulness strategies, such as mantra/phrase, cost/benefit analysis, and observing thoughts/feelings. Six subjects completed the Brief Resilience Scale and provided qualitative reflections/opinions on the program. Regarding the program, four subjects rated it as "5-completely" helpful on a 5-point Likert scale; one subject rated it as a 4, and the final subject rated it a neutral 3. Four of the six subjects stated they will employ a total of seven new resilience strategies. Based on the Brief Resilience Scale, two of the six subjects' scores had "low" resilience, while the other four had "normal" resilience. Subjects frequently reported concerns about burnout from external factors like bureaucracy. The findings suggest that virtual resilience training is feasible for healthcare professionals.

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1 Introduction

Resilience is the ability to cope with and recover from adversity (Ashby et al., 2013; Joyce et al., 2018; Popova et al., 2023). Professional resilience entails balancing occupational stressors while maintaining professional values (Ashby et al., 2025). Resilience in a healthcare system centers on the ability of institutions and their workers to provide essential functions despite facing hardship (Ferreira et al., 2025).

Resiliency in a healthcare system impacts the quality of patient care, patient outcomes, and workers' well-being (Guraya et al., 2025; Yu et al., 2024). Resilience can be promoted through institutional culture and leadership efforts such as open communication, modeling, and improved safety (Centers for Disease Control and Prevention, 2024). Within the healthcare system, a significant level of continuous learning is required amongst healthcare professionals and stakeholders, with an emphasis on collaboration (Haraldseid-Driftland et al., 2022).

Common barriers to resilience include an imbalance between work and personal life, overexposure to stress, inadequate time to process negative emotions, humiliating experiences, and social isolation (Mahmoud & Rothenberger, 2019). Barriers to resilience in healthcare institutions included low worker competence, insufficient support for workers, ineffective management systems, insufficient global solidarity, and failure to learn from past experiences (Ferreira et al., 2025). Healthcare workers are likely to encounter barriers to resilience, such as long working hours, emotional toll associated with direct patient care, and trauma (Guraya et al., 2025).

Low resiliency can lead to burnout and professional attrition (Brito-Marcelino et al., 2020; Sipos et al., 2024). Healthcare worker burnout is associated with increased medical errors, lower-quality care, and reduced patient satisfaction (Roundy et al., 2023; U.S. Department of Health and Human Services, 2022). Subsequent absenteeism and turnover disrupt continuity of care and compromise outcomes (Ashby et al., 2025; Link et al., 2021; Rivard & Brown, 2019).

Targeted interventions can improve resilience (Cleary et al., 2018; Werneburg et al., 2018). Resilience training can include immediate practices and long-term habits (Harvard Medical School, 2025). Resilience training research found that mindfulness and cognitive-behavioral strategies were associated with positive effects on resilience (Johnson et al., 2015; Joyce et al., 2018; Kim et al., 2022). Although these programs produced positive results, significant long-term benefits may not be observed beyond six to twelve months after resiliency program completion (Klatt et al., 2022; Mahmoud & Rothenberger, 2019).

There is a need for resilience intervention for healthcare professionals that is easy to access, repeatable, and concise (Larsson et al., 2025). The primary investigator developed a brief, introductory-level virtual resiliency training module for healthcare workers. The module focused on intrinsic factors that professionals can control (Gröschke et al., 2022; Ratliff et al., 2025). The module included introductory-level (i.e., beginner) mindfulness techniques that cultivate present-moment awareness, self-care, thought regulation, compassion, and stress reduction, all of which are effective among healthcare workers (Carsone et al., 2024; Klatt et al., 2025; Merrigan et al., 2023; Unjai et al., 2024). A virtual format was selected for accessibility, cost-efficiency, and reusability.

