



Encouraging self-care by promoting the Provider Resilience mobile application: Student impressions and usage patterns

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ABSTRACT: In an effort to encourage self-care through a wide variety of means, 61 MSW students were asked to download the Provider Resilience mobile application (PRMA), as part of their coursework, and use it at least five times over a two-week period. At the end of this period, they were asked to write their impressions about this application and the perceived value to their overall level of resilience and self-care. Students were asked to consider the accuracy of their overall resilience rating and their scores for compassion satisfaction, burnout, and secondary traumatic stress, as well as comment on the perceived value of ratings and other tools in the app that are designed to increase awareness and resilience. Participants were asked which of these sections they used and which were the most useful to them. Finally, as a part of their end of course evaluation, students were asked to estimate how many times they used the PRMA on their own in the six weeks after their assignment was turned in. Slightly over a third (38%) of the students had used the app again, but for those who continued using the PRMA, the mean number of times used was 3.36, suggesting that some students found this a useful tool for increasing their resilience and supporting one of the secondary objectives of the assignment. While this is only preliminary work, findings suggest further exploration of incorporating resilience promoting technologies in the classroom may have some merit.

Keywords: burnout, resilience, self-care, social work, technology, education



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Careers in the human services are very challenging, and self-care and resilience have never been more important for both new and seasoned health care providers (e.g., Trotter-Mathison & Skovholt, 2014). Challenges such as burnout, compassion fatigue, and secondary traumatic stress confront health care providers, especially when they work with populations that have encountered traumatic experiences such as combat or sexual assault. It stands to reason that health care providers from certain organizations, such as the military, or in particularly challenging situations, such as emergency or oncology departments, might need to manage some of these challenges more actively in order to maintain optimal levels of performance.

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The broader military community has maintained a focus on increasing resilience over the past several years but has now begun to focus on military medical provider resilience. One result of this focus was the development of the Provider Resilience Mobile Application (PRMA), a smartphone application designed to support the resilience and emotional well-being of military health care providers as they cope with compassion fatigue, secondary traumatic stress, and burnout that can accompany working with military members who have had to face traumatic experiences (Lester, Taylor, Hawkins & Landry, 2015). The PRMA was created to help health care providers, including social workers who treat military personnel, to better manage burnout, compassion fatigue, and secondary traumatic stress. Application users complete ongoing self-assessments to include the Professional Quality of Life Scale (ProQOL; Stamm, 2009), burnout ratings, resiliency builders/breakers, along with noting the time since they last took days off from work. They also receive psychoeducational information and use other tools designed to foster their resiliency and enhance compassion satisfaction.

Mental health providers, such as social workers, are at risk for developing compassion fatigue that can include burnout and secondary stress responses. These clinicians often work in highly stressful environments with multiple traumatized clients who are regularly overwhelmed with their current situations. A meta-analysis of studies between 1980 and 2015 (Dreison, Luther, Bonfils, Sliter, McGrew & Salyers, 2018) found that burnout interventions for mental health providers had a small but positive effect. Self-awareness of how well clinicians are coping themselves as they care for these clients along with stress reduction reminders (Parsonson & Alquicira, 2019; Vella & McIver, 2019), and other tools have been found to help clinicians manage these stressors and maintain their own resiliency.

Health care providers treating military personnel face high demands for their time and personal resources. Provider burnout, compassion fatigue, secondary traumatic stress, and other negative issues are always a concern. Through psychoeducation and self-assessments, the PRMA gives frontline providers tools to keep themselves productive and emotionally healthy as they assist service members, veterans, and their families.

The PRMA has been the source of study on just a few occasions. Wood, Prins, Bush, Hsia, Bourn, Earley, Walser and Ruzek (2017) designed a usability, acceptability and effectiveness study for the app with 30 outpatient mental health providers. These providers used the PRMA for one month. Interestingly, statistically significant decreases on the burnout and compassion fatigue subscales were found after one month of use, suggesting that the app could be a useful tool for

managing challenges associated with providing care.

