



9-14-2019

# Weaving a Colorful Life Tapestry: Serene Gratitude, Post-Traumatic Growth, and Breast Cancer

Courtney B. Daly

*University of Pennsylvania*, [courtneybdaly@icloud.com](mailto:courtneybdaly@icloud.com)

Follow this and additional works at: [https://repository.upenn.edu/mapp\\_capstone](https://repository.upenn.edu/mapp_capstone)

 Part of the [Clinical and Medical Social Work Commons](#), [Counseling Commons](#), [Counseling Psychology Commons](#), [Health Psychology Commons](#), [Oncology Commons](#), [Other Psychiatry and Psychology Commons](#), [Social Work Commons](#), and the [Women's Health Commons](#)

---

Daly, Courtney B., "Weaving a Colorful Life Tapestry: Serene Gratitude, Post-Traumatic Growth, and Breast Cancer" (2019). *Master of Applied Positive Psychology (MAPP) Capstone Projects*. 165.  
[https://repository.upenn.edu/mapp\\_capstone/165](https://repository.upenn.edu/mapp_capstone/165)

This paper is posted at ScholarlyCommons. [https://repository.upenn.edu/mapp\\_capstone/165](https://repository.upenn.edu/mapp_capstone/165)  
For more information, please contact [repository@pobox.upenn.edu](mailto:repository@pobox.upenn.edu).

---

# Weaving a Colorful Life Tapestry: Serene Gratitude, Post-Traumatic Growth, and Breast Cancer

## **Abstract**

This literature review will serve as the foundation for a book proposal detailing my own life story. Every life is a beautiful tapestry woven together of colorful threads, each representing a unique component of an individual's experience. Trauma and adversity of some sort are undoubtedly part of every tapestry, and mine is no different. Using my personal experience with breast cancer, I examine the concept of post-traumatic growth, recognizing that stress and growth often co-exist and do not negate each other. Cancer is widely recognized as a trauma and is unique because of the threat of recurrence, meaning that the trauma never fully resolves. Post-traumatic stress disorder is associated with cancer, with many survivors experiencing anxiety and depression. The possibility for growth through the experience also exists, with one outcome being an enhanced appreciation for life. I suggest that although adversity cannot be prevented or controlled, we can choose our response. I present a specific type of gratitude, *serene gratitude*, which can foster growth and appreciation for life following trauma. It is my hope that by sharing my story others might begin to examine the possibility for growth after trauma in their own lives.

## **Keywords**

positive psychology, post-traumatic growth, positive emotion, gratitude, serene gratitude, breast cancer, trauma, narrative creation, positive rumination, character strengths

## **Disciplines**

Clinical and Medical Social Work | Counseling | Counseling Psychology | Health Psychology | Oncology | Other Psychiatry and Psychology | Social Work | Women's Health

Weaving a Colorful Life Tapestry:  
Serene Gratitude, Post-Traumatic Growth, and Breast Cancer

Courtney Daly

University of Pennsylvania

A Capstone Project Submitted

In Partial Fulfillment of the Requirements for the Degree of

Master of Applied Positive Psychology

Advisor: Dan Tomasulo, Ph.D., TEP, MFA, MAPP

August 1, 2019

Weaving a Colorful Life Tapestry:  
Serene Gratitude and Post-Traumatic Growth after Breast Cancer  
Courtney Daly  
[courtneybdaly@icloud.com](mailto:courtneybdaly@icloud.com)

Capstone Project  
Master of Applied Positive Psychology  
University of Pennsylvania  
Advisor: Dan Tomasulo, Ph.D., TEP, MFA, MAPP  
August 1, 2019

### Abstract

This literature review will serve as the foundation for a book proposal detailing my own life story. Every life is a beautiful tapestry woven together of colorful threads, each representing a unique component of an individual's experience. Trauma and adversity of some sort are undoubtedly part of every tapestry, and mine is no different. Using my personal experience with breast cancer, I examine the concept of post-traumatic growth, recognizing that stress and growth often co-exist and do not negate each other. Cancer is widely recognized as a trauma and is unique because of the threat of recurrence, meaning that the trauma never fully resolves. Post-traumatic stress disorder is associated with cancer, with many survivors experiencing anxiety and depression. The possibility for growth through the experience also exists, with one outcome being an enhanced appreciation for life. I suggest that although adversity cannot be prevented or controlled, we can choose our response. I present a specific type of gratitude, *serene gratitude*, which can foster growth and appreciation for life following trauma. It is my hope that by sharing my story others might begin to examine the possibility for growth after trauma in their own lives.

*Keywords:* positive psychology, post-traumatic growth, positive emotion, gratitude, serene gratitude, breast cancer, trauma, narrative creation, positive rumination, character strengths

### Acknowledgements

This was without question the hardest and most rewarding year of my life. MAPP was life-changing for me, and over the past year I learned a new language, new ways to think about life, and to reach places I did not know were possible.

The meaning in my life has always come from the people in it and I am eternally grateful for my family and friends. Although my name is on this capstone, it really belongs to so many. Thanks to MAPP I know that feeling and expressing gratitude is important and beneficial, and I am so grateful for my people. First, to my incredible husband, Drew, and my five sons, Griffin, Will, Conor, Aidan, and Finn, thank you for being mine. 143 forever and always. To my parents, there are not enough words to thank you for your endless love and support. To my sisters and my entire extended family, thank you for lifting me up when I was tired and reminding me why this was important and worth it. To my team and my dear, wonderful friends, thank you for supporting me and understanding that I could not go out, yet inviting me anyway. To Freddie, my Aristotelian Friend (AF), thank you for all the “weekend study hall” sessions, the conversations about happiness and well-being, the runs, the hugs, and so much more. To Kate, my sister-friend, I am amazed by you and I can’t remember life before you. It takes a village and I am remarkably lucky in mine.

To my MAPPily: MAPP.14 is clearly the best MAPP there ever was and ever will be. As exhausting as this year was, being in that classroom with you each month filled me up and brought me home to a place I didn’t know I was missing. I can’t wait to be MAPP alums with you, and for the lifetime of friendships and memories still to come. Thank you for supporting my capstone and for wanting to hear my story, and for sharing all of your ideas with me and with each other. We did it! Although I am not going to single out any MAPPsters here – the list is

too long – I was fortunate to be part of two cohorts with the most brilliant and supportive women, Shine Group 9 and my Violets. I love you guys.

I am grateful for the entire MAPP team and in awe of the work you all do every day to make the experience what it is for all of us. In particular, thank you to Henry Edwards for our wonderful conversations and for reading and responding to my journals. You encouraged me to pursue post-traumatic growth and your feedback meant the world to me. To Amy Holloway, the Violets' fairy Godmother, I am so glad you were our advisor during the spring semester. You became so much more than an advisor and I am so grateful for you. To Leona Brandwene, thank you for understanding my journey this year and for sharing in my tears and my smiles. To John Hollway, my own personal MAPP cheerleader, thank you for your support and encouragement from start to finish. And to Dan Tomasulo, thank you for guiding me through this capstone. It's hard to tell my story without feeling a little silly and you made me feel like it's worth it.

To the breast cancer community, and to my dear friends in that community, we are stronger than we know. And to my mom, Susan, and my sister, Leslie, this is not a club we wished to join, but I am so grateful to have been by your sides and to have you by mine. I love you more, the most, I win.

And finally, to Brien and Carrie. I love you and I miss you forever.

## Table of Contents

Motivation and Introduction .....	8
Motivation: The Tapestry of Life.....	8
Introduction.....	10
What’s at Stake? An Overview of Breast Cancer in the United States .....	13
Post-traumatic Stress Disorder.....	16
PTSD and Breast Cancer.....	17
Post-Traumatic Growth (PTG) and Positive Psychology .....	18
Post-Traumatic Growth.....	18
History of Growth Through Trauma .....	19
Cognitive Adaptation Theory. ....	20
Posttraumatic Growth Inventory.....	21
Positive Psychology .....	22
Post-traumatic Growth and Post-traumatic Stress Disorder .....	24
What Color is Your Cape? .....	24
Resilience: Where Do I Bounce?.....	25
Cognition and Action.....	27
The Japanese Art of Kintsugi.....	29
Post-Traumatic Growth and the Breast Cancer Experience.....	30
PTG and Distress in Breast Cancer.....	30

Cognitive Emotional Regulation and Coping .....	30
PTG and Body Awareness .....	31
Appreciation for Life, PTG, and Breast Cancer.....	32
Serene Gratitude.....	33
The P in PERMA .....	34
Positive Emotion. ....	34
Positive Emotion in Trauma. ....	37
Character Strengths.....	38
VIA Classification of Character Strengths .....	39
Character Strengths and Trauma.....	40
Gratitude and Breast Cancer .....	41
Serene Gratitude in the Chemo Room.....	42
Future Research and Conclusion .....	43
Future Research.....	43
Resilience Training. ....	43
Exploration of Serene Gratitude. ....	43
More Research into PTG and Breast Cancer.....	44
Oncology Recommendations.....	44
Many Ways to Grow.....	45
Social Support.....	45
Conclusion: It's the Same Life .....	46

References..... 48

Appendix A..... 64

## Motivation and Introduction

### Motivation: The Tapestry of Life

The motivation for this paper is personal. Although the term *post-traumatic growth* is relatively new to me, the possibility for growth through trauma is not. When I was born my two-year-old brother, Brien, was already dying from his neurological seizure disorder, having had his first seizure when he was three weeks old. He died when I was almost two, having never learned to sit, crawl, walk, talk, eat, or communicate in any way. Five years later, when I was six and my younger sister, Leslie, was two, our baby sister, Carrie, died at 11 months old from the same seizure disorder.

Despite these devastating losses, or perhaps in spite of them, our family was relatively *normal*, and our parents never made our losses the center of our family story. My youngest sister, Jamie, was adopted from Korea eighteen months after Carrie's death and we were carefree kids, playing with friends, going to school, and doing all the things young children might do. Looking back now, I am amazed at our parents' ability to provide that sense of normalcy for us and to be present in our lives in a way that let us know it was not only ok, but instead encouraged, to be happy. My mom has always talked of the *tapestry of life*, believing that everything that happens in one's life is a thread that contributes to their tapestry. Some colors are more vivid than others and some cover more surface area, but all are important and leave their mark. Our tapestries are the stories of our lives, created over time and through our many experiences. Brien and Carrie are intricately and permanently woven into my own tapestry and they have helped to shape me into the person I am today.

As the young mother of two children, I faced loss again in the form of a devastating divorce. My ex-husband and I separated shortly before the birth of our second son and we

divorced when both boys were very young. I loved my children and their father and wanted our family to remain intact, and I did not believe that divorce was the answer. Despite crushing sadness and long episodes of despair, we ultimately created a co-parenting structure that put our children and their needs at the center and allowed us to appreciate each other's strengths and focus on what and who we had created together. This would come through times of intense emotional and psychological struggle and it was not easy – to this day there are still difficult moments. However, years after our separation and divorce, my ex-husband would become the Godfather of my youngest child, and the relationship we now have between our families is one of our proudest accomplishments.

I went on to meet and marry my husband following the loss of his first wife to cancer. We each had two sons at the time, and together we blended our families to become a family of six, soon adding our fifth son to the mix. Drew and I talked often about the paths that led us to each other; this was not *the plan* that either of us envisioned for our lives, but we knew with our whole hearts that we were meant to be together. Heartbreaking loss brought us together, and we wrestled with our losses leading to such love. Ultimately, we came to understand that we could not change the past, but we could choose to be present in the moment and accept each other and our children as true gifts.

About seven years into our marriage, I was diagnosed with breast cancer. My mom had faced the same pre-menopausal diagnosis 17 years earlier, and four years after me my younger sister, Leslie, would also be diagnosed with breast cancer – at the very same age as me. At 37 years old with five children, two of whom had already lost their mother, a husband who had lost his first wife to cancer, and parents who had lost two children long ago, I was frightened and worried for what was to come. Physically, that would include surgeries, chemo, hormonal

therapies, more surgeries, different medications, and scans along the way. Psychologically and emotionally I faced some of the lowest lows, fraught with sadness, anxiety, and fear, mixed with some of the highest highs, filled with love, gratitude, and pure joy.

Now seven years past my cancer diagnosis, my active treatment ended long ago and I am healthy and strong, though I still face fears and *what ifs* around continuing doctor's appointments, occasional tests and scans, and daily medications. But I also recognize that while I will never feel *lucky* to have had cancer, to be divorced, or to have lost my siblings at an early age, I am incredibly grateful for what these experiences have taught me about myself, my relationships with others, and what matters in life. Through each experience I have become stronger and better able to navigate my life. This past year, through my participation in the Master of Applied Positive Psychology (MAPP) program at the University of Pennsylvania, I have learned about a whole new world within the field of psychology, something I initially studied as a pathology-based science while an undergraduate in the mid-1990s. As a result of this intense year of study I can now identify my experience of *post-traumatic growth*, a concept labeled as such by psychologists Tedeschi and Calhoun (1996; 2004).