Purpose

This feasibility study investigated the efficacy of an introductory-level, brief virtual resiliency training module for healthcare professionals. It answered the research question, "Can a brief

2 Materials and Methods

Recruitment

Once institutional review board approval was received, participants were recruited through social media, email outreach, and word-of-mouth advertising, utilizing a digital recruitment flyer from January 19, 2026,

through March 9, 2026. The digital recruitment flyer contained a link to the online survey. Inclusion criteria required participants to be healthcare professionals such as licensed occupational therapists, physical therapists, speech-language pathologists, or assistants of occupational therapy, physical therapy, or speech-language pathology. Exclusion criteria included students, retired healthcare professionals, or healthcare professionals who were not currently working.

Survey

After informed consent, demographic information (e.g., type of healthcare professional, years of experience, setting, and hours worked) was collected. The subjects then watched the brief virtual resiliency training module. The training module consisted of a short, narrated PowerPoint lecture that introduced professional resilience and provided six brief skills/techniques to increase resilience in the moment. There was no monetary compensation for participation. However, there was an opportunity to enter to win a \$25 Amazon Gift Card if the participant provided an email address.

The mixed-methods survey following the training module consisted of two parts: the Brief Resilience Scale (BRS) and subject reflections/opinions on the program. The BRS is a 6-item questionnaire designed to measure an individual's ability to bounce back from or withstand stressors (Smith et al., 2008). The reflection/opinion portion of the survey consisted of 5 questions. Two checkbox questions captured professional resilience strategies subjects used before completing the interventions and strategies they plan to utilize after the intervention. A 5-point Likert-scale question asked subjects to rate the program's helpfulness. One open-ended question asked subjects if their professional resilience had improved or declined and why. The final qualitative question asked whether the subjects had anything else they wished to share about professional resilience, to minimize bias.

Reflexivity

Given the primary investigator's role in developing the module, reflexivity was important. The primary investigator's worldview, informed by constructivist epistemology, shaped how resilience was conceptualized. This orientation guided the choice of research questions, the interpretation of responses in the data, and the emphasis on participant agency. Rather than striving for an illusory neutrality, the primary investigator has sought to make these commitments explicit, allowing readers to critically assess how the theoretical stance may have shaped the knowledge produced. The two co-investigators helped to mitigate bias by independently reviewing the training module and assisting in the interpretation of the data until a consensus was achieved.

Analysis

This feasibility study utilized a mixed-methods design to explore the efficacy of a brief virtual resilience training module. For the quantitative portion of the study, one researcher prepared the BRS scores in an Excel Sheet. Once the scores were configured in accordance with the BRS scoring requirements, the same researcher calculated the mean score of each subject's responses and interpreted the scores. After the researcher confirmed the analysis, another researcher reviewed the scoring and calculations to ensure each interpretation was accurate. No miscalculations were noted; both researchers confirmed that the BRS scores and interpretations were correct for all six subjects.

For the qualitative portion of the study, an inductive content analysis approach was used to analyze responses. Prior to analyzing the data, the study responses were compiled in Google Sheets by one of the researchers to organize them and ensure completeness and relevance. Qualitative responses were analyzed using an inductive content analysis approach to identify recurring themes related to *resilience strategies* and *concerns*. The first two researchers then read through the data and identified meaningful concepts. Codes were assigned based on content, then grouped into subcategories based on similarity. The sub-categorical groups were then merged to reduce complexity. Once the sub-categorical groups were merged, two main themes emerged. The data were again reviewed by the two researchers and the third researcher to ensure the themes accurately reflected participants' reports. The final two themes were confirmed by all three researchers.

3 Results and Discussions

3.1 Results

Six subjects participated in the study and met the inclusion criteria. Subjects included two occupational therapists, two physical therapists, and two “other” healthcare professionals. Subjects averaged 12 years of experience, with a range between 3.5 and 31 years. Subjects worked in a variety of settings, including skilled nursing, outpatient, school, home health, academia, and insurance/management, working a reported average of 33 hours per week.