Jakel, Kenney, Ludan, Miller, McNair and Matesic (2016) used the PRMA with oncology nurses. They recruited 25 volunteers, of which, 16 used the app. The remaining nine were placed into a control group. At the end of 6 weeks, scores on the Professional Quality of Life Scale (ProQOL) were collected from all 25 volunteers and analyzed. No differences were found between the groups, although the small sample size would likely have impacted this finding.

Most recently, Carrig (2019) used the PRMA with eight emergency department nurse practitioners. After using the app for 30 days, participants' mean burnout scores were slightly decreased (by 1.0). Participants' mean compassion satisfaction was slightly improved (by 0.9) from baseline, while no changes occurred in the secondary traumatic stress scores. Statistical analysis was not used in this dissertation, so it is unclear whether these changes were statistically significant, but the changes were slight enough that they were not likely to be meaningful.

Other research is being conducted with the PRMA but has not yet been published. Kalowes, Smalling and Dyo (2019) presented preliminary research using the PRMA with nurses at a children's hospital that they hope to publish in the future. All of these studies are important as we ascertain the usefulness and feasibility of the PRMA. Yet, none of these studies are targeting the use of the PRMA while individuals are in training. The current study focuses on the use of the PRMA in higher education as a means to teach self-care at the graduate level.

Purpose of the Study

The purpose of the study was to assess the feasibility and user satisfaction of the PRMA, originally developed by the National Center for Telehealth and Technology, later becoming the Defense Health Agency Connected Health. Through the study, the researchers hoped to answer the questions: *How accurate and valuable are the scale score ratings associated with the Provider Resiliency app? How useful and beneficial was the app overall? Finally, what are the perceptions of MSW students regarding the value of this app for continued resiliency?*

Method

This exploratory case study was conducted at a Midwestern university MSW program, and data was collected from written course assignments, classroom discussion, and a one-item survey. Bogdan and Biklen (2003) define case studies as "a detailed explanation of one setting, or a single event, a single depository of documents, or one particular event. (p. 54)". An intrinsic case study design is used in situations where the researcher's intention is to better understand a particular event or phenomenon (Lune & Berg, 2017). It is not designed to better understand or test the

abstract theory, or to create new theoretical explanations like instrumental or collective case studies might do, rather, it chooses cases to better understand a specific problem or concern (Munhall, 2007). Using direct interpretation, researchers create naturalistic generalizations from multiple sources such as interviews, observations, and documents. Data is organized, described, and classified into codes and themes, and interpreted to better understand a specific issue or concern (Creswell & Poth, 2017).

Participants

Masters of Social Work (MSW) students were recruited to participate in the study. As part of a course assignment, they were asked to download the PRMA onto their mobile device (e.g., smartphone or tablet computer). This app could be downloaded for free from the iTunes App Store, Google Play, and Amazon's Appstore. Study participants were then asked to use the application on a minimum of 5 occasions over the course of at least 14 days.

Participants (n = 61) were a convenience sample of MSW students from two campus-based cohorts who were enrolled in a course designed for advanced practice with individuals. This program draws students primarily from the region surrounding the university. A large majority of the students came from the Northern Midwest region. These students were between 23 to 54 years of age (M = 27.4 years, SD = 4.2 years). Participants were largely Caucasian (88%; 3% African American; 3% Asian; 3% Hispanic; 3% Native American), and primarily female (88%; 12% male). They were all in the first semester of an advanced standing MSW program that utilized block field placements at the end of the program. No participant was in a field placement at the time of the study.

Data Collection and Analysis

Students provided a written assignment where they were asked to answer several questions from an assignment related to the accuracy and value of the rating scales, the value of the various sections of the PRMA, the usefulness of the PRMA, and the likelihood they would use it on their own after the assignment was completed. They were instructed to submit assignments via the learning management system (LMS) that contained no identifying information on the actual document. In this way, their assignment would be identified for grading via the LMS but could be later downloaded into a bulk file that would be automatically be deidentified for research purposes. They were all given the opportunity to opt-out of having their assignments included in the research with no repercussions. Should a student opt-out, their assignment would be deleted out of the LMS after grading, and before downloading for research. All students enrolled in the course

completed the same assignment. Upon completing the assignment, students discussed their experience in class. During this time, the instructor noted each theme that was discussed.