## **Introduction**

This paper explores the literature behind the concept of post-traumatic growth (PTG), using my personal narrative to illustrate my perspective. It will ultimately serve as the theoretical foundation for a book proposal examining my own *narrative identity* or “who we are deep down – where we come from, how we got this way, and what it all means” (Gottschall, 2012, p. 161; McAdams, 2005). Smith (2017, p. 108) cites McAdams work on narrative creation, suggesting that individuals “divide their lives into chapters and ... recount key scenes” in order to uncover and make sense of their personal narrative. In particular, writing our stories helps us to connect

our emotional experiences with language and to label and process our experiences in a different way than through talking (Pennebaker & Beall, 1986). In the story above I have recounted some of the most impactful scenes and experiences of my life – the deaths of my brother and sister as children, my divorce, my remarriage, and my cancer diagnosis – all of which are inextricably part of how I became who I am. It is through examination of these events and their influence on my tapestry that I am able to gain a better understanding of post-traumatic growth and the idea of redemptive stories (McAdams, 2005). Redemptive stories are those that move from bad to good, ones in which an individual is able to find meaning in their suffering and find positive through negative. In this capstone I will explore my personal story through the lens of PTG, with particular focus on my breast cancer experience, though the book proposal will ultimately capture more of my story.

It is important to define the word *trauma* before examining the possibilities for growth it brings to one's life. Merriam Webster Dictionary defines trauma (2019) as:

- 1) an injury (such as a wound) to living tissue caused by an extrinsic agent,
- 2) a disordered psychic or behavioral state resulting from severe mental or emotional stress or physical injury
- 3) an emotional upset.

Calhoun and Tedeschi (1998a, 1998b) suggest that a traumatic event must be a *seismic event*, or one that shakes an individual deeply, leading them to question their beliefs. In both definitions, it is clear that a trauma is an overwhelming event that causes disturbance of some sort. I propose that trauma is unique to each individual, and that which is seismic for one person may not be for another. Further, an individual may not view certain events as traumatic that others may, and may view certain events as not traumatic while others see them as traumas. This way of looking

at trauma is subjective; however, this allows individuals the autonomy to determine for themselves. Smith (2017) suggests that the personal interpretation of events and experiences is what differs from one individual to the next.

Historically, trauma has been associated with stress, in the most severe of cases in the form of post-traumatic stress disorder, an often overwhelming and disabling diagnosis. Although there has also been a centuries-long belief that it is possible for trauma to generate growth (Tedeschi & Calhoun, 1995; Hobfoll et al., 2007), it was only recently that the concept of post-traumatic growth (Tedeschi & Calhoun, 1996, 2004) moved into the spotlight, highlighting the idea of growth through trauma.

“This is my moment to sing the aria. I don’t want to, I don’t want to have this chance, but it’s here now, and what am I going to do about it?” (Haidt, 2006, p. 138). These words perfectly capture my belief that although trauma is never welcome in life, and rarely is it something for which someone is glad to have happen, there are possibilities for growth through some of life’s most difficult circumstances. I do not suggest that growth is easy or that it comes without struggle, or even that it comes instead of struggle. Instead, growth may occur alongside struggle and stress, and may look very different from person to person. Each *aria* is different, but what matters is that we choose to sing. In this capstone I explore the concept of post-traumatic growth, and the relationship between growth and the positive emotion (state) and character strength (trait) of gratitude. I propose a specific type of gratitude, referred to as *serene gratitude*, that indicates an intention of attention and a mindful awareness of what is good in life. By using this platform to tell my story through the lens of post-traumatic growth, my hope is that others will feel encouraged to see the possibilities that arise through trauma.

### **What's at Stake? An Overview of Breast Cancer in the United States**

There are many traumatic experiences that people may suffer over the course of a lifetime. I have named three from my own life, including the loss of my siblings, divorce, and breast cancer. Although in the greater context of my own identity and life tapestry all three of these chapters are inherently important, for the purposes of this paper I will focus on the breast cancer experience, largely due to the fact that because of the nature of the disease, cancer survivors are “never entirely ‘posttrauma’” (Hefferon, Grealy, & Mutrie, 2010, p. 225; Cordova, 2008). Cancer presents a unique opportunity for the persistent co-existence of stress and growth. Cancer has only recently been regarded as a trauma and it presents differently than single-event *acute* stressors. Trauma from cancer involves multiple stressors including diagnosis, treatment, worry about the future, and more (Sumalla, Ochoa, Blanco, 2009).

Breast cancer is the most common cancer diagnosed in women<sup>1</sup>, second only to skin cancer (American Cancer Society, 2019). There are over 3.1 million women in the United States with a history of breast cancer, either currently in treatment or who have finished active treatment for the disease ([www.breastcancer.org](http://www.breastcancer.org)). Approximately 268,600 new diagnoses of invasive breast cancer and 62,930 diagnoses of DCIS or LCIS (ductal carcinoma in-situ and lobular carcinoma in-situ, both non-invasive breast cancers) will be given in 2019. Death rates among women diagnosed with breast cancer remain higher than those from any other cancer with the exception of lung cancer, with 41,760 projected to die from the disease this year alone ([www.breastcancer.org](http://www.breastcancer.org)).

Incidence of breast cancer rises as women grow older with age and gender being the two most prevalent risk factors (American Cancer Society, 2019), neither of which can be avoided or

---

<sup>1</sup> Men are also affected by breast cancer, though far less commonly. In this paper I will exclusively reference women, though the concepts presented are universal.

altered. Women under the age of 40 account for 7% of breast cancer diagnoses, with 40% of overall cancer diagnoses in this age group being breast cancer (Anders, Johnson, Litton, Phillips, & Bleyer, 2009). As women are diagnosed with the disease at younger ages and therefore live longer past diagnosis, either disease-free or with cancer as a chronic disease, (see Table 1), it becomes necessary to think about not only surviving cancer, but also about quality of life and the possibility for thriving after diagnosis and treatment (Mols, Vingerhoets, Coebergh & van de Poll-Franse, 2005). The National Coalition for Cancer Survivorship, which was founded by cancer survivors for cancer survivors, defines *cancer survivorship* as “living with, through, and beyond a cancer diagnosis,” (NCCS, 2019, para. 3) from the moment of diagnosis through the end of one’s life.

Table 1

*Relative 5-year Survival Rates*

Period	Overall 5-year relative survival rate
1975-1977	74.8%
1987-1989	84.0%
1996-1998	88.2%
2002-2004	90.0%
2009-2015	91.3%

*Note.* Adapted from "SEER Cancer Statistics Review, 1975-2016, National Cancer Institute," by N. Howlander, A M. Noone, M. Krapcho, D. Miller, A. Brest, M. Yum,... & K. A. Cronin, 2019 ([https://seer.cancer.gov/csr/1975\\_2016/](https://seer.cancer.gov/csr/1975_2016/))

A cancer diagnosis is a traumatic experience that cannot be predicted or planned for. The diagnosis is threatening, in some cases to one's very existence, overwhelming, and can create a feeling of loss of control and of safety (Willig, 2015). When a woman is diagnosed with breast cancer, survivorship is at the forefront of her mind and is understandably the driver of the conversation around treatment protocol. Even when chemotherapy is shown to have a very small, sometimes even negligible, benefit, women are likely to want to pursue the treatment (Ravdin, Siminoff, & Harvey, 1998). Women who are diagnosed with cancer at a younger age may suffer more psychologically than those diagnosed at a more advanced age. Younger women also face a greater likelihood of struggling with lifestyle changes following a diagnosis (Vinokur, Threatt, Vinokur-Kaplan, & Satariano, 1990; Costanzo et al., 2007). Additionally, younger women tend to have more aggressive diagnoses, and when their cancer is hormone dependent they may require medication or surgery to prematurely induce menopause in order to increase disease survival (Francis et al., 2015). For all women, aside from the fatigue, nausea, hair loss, weight gain/loss, mouth sores, etc that occur with traditional therapies, cancer treatment can bring a range of persistent physical, emotional, and psychological side effects such as pain, swelling, lymphedema, cognitive difficulties with attention and memory, often referred to as *chemo-fog* or *chemo-brain* (Van Dyk & Ganz, 2017), peripheral neuropathy, fatigue, sexual dysfunction, early menopause, osteoporosis, and more (Tao, Visvanathan, & Wolff, 2015).

I have often described early survivorship as having the training wheels taken off a bike you don't know how to ride. No matter how difficult active treatment may be, it becomes somewhat of a routine, and there was comfort in consistent doctor's appointments and knowing that I would have regular opportunities to check in and ask questions and receive the reassurance I so desperately needed. When I finished with my chemotherapy, had my reconstructive surgery, and

determined that I would not pursue radiation, my oncologist told me that I would need to come and see him three months later, and then we would space the appointments out further. I had been so looking forward to this day and to “getting my life back” but when it actually happened I was terrified. The what-ifs swirled in my head. What if something happened and I didn’t have my safety net of constant doctor’s appointments in place? If something happened how would I know if I needed to be seen or if I could hold off? How do I live in this new world where everything seems so scary and threatening? I needed to learn how to navigate this world, which involved challenging my assumptions about my life. I am married to a man whose first wife died from cancer, leaving a husband and young children behind, proving that my worst fears were indeed possible. As much as I wanted to believe that lightning doesn’t strike twice, I knew that life is unpredictable and there are no guarantees. I had cancer. But I also needed to recognize that I *had* cancer; I didn’t have it anymore. Even though I was unsure and afraid, I was in the fortunate position to be *finished* with treatment, something that many breast cancer patients never get to do. I struggled then and continue to struggle today with fear and anxiety around aches, pains, and the what-ifs that persist. However, although I did not know it then, there also existed possibilities for growth that I would uncover along the way.

### **Post-traumatic Stress Disorder**

Before examining the idea of growth through trauma, it is necessary to briefly review post-traumatic stress disorder (PTSD), particularly in the context of its relationship to PTG. In my experience, PTSD is the more typically assumed result from severe trauma and is often used casually to refer to stress that may follow adversity. As I have indicated, breast cancer is a very stressful experience, and one that often persists long after diagnosis and active treatment have finished.

PTSD was officially recognized as a diagnosis with its inclusion in the 3<sup>rd</sup> version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) in 1980, following the Vietnam War (Scott, 1990). The return of veterans from the Vietnam War brought individuals who were suffering as a result of their trauma, with symptoms such as recurrent and intrusive thoughts, hyperarousal resulting in difficulty sleeping, and decreased involvement with the outside world (Helzer, Robins, McEvoy, 1987; Scott, 1990; Rendon, 2015). Complications from stress, and war in particular, were not new, and had previously been referred to as “soldier’s heart ... shell shock ... [and] battle fatigue” (Rendon, 2015, p. 16), and were believed to occur in soldiers who were weak and not able to withstand the rigor of war (Scott, 1990). With the inclusion of PTSD in DSM-III came the acknowledgement of PTSD as a legitimate diagnosis, one that extended far beyond war veterans and was not in any way indicative of weakness (Scott, 1990).

### **PTSD and Breast Cancer**

PTSD was later studied in breast cancer patients, with the DSM-IV including life threatening illness as a possible criterion for diagnosis (Cordova et al., 1995). Findings from those studies indicate that breast cancer survivors often experience fear, anxiety, difficulty sleeping, troubling memories around the diagnosis and treatment, and worry for the future, and that while many survivors will experience such symptoms, only some will experience extreme symptomatology indicative of PTSD (Cordova et al., 1995; Green et al., 1998; Mehnert & Koch, 2007).

Mehnert and Koch (2008) found that breast cancer survivors report higher anxiety than the general population. This effect is largest among young survivors, indicating that the impact of the breast cancer experience on anxiety is long lasting. Specifically, fear of recurrence provokes anxiety that does not necessarily fade with time (Herschbach et al., 2005; Mehnert &

Koch, 2008).

I was fortunate to have my mom as a fellow pre-menopausal survivor who had walked this path ahead of me and is a wonderful example of health after breast cancer, despite her stage 4 bone metastasis two years after her initial diagnosis. However, fear of recurrence is something that most cancer survivors struggle with, myself included. In fact, at the time of this writing I have just learned that my most recent MRI scan is clear and I can exhale the breath I did not realize I was holding. Although I don't think about cancer all the time, aches and pains are treated differently now and sometimes that underlying fear of recurrence pops up. I did not suffer from true PTSD, though I have and still do struggle with fear and anxiety. I have wonderful social support from my family and friends, a factor in PTG (Sears, Stanton, & Danoff-Burg, 2003; Romeo et al., 2019), and I also sought professional support from a one-on-one therapist and in a breast cancer support group. However, it is through my experience at MAPP and the study of well-being that I was able to truly understand my experience and the possibility for growth.