Quantitative Results

Quantitatively, the subjects completed the BRS, with two of the six subjects’ scores indicating “low” resilience, and the other four scores indicating “normal” resilience. For the first statement, “I tend to bounce back quickly after hard times,” 66.7% of the subjects agreed, while 33.3% reported neutral. For the second statement, “I have a hard time making it through stressful events,” 33.3% of the subjects agreed, 16.7% reported neutral, while 50% disagreed or strongly disagreed. For the third statement, “It does not take me long to recover from a stressful event,” 33.3% of the subjects agreed, 50% reported neutral, and 16.7% disagreed. For the fourth statement, “It is hard for me to snap back when something bad happens,” 50% of the subjects agreed, and 50% of the subjects disagreed. For the fifth statement, “I usually come through difficult times with little trouble,” 50% of the subjects agreed, while the other 50% reported neutral or disagreed. For the sixth and final statement, “I tend to take a long time to get over setbacks in my life,” 66.7% disagreed, and 33.3% agreed.

Qualitative Results

Qualitatively, the theme of *resilience strategies* emerged. Five of the six subjects expressed that the program was beneficial, while one subject was neutral regarding the helpfulness of the program. There were mixed sentiments regarding improvements and declines in resilience throughout the subjects’ careers. Some indicated their resilience had declined under stress due to demands, workload, and caseload, while others believed their resilience had improved with a change in environment (remote) and the incorporation of coping skills.

When asked about the resilience strategies they use, subjects were allowed to select multiple options. Before the training module, most subjects reported using simple breathing techniques and reciting a mantra or phrase, as seen in Figure 1 below. Four of the six subjects stated they will employ a total of seven new strategies based on the brief virtual resiliency training module based on mindfulness techniques, as seen in Figure 2.

The second qualitative theme of *concerns* came out from subject reflections. One subject who indicated a decline stated, “It has declined over time due to stresses of the job and an increase in complex patients as well as productivity requirements and current try as a new director and its job.” While another subject who reported improvements and declines reported, “[Resilience] improved with remote work, but decreased with heavier workload.” Four of the six subjects felt inclined to share more insight, explaining the importance of resilience due to burnout, the need to care for patients, and the responsibilities extending beyond the individual to the employer. One subject who shared their thoughts on the shared responsibility of resilience commented, “There is a personal responsibility, but workplaces are also responsible to make sure demands are realistic and fair.” Another subject illustrated the importance of healthcare workers taking care of themselves, “Remember that you need your own mental health to be good for you to be able to fully help your clients. If you keep burning yourself out and not practicing self-care, it will be harder to care for your clients.”

3.2 Discussion

This feasibility study examined a brief, introductory-level virtual resiliency training module for healthcare professionals. The mixed methods study was exploratory in nature (Kumar, 2014). The findings answered the research question, revealing that virtual training can support resilience among healthcare professionals.

Before this study, the literature reported that targeted training was effective in improving resilience for healthcare professionals (Cleary et al., 2018; Gröschke et al., 2022; Larsson et al., 2025; Ratliff et al., 2025). However, many of these programs were both time- and cost-intensive, with significant results only lasting up to a year (Klatt et al., 2022; Mahmoud & Rothenberger, 2019). A virtual resiliency training module may address these shortcomings by allowing participants to self-pace their learning and repeat the training as necessary.

There are several limitations, including sample size and lack of a diverse subject pool. The subjects who participated in the survey may have reflected self-selection bias, as those who felt they were resilient may have been more likely to complete the survey. The small sample size hinders generalizability.

4 Conclusion

Due to the research being a feasibility study, the effectiveness of the program was not measured. Future research should aim to recruit a more diverse, larger sample of healthcare professionals with pre- and post-test scores to determine effectiveness. Based on the positive results reported here, recommended strategies for resilience-based programming include mantra/phrase, cost/benefit analysis, considering other perspectives, observing thoughts/feelings, listing and expressing gratitude, writing down feelings, and breathing techniques within an occupational routine. Additional interventions for coping with external factors like bureaucracy could be beneficial. These recommendations can help support healthcare workers by addressing their unique resiliency needs.

Acknowledgments

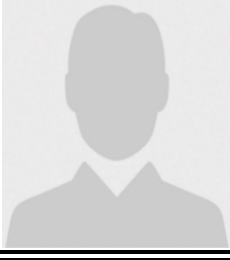
The authors would like to thank the participants who made this study possible.

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