

# A Resilience Framework for Research in Oncology Massage Therapy

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Pain and anxiety affect nearly half of patients with cancer, and high symptom burden causes stress during treatment. Both massage therapy and interventions focused on resilience building have been reported to ease symptoms. Resilience theory explains how a patient's resilience can help them navigate stressful events and return to health. Resilience at the family and health system level also affects a patient's ability to cope, recover, and rehabilitate after illness. Massage therapy is reported to reduce pain and anxiety, but its effect on resilience has not been studied. The purpose of this paper is to propose resilience theory as a framework for the role of massage therapy, symptom burden, and resilience, and how these might interact in patients with cancer.

**KEYWORDS:** Resilience theory; massage therapy; cancer; pain; anxiety

## INTRODUCTION

Roughly 50% of patients with cancer, undergoing or recovering from treatment, experience high symptom burdens of stress, pain, anxiety, and, therefore, a lower quality of life.<sup>(1-4)</sup> These high symptom burdens often go untreated and un- or misdiagnosed.<sup>(5,6)</sup> When pain is involved in patients with cancer, opioids are the dominant treatment of choice, despite the risk of dependency and the known complications of polypharmacy that are common in cancer survivors.<sup>(7-11)</sup> Similar to pain, anxiety is another symptom burden in patients with cancer that can benefit

from a holistic approach.<sup>(12,13)</sup> Therefore, non-pharmacological approaches need to be considered for symptom management in patients with cancer.

Massage therapy serves as a viable and effective non-pharmacological treatment of pain and anxiety in patients with cancer.<sup>(14,15)</sup> Specialty training in oncology massage therapy (OMT) and hospital-based massage therapy (HBMT) is desirable when working with patients with cancer. Proper training and use of appropriate massage therapy techniques for patients with cancer are vital to the safe delivery of massage therapy and to achieve prime outcomes of change in pain, stress, and anxiety. OMT can take place in a clinic, spa, or private practice setting and uses the appropriate pressure, site, and positioning adjustments for the patient, in relation to their treatment. OMT addresses the side effects of cancer treatment, such as fatigue, nausea, and pain, and supports health in recovery from illness.<sup>(16-18)</sup> HBMT uses similar competencies as OMT and expands its application to inpatient and outpatient settings. HBMT focuses on patient-centered care while working with an interdisciplinary health-care team.<sup>(19)</sup>

In kind, resilience theory addresses high symptom burdens of pain, anxiety, and stress that patients with cancer often experience.<sup>(20)</sup> Resilience has been described as the ability to adapt and move through rapid changes and hardships in life while embracing the suffering with a positive perspective.<sup>(21)</sup> Recent studies determined that resilience is multidimensional and can be taught, learned, and adapted to less-than-ideal circumstances.<sup>(22)</sup> This is especially true in

patients with cancer. Resilience serves as a powerful tool in coping with an unimaginable diagnosis, prognosis, treatment outcomes, and stress associated with the disease.<sup>(23–25)</sup>

Both massage therapy and resilience have a positive impact on patients with cancer. Each address pain levels, degrees of anxiety, stress intensity, and quality of life concerns that patients with cancer experience.<sup>(12,26–28)</sup> As a stand-alone approach, a patient with cancer can benefit from massage therapy’s evidence-based interventions. The same can be said for resilience. There is not a current framework that covers both massage therapy and resilience, and this paper attempts to study how massage therapy might influence the practice of resilience a patient with cancer could implement in their treatment. Currently, theories are limited in the field of massage therapy. This paper will therefore introduce a new theoretical model that invites research answering how massage therapy influences, strengthens, and supports patient resilience in cancer care. We propose that massage therapy, by improving cancer symptoms and stress, can also improve personal resilience. This improvement, in turn, further improves pain, anxiety, and stress, creating a positive feedback loop. Improvement in resilience also enhances quality of life, quality of care, and recovery from treatment. This explanation supports the use of resilience theory in research on massage therapy and cancer. By extension, the use of validated resilience measurements is warranted in research on massage therapy and cancer.