### **Post-Traumatic Growth and Positive Psychology**

#### **Post-Traumatic Growth**

When we are no longer able to change a situation, we are challenged to change ourselves.

- Viktor Frankl

The idea of growth through trauma is not new and has roots tracing back to the Bible (Hobfoll et al., 2007). However, post-traumatic growth (PTG) as it is now studied is a relatively recent construct. Tedeschi and Calhoun, both psychologists from North Carolina, initially began this line of research intending to speak with the elderly, intending to determine what they had learned in their lives that they might like to share with others (Rendon, 2015). Through that research they found that many people experience significant adversity, often rising to a *seismic*

level, meaning that an individual's very foundation is shaken and their identity and view of the world is challenged and often contradicted (Tedeschi & Calhoun, 2004). The metaphor of an earthquake is useful, however, instead of physical *rumble*, the crisis is psychological (Tedeschi & Calhoun, 2004). For many people this brings about not only struggle, but in fact true psychological growth (Calhoun & Tedeschi, 1990; Tedeschi & Calhoun, 2004; Rendon, 2015).

Following a traumatic experience, it is normal and common for individuals to focus on what happened and to replay the event repeatedly, something called *rumination*. The word rumination has a bit of a bad reputation, however, and the internet abounds with articles warning us that rumination is bad and telling us how to stop this negative behavior. Tedeschi and Calhoun offer the term *deliberate rumination*, which they believe is what leads to psychological growth (Rendon, 2015). Deliberate rumination refers to the active process of thinking about the trauma and how it has challenged an individual's assumptions and beliefs about themselves and their world. It is this degree of examination of one's core beliefs and an individual's ability to wrestle with what happened and its effects on the individual's identity that can lead to PTG, and this appears particularly true following a cancer diagnosis (Danahauer et al., 2013). Growth occurs because of this struggle, not because of the trauma itself (Tedeschi & Calhoun, 2004).

### **History of Growth Through Trauma**

Tedeschi and Calhoun were not the first to hypothesize that trauma can lead to growth. Moos and Schaefer (1986) studied positive adaptation in the face of stress, using qualitative research to propose a framework. Growth has been studied among rape victims (Burt and Katz, 1987), incest survivors (Silver, Boon, & Stones, 1987), heart attack survivors (Affleck, Tennen, & Croog, 1987), cancer patients (Collins, Taylor, & Skokan, 1990), and more, with findings suggesting that positive change can result from horrific experiences. Additionally, PTG as it is now

known has been studied in a wide variety of populations, including but not limited to: survivors of terror attacks (Eze, Ifeagwazi, & Chukwuorji, 2019), military veterans (Benetato, 2011), and patients living with HIV (Nightingale, Sher, & Hansen, 2010). PTG has been referred to as “adversarial growth, ... stress-related growth, perceived benefits, thriving, blessings, positive by-products, positive adjustment, and positive adaptation” (Linley & Joseph, 2004, p. 11). Each of these terms indicates the possibility for psychological growth through a struggle following trauma.

**Cognitive Adaptation Theory.** Taylor (1983) offered the theory of cognitive adaptation, suggesting the possibility for psychological growth through trauma. The theory of cognitive adaptation suggests that following a traumatic event, individuals search for meaning in their experience, try to gain control or mastery of the event and of their lives, and try to improve their self-esteem. Taylor (1983) and colleagues worked specifically with breast cancer patients in the development of this theory, finding that the search for meaning is centered on learning why the traumatic event occurred and determining its significance in one’s life. They found that the idea of mastery is based in gaining control in some way when so much seems out of control, and the development of self-esteem is based in feeling good about the self following an event that often makes one feel victimized. Interestingly, Taylor (1983) and colleagues found that every cancer patient they studied showed cognitive adaptation in each of the three areas referenced, though much like trauma itself, the adaptation and expression of adaptation differed from person to person.

Taylor (1983) argues for the benefit of *illusion* in cognitive thinking when faced with a trauma. Illusion suggests that an individual’s assessment or perception of a situation is not entirely accurate. Although previously illusory thinking was believed to be a detriment to mental

health and that firm grounding in reality was necessary for optimal mental functioning (Erikson, 1950; Lazarus, 1983, 1998), denial and illusory thinking may offer protection against a crisis (Lazarus, 1983, 1998; Taylor, 1983). Taylor (1983) asserts that greater coping and emotional stability result from positive views of one's efforts and their perceived relationship to one's ability to get better and to maintain some control through the trauma, which may be illusory. This was later questioned as a strategy for the development of PTG and instead believed to be using PTG as a coping strategy to resist true identity change, which Tedeschi and Calhoun (1996) identify as a core component of PTG (Sumalla et al., 2009). Taylor (1983) refers to breast cancer patients choosing role models who are faring well with the disease and recognizing others who may be worse off than themselves, indicating the need to balance reality with the belief of one's power and agency to navigate trauma. However, many individuals who experience trauma may be less likely to experience illusory thinking due to the struggle they experience as a result of working through the trauma (Tedeschi & Calhoun, 2004; Tedeschi, Calhoun, & Cann, 2007).

**Posttraumatic Growth Inventory.** Tedeschi and Calhoun (1996) created The Posttraumatic Growth Inventory (PTGI), a framework through which to measure the occurrence of PTG in trauma survivors. In this framework they suggest that there are five areas in which individuals may exhibit growth. They are: 1) improved or closer relationships with others, 2) increased appreciation for life, 3) seeing new possibilities in life, 4) increased feeling of one's own personal strength, and 5) a deepened sense of spirituality.

These five areas are not to be confused with or misconstrued as a *positivity bias* (Tedeschi & Calhoun, 1996, p. 468). In fact, Tedeschi and Calhoun (2004) repeatedly point out that "major life crises typically engender unpleasant psychological reactions..." (p. 2) and have suggested that PTG can occur in the presence of PTSD (Tedeschi & Calhoun, 1995). This

indicates that growth is not defined, nor should it be defined, by the absence of distress. Instead, growth and distress may co-exist with distress ultimately fueling the growth experience (Tedeschi & Calhoun, 2004).

### **Positive Psychology**

Although not purely a function of positive psychology, there are elements of positive psychology that factor into PTG and that warrant exploration in this capstone. In particular, positive psychology concepts such as the positive emotion (state) of gratitude, gratitude as a character strength (trait), and the power of narrative creation through storytelling all play a role in PTG. In the context of PTG it is necessary to develop an understanding of positive psychology and its relevance for psychological growth and well-being.

Long before Martin Seligman, largely regarded as the father of positive psychology, proposed a new direction for the field of psychology, psychologists, philosophers, historians, and theologians wrestled with the idea of human flourishing. Ancient philosopher Aristotle's view of happiness, *eudaimonia*, is his representation of flourishing and his belief that there is more to happiness than *hedonic* pleasure and fame (Melchert, 2002). Aristotle's view was that happiness does not simply happen, but instead must be meaningfully sought and owned by each individual (Melchert, 2002). Further, happiness involves fully engaging in one's life and finding meaning in one's life (Seligman, Parks, & Steen, 2004). *Eudaimonia*, finding meaningful happiness and purpose, sits in opposition of the concept of hedonic happiness, or that which is purely based in pleasure.

Centuries later, in 1998, Dr. Martin Seligman became the President of the American Psychological Association. Shortly after his election, his then 5-year-old daughter implored him to stop being so grouchy just as she had stopped whining (Seligman & Csikszentmihalyi, 2000;

Seligman, 2011). Recognizing that child-rearing must be more than correcting negative behaviors, Seligman then reflected on the original three-fold mission of psychology: 1) successfully treat mental illness, 2) improve the lives of all people, and 3) foster talent and excellence (Seligman & Csikszentmihalyi, 2000; Seligman, Parks, & Steen, 2004). Since the end of WWII, the focus had been primarily on the first objective, and psychology had become very much a study of what was wrong with individuals and how to fix it. That objective has largely been met, as psychologists have made large strides in treating and even curing mental illness. However, this focus on pathology not only left out a large portion of the population who have not experienced mental illness, but also failed to recognize that individuals with mental illness can also strive for a flourishing life. Psychology seemed to have forgotten about objectives two and three, and there was a call to action among Seligman and his colleagues to begin to empirically study that which makes all human beings flourish (Seligman & Csikszentmihalyi, 2000; Seligman et al., 2004).

Seligman's revolutionary APA presidential address compelled the field of psychology to move in a new direction – one he dubbed *Positive Psychology* (Fowler, Seligman, & Koocher, 1999; Seligman, 2011). Together with colleagues Mihalyi Csikszentmihaly and Ray Fowler, and later Ed Diener, Chris Peterson, and more, Seligman created the concept of positive psychology and asserted that by studying human flourishing and that which contributes to human flourishing, psychologists would cultivate a better understanding of well-being (Fowler et al., 1999; Seligman, 2011; Seligman, 2019). Positive Psychology aims to foster and encourage growth with a particular focus on strengths and virtues (Seligman & Csikszentmihalyi, 2000).

As the field began to grow, Seligman and his colleagues developed the first positive interventions, contextually appropriate intentional activities, related to the mind and/or the body,

undertaken with the desire for positive change to occur in the pursuit of well-being. They recognized the applicability of various positive interventions, at first thought to only be relevant to mentally healthy populations, in depressed populations (Sin & Lyubomirsky, 2009; Seligman, 2019). A meta-analysis of selected studies between 1997-2008 found that positive interventions effectively improved well-being and mitigated depressive symptoms (Sin & Lyubomirsky, 2009). The analysis suggests that individuals who self-selected interventions saw greater results, with longevity of participation leading to increased improvement. Though it had been believed that positive interventions work best in non-depressed populations, the results of this meta-analysis suggest that in the appropriate therapeutic setting, interventions be recommended for both depressed and non-depressed individuals. As we consider the construct of post-traumatic growth, this finding suggests that there is room within positive psychology for populations who are enduring struggle or working through difficulty of some nature.

### **Post-traumatic Growth and Post-traumatic Stress Disorder**

#### **What Color is Your Cape?**

Pawelski (2016) presents us with the metaphor of a double-sided cape, each side with a specific purpose in life. When something traumatic happens in an individual's life, the objective is often to "return to normal," referred to as a *red cape* intervention, or providing resources to ultimately take away the undesirable (Pawelski, 2016). By suggesting that actual growth is possible, a *green cape* approach is used, providing resources to add desirable emotions and outcomes (Pawelski, 2016). When individuals allow for the possibility of growth through a trauma, they may feel a sense of autonomy, a feeling of control in one's life; competence, a feeling of capability in life, and relatedness, a feeling of closeness to others in life. Autonomy, competence, and relatedness are considered to be universal needs for flourishing and are elements of Self-

Determination Theory (SDT) (Pawelski, 2016; Ryan & Deci, 2000). In trauma as in life a *reversible cape* is needed (Pawelski, 2016).

Treatment of PTSD and mental illness remains red cape oriented, with the primary goal to remove the presence of illness (Seligman, 2011; Keyes, 2002). However, addressing what Keyes (2002) refers to as *languishing* does not by nature create *flourishing*. Seligman (2011) states:

...once in a while I would help a patient get rid of all of his anger and anxiety and sadness. I thought I would then get a happy patient. But I never did. I got an *empty* patient. And that is because the skills of flourishing – of having positive emotion, meaning, good work, and positive relationships – are something over and above the skills of minimizing suffering. (p. 54)

This dichotomy of languishing and flourishing suggests that much like the double-sided cape, in which the removal of negative and the addition of positive can co-exist, there is the possibility for PTSD and PTG co-exist. There are a variety of theories indicating conflicting beliefs in this possibility. Some believe that the trauma response functions on a trajectory, with individuals suffering for a period of time and ultimately resuming pre-event psychological functioning (Bonnano 2004; Bonnano & Mancini, 2012). Others believe that symptoms of PTSD or stress can occur in the presence of PTG and that one does not negate the presence of the other.