Content analysis systematically identifies and categorizes data into codes, or meaningful pieces of content, in order to develop significant themes in qualitative analysis (Hsieh & Shannon, 2005; Patton, 2002). The researchers used content analysis on both the data from the written assignment and class discussion. For the study, written assignments from the data pool were coded independently by two coders. The researchers each coded the written assignment to identify preliminary words or phrases that described a participant's experience. This process produced substantial inter-coder reliability. The Cohen's (1968) Kappa values for each category are presented in Table 1.

Table 1

Coding variables and inter-coder reliability (Cohen's Kappa).

Category	Cohen's Kappa
Importance of Feedback	.90
Challenge of Self-care	.85
Enhancing self-care	.79
How much is enough	.83
Rating score accuracy	1.0

Note. Written assignments were coded by two independent coders.

The researchers then discussed, and agreed on, the main themes which are described in the following section. The main themes were influenced by the structure of the assignment, but this act was still an important part of the process. Member checking, the process of sharing the researchers' coding of data with participants, was an important piece of the analysis to increase the validity of the results (van Manen, 1990). The researchers created a summary of themes identified during the data analysis and provided this to all participants during a later class session. The summary was discussed, and participants were asked to indicate whether the identified themes accurately reflected their experiences. This process was used to ensure that the researchers correctly interpreted the intended meaning of the statements. Of the sixty-one participants surveyed, fifty-eight participated in this process. Their feedback was incorporated into the descriptions of themes. The themes presented in the findings below illustrate the perceptions the participants had of the PRMA.

Results

Participants identified a number of themes they frequently addressed as a result of completing the written assignment and participating in class discussion.

Importance of Feedback

MSW students described in detail how valuable they felt having visual, immediate, and measurable feedback was. It was clear that the main reason for this application was to assist health care providers to build and maintain their resilience as they provided care to those who have endured challenging and traumatic circumstances. Being able to get feedback about one's current level of resilience and track one's progress was an important part of the change process. The PRMA provided a resilience rating from 1- 100 based on a variety of factors. This was the most prominent aspect one sees on the application's dashboard. This resilience rating was designed to provide feedback to application users and either reward them when they had high resilience ratings or warn them when their resilience ratings were getting low. The general idea is that resilience ratings are dynamic, and through various targeted self-care activities, application users could raise their resilience and avoid concerns like compassion fatigue, burnout, and secondary traumatic stress. Depending on the type of job that a human services provider has, they may have to take a very active role in their own self-care in order to be able to sustain their health and maintain optimum levels of functioning.

One of the participants pointed out the importance of having these rating scales and being able to see progress. *"If I were trying to increase my resilience or my self-care, an app like this would be a really good tool to help me. It would be a lot like a scale would be if I were trying to lose weight. It would let me know what my rating is right now and if things are changing. Then I could adjust my lifestyle accordingly."* Another participant said, *"I like all the feedback you get from this app; it feels like I'm getting something back that is tangible."*

The quality of the feedback was found to be an important facet of this theme as well. Not only did the students think that getting feedback was helpful, but participants discussed the importance of getting feedback that looked at the same issue from different perspectives. *"I think that getting rating scale score feedback is really important if we are going to manage our resilience during challenging periods. I especially like the fact that this looks at resilience from different angles. I don't just get a burnout score, but I also get a compassion satisfaction score. By looking at this issue in more than one way, it can help ensure that I would see concerns earlier and be able to do something when making changes are easier."* Another student mentioned, *"I like that there were a variety of scales. They were all very useful and helped me to focus on my goal of improving my self-care."*

There were a small number of participants who did not find the feedback to be valuable. They were asked about the value of the scale scores as part of the assignment. These individuals did not find the scale scores helpful. Rather, they felt like these were rather unclear concepts that did not provide direction or clarity that was helpful. *"I kept hoping the resilience rating would be helpful, but I couldn't tell exactly how it was calculated or what it really even meant. Even after two weeks of using the app, it was still a mystery. That made it less valuable to me. Resilience can mean a lot of things, and knowing exactly what this means would make it more meaningful for me."* Another participant indicated that the app didn't provide feedback that they didn't already have an abundance of in their naturalistic environment. *"I don't need a scale to tell me when I feel like life is beating me down. I know it when I feel it. Having to answer a number of questions about it will just frustrate me and make me feel worse."*