We first explore the framework of resilience theory and its implications for understanding symptom management of patients with cancer. Within the resilience framework, examination of personal resilience effects on pain, anxiety, quality of life, quality of care, and recovery of treatment of patients with cancer will be discussed. Additionally, the effectiveness of massage therapy on symptom management in patients with cancer will be reviewed. We will then propose one theoretical model for the interaction of massage therapy and resilience theory in relieving high symptom burden of patients with cancer. Our objective is to propose a model of resilience theory and massage therapy that will be the scaffolding of future research hypotheses to help patients with cancer deal with

diagnosis, illness, and recovery. We hope that this theory and future research potential will also lead to an increase of positive tools that patients with cancer can use to navigate their journey.

## RESILIENCE THEORY

The concept of resilience has a rich foundation in research within an organizational, educational, health-care, personal, and workforce perspective across genders and ages.<sup>(29)</sup> Perhaps the most common definition of resilience is a person’s ability to “bounce back” after a stressful or traumatic event, to show agility in the face of hardship, and to recover to a homeostasis of health.<sup>(30,31)</sup> Seligman’s model of the three Ps of resilience—personalization, pervasiveness, and permanence<sup>(32)</sup>—serves as the foundation in constructing the concepts of resilience in this paper (Figure 1). It is important to understand the mechanism and background of resilience theory as well as massage therapy’s influence on resilience related to our framework. Emerging data reveal that resilience can be taught, learned, and adapted cognitively, psychologically, and emotionally.<sup>(33)</sup> This is especially important for patients with cancer, as the practice of resilience can positively impact high symptom burden.<sup>(34)</sup> The patient with cancer can learn the skills of resilience to cope with their illness. Seligman’s model has been adapted for use in other populations, such as military service people, to address

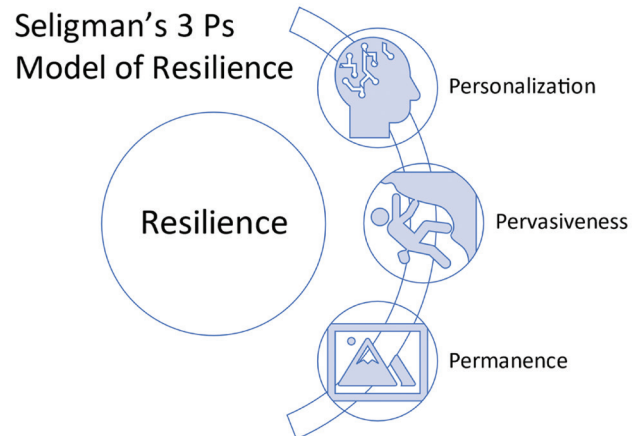


FIGURE 1. Seligman's three Ps model of resilience—personalization, pervasiveness, and permanence (Adapted from Seligman<sup>(32)</sup>).

the increased risk of mental illness following active duty/combat.<sup>(35)</sup> Positive or holistic psychology is another Seligman's model that has been used in education and organizations, both public and private, to build community, collaboration, and a sense of resilience.<sup>(36)</sup>

## PATIENT RESILIENCE

All three levels of the Seligman's three Ps model of resilience relate to resilience of the patient. First, personalization of blame (e.g., somehow, it is the patient's fault that they received a cancer diagnosis), seen in patients with cancer, can also be evident.<sup>(37)</sup> Second, pessimism from pervasiveness (e.g., unrelenting feelings of hopelessness) transmits to the patient.<sup>(38,39)</sup> Finally, within permanence, depression (e.g., unrelenting feelings of sadness, anxiety, fatigue, and aggravation) can also be found across the resilience of the patient.<sup>(40)</sup>

Patient resilience and stress are inter-related, and stress is the most common symptom reported by patients with cancer, from the initial diagnosis to treatment and into recovery.<sup>(41)</sup> Stress and resilience are related in this way; stress manifests and builds through the financial pressures of treatment, missing or losing work, and reduced income for themselves and their families. Physical, emotional, mental, and spiritual stress are also evident in patients with cancer and contribute to pain, anxiety, challenges to quality of life, and recovery from treatment.<sup>(42-44)</sup> Therefore, the ability to manage stress is essential to the health of the patient with cancer.<sup>(45)</sup> Whether a patient with cancer had a high level of personal resilience before diagnosis or not,<sup>(46,47)</sup> they possess the ability to recognize, learn, and expand a sense of personal resilience and thereby decrease their stress levels.<sup>(48,49)</sup>