### **Resilience: Where Do I Bounce?**

Very often the term *resilience* (2019) is used to refer to a person's ability to *bounce back* following adversity, as indicated by the dictionary definition: "the power or ability to return to the original form, position, etc., after being bent, compressed, or stretched; elasticity." Bonnano (2004) defines resilience as:

... individuals in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event such as the death of a close relation or a violent or life-threatening situation ... maintain relatively stable, healthy levels of psychological and physical functioning ... as well as the capacity for generative experiences and positive emotions. (pp. 20-21)

Each of these definitions call to mind what is often described as *resistance*, or the ability to withstand trauma with no change in psychological functioning (Layne, Warren, Shalev, & Watson, 2007).

Reivich (personal communication, January 13, 2019) uses language such as “bounce forward” and “growing in the face of challenge” to describe resilience, indicating the possibility for a positive relationship between resilience and post-traumatic growth. In this way, resilience is identified as a necessary condition for thriving, which is arguably the goal of positive psychology in the human experience and describes the ability to flourish, even through adverse circumstances (Keyes, 2002; Seligman, 2011). Finally, resilience is buildable and intentional and can be developed over time (Reivich & Shatté, 2002).

To illustrate the difference between his definitions of resistance, resilience, and PTG, Joseph (2011) uses the metaphor of a tree, standing tall against the wind. A *resistant* tree will withstand the wind without bending and will not be affected. A *resilient* tree will bend and recover, straightening up once the wind has passed. A tree that is deeply affected by the wind will not return to its previous shape; instead it will be different, showing new *post-traumatic growth* along its scars.

Research done with Israeli adolescents looking at the man-made trauma of war suggests that, as indicated by Joseph (2011), resilience and post-traumatic growth are not the same and

may even be inversely related (Levine, Laufer, Stein, Hamama-Raz & Solomon, 2009). Additional research suggests that because of naturally strong coping skills, resilience (bouncing back) may prevent the possibility for growth (Tedeschi & McNally, 2011).

But where does an individual bounce when *back* is not an option? For many who experience trauma, *back* no longer exists. In my own experience, resilience as defined by Joseph (2011) was necessary to propel me through the doctor's appointments, surgeries, and treatment following my breast cancer diagnosis. I, not unlike most cancer patients, needed to stand back up, weary though I was, after each appointment and each assault on my body and spirit. In some ways I would say I straightened up each time, but in many ways I needed to put my head down just to keep going. However, once that was all over and the metaphorical wind stopped blowing, I found that I had scars (physical, emotional, and psychological) that I had not anticipated. It was in the fall of that year, with chemotherapy finished and my reconstructive surgery complete, that my hair began to grow back and the dust began to settle a bit. It was then that I had the opportunity to look around and say, "Wait a minute, WHAT just happened here?" I struggled with fatigue, with the appearance of my changed body, with my grasp on the severity of what I had experienced. I was physically, psychologically, and emotionally different than I had been before my diagnosis six months earlier. I was still me, but it was as if I had crossed from *before* to *after*. Everything was the same, yet somehow very different. But I also took time to be with my children, my husband, and my family and friends. I felt proud of myself, and stronger than I realized. I was 37 years old with 5 kids and I was now a breast cancer survivor.

### **Cognition and Action**

Hobfoll et al. (2007) argue that true PTG is not merely a cognitive process and that it

relies also on action. They cite Frankl's (1959) widely regarded *Man's Search for Meaning*, his story of survival in concentration camps, as support for their belief, offering Frankl's words: "Life ultimately means taking the responsibility to find the right answer to its problems and to *fulfill the tasks which it constantly sets for each individual* [emphasis added]" (Frankl, 1959, p. 85). Further, they refer to Ryan and Deci's (1995) self-determination theory as central to their theory that action is necessary for growth. They argue that meaning-making alone, or cognition processing, is not enough to allow individuals to establish autonomy, competency, and relatedness. Notably, Hobfoll et al. (2007) use the words "restore themselves" (p. 349), but Tedeschi and Calhoun (1995, 2006) would argue that true growth is not an outcome of restoration, but instead is indicative of a process that leads to new possibilities.

Tedeschi et al. (2007) rebuke Hobfoll et al.'s claims, again citing Frankl (1963), "Whenever one is confronted with an inescapable, unavoidable situation, whenever one has to face a fate that cannot be changed . . . *What matters most of all is the attitude we take* [emphasis added] toward suffering, the attitude in which we take our suffering upon ourselves." (p. 178). Tedeschi et al. (2007) understand Frankl to be wrestling with the idea of suffering in a context in which circumstances can't be changed and there are no possible physical actions to take. The attitude one takes in the face of such adversity reflects the intention of attention and may be considered an action in and of itself.

Hobfoll et al. (2007) controversially assert that true growth can only be shown if there exists reduced stress and symptomatology. This claim directly refutes Tedeschi and Calhoun's (1995, 2006) belief that PTG and PTSD often co-exist. In fact, as indicated in the literature regarding the Post-Traumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996), PTG is not merely an experience of positivity after trauma; the experience of growth following trauma does

not in any way negate the difficulty or negativity surrounding trauma (Tedeschi et al., 2007).

Simply put, PTSD and PTG do not operate on the same continuum. Instead, they can co-exist.

### **The Japanese Art of Kintsugi**

Perhaps the most beautiful way to visually imagine PTG is through Kintsugi, the ancient Japanese art of repairing broken pottery with gold epoxy. The art of Kintsugi recognizes and celebrates the lines and scars within the piece (Buetow & Wallis, 2017). In this way, what appears to be broken is highlighted, and filled with beauty. The new pot, with gold epoxy filling its scars, is not the same as it was before it was broken; instead it is a different version of what it once was (Buetow & Wallis, 2017). We might suggest that the pot has *bounced forward* and become a beautiful example of growth through trauma, much like a cancer survivor who moves forward with physical, emotional, and psychological scars. In this way, post-traumatic stress co-exists with post-traumatic growth within the piece of pottery, with beautiful gold epoxy serving as a reminder of that which was broken and that which still remains.

As the survivor of trauma, including the death of my siblings, divorce, and cancer, this provides an accessible lens through which to view PTG. I do not have to let go of my brother and sister, the feelings I have about my divorce, or the experience of cancer treatment that persists to this day, in order to achieve growth. My cancer experience did not end with the conclusion of chemotherapy and reconstructive surgery. I remain on medication today and every three months I visit the doctor (alternating between oncologist and breast surgeon), and from time to time a scan of some sort is required to confirm my health. I have had additional surgeries and will probably need more as I age. I have been in menopause since I turned 40, which is not a natural time for menopause to occur. This is stressful and can bring with it fear and anxiety, but this need not mean that growth has not happened or is not possible. Likewise, when I take

grateful notice of my life and feel deeply connected to those around me, and proud of myself and my accomplishments, that need not mean that I will not feel anxious again in the future. Growth and stress co-exist in my own life on a regular basis.

### **Post-Traumatic Growth and the Breast Cancer Experience**

#### **PTG and Distress in Breast Cancer**

Research suggests that breast cancer survivors experience PTG at greater rates than women who have faced different trauma and women who have not experienced trauma (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Ruini, Vescovelli, & Albieri, 2013). In fact, a number of studies suggest that most breast cancer survivors will experience PTG following diagnosis (Weiss, 2002; Sears et al., 2003). Specifically, breast cancer survivors have repeatedly reported increased growth in areas related to appreciation for life, relating to others, and spirituality (Cordova et al., 2001; Ruini, et al., 2013), all tenets of PTG (Tedeschi & Calhoun, 1996). However, survivors who experienced increased PTG still experienced higher levels of anxiety, depression, and distress (Ruini, et al., 2013) which is consistent with the assertion that PTSD and PTG often co-exist (Tedeschi et al., 2007).

#### **Cognitive Emotional Regulation and Coping**

Cognitions help to guide our response to stressful situations, something called *cognitive emotional regulation* (Garnefski, Kraaij, & Spinhoven, 2001; Garnefski, Kraaij, 2007). There are areas of cognitive emotional regulation that relate to negative coping responses and others that relate to positive coping responses. The ability to positively reframe a situation, gain perspective, and positively reappraise are among those that lead to positive coping (Garnefski & Kraaij, 2007; Hamama-Raz, et al., 2019). Hamama-Raz et al. (2019) found that among breast cancer survivors, higher reports of PTG led to higher report of cognitive emotional regulation.

They suggest that because the experience of PTG often comes from finding meaning in the traumatic event, resulting from the seismic struggle, women who grew from positive coping with their cancer are able to reappraise their worldview and incorporate their new experiences and views of themselves, which then leads to positive coping in the future (Hamama-Raz et al., 2019). It may also be that just by viewing themselves as having achieved PTG after breast cancer, survivors are better able to cope with future challenges. Given the fact that cancer presents as a trauma with multiple stressors that can extend over time (Sumalla et al., 2009), the ability to use positive coping skills to navigate future adversity is both beneficial and important in the breast cancer setting.

### **PTG and Body Awareness**

A meta-analysis of literature regarding PTG following cancer reports that, "... recovering and thriving from illness can create a new awareness and heightened appreciation for the body" (Hefferon et al., 2009, p. 373). Hefferon et al. (2009) suggest that a sixth tenet be added to PTG indicating the cancer survivor's appreciation for their body. While appreciation for the body is certainly a possible outcome of cancer, cancer survivors, and in particular breast cancer survivors, often have to reconcile body changes as a result of their disease and treatment. Treatments and side effects can cause individuals to struggle with their self-identity (Hefferon et al., 2010). Following potential surgeries, radiation, and reconstruction, hair loss, weight gain, and more, many women struggle with body image and the effect of these changes on their well-being (Helms, O'Hea, & Corso, 2008). Additionally, a body that is permanently changed as a result of cancer treatment can serve as a constant reminder of the inevitability of death. This physical *mortality salience* separates cancer from many other traumas and warrants specific consideration for PTG following trauma that impacts the body (Hefferon et al., 2010).

When I was going through cancer treatment there were times when I would stand in front of the mirror and wonder “What is happening here?” Following my bilateral mastectomy (removal of both breasts), tissue expanders were placed under my chest muscles and were slowly filled with saline to create room for implants. Drew and I jokingly referred to them as *the trapezoids* because they were angular and hard. I was also bald from chemo and the overall effect reminded me of a botched science experiment. This body did not look or feel like mine. Now, seven years later, I have had additional surgeries and I have an abdomen full of scars. I am used to what I see when I look in the mirror, but it has not always been easy to reconcile. There are times when I miss my old body, but I am also truly proud of this body and appreciative of what each scar means. Despite the fact that menopause has brought with it osteoporosis and other issues related to lack of estrogen, I am physically stronger than I was before my cancer diagnosis and I have more respect for my body than I did before. Although of course many of my feelings about my body are connected to my physical appearance, which has been permanently altered as a result of my cancer experience, I have come to a place where I recognize the connection between my physical body and my inner strength.

### **Appreciation for Life, PTG, and Breast Cancer**

One of the core tenets of PTG, and the one I find myself reflecting on most often, is a greater appreciation for life (Tedeschi & Calhoun, 1996). A recent review of relevant literature suggests many women find new or renewed appreciation for their lives following breast cancer (Zhai, Newton, & Copnell, 2019). In a podcast interview, Julia Louis-Dreyfus reflected upon her own breast cancer diagnosis, noting, “Everything falls off. Everything. Talk about a lens changer. Everything gets distilled. Panic, true fear ... and everything that is precious becomes clear. And money is not in that category, I mean it’s really not.” (Shepard, 2019, 1:08:00).

When I was diagnosed with breast cancer, one of my first phone calls was to my dear friend Elizabeth. She had been diagnosed seven years before me, when her children were babies. One of the things she said to me in that first phone call was, “We won’t talk about this right now but just file it away for later. When this is all over you will find that life is sweeter. You will remember to notice it more than you did before.” Elizabeth was right and what she was talking about was the element of PTG that indicates a greater appreciation for life (Tedeschi & Calhoun, 1996). Recently, Elizabeth and I and our friend Emma, also a breast cancer survivor, went for a walk and talked about our experiences and PTG. We all agreed that we continue to face fears and anxieties, in fact Emma’s sister is also a breast cancer survivor and Elizabeth has navigated two local recurrences since her initial diagnosis, but we also recognize what is important and precious in our lives. Gratitude was a central theme in our conversation – for the fact that we are all here, for our families, for the delicious arugula that grows in Elizabeth’s garden. This doesn’t mean we don’t sometimes sweat the small stuff; in fact, Elizabeth pointed out that sometimes navigating the big stuff makes the small stuff more annoying, but we are also able to step back and appreciate life.

### **Serene Gratitude**

Gratitude has been conceptualized as an emotion, a virtue, a moral sentiment, a motive, a coping response, a skill, and an attitude. It is all of these and more.

- Robert Emmons & Cheryl Crumpler

Now that we have established an understanding of PTG and PTSD and their ability to co-exist within an individual, I turn to the relationship between gratitude and PTG.

