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## **Trauma and Resiliency**

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## **Trauma and Resiliency**

Life is a series of events, some overwhelmingly positive and others devastatingly negative. Because of the inevitability of adversity, one must learn to adapt to negative circumstances. Throughout my own life, I have seen firsthand what this entails. While my sisters and I grew up in the same household in the same circumstances, I reacted to trauma with much more resilience than them. My younger sister, overpowered by traumatic circumstances, sought to take her own life in an attempt to escape. On the other hand, I focused on my studies and sought healthy outlets for my frustrations and grief. What caused such a difference in our reactions? Is it simply the power of thought or is there a genetic component? What can I do to build my own resilience and promote the resilience of others around me? The purpose of this paper is to explore the relationship between trauma and resiliency as well as how these topics apply to nursing.

### **Trauma**

#### **Stress**

To understand trauma and resilience, it is important to understand the impact of stress. According to de Magalhaes-Barbosa et al. (2020), there are three types of stress: positive, tolerable, and toxic. These types do not refer to the actual stressful event, but rather depend on the effect on the body's stress response. Positive stress is normal and involves a brief increase in heart rate, as well as mild hormone elevation. Tolerable stress occurs when the stress system is activated to a greater degree and has more lasting and profound consequences. If these stressful experiences do not occur for an extended amount of time and the individual receives ample social support, the brain can recover without any permanent

brain effects. Toxic stress is the most severe type of stress. It stems from frequent and intense exposure to stressful situations.

During the stress response, the thalamus decodes sensory information received from the environment and relays it down to the amygdala and up to the frontal brain (van der Kolk, 2014). The amygdala produces an immediate and automatic response, while the frontal brain produces a more thought-out response. If the amygdala decides the received stimuli is a threat, it sends the information down to the hypothalamus and the brainstems and activates the nervous system which produces the physical response (van der Kolk, 2014).

Krushas and Schwartz (2022) explain that in a process called allostasis, the body works to overcome stressful stimuli and return to the baseline level of functioning. The body has both an initial response and a prolonged response to stressors. During the initial response, the parasympathetic nervous system response is lessened while the sympathetic nervous system response is amplified. Because of this, catecholamines are secreted into the bloodstream, triggering an increased heart rate, blood pressure, and blood flow. The prolonged response occurs 20-30 minutes after exposure to the stressor and originates from the hypothalamus-pituitary-adrenal (HPA) axis, resulting in increased cortisol secretion. While these processes are essential to helping the body recover from stress, they can become damaging if activated repeatedly. This constant activation places a strain on the body's physiological systems and can lead to hypertension, glucose intolerance, obesity, and insulin resistance (Krushas & Schwartz, 2022). Furthermore, the increase of cortisol and norepinephrine released due to toxic stress leads to alterations in the brain, causing reduced neurogenesis, plasticity disorder, neurotoxicity, and synapse changes (de Magalhães-Barbosa et al., 2022). Collectively, these

changes cause a hypersensitivity to stress, and the cycle continues. Toxic stress can also alter the brain's chemistry by affecting epigenetics.

According to de Magalhães-Barbosa et al. (2022), epigenetics, the interactions between genes and the environment, play a role in turning on or off certain genes. As the body develops, the gene's DNA acquires chemical markers that determine which of the genes will be expressed, or turned on, and which will remain latent, or turned off. Environmental impact explains what identical twins share the same genes but have different behaviors. There are critical periods during childhood where the brain is especially malleable and continuously activating the stress response system can have a greater impact and are more likely to cause physical health, mental health, and behavioral issues (de Magalhães-Barbosa et al., 2022). The alteration of genes through stress can cause physical and mental health problems, both in childhood and beyond.

### **Adverse Childhood Events**

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), trauma is defined as an "event or circumstance resulting in physical harm, emotional harm, or life-threatening harm" (2021). While trauma occurs at all stages of life, childhood trauma often impacts the rest of the lifespan. Adverse childhood experiences, or ACEs, are groups of events that are categorized and added up to receive a score. ACE scores originally only included types of childhood abuse but have been expanded to include other categories (Sheffler et al., 2019). Myat Zaw, et al. (2022) explains that these categories include household mental illness, household substance abuse, imprisonment of family member, parental divorce, witnessing domestic violence, physical harassment, sexual harassment,

emotional abuse, physical neglect, emotional neglect, and victimization. Each one of these items receives one point, with the points added up to provide a summative ACE score. Adverse events can have a negative impact on a child's life and lead to more issues. One of these problems is ineffective coping strategies.

### **Coping Strategies**

Scheffler et al. (2019) describes how ACEs can lead to avoidant-focused coping strategies. These strategies work to diminish the emotional stress placed on the individual due to a traumatic event. However, it leads to little resolution or confrontation of the actual problem and resulting emotion. While this strategy may be useful early in life, such as throwing a temper tantrum to gain a neglectful parent's attention, it can become habitual and lead to avoiding any difficult emotion or problem later in life. On the other hand, problem-focused coping works to use powerful emotions to solve the problem and promotes self-efficacy. This coping mechanism is ultimately more effective and contributes to resiliency. Research by Scheffler et al. (2019), shows that those with higher ACE scores use avoidant-focused strategies more than problem-focused ones, leading to more problems later in life. ACE's also cause unhealthy levels of stress and can bring about other unhealthy coping mechanisms.