Challenge of Self-Care

Another theme that emerged from the data was the idea that taking care of oneself is challenging, especially when circumstances were difficult. Along those same lines, many students indicated that they did not have much difficulty taking care of themselves at the moment because their situations made it easier. The majority of the classes were comprised of new, inexperienced social work students who had not engaged in a significant amount of human services practice. They were generally eager to begin direct practice and had high resilience ratings. As an example, one student stated: *"I'm not seeing clients at the moment because I'm a full-time student and not in field placement. I'm also rather inexperienced, so I haven't had the opportunity to talk with clients about many traumatic experiences. So, my secondary traumatic stress score was very low. I hope it stays that way."* Another participant stated *"My burnout score was very low, and I hope to keep it that way for years to come. But considering that I've never actually worked in social work except for my field placement, I should be nowhere close to burnout at this stage of my career."*

However, many expressed concerns about how they might take care of themselves in the long run. Class information associated with this assignment included multiple warnings and examples of human service professionals who failed to engage in adequate self-care and the seemingly valued self-sacrifice that tended to lead to eventual burnout, secondary traumatic stress, and compassion fatigue. For example, one participant mentioned *"I've worked with some social workers who stayed in their jobs long after they burned out and they were so miserable. I never want to be like them. Having a tool like this can help me see if I'm starting to move in that*

direction and hopefully do something about it!" Another participant who has a great interest in working with sexual assault victims wrote *"I've always had a real passion for working with sexual assault victims and I'm sure that is what I'll end up doing. But one of the things I'm most worried about is how I'll handle hearing their stories day in and day out. I'm not overly sensitive, but it affects me when I hear about those traumatic events. Having a tool like this that will measure the secondary traumatic trauma, I'm experiencing will at least allow me to measure how bad things are getting for me and can be a good indicator for when I need to start seeking help myself."*

Several participants indicated they felt like self-care is easier for them now than it would be if they were working in a challenging job or were starting to burn out. *"I think self-care is easy now, but I'm concerned about what happens after I've worked in child welfare for several years. I'm a Title IV-E student, so I have to work in child welfare for at least two years. I've heard this work can be really hard. How do you take care of yourself when you have to keep putting yourself into tough circumstances? It seems like the best you can hope for is to slow down the damage."*

Another participant pointed out how challenging it can be to remain consistent and disciplined with self-care. *"Self-care seems like other behaviours that are good for you, like eating right or maintaining your physical fitness. I'm generally ok with these things, but there are times when I fall off the wagon and don't work out or eat a bunch of junk food. I can see that there will be times when I won't do a good job of self-care on my own."* This last comment leads us to the next theme: Ideas to enhance self-improvement and self-care.

Enhancing Self-Improvement and Self-Care

Self-improvement and self-care do not occur unless there is a reinforcement for these behaviours (or punishment for the absence of these behaviours). Throughout the course of this assignment and class discussion, students presented several thoughts regarding self-care and how this process can be improved. Some of these thoughts were related to the features of the app, and some moved beyond the use of the app. One of the comments related to a feature of the application regarding journaling. *"I find that journaling is a really important way for me to make changes and understand myself better. That's why I was really pleased to find the app has a journal feature in the Tools section. It allows me to journal about my self-care efforts and thoughts so I can keep them in one handy place."*

Other ideas to enhance self-care came from doubts listed earlier about being able to be consistent alone. *"If I'm going to maintain positive behaviour consistently, I really need an accountability partner. This app is a good tool, but I think I'd need to share it with someone or be*

using it as a group. Maybe share results among my co-workers?" Along those same lines, another participant indicated that it would be better if they did not do this alone, but with a bit of a twist. *"I've always found that if I can find someone to be a role model, that helps me a lot. That way, I don't have to figure everything out on my own. I can just do what the role model has already figured out. It usually makes things a lot easier."*

Another way to enhance self-care is the importance of making a firm commitment. During the course of this assignment, several of the participants did not make any positive strides towards improving their levels of self-care. This was not required of them. Several participants explained that they didn't improve because they hadn't made a commitment to improve. *"I didn't find this app helpful for my self-care because I didn't use it properly. I don't feel like I need to improve my self-care at the moment, and I wasn't told that I had to improve my self-care for this assignment, so I didn't commit to making any changes."*

How Much is Enough?