### **The P in PERMA**

Seligman (2011) presents a comprehensive construct of well-being as a model for flourishing called PERMA, suggesting that **P**ositive emotion, **E**ngagement, **R**elationships, **M**eaning, and **A**ccomplishment are all necessary elements. Although there is often cross-over between each of these elements and the lines between the categories may at times be blurry, Seligman (2011) identified objectives of independence for each element, indicating that each must contribute to well-being in its own right, be sought after in its own right, and be independently measurable. I will focus on the **P** in PERMA, looking at the relationship of the positive emotion of gratitude with PTG. It is my belief that gratitude is both a driver of PTG and an outcome of PTG. However, I want to be clear that much like Tedeschi and Calhoun's (1996) explanation that PTG is not to be confused with a positivity bias, gratitude is not to be confused with ignoring the difficulties in life. Additionally, it is important to acknowledge that gratitude is not prescriptive. Instead, it should be suggested as a possibility for facilitating growth, while being mindful of how it is presented. In fact, if someone were to simply suggest "Be grateful!" to someone who is navigating trauma, a punch in the face might be warranted. Gratitude is a powerful emotion and an important character strength and when it is cultivated and used appropriately I believe it can have an incredible impact on well-being.

**Positive Emotion.** Fredrickson (2001, 2009) defines emotion as a construct beginning with a circumstance to which there is an appraisal and a response. Emotion includes the original unalterable event (for example the loss of my siblings, my divorce, and my cancer experience) though the response to the event can be examined and altered. Fredrickson (2009, 2013) has identified 10 key positive emotions, believed to be those experienced most commonly. They are joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love (Fredrickson,

2009, 2013). Fredrickson's (2009) *broaden and build* theory suggests that positive emotions *broaden* individuals' mindsets in ways that allow individuals to *build* necessary resources and processes. The experience of positive emotion opens individuals up to new possibilities in life while also building physical, cognitive, and social well-being resources that can be accessed at any time (Fredrickson, 2001, 2009). Positive emotions can also help us to develop optimism and to derive positive meaning from an event. Negative emotion has the opposite effect, limiting an individual's ability to be open to new possibilities or build relationships and resources (Fredrickson, 2001, 2009). However, positive and negative emotion are both important with positivity equating to levity, boosting us skyward, and negativity to gravity, grounding us (Fredrickson, 2009). When we find balance, much like a sailboat, we can achieve the stability and buoyancy needed to achieve well-being. Positive without negative would mean that individuals are disingenuous in their positivity, potentially creating a Pollyanna effect (Fredrickson, 2009). It is not possible or reasonable to remove or ignore the negative emotions that come with a traumatic experience, but finding ways to integrate opportunities to cultivate positive emotion is essential.

***Serene Gratitude.*** Gratitude and serenity are each identified as discrete positive emotions (Fredrickson, Tugade, Waugh, & Larkin, 2003; Fredrickson, 2009). Fredrickson (2009, p. 41) describes *gratitude* as something that "comes when we appreciate something that has come our way as a gift to be treasured." This might be something that someone has done for us or appreciation for what we have in life. Fredrickson defines *serenity* as a positive emotion that does not require effort but instead is "low-key" (Fredrickson, 2009, p. 48) and involves the comfortable feeling of savoring the present moment.

While Fredrickson (2009, 2013) has identified gratitude and serenity as distinct emotions, I believe they are intricately connected, particularly following trauma. Fredrickson (2013, p. 5)

uses words such as “grateful, appreciative, or thankful” to describe the feeling of gratitude and words such as “serene, content, or peaceful” to describe the feeling of serenity. I propose that there exists an emotion that bridges the two, what I call *serene gratitude*, meaning a present moment awareness of what is good in one’s life. Serene gratitude reflects the ability to be content in the recognition of what is good, even when that does not mean that all is *well*. This dovetails with the idea that stress and growth can co-exist and that there can be grateful awareness in the face of stressful circumstances.

*Serene gratitude and mindfulness.* The ability to be grateful in the present moment and to be content in the present experience is not only important but is essential for growth and calls to mind the concept of being *mindful*. Mindfulness refers to the ability to pay attention in the present moment without judgement, with curiosity and acceptance, allowing for greater self-regulation, which appears as attentional and emotional regulation, awareness of the body, and self-compassion (Hölzel et al., 2011).

A 2019 review of clinical trials found that a mindfulness practice carries a wide array of benefits for breast cancer patients (Mehta, Sharma, Potters, Wernicke, & Parashar, 2019). Mindfulness may provide preventative properties, as women who meditated regularly were found to have increased melatonin, known to improve general health and protect against cancer (Srinivasan, Spence, Pandi-Perumal, Trakht, & Cardinali, 2008). A variety of mindfulness interventions, including Mindfulness-Based Stress Reduction (MBSR) (Johns et al., 2016; Kenne Sarenmalm, Mårtensson, Andersson, Karlsson, & Bergh, 2017) and Cognitively-Based Compassion Training (CBCT) (Gonzalez-Hernandez et al., 2018), were shown to significantly help patients manage stress related to the cancer experience, including depression, fear of recurrence, fatigue, and

emotional distress. Mindfulness can also boost immune functioning and has been shown to effectively reduce cancer-related pain (Smalley & Winston, 2010; Johannsen et al., 2016).

As individuals learn to sustain attention through mindfulness, they become able to let go of outside stimuli and distracting thoughts about the future, called *conflict monitoring*. As I have reflected in this paper, one area of struggle for me and for other cancer survivors is worry about the future. Learning to regulate emotion through mindfulness leads to decreased negative emotions and improved positive emotions (Hölzel et al., 2011). Cultivating serene gratitude, a mindful awareness of what is good in life, may help cancer survivors take more notice of what is positive in the present moment instead of getting lost in fear of the future.

***Gratitude builds positive affect.***

Feeling gratitude and not expressing it is like wrapping a present and not giving it.

- William Arthur Ward

Cultivating positive emotion is important and beneficial for so many reasons. Gratitude can encourage an individual to appreciate and savor what they have (Sheldon & Lyubomirsky, 2006), and to prevent taking positive experiences for granted (Lyubomirsky, Sheldon, & Schkade, 2005). For breast cancer survivors, and trauma survivors in general, it can be easy to overlook the positive and to dwell on the negative. Gratitude can help individuals to be mindful of the good as well. Expressing gratitude is also important, and the expression of gratitude can boost positive affect and increase subjective well-being (Sheldon & Lyubomirsky, 2006).

**Positive Emotion in Trauma.** In trauma there is a role for both positive and negative emotion and often they co-exist (Folkman & Moskowitz, 2000; Fredrickson et al., 2003). Gratitude is specifically named as an important positive emotion that can help to reduce negative affect (e.g., “I feel lucky to be alive”) and can lead to an increased ability to grow and thrive

following trauma (Fredrickson et al., 2003). Research on United States citizens following the 9/11 attacks on our country indicates that although negative emotion may result in unhealthy cardiovascular effects, positive emotions such as gratitude can help to counteract those ill-effects (Fredrickson et al., 2003).

Specific to the breast cancer experience, one study found that survivors who expressed more positive emotions in online support groups experienced increased psychological benefits compared to those who expressed more negative emotions (Han et al., 2008). Importantly, the expression of positive emotion was not correlated with a lower level of breast cancer-related concerns, indicating that the experience and expression of positive emotion was independent of other issues such as hair loss, pain, fatigue, etc. (Han et al., 2008).

I have not always been good at being present in the moment and appreciating that moment for itself. However, I distinctly remember watching my youngest son's Pre-Kindergarten end-of-year play, *Where the Wild Things Are*, a few weeks after my first chemo treatment. My son starred in the play as a cardboard guitar-playing tree and of course, he was adorable. I sat in the audience, bald from chemo and wearing a scarf on my head. I cried tears of joy, and the positive emotion of serene gratitude allowed my cancer experience to fall away in that moment as I watched my son and his friends perform and have fun. I did not think about what had happened in the past or what was to come in the future, I was just there in that moment, appreciating it in a way I could not have done before my diagnosis.

### **Character Strengths**

While positive emotions are state-like experiences, character strengths are personality traits that reflect personal identity, lead to positive outcomes for both the individual and others around them, and add to the greater good (Niemiec, 2018). Early in the field of positive

psychology, Peterson and Seligman (2004) worked closely together to create a comprehensive list of character strengths, believed to be related to an individual's disposition. Each of these distinct, measurable strengths meets stringent criteria including: 1) appears and is recognized in all cultures, 2) produces a feeling of fulfillment, 3) is valued for itself, and 4) only serves to raise others up, not knock them down (Peterson, 2006).

**VIA Classification of Character Strengths.** Peterson and Seligman (2004) ultimately created the VIA Classification of Character Strengths, a descriptive classification designed to assess and describe each individual's character profile (Peterson, 2006; Neimiec, 2018). The VIA is organized by 6 virtues (wisdom, courage, humanity, justice, temperance, transcendence) with the 24 various strengths falling under each virtue (see Table 2). Everyone has each of the 24 character strengths, though some, referred to as signature strengths, are used more than others (Peterson, 2006). Use of signature strengths increases positive emotion and engagement, satisfies the basic self-determination needs of autonomy, relatedness, and competence, and contributes to self-concordance, identified as achieving a goal that is consistent with personal values (Deci & Ryan, 2000; Sheldon & Kasser, 1998).

Table 2

*VIA Character Strengths Organized by Virtue*

Virtue	Character Strengths
Wisdom	Creativity, Curiosity, Judgment, Love of Learning, Perspective
Courage	Bravery, Perseverance, Honesty, Zest
Humanity	Love, Kindness, Social Intelligence
Justice	Teamwork, Fairness, Leadership
Temperance	Forgiveness, Humility, Prudence, Self-Regulation
Transcendence	Appreciation of beauty and excellence, Gratitude, Hope, Humor, Spirituality

*Note.* Adapted from *Character Strengths Interventions: A Field Guide for Practitioners* by R.

Neimiec, 2018. Boston, MA: Hogrefe.

***Gratitude as a Character Strength.*** Gratitude is a strength of *transcendence*, meaning that it "... allows individuals to forge connections to the larger universe and thereby provide meaning to their lives" (Peterson, 2006, p. 145). This establishment of meaning in connection with the larger universe can be spiritual, though not necessarily based in religion (Peterson, 2006).

"Gratitude connects someone directly to goodness" (Peterson, 2006, p. 145). Using the character strength of gratitude involves cultivating awareness and appreciation for that which is good in life (Peterson, 2006; Niemiec, 2018), even in the presence of adversity. It is one of the character strengths that is most highly associated with life satisfaction and finding meaning in life (Peterson, Ruch, Beerman, Park, & Seligman, 2007; Niemiec, 2018).

**Character Strengths and Trauma.** Not long after the establishment of the VIA Classification of Strengths (Park & Peterson, 2006), participants of the VIA assessment who took the assessment online were invited to take the Post-Traumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996) following the VIA. They sought to determine which character strengths, if any, were associated with the concept of post-traumatic growth (Peterson, Park, Pole, D'Andrea & Seligman, 2008). Peterson et al. (2008) investigated "character strengths and life," positing that certain character strengths would correspond to the various components of PTG, including: positive development in personal relationships, receptiveness to change, an increased appreciation for life, and spiritual growth (Tedeschi and Calhoun, 1995). Strengths from the virtues of wisdom and transcendence, including gratitude, were indicated. With 56% of respondents reporting at least one traumatic event, defined as sexual assault, physical assault, life-threatening accident, life-threatening illness, life threatening disaster, seeing someone be killed, or kidnapping (Breslau, Childcoat, Kessler & Davis, 1999), the results of the study indicated that above-

referenced character strengths were related to previous experience of trauma, and confirmed that post-traumatic growth is in fact possible and may lead to an increase in character strengths. Individuals for whom gratitude is naturally a top strength may more easily cultivate gratitude under adverse circumstances (Maria Sirois, personal communication, July 3, 2019).

### **Gratitude and Breast Cancer**

One study examining the effects of gratitude on PTG involved self-selected breast cancer patients in Italy (Ruini & Vescovelli, 2012). Researchers hypothesized that the character strength of gratitude can lead to increased PTG and is associated with higher psychological well-being (PWB) and lower expressed distress. Patients completed the following assessments: *Gratitude Questionnaire-6*, measuring gratitude intensity in various dimensions of life (McCullough, Emmons, & Tang, 2002); *Post-Traumatic Growth Inventory*, adapted for breast cancer patients, (Tedeschi & Calhoun, 1996); *Psychological Well-Being Scales*, assessing PWB in 6 domains: autonomy, personal growth, positive relationships, purpose in life, environmental mastery, and self-acceptance, (Ryff, 1989); and *Symptom Questionnaire*, assessing current levels of distress and pleasure across a variety of symptoms (Kellner, 1987). The results of this study indicate that trait gratitude is associated with PTG, possibly by allowing patients to find meaning and benefit in the experience (Ruini & Vescovelli, 2012). Additionally, patients reporting higher levels of gratitude also reported lower levels of symptoms such as anxiety, hostility, and depression.