## A THEORETICAL MODEL FOR MASSAGE THERAPY AND RESILIENCE THEORY IN HIGH SYMPTOM BURDEN

Patients with cancer experience challenging side effects of treatment, multifaceted stress, pain, anxiety, and quality of life concerns.<sup>(50-53)</sup> The healing process and the path to homeostasis for patients with cancer before, during, and after treatment can be viewed through the

lens of the Seligman's three Ps model of resilience approach. Massage therapy is an intervention that reinforces recovery from illness and addresses a multitude of side effects that enable the patient's ability to recuperate.<sup>(27,54,55)</sup> To demonstrate the impact of massage therapy as a facilitator of resilience, we present a model of massage therapy intervention and research to influence personal resilience.<sup>(56-59)</sup> The model includes components of resilience theory and massage therapy that have similar impacts on symptom management in patients with cancer (Figure 2).

In the model, we propose that resilience of the patient with cancer increases as massage therapy is applied to reduce the pain, anxiety, and stress. According to the model, as the patient's resilience increases, so do their health outcomes of pain, anxiety, quality of life, quality of care, and recovery from care (Figure 2). In the model (Figure 2), the patient is placed in the center (black figure in the middle). Massage therapy decreases pain, anxiety, and stress of patients with cancer (downward arrow), while resilience has a positive impact on medical outcomes of recovery from care, quality of care, and quality of life (upward arrow). As massage therapy affects pain, anxiety, and stress of patients with cancer as well as caregivers, resilience increases, thereby increasing positive medical outcomes of quality of life, quality of care, and recovery from care in patients with cancer. Resilience and massage therapy combined can reduce high symptom burdens of stress, pain, and anxiety in patients with cancer. Massage therapy provides support and stress relief from a cancer diagnosis for the patient. When the stress of the patient is addressed through massage therapy, the level of pain and anxiety lessens. Therefore, massage provided to the patients themselves may create a more resilient environment that improves the health and well-being of the patient (Figure 2). We propose that our model provides a good starting point to form hypotheses to research the effect of massage therapy on resilience at multiple levels.

## DISCUSSION AND RESEARCH APPLICATIONS

The proposed model, combining massage therapy and resilience theory, unites two vastly different, yet effective, styles of

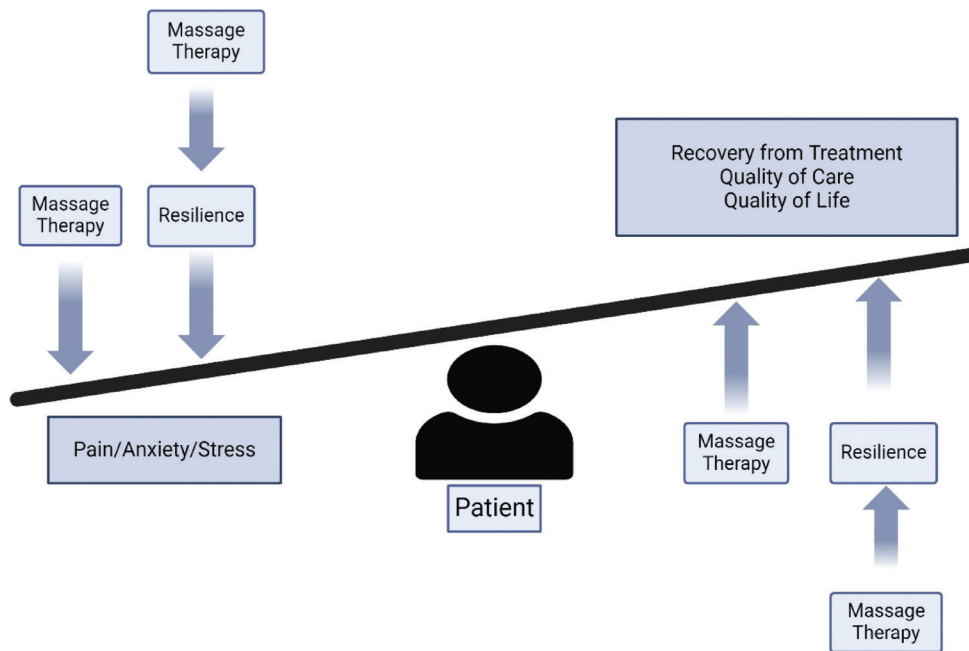


FIGURE 2. A model representing the effects of massage therapy on the resilience of patients with cancer.