One of the challenges when attempting to make changes is setting realistic goals. That can be especially difficult with a concept as seemingly nebulous as self-care. If we were to decide to lose weight, there are various standards by which we might decide on an "ideal weight," yet, what is an ideal level of resilience or an ideal amount of self-care? This theme emerged from the data, particularly when participants were asked about the value of certain ratings. Several indicated that while the resilience rating and ProQOL scales were rated low, medium and high, it was unclear what these things actually meant and how much healthier a rating of high would be comparative to a rating of medium or low. For instance, one participant stated *"My scores fell in between the medium and high category. I feel like that is a very good score, but I didn't know for sure. Do we have to strive for perfection with this, or do we strive to be 'good enough' and leave it at that?"* Another participant asked *"What score is healthy and what is unhealthy? Is medium good enough? Do I get to decide?"* Finally, a participant asked about the cutoff to seek professional help. *"It seems like there should be some cutoff that tells me when I should seek professional help. If I reach a certain burnout score or a certain secondary stress score, wouldn't that tell me that what I'm doing isn't being effective and I need someone else's help to manage things?"*

Rating scores are accurate

It was not surprising that this was seen as a theme, considering that participants were asked to explicitly comment on their perceptions of accuracy with regard to the various scales that

the PRMA provides them. However, there was near consensus among the participants that the rating scores were accurately describing their levels of resilience, compassion satisfaction, burnout, and secondary traumatic stress. Participant comments were generally very consistent with the overall resilience scale, stating things like *"I was rated at an 84 and I believe that was accurate. I'm not in field placement and am not overly stressed right now. I'm at the beginning of my career and am very excited to do this work."* Another participant stated *"I scored high on the overall resiliency rating. I've had to struggle through a lot in my life, and I feel like I'm a resilient person. This feels like an accurate rating to me."*

Compassion satisfaction is about the pleasure you derive from doing your work well. Burnout is experiencing frustration in one's work and may include feeling discouraged or ineffective. Secondary traumatic stress indicates the amount of secondary stress one takes on from working with individuals describing traumatic events. The compassion satisfaction, burnout, and secondary traumatic stress scores for participants can be found in Table 2. When it comes to compassion satisfaction, participants generally indicated both high accuracy and high scores. *"I had a very high score in compassion satisfaction. Being relatively new in the field, I'm enthusiastic about working with clients, and I love when things work out well!"*

With regard to the scale scores, only two of the participants believed these ratings were not accurate, with both of these participants indicating they were rated lower than they felt they should be on the ProQOL. One participant mentioned that *"the rating was much too low when I first downloaded the app and completed the ProQOL, but the more I worked with the app, the higher my rating became. Towards the end of the two weeks, it was close to where it should be."*

At the end of the course, participants were given a one-question survey regarding the PRMA. It had been approximately six weeks since they were no longer required to use this app. The question was "You were asked to download the PRMA for a class assignment. Since the assignment was completed, how many times have you used this app on your own accord?" Fifty-eight of the sixty-one participants completed this one-question survey. The results are listed in Table 2.

Twenty-two of fifty-eight (38%) indicated they had used the app at least once in the six weeks following the assignment. Of those who used the app, the number of times it was used ranged from 1-7, with an average of just over three. Even though half of the participants indicated they would use the app in the future, the actual number was closer to one-third.