Another study looked at the positive emotion of gratitude in women with metastatic breast cancer (Algoe & Stanton, 2012). Interestingly, this study focused on gratitude as “an other-focused positive emotion” (Algoe & Stanton, 2012, p. 163) and connected it to relationships with other people. While this consideration of gratitude with respect to benefactor and beneficiary is certainly relevant, this definition is not fully in keeping with my use of the term

*serene gratitude*. Algoe and Stanton (2012) specifically examined the social aspect of gratitude and found that context and the relationship between the giver and the recipient is critical for the experience of the positive emotion. If a beneficiary does not wish to accept what the benefactor wishes to give, gratitude is not the ultimate outcome of the interaction. This study underscores the need for the development of language around the emotion of serene gratitude, which is suggestive of agency and mindfulness, rather than an *other-focused* emotion.

### **Serene Gratitude in the Chemo Room.**

The struggle ends when gratitude begins

- Neale Donald Walsch

During each of my chemo treatments, I asked the nurse if I could please hold the IV bags containing the medications before she attached them and began the drip. When she placed them in my hands I closed my eyes and spoke quietly to them. “Thank you. You are welcome here in my body, please come in and do the hard work of seeking any leftover cancer cells and kill them. I would appreciate you being gentle on the rest of me, but I understand that you have a job to do and I thank you for doing it.”

My mom was the one who suggested this to me after having done the same thing when she sat in the chemo chair 17 years earlier. I am quite certain that my nurse had never received this request before and I was somewhat shy to speak up. However, in taking a moment to thank the drugs for the work they would do in my body, I was able to open myself up to the experience and become just a bit less fearful of what would follow. This did not negate the discomfort of chemotherapy – I still developed a wide range of side effects including hair loss, mouth sores, crushing fatigue, bone pain, and so on, but choosing to show gratitude to the medications that would cause those side effects also gave me an element of control. I could choose to focus my

attention on the good that could come from chemo instead of the bad. To this day, each morning when I take my medication I hold the pill in my hand and silently offer it a few words of thanks. Serene gratitude helps me to remember that this little white pill does a very big job and keeps me healthy. I am wrapping the present and then giving it, ultimately to myself.

### **Future Research and Conclusion**

#### **Future Research**

Recently I had an appointment with my breast surgeon and I chatted with her about this project. When I explained PTG as a possibility following an adversity such as breast cancer, she commented, “I am so glad you used the word ‘possibility.’ I really wish breast cancer patients knew what is possible. I want them to know that they are strong and that they can do so many things.” She talked about wanting to take a group of survivors to Machu Pichu, just to show them that they can do it. The point she was getting at, and the real reason for this capstone and for my ultimate book proposal, is for the awakening of possibility. To that end, I have the following suggestions for future investigation regarding PTG, serene gratitude, and breast cancer survivors.

**Resilience Training.** The Penn Resiliency Project has been adapted and studied in various populations including the U.S. Army (Gillham et al., 2007; Reivich, Seligman & McBride, 2011). I believe that it would be incredibly useful and well-received in the breast cancer world. To address this, I used a MAPP assignment to create a study testing the effects of the Project on patients immediately following diagnosis (see Appendix A).

**Exploration of Serene Gratitude.** In this paper I have presented the concept of serene gratitude as a combination of gratitude and serenity, marking a present-moment awareness of what is good in life. It is the emotion of gratitude, but with a focus on contentment in the

moment. This is specifically important in the presence of cancer or other trauma, because there are so many opportunities to focus on what is difficult or challenging. Particularly in the cancer context, I believe there is room for the development of positive interventions which would help in the cultivation of this emotion. Those who are highest in gratitude as a character strength might find these interventions most accessible, but I believe they will ultimately help many people to understand that the good is there. I suggest beginning with the creation of a gratitude practice, an already validated positive intervention. My son and I refer to this as *Three Grateful Things* during our nightly routine.

**More Research into PTG and Breast Cancer.** A current review of literature regarding PTG and breast cancer found that this topic is very much still in its infancy (Zhai et al., 2019). The authors suggest that more research is needed to determine the processes that lead to PTG following breast cancer. As stated earlier in this capstone, more women are being diagnosed with and surviving breast cancer, which means that there are more people living the breast cancer experience, a trauma that never entirely resolves (Hefferon et al., 2010; Kolokotroni, Anagnostopoulos, & Tsikkinis, 2014). There is a great need for further qualitative understanding of PTG in the breast cancer setting and for its application to individual women (Zhai et al., 2019).

**Oncology Recommendations.** There are many complimentary therapies that are offered to breast cancer patients and survivors, and to survivors of other traumas as well. I would like to see positive interventions such as *Three Grateful Things*, simple mindfulness meditations, and movement suggestions incorporated into oncology recommendations. If medical doctors were to begin to suggest interventions that would help to increase well-being during and after treatment, instead of separating them as though they are not part of their recommendations, I believe that could potentially change the trajectory for many patients.

**Many Ways to Grow.** So many stories we hear of PTG are big and dramatic. For example, Rendon (2015) talks of an Irish teenager who suffered a traumatic brain injury in a car accident and became a motivational speaker, and a father who lost his child to pediatric cancer and went on to start an organization for other families dealing with pediatric cancer, among many others. Early in this paper I shared that despite the loss of my brother and sister as children, my parents did not make those losses the center of our family. As a mom myself, I don't know how they did that, but I am incredibly grateful to have had the childhood I had. Even though these traumatic losses did not become the center of our family story, there was incredible growth in many ways. I propose the sharing of more stories in which growth is less overt and less about the original trauma. I believe that these stories can help others to understand the possibility for growth in their own lives without making the trauma a centerpiece.

**Social Support.** There is a lot of evidence to suggest that social support plays a role in PTG in women with breast cancer (Sears et al., 2003; Romeo et al., 2019). Romeo et al. (2019) specifically found that breast cancer survivors who indicated higher levels of support from family members and friends also experienced higher levels of PTG. While I did not dig into this specifically, I suggest that there may be a difference worth investigating between social support from family and friends and that from outside support groups. I believe that support groups may both help and hinder growth. It is clearly valuable for women to have people to talk to who understand their experiences and who can validate their feelings. However, how are women impacted when others from their support group have their cancer recur? Or when they see others doing well but they are not?

**Conclusion: It's the Same Life**

What is true becomes obvious. It's the same life. The swamp, the pond of gratitude ... it's the same life, same days, same elements. Our stressors and our happiness co-exist.

- Maria Sirosis

These words touch on what I believe is the cornerstone of all of life, not just life after trauma. There is no *either/or*; instead there is *and*. Fear, stress, and anxiety co-exist with appreciation, beauty, strength, and spirituality. The struggle is real and true and it is in this struggle that growth occurs. Growth does not mean absence of stress, just as the absence of sadness does not mean the presence of happiness (Seligman, 2011).

Throughout this paper I have focused on the challenges I have experienced in my life. In telling my story through this lens, I can see how these experiences have become part of me and how my interpretation of them has helped to shape my identity. However, my life has also been filled with abundant joy at the same time. My two young sons holding my hands and exuberantly jumping off the steps when Drew and I got married, leaping into our new life; Sunday dinners with family; laughing with a friend until we snort; early morning sunrise runs; the sun over the ocean in the evening. As humans, we have within us the capacity to choose where to direct our attention. My biggest takeaway from MAPP is this – the intention of attention. When I was navigating my divorce, I placed this quote by Charles Swindoll (2019) above my kitchen sink so that I could read it repeatedly throughout the day. Seventeen years later, it is still there and endlessly relevant.

The longer I live, the more I realize the impact of attitude on life. Attitude, to me, is more important than facts. It is more important than the past, than education, than money, than circumstances, than failure, than successes, than what other people think or

say or do. It is more important than appearance, giftedness or skill. It will make or break a company ... a church, a home. The remarkable thing is we have a choice everyday regarding the attitude we will embrace for that day. We cannot change our past ... we cannot change the fact that people will act in a certain way. We cannot change the inevitable. The only thing we can do is play the one string we have, and that is our attitude ... I am convinced that life is 10% what happens to me and 90% how I react to it.

- Charles Swindoll

Throughout my life I have had opportunities to choose, as have we all. I could choose to dwell on the pain of losing siblings as children, wallow in the sadness of my divorce, or focus on the fear of my cancer diagnosis. But just as the pain, sadness, and fear exist, so too do the beauty of stories I have from Brien and Carrie's lives; the incredible love I have for my children who were a product of my first marriage and the gift of enduring love with my husband and five children; and the opportunity to develop a sense of myself as strong and capable through cancer. It is the same life – the pain and the beauty, the sadness and the love, the fear and the strength. I can balance both sides and in doing so I am whole. Serene gratitude serves as bookends – both leading me on the path to growth and indicating my wondrous appreciation of all that is my life. It is the growth through the traumas I have experienced that ultimately brought me to MAPP, for which I am eternally, overwhelmingly grateful.

## References

- Affleck, G., Tennen, H., & Croog, S. (1987). Causal attributions, perceived benefits, and morbidity after a heart attack: An 8 year study. *Journal of Consulting and Clinical Psychology, 55*(1), 29-35. doi:10.1037/0022-006x.55.1.29
- Algoe, S. B., & Stanton, A. L. (2012). Gratitude when it is needed most: Social functions of gratitude in women with metastatic breast cancer. *Emotion, 12*(1), 163–168. doi:10.1037/a0024024
- American Cancer Society. (2019). How Common is Breast Cancer? Retrieved from <https://www.cancer.org/cancer/breast-cancer/about/how-common-is-breast-cancer.html>
- Anders, C. K., Johnson, R., Litton, J., Phillips, M., & Bleyer, A. (2009). Breast cancer before age 40 years. *Seminars in Oncology, 36*(3), 237-249. doi:10.1053/j.seminoncol.2009.03.001.
- Benetato, B. (2011). Posttraumatic growth among operation enduring freedom and operation Iraqi freedom amputees. *Journal of Nursing Scholarship, 43*(4), 412–420. doi:10.1111/j.1547-5069.2011.01421.x
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. doi:10.1037/0003-066X.59.1.20
- Bonanno, G. A., & Mancini, A. D. (2012). Beyond resilience and PTSD: Mapping the heterogeneity of responses to potential trauma. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(1), 74-83. doi:10.1037/a0017829

- Breslau, N., Chilcoat, H. D., Kessler, R. C., & Davis, G. C. (1999). Previous exposure to trauma and PTSD effects of subsequent trauma: Results from the Detroit area survey of trauma. *American Journal of Psychiatry*, *156*(6), 902-907. doi:10/1176/ajp.156.6.902
- Breastcancer.org. (2019), February 13). U.S. Breast Cancer Statistics. Retrieved from [https://www.breastcancer.org/symptoms/understand\\_bc/statistics](https://www.breastcancer.org/symptoms/understand_bc/statistics)
- Buetow, S., & Wallis, K. (2017). The Beauty in Perfect Imperfection. *Journal of Medical Humanities*, 1-6. doi:10.1007/s10912-017-9500-2
- Burt, M. A., & Katz, B. L. (1987). Dimensions of recovery from rape: Focus on growth outcomes. *Journal of Interpersonal Violence*, *2*(1), 57-81. doi:10/1177/088626087002001004
- Calhoun, L., & Tedeschi, R. (1990). Positive aspects of critical life problems: Recollections of grief. *Omega Journal of Death and Dying*, *20*(4), 265-272. doi:10.2190/QDY6-6PQC-KQWV-5U7K
- Calhoun, L. G., & Tedeschi, R. G. (1998a). Posttraumatic growth: Future directions. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.) *Posttraumatic growth: Theory and research on change in the aftermath of crisis* (pp. 215-238). Mahwah, NJ: Lawrence Erlbaum.
- Calhoun, L. G., & Tedeschi, R. G. (1998b). Beyond recovery from trauma: Implications for clinical practice and research. *Journal of Social Issues*, *(54)*2, 353-371. doi:10.1111/j.1540-4560.1998.tb01223.x
- Collins, R. L., Taylor, S. E., & Skokan, L A. (1990). A better world or a shattered vision? Changes in life perspectives following victimization. *Social Cognition*, *8*(3), 263-285.