TABLE 1. Characteristics of Resilience and Massage Therapy in Patients with Cancer

Resilience Type	Resilience Traits	Patient Effect	Clinical Recommendations for Massage Therapy
Personal	Emotional agility: ability to adapt in the face of hardship	Lowered stress, anxiety, increase of quality of life	Using resilience measurements pre/post massage, patient-centered care

support for patients with cancer. This novel model intersects with the Whole Person Health model, which includes patient-centered care while also considering all factors of health, not just the disease.<sup>(60)</sup> By looking at massage therapy through the resilience theory framework, clinicians have the opportunity to engage with other health disciplines applying similar strategies and provide tools for the patient to move forward with more support during their illness.

As a theory, massage therapy’s impact on personal resilience can best be measured through the application of validated resilience measurement systems. Personal resilience measurements such as the 10-item and 25-item versions of the Connor-Davidson Resilience Scale are important to use in determining the baseline, pretest, and posttest multi-faceted resilience.<sup>(61–63)</sup> No current validated resilience measure is a completely good fit with massage therapy. Thus, there is

a need to adapt a short form of these scales reflecting a resilience- and massage therapy-specific tool. For a future research project, adapting a short form of these scales might be indicated for more specific measures, as many of the scales include factors that are unlikely to be affected by even the most skillfully administered massage therapy. The clinician can use validated resilience measurement tools pre-post massage therapy intervention to capture any changes. These changes would capture both the massage effects and other factors such as effects of time resting from not having to parent a child. Multiple resilience measures could be used over time, alongside other biopsychosocial factors, to help guide what frequency of massage therapy intervention is the best for each patient.<sup>(64)</sup> Championing the resiliency of patients with cancer is a multi-faceted approach of communication, measurement, and application (Table 1).

The proposed model of massage therapy as an influencer of resilience for patients with cancer is not without limitations. It has long been debated whether resilience is inherent or learned or both.<sup>(30)</sup> Some resilience theories have purported that an individual is either born with a propensity for resilience or not,<sup>(65)</sup> while others argue that resilience is an interpersonal tool that can be taught and strengthened over time.<sup>(66)</sup> To our knowledge, the impact of massage therapy and resilience on pain and anxiety in patients with cancer has not been explored, and no theories addressing this issue exist. While patients with cancer showing resiliency upon initial diagnosis experience better quality of life and health outcomes, patients showing little to no resiliency need access to tools to develop their ability to bounce back. Learning the psychosocial skills needed to cope with the hardships associated with diagnosis, treatment, and recovery is vital to the health outcomes of patients with cancer.<sup>(67,68)</sup> Therefore, massage therapy could be one option for improving resilience in patients with cancer. More research is needed to explore the relationship between massage therapy and resilience and what effects and benefits this might have, not only on resilience levels but also on other aspects of health and well-being. Future investigations driven by our model will determine the effects of massage therapy on resilience.

## CONCLUSION

Theoretical models of massage therapy are few and far between. Bridging the gap between rehabilitative science theories and massage therapy will increase awareness of massage therapy benefits. A fuller understanding of the role of resilience in the effects of massage may support it as a psychosocial as well as physical intervention in patients with cancer. Just as tissues become more pliable with massage, so does the ability to become resilient. The high symptom burdens that patients with cancer often experience affects their ability to bounce back and recover from illness. This proposed model of resilience theory and massage therapy provides a framework for the generation of research hypotheses to investigate and explain massage therapy. In turn, patients may become more resilient, better equipped to

cope with illness and recovery, and able to move forward beyond cancer treatment.

## CONFLICT OF INTEREST NOTIFICATION

The authors, Jill Cole, Esther Dupont-Versteegden, and Christen Page certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements) or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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