Table 2
Reported Rating Scale Scores and Number of Times App Was Used Post Assignment

Scale/Survey Question	N	Mean	SD
Overall Resilience Rating	61	78.1	9.2
Compassion Satisfaction Scale	61	41.4	4.3
Burnout Scale	61	12.2	4.6
Secondary Traumatic Stress Scale	61	7.8	5.2
# of times app used post assignment	58	3.36	2.3

Discussion

This study was able to adequately address each research question that was posed. As for the question regarding perceptions of accuracy and value of the scale scores used in the app, most of the participants found the PRMA to be accurate and valuable. It was encouraging that all but two participants found their scores to be reasonably accurate. Furthermore, the perceived value of the PRMA was strong enough that half of the participants reported an intention to use the application after the assignment had ended.

Many participants reflected on how the PRMA was beneficial and useful to their preparation for entering the social work workforce. Some used the PRMA and this assignment to reflect on ways they could improve upon their current patterns in preparation for the road ahead. The journaling feature led one participant to reflect on the value of organizing thoughts on self-care and having a place to keep track of their efforts to improve. Use of the PRMA led other participants to consider finding co-workers or role models to help keep them on track by using the mobile application together. The reflections on self-improvement led some participants to explain that they did not see a need to change their current patterns, did not receive any pressure to change, and consciously disengaged from the PRMA, other than to fulfil the requirements of the assignment. The persistence in committing to finishing the assignment may still be important even if the student was disengaged from the process. For example, Tang, Wang, Guo & Salmela-Aro (2019) found that commitment may be more important to grit than a growth mindset. Still, the students who had a growth mindset may have had a better experience with the PRMA. In other words, tools such as the PRMA appear to be designed for those who fall into the action or maintenance stages of change in the Transtheoretical Model (Prochaska & DiClemente, 1982) and are less likely to be used by those in earlier stages.

As for the final research question, participants seemed to perceive the application as valuable for their future self-care efforts, but its value is somewhat less clear based on their

application utilization behaviour. As previously mentioned, roughly half of the participants indicated that they would continue using the application on their own after the assignment was completed, yet only 38% actually did. Perhaps more significantly, of those who used the PRMA after the assignment, it was only used infrequently (roughly three times over a six-week period). This suggests that the PRMA was a very small part of the self-care regimen of the portion of the sample who actually used it, reminding the researchers how difficult the change process can be. Engaging in desired change, such as frequent use of the PRMA application is challenging, despite positive intentions. This finding supported other findings that behaviour change is hard to initiate and sustain even with clearly stated goals (e.g., Kersten, McCambridge, Kayes, Theadom & McPherson, 2015; Varkevisser, van Stralen, Kroeze, Ket & Steenhuis. 2019).

Further research may be indicated to determine if additional guidance could be added to the PRMA to provide tentative interpretations to the assigned score. Obviously, this should be done with caution as clinical wisdom has always played an important role in the interpretation of clinical scales. Nevertheless, many scales provide guidance on a clinical range that may help someone to understand when they may need to seek additional supports such as seeking psychotherapy for themselves, asking for more supervision, or taking some time away from work. Whether this should be done within the PRMA application may be an opportunity for further research.

The PRMA was designed for mental health providers who are more likely to experience secondary trauma based on the clientele they serve. Therefore its fit for graduate social work students who were not even in field placements was imperfect. Some students found this a useful tool for increasing their resilience, yet it remained clear that use of the PRMA would be enhanced by the inclusion of other self-care methods. While this is preliminary work, findings suggest further exploration of incorporating resilience promoting technologies in the classroom may have some merit.

Conclusion

The findings within this study supported using the PRMA as a mechanism to teach MSW students about self-care. Given the findings and the importance of the subject area, the authors suggest using a multi-faceted approach to teaching and supporting self-care rather than a single approach. The PRMA as a stand-alone tool may not be sufficient to support provider resilience, but if it is used in conjunction with other strategies, it may provide meaningful support to an overall self-care plan. Decker, Constantine Brown, Ashley and Lipscomb (2019) found that teaching MSW students breathing, mindfulness, and meditation strategies helped to improve student emotional

well-being as they were in their internships. These strategies were congruent with the PRMA's organization and built off of one another. The PRMA was not designed for clients, but similar mobile applications are widely accessible and could be shared with clients (Favero, 2019). Social work educators would do well to expose students to several evidence-informed self-care practices (including mobile technology) as they establish the tools they will need to persist in fields with high rates of burnout.

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