Cordova, M. (2008). Facilitating posttraumatic growth following cancer. In S. Joseph & A.

Linley (Eds.), *Trauma, recovery and growth: Positive psychological perspectives on posttraumatic stress* (pp. 185-206). New York, NY: John Wiley.

Cordova, M. J., Cunningham, L. L., Carlson, C. R., & Andrykowski, M. A. (2001). Posttraumatic growth following breast cancer: A controlled comparison study. *Health Psychology, 20*(3), 176–185. doi:10.1037/0278-6133.20.3.176

Cordova, M., Andrykowski, M., Kenady, D., McGrath, P., Sloan, D., & Redd, W. (1995). Frequency and correlates of posttraumatic-stress-disorder-like symptoms after treatment for breast cancer. *Journal of Consulting and Clinical Psychology, 63*(6), 981–986. doi:10.1037/0022-006X.63.6.981

Costanzo, E., Lutgendorf, S., Mattes, M., Trehan, S., Robinson, C., Tewfik, F., & Roman, S. (2007). Adjusting to life after treatment: Distress and quality of life following treatment for breast cancer. *British Journal of Cancer, 97*(12), 1625–1631. doi:10.1038/sj.bjc.6604091

Danhauer, S. C., Russell, G. B., Tedeschi, R. G., Jesse, M. T., Vishnevsky, T., Daley, K., ... & Powell, B. L. (2013). A longitudinal investigation of posttraumatic growth in adult patients undergoing treatment for acute leukemia. *Journal of Clinical Psychology in Medical Settings, 20*(1), 13-24. doi:10.1007/s10880-012-9304-5

Deci, E., & Ryan, R. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. doi:10.1207/S15327965PLI1104\_01

- Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as a human strength: Appraising the evidence. *Journal of Social and Clinical Psychology, 19*(1), 56–69.  
doi:10.1521/jscp.2000.19.1.56
- Erikson, E. H. (1950). *Childhood and society*. New York, NY: Norton.
- Eze, J., Ifeagwazi, C., & Chukwuorji, J. (2019). Core beliefs challenge and posttraumatic growth: Mediating role of rumination among internally displaced survivors of terror attacks. *Journal of Happiness Studies, 1*-18. doi:/10.1007/s10902-019-00105-x
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist, 55*(6), 647– 654. doi:10.1037/0003-066X.55.6.647
- Fowler, R., Seligman, M. E. P., & Koocher, G. (1999). The APA 1998 annual report. *The American Psychologist, 54*(8), 537–568. doi:10.1037/0003-066X.54.8.537
- Francis, P., Regan, M., Fleming, G., Láng, I., Ciruelos, E., Bellet, M., ... Rabaglio-Poretti, M. (2015). Adjuvant ovarian suppression in premenopausal breast cancer. *The New England Journal of Medicine, 372*(5), 436–446. doi:10.1056/NEJMoa1412379
- Frankl, V. E. (1959). *Man's search for meaning*. New York, NY: Touchstone.
- Frankl, V. E. (1963). *Man's search for meaning: An introduction to logotherapy*. New York, NY: Washington Square Press.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226.  
doi:10.1037/0003-066X.56.3.218
- Fredrickson, B. L. (2009). *Positivity: Groundbreaking research reveals how to embrace the hidden strength of positive emotions, overcome negativity, and thrive*. New York, NY: Crown.

- Fredrickson, B. L. (2013). Positive emotions broaden and build. *Advances in Experimental Social Psychology*, *47*, 1–53. doi:10.1016/B978-0-12-407236-7.00001-2
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, *84*(2), 365-376. doi:10.1037/0022-3514.84.2.365
- Garnefski, N., & Kraaij, V. (2007). The cognitive emotion regulation questionnaire. *European Journal of Psychological Assessment*, *23*(3), 141-149. doi:10.1027/1015-5759.23.3.141
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311-1327. doi:10.1016/S0191-8869(00)00113-6
- Gerber, B., Freund, M., & Reimer, T. (2010). Recurrent breast cancer: Treatment strategies for maintaining and prolonging good quality of life. *Deutsches Arzteblatt International*, *107*(6), 85-91. doi:10.3238/arztebl.2010.0085
- Gillham, J., Reivich, K., Freres, D., Chaplin, T., Shatté, A., Samuels, B., ... Seligman, M. E. P. (2007). School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn resiliency program. *Journal of Consulting and Clinical Psychology*, *75*(1), 9–19. doi:10.1037/0022-006X.75.1.9
- Gonzalez-Hernandez, E., Romero, R., Campos, D., Burychka, D., Diego-Pedro, R., Baños, R., ... & Cebolla, A. (2018). Cognitively-Based Compassion Training (CBCT®) in breast cancer survivors: A randomized clinical trial study. *Integrative Cancer Therapies*, *17*(3), 684-696. doi:10.1177.1534735418772095

- Gottschall, J. (2012). *The storytelling animal: How stories make us human*. New York, NY: Mariner Books.
- Green, B., Rowland, J., Krupnick, J., Epstein, S., Stockton, P., Stern, N., ... & Steakley, C. (1998). Prevalence of posttraumatic stress disorder in women with breast cancer. *Psychosomatics*, 39(2), 102–111. doi:10.1016/S0033-3182(98)71356-8
- Haidt, J. (2006). *The happiness hypothesis: Finding modern truth in ancient wisdom*. New York, NY: Basic Books.
- Hamama-Raz, Y., Pat-Horenczyk, R., Roziner, I., Perry, S., & Stemmer, S. M. (2019). Can posttraumatic growth after breast cancer promote positive coping? – A cross-lagged study. *Psycho-oncology*, 28(4), 767-774. doi:10.1002/pon.5017
- Han, J., Shaw, B., Hawkins, R., Pingree, S., McTavish, F., & Gustafson, D. (2008). Expressing positive emotions within online support groups by women with breast cancer. *Journal of Health Psychology*, 13(8), 1002–1007. doi: 10.1177/1359105308097963
- Hefferon, K., Greal, M., & Mutrie, N. (2009). Post-traumatic growth and life threatening physical illness: A systematic review of the qualitative literature. *British Journal of Health Psychology*, 14(2), 343–378. doi:10.1348/135910708X332936
- Hefferon, K., Greal, M., & Mutrie, N. (2010). Transforming from cocoon to butterfly: The potential role of the body in the process of posttraumatic growth. *Journal of Humanistic Psychology*, 50(2), 224–247. doi:10.1177/0022167809341996
- Helms, R., O’Hea, E., & Corso, M. (2008). Body image issues in women with breast cancer. *Psychology, Health & Medicine*, 13(3), 313–325. doi:10.1080/13548500701405509

- Helzer, J., Robins, L., & McEvoy, L. (1987). Post-traumatic stress disorder in the general population. *New England Journal of Medicine*, *317*(26), 1630–1634.  
doi:10.1056/NEJM198712243172604
- Herschbach, P., Berg, P., Dankert, A., Duran, G., Engst-Hastreiter, U., Waadt, S., ... & Henrich, G. (2005). Fear of progression in chronic diseases. *Journal of Psychosomatic Research*, *58*(6), 505–511. doi:10.1016/j.jpsychores.2005.02.007
- Hobfoll, S., Hall, B., Canetti-Nisim, D., Galea, S., Johnson, R., & Palmieri, P. (2007). Refining our understanding of traumatic growth in the face of terrorism: Moving from meaning cognitions to doing what is meaningful. *Applied Psychology*, *56*(3), 345–366.  
doi:10.1111/j.1464-0597.2007.00292.x
- Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*, *6*(6), 537-559.  
doi:10.1177/1745691611419671
- Howlader N, Noone A. M., Krapcho M., Miller D., Brest A., Yu M., ... & Cronin KA (Eds.) (2019). SEER cancer statistics review, 1975-2016, National Cancer Institute. Retrieved from [https://seer.cancer.gov/csr/1975\\_2016/](https://seer.cancer.gov/csr/1975_2016/)
- Johannsen, M., O'Connor, M., O'Toole, M. S., Jensen, A. B., Højris, I., & Zachariae, R. (2016). Efficacy of mindfulness-based cognitive therapy on late post-treatment pain in women treated for primary breast cancer: A randomized controlled trial. *Journal of Clinical Oncology*, *34*(28), 3390-3399. doi:10.1200/JCO.2015.65.0770
- Johns, S. A., Brown, L. F., Beck-Coon, K., Talib, T. L., Monahan, P. O., Giesler, R. B., ... & Wagner, C. D. (2016). Randomized controlled pilot trial of mindfulness-based stress

- reduction compared to psychoeducational support for persistently fatigued breast and colorectal cancer survivors. *Supportive Care in Cancer*, 24(10), 4085-4096.  
doi:10.1007/s00520-016-3220-4
- Joseph, S. (2011). *What doesn't kill us: The new psychology of posttraumatic growth*. New York, NY: Perseus Books Group.
- Kellner, R. (1987). A symptom questionnaire. *Journal of Clinical Psychiatry*, 48(7), 269–274.
- Kenne Sarenmalm, E., Mårtensson, L. B., Andersson, B. A., Karlsson, P., & Bergh, I. (2017). Mindfulness and its efficacy for psychological and biological responses in women with breast cancer. *Cancer Medicine*, 6(5), 1108-1122. doi:10.1002/cam4.1052
- Keyes, C. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Research*, 43, 207-222.
- Kolokotroni, P., Anagnostopoulos, F., & Tsikkinis, A. (2014). Psychosocial factors related to posttraumatic growth in breast cancer survivors: A review. *Women and Health*, 54(6), 569-592. doi:10.1080/03630242.2014.899543
- Layne, C. M., Warren, J., Shaley, A., & Watson, P. (2007). Risk, vulnerability, resistance, and resilience: Towards an integrative conceptualization of posttraumatic adaptation. In M. J. Friedman, T. M. Kean, & P. A. Resick (Eds.), *PTSD: Science and practice: A comprehensive handbook* (pp. 497–520). New York, NY: Guilford Press.
- Lazarus, R. S. (1983). The costs and benefits of denial. In S. Breznitz (Ed.) *Denial of stress* (pp. 1-30). New York, NY: International Universities Press.
- Lazarus, R. S. (1998). The costs and benefits of denial. *Fifty years of the research and theory of RS Lazarus: An analysis of historical and perennial issues*, 1, 227-251.

- Levine, S., Laufer, A., Stein, E., Hamama-Raz, Y., & Solomon, Z. (2009). Examining the relationship between resilience and posttraumatic growth. *Journal of Traumatic Stress, 22*(4), 282–286. doi:10.1002/jts.20409
- Linley, P. A. & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress, 17*(1). 11-21. doi:10.1023/B:JOTS.0000014671.27856.7e
- Loprinzi, C., Prasad, K., Schroeder, D., & Sood, A. (2011). Stress Management and Resilience Training (SMART) Program to Decrease Stress and Enhance Resilience Among Breast Cancer Survivors: A Pilot Randomized Clinical Trial. *Clinical Breast Cancer, 11*(6), 364–368. doi:10.1016/j.clbc.2011.06.008
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology, 9*(2), 111-131. doi:10.1037/1089-2680.9.2.111
- McAdams, D. P. (2005). *The redemptive self: Stories Americans live by*. New York, NY: Oxford University Press.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*(1), 112–127. doi:10.1037/0022-3514.82.1.112
- Mehnert, A., & Koch, U. (2007). Prevalence of acute and post-traumatic stress disorder and comorbid mental disorders in breast cancer patients during primary cancer care: A prospective study. *Psycho-Oncology, 16*(3), 181–188. doi:10.1002/pon.1057
- Mehnert, A. & Koch, U. (2008). Psychological comorbidity and health-related quality of life and its association with awareness, utilization, and need for psychosocial support in a

- cancer register-based sample of long-term breast cancer survivors. *Journal of Psychosomatic Research*, 64(4), 383-391. doi:10.1016/j.jpsychores.2007.12.005
- Mehta, R., Sharma, K., Potters, L., Wernicke, A. G., & Parashar, B. (2019). Evidence for the role of mindfulness in cancer: Benefits and techniques. *Cureus*, 11(5), doi:10.7759/cureus.4629
- Melchert, N. (2002). Aristotle: The reality of the world. The good life. In *The great conversation: A historical introduction to philosophy* (4<sup>th</sup> ed., pp. 186-194). Boston, MA: McGraw-Hill.
- Mols, F., Vingerhoets, A., Coebergh, J., & van de Poll-Franse, L. (2005). Quality of life among long-term breast cancer survivors: A systematic review. *European Journal of Cancer*, 41(17), 2613–2619. doi: 10.1016/j.ejca.2005.05.017
- Moos, R. H., & Schaefer, J. A. (1986). Life transitions and crises: A conceptual overview. In R. H. Moos & J. A. Schaefer (Eds.), *Coping with life crises: An integrated approach* (pp. 3–28). New York, NY: Plenum Press.
- Niemiec, R. (2018). *Character strengths interventions: A field guide for practitioners*. Boston, MA: Hogrefe.
- Nightingale, V. R., Sher, T. G., & Hansen, N. B. (2010). The impact of receiving an HIV diagnosis and cognitive processing on psychological distress and posttraumatic growth. *Journal of Traumatic Stress*, 23(4), 452–460. doi:10.1002/jts.20554
- Park, N., & Peterson, C. (2006). Methodological issues in positive psychology and the assessment of character strengths. In A. D. Ong & M. van Dulmen (Eds.), *Handbook of methods in positive psychology* (pp. 292-305). New York, NY: Oxford University Press.

- Pawelski, J. O. (2016). Defining the 'positive' in positive psychology: Part II. A normative analysis. *Journal of Positive Psychology, 11*(4), 357-365.  
doi:10.1080/17439760.2015.1137628
- Pedersen, A., Sawatsky, J-A, & Hack, T. F. (2010). The sequelae of anxiety in breast cancer: A human response to illness model. *Oncology Nursing Forum (37)*4.  
doi:10.1188/10.ONF.469-475.
- Pennebaker, J., & Beall, S. (1986). Confronting a traumatic event: Toward an understanding of inhibition and disease. *Journal of Abnormal Psychology, 95*(3), 274-281.  
doi:10.1037/0021-843X.95.3.274
- Peterson, C. (2006). *A primer in positive psychology*. New York, NY: Oxford University Press.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York, NY: Oxford University Press.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *Journal of Positive Psychology, 2*(3), 149–156. doi:10.1080/17439760701228938
- Peterson, C., Park, N., Pole, N., D'Andrea, W., & Seligman, M. E. P. (2008). Strengths of character and posttraumatic growth. *Journal of Traumatic Stress, 21*(2), 214-217.  
doi:10.1002/jts.20332
- Ravdin, P. M., Siminoff, I. A., & Harvey, J. A. (1998). Survey of breast cancer patients concerning their knowledge and expectations of adjuvant therapy. *Journal of Clinical Oncology, 16*(2), 515-521. doi:10.1200/JCO.1998.16.2.515
- Reivich, K. J., Seligman, M. E. P., & McBride, S. (2011). Master resilience training in the U.S. Army. *American Psychologist, 66*(1), 25-34. doi: 10.1037/a0021897

- Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 keys to finding your inner strength and overcoming life's hurdles*. New York, NY: Three Rivers Press.
- Rendon, J. (2015). *Upside: The new science of post-traumatic growth*. New York, NY: Touchstone.
- Resilience. (2019). In *Dictionary.com*. Retrieved from <https://www.dictionary.com/browse/resilience>
- Romeo, A., Di Tella, M., Ghiggia, A., Tesio, V., Gasparetto, E., Stanizzo, M. R., ... & Castelli, L. (2019). The traumatic experience of breast cancer: Which factors can relate to the post-traumatic outcomes? *Frontiers in Psychology, 10*, 891. doi:10.3389/fpsyg.2019.00891
- Ruini, C., & Vescovelli, F. (2012). The role of gratitude in breast cancer: Its relationships with post-traumatic growth, psychological well-being and distress. *Journal of Happiness Studies, 14*(1), 263-274. doi:10.1007/s10902-012-9330-x
- Ruini, C., Vescovelli, F., & Albieri, E. (2013). Post-traumatic growth in breast cancer survivors: New insights into its relationships with well-being and distress. *Journal of Clinical Psychology in Medical Settings, 20*(3), 383–391. doi:10.1007/s10880-012-9340-1
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78. doi:10.1037/0003-066X.55.1.68
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081. doi:10.1037/0022-3514.57.6.1069

- Scott, W. (1990). PTSD in DSM-III: A Case in the politics of diagnosis and disease. *Social Problems*, 37(3), 294–310. doi:10.2307/800744
- Sears, S. R., Stanton, A. L., & Danoff-Burg, S. (2003). The yellow brick road and the emerald city: Benefit finding, positive reappraisal coping, and posttraumatic growth in women with early-stage breast cancer. *Health Psychology*, 22(5), 487-497. doi:10.1037/0278-6133.22.5.487
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York: Simon and Schuster.
- Seligman, M. E. P. (2019). Positive psychology: A personal history. *Annual Review of Clinical Psychology*, 15(1), 1–23. doi:10.1146/annurev-clinpsy-050718-095653
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14. doi:10/1037//0003-066X.55.1.5
- Seligman, M. E. P., Parks, A. C., & Steen, T. (2004). A balanced psychology and a full life. *Philosophical Transactions - Royal Society of London Series B Biological Sciences* 359(1449), 1379-1382. doi:10.1098/rstb.2004.1513
- Sheldon, K. M., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress but not all progress is beneficial. *Personality and Social Psychology Bulletin*, 24(12), 1319-1331. doi:10.1177/01461672982412006
- Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *Journal of Positive Psychology*, 1(2), 73-82. doi:10.1080/17439760500510676
- Shephard, D. (Producer) (2019, June 17). *Armchair Expert*. Julia Louis-Dreyfus. [Audio podcast]. Retrieved from <https://armchairexpertpod.com/pods/julia-louis-dreyfus>

- Silver, R. L., Boon, C., & Stones, M. (1983). Searching for meaning in misfortune: Making sense of incest. *Journal of Social Issues*, 39(2), 81-102. doi:10.1111/j.1540-4560.1983.tb00142.x
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology: In Session*, 65(5), 467-487. doi:10.1002/jclp.20593
- Sirois, M. (2016). *A short course in happiness after loss and other dark, difficult times*. Housatonic, MA: Green Fire Press.
- Sumalla, E., Ochoa, C., & Blanco, I. (2009). Posttraumatic growth in cancer: Reality or illusion? *Clinical Psychology Review*, 29(1), 24–33. doi:10.1016/j.cpr.2008.09.006
- Smalley, S., & Winston, D. (2010). *Fully present: The science, art, and practice of mindfulness*. Boston, MA: Da Capo Press.
- Smith, E. E. (2017). *The power of meaning: Crafting a life that matters*. New York, NY: Crown.
- Srinivasan, V., Spence, D. W., Pandi-Perumal, S. R., Trakht, I., & Cardinali, D. P. (2008). Therapeutic actions of melatonin in cancer: Possible mechanisms. *Integrative Cancer Therapies*, 7(3), 189-203. doi:10.1177/1534735408322846
- Swindoll, C. (2019). The longer I live the more I realize the impact of attitude on life. Retrieved from <https://www.goodreads.com/quotes/267482-the-longer-i-live-the-more-i-realize-the-impact>
- Tao, J. J., Visvanathan, K., Wolff, A. C. (2015). Long term side effects of adjuvant chemotherapy in patients with early breast cancer. *The Breast*, 24(2), S149-S153. doi:10.1016/j.breast.2015.07.035

- Taylor, S. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist*, 38(11), 1161–1173. doi:10.1037/0003-066X.38.11.1161
- Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455-471.  
doi:10.1007/BF02103658
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1-18.  
doi:10.1207/s15327965pli1501\_01
- Tedeschi, R. G., Calhoun, L. G., & Cann, A. (2007). Evaluating resource gain: Understanding and *misunderstanding* posttraumatic growth. *Applied Psychology*, 56(3), 396-406.  
doi:10.1111/j.1464-0597.2007.00299.x
- Tedeschi, R. G., & McNally, R. J. (2011). Can we facilitate posttraumatic growth in combat veterans? *American Psychologist*, 66(1), 19-24. doi:10.1037/a0021896
- Trauma. (2019). In *Merriam-Webster.com*. Retrieved July 5, 2019, from <https://www.merriam-webster.com/dictionary/trauma>
- Van Dyk, K., & Ganz, P. A. (2017). Doctor, now that my chemotherapy treatment is over, when will my “chemofog” lift? *Journal of Clinical Oncology*, 35(5), 482-484.  
doi:10.1200/JCO.2016.70.7497
- Vinokur, A., Threatt, B., Vinokur-Kaplan, D., & Satariano, W. (1990). The process of recovery from breast cancer for younger and older patients. Changes during the first

- year. *Cancer*, 65(5), 1242–1254. doi:10.1002/1097-0142(19900301)65:5<1242::AID-CNCR2820650535>3.0.CO;2-1
- Weiss, T. (2002). Posttraumatic growth in women with breast cancer and their husbands: An intersubjective validation study. *Journal of Psychosocial Oncology*, 20(2), 65-80. doi:10.1300/J077v20n02\_04
- Willig, C. (2015). “My bus is here”: A phenomenological exploration of “living-with-dying.” *Health Psychology*, 34(4). 417-425. doi:10.1037/hea0000176
- Zhai, J., Newton, J., & Copnell, B. (2019). Posttraumatic growth experiences and its contextual factors in women with breast cancer: An integrative review. *Health Care for Women International*, 40(5), 554-580. doi:10.1080/07399332.2019.1578360

## Appendix A

This paper was written to fulfill an assignment for a class during the spring semester. It details my suggestion for bringing resiliency training to breast cancer patients at the Rena Rowan Breast Center at the University of Pennsylvania, where I was treated for my cancer.

### **Will teaching the Penn Resiliency Program to breast cancer patients improve self-reported levels of resilience and anxiety?**

Breast cancer is the second most common type of cancer among American women, affecting one in eight women in the course of their lifetime (American Cancer Society, 2019). Treatment may involve surgery, chemotherapy, radiation, and various IV and oral medications. Diagnosis often brings anxiety, stress, and fear, leaving patients diagnosed at any stage or age with decreased well-being that can last long after treatment ends (Pedersen, Sawatzky & Hack, 2010; Gerber, Freund & Reimer, 2010). A 2011 study (Loprinzi, Prasad, Schroeder & Sood) introduced SMART resilience training to breast cancer survivors who were serving as mentors to women currently in treatment. The study found that resilience training improved self-reported quality of life, resilience, anxiety, and stress among participants (Loprinzi, Prasad, Schroeder & Sood, 2011). The present study aims to investigate the effectiveness of the Penn Resiliency Program, a studied and proven program in various populations (J. Gillham, personal communication, April 27, 2019; Gillham et al., 2007; Reivich, Seligman & McBride, 2011), at improving self-reported levels of resilience and anxiety in patients currently being treated for breast cancer.

### **Methods**

This study will be a randomized control trial of early stage breast cancer patients who are currently undergoing treatment. The study will be done through The University of

Pennsylvania's Rena Rowan Breast Center and will include a target sample size of 100 participants. There will be no age cut-off for the study and participants will be eligible immediately following diagnosis. Participants will be placed in active (receiving the intervention) and control (receiving no intervention) groups. Active study participants will be divided into intervention groups based on cancer stage, as the conversation for those diagnosed with early stage cancer and metastatic cancer may be different. All study participants will take the Connor-Davidson Resilience Scale (CD-RISC) and the Perceived Stress Scale (PSS) (Loprinzi, Prasad, Schroeder & Sood, 2011) prior to beginning the intervention and again following completion of the intervention. The intervention will be given over 12 weeks and participants may elect to participate virtually if needed. Post-study Resilience Scale and Stress Scale results will be compared to pre-study results, within and between groups.

### **Predicted outcome**

Based on previous studies involving PRP (Gillham et al., 2007; Reivich, Seligman & McBride, 2011) and resilience training in breast cancer survivors (Loprinzi, Prasad, Schroeder & Sood, 2011) I predict that active study participants will show increased resilience and reduced anxiety following completion of the program. Control participants will likely show reduced resilience and increased anxiety at the end of the 12-week term.

### **Next Steps**

If there is an increase in self-reported resilience and a decrease in self-reported anxiety in breast cancer patients treated with the intervention, I will recommend that all patients at the Rena Rowan Breast Center be offered PRP training. Following that, I would recommend that additional cancer centers offer the training to their patients. I would also run a separate study to

assess additional factors such as depression and overall psychological well-being to determine the effectiveness of PRP training on those factors in the cancer setting.

**Note**

In our 708 class I asked Karen Reivich about the possibility of offering this training to active cancer patients. She said that although it makes sense, she would be wary of adding more to a cancer patient's already full plate. I understand her thinking, however, because there is no way to know ahead of time who will and will not get cancer, I believe that offering the training in the presence of a diagnosis becomes necessary and appropriate. I also suggest (and could write a similar proposal) that the training be offered for those who have tested positive for genetic mutations known to increase cancer risk. That knowledge carries with it its own stress and anxiety.