Van der Kolk, (2014) explains that depersonalization and dissociation are methods used to avoid the pain of trauma. Individuals will feel lost or abandoned and disconnected from reality. Instead of experiencing the normal mental and physical symptoms of a stressful experience, they feel nothing at all. This numbness is a response to the initial overwhelming amount of feelings. After a traumatic experience, the body is overcome with stress hormones, and it can be difficult for some to move on from this initial state of fear. Flashbacks begin to

occur and soon there is no escape from the terror. It becomes exhausting to relive these painful memories and to try to fight them. When fighting the negative emotions becomes too hard, people will begin to block out all emotions. While the negative feelings may be suppressed, so are the joys of life, and with that any hope for a future free from the nagging pain. This disconnect from reality causes the feeling of indifference toward the world and the consequences that may result. Furthermore, the need to feel something can lead to erratic and dangerous behavior or manifest in the form of self-harm (van der Kolk, 2014). Besides unhealthy coping, trauma can lead to physical and mental side effects.

### **Side Effects**

A study by Myat Zaw et al. (2022), surveyed 6,167 students with varying ACE scores and socioeconomic status. Of those participants, 53% reported anxiety, 50.5% reported depressive symptoms, and 19.7% reported suicidal ideation. The study also revealed a relationship between higher ACE scores and unhealthy mental health and behaviors including insomnia, anxiety, depression, low academic performance, and suicide attempts. Another study depicted by van der Kolk (2014) explored the impact of maternal neglect in the home. When the infants grew up in homes with maternal neglect, they became young adults that developed an unstable sense of self, detrimental impulsivity, excessive anger, and continual suicidal behavior. Growing up in a home without essential maternal guidance led the children to be unable to understand and regulate their emotions. Jahanshi et al., (2021) explained that the higher the ACE score, the more likely the child was to be involved in a serious crime by the age of 35 While trauma and toxic stress can lead to unhealthy coping mechanisms and long-term repercussions, not all people are as susceptible to these negative effects.

## Recovery and Resiliency

### Internal and External Support

Resiliency is the ability to recover from trauma within an adequate timespan and continue on with life. A major researcher in resiliency studies, Emmy Werner, describes it as a “dynamic process that leads to positive adaptation within the context of significant adversity” (Peters et al., 2005, p. 4). Another major researcher, Norman Gagey, describes it in terms of competence, stating that competence is developing adaptive behaviors and resiliency is competence in situations of extreme stress (Rolf & Glantz, 2002). Resilience has a couple factors, one of which is the number of stressors experienced. Those experiencing many stressful situations are less likely to maintain resiliency.

Although stress can adversely affect resiliency, there are protective factors that help combat the stressors. Norman Gagey found that presence of a positive social figure to help intervene and protect from the consequences of stressors can significantly improve an individual’s resilience (Rolf, 2002). In the book by Peters et al. (2005), Werner explains that children with good health, an easygoing temperament, high intellectual capacity, positive self-concept, the ability to plan, and strong faith in higher meaning were more likely to overcome traumatic scenarios. In her Kauai Longitudinal Study, she found that the individuals who were successful despite adversity, were those who relied on familial and community support. These support systems also promoted their competence and self-efficacy, encouraging them to seek new opportunities and work towards a successful future. Teenagers who had more self-efficacy and readiness for the future reported fewer stressful events in their thirties and forties, even though they grew up in adverse conditions. These individuals actively sought out help and



opportunities to grow. Interestingly, the study also revealed that internal protective factors, such as self-efficacy, had a greater positive impact on women, whereas external protective factors, like social support, had a greater impact on males. While different supports play a significant role in developing resilience, so do genetics.

### **Genetics**

Certain genes affect the body's ability to react to trauma and develop resilience, according to Niitsu et al., (2022). The difference susceptibility model examines gene-environment interactions and an individual's ability to cope with different situations. According to this model, those with reactive genes are more susceptible to both positive and negative environmental conditions. Resilience occurs when there is less reactivity and a more balanced reaction following trauma. However, gene variations can cause increased reactivity to the environment through altering the role of the HPA axis and brain-derived neurotrophic factor (BDNF), a protein that affects neuron growth and differentiation, thus influencing neuronal survival, function, and plasticity. Niitsu et al. (2022) describes an example of a gene affecting resilience, interleukin 6 (IL-6). IL-6 functions in the inflammatory process and the maturation of B cells, but there are also studies that indicate an association between IL-6 and depression. Buccal cells from 450 college students were collected and twelve different genes studied. It found that students who had the G/G genotype rather than the G/C genotype of a gene in IL-6 were more likely to develop resilience. They had fewer depressive symptoms following a traumatic experience, as opposed to those with the heterozygous genotype.

### **Interventions**

While genetics and the surrounding environment play a large role in resiliency, there are interventions that can help build resilience. Lurie et al. (2020) examined the impact that peer support and narrative picture telling can have on survivors of tragedies. On March 11, 2011, Northeastern Japan was hit by a 9.0 magnitude earthquake, triggering both a tsunami and nuclear plant meltdown. 16,000 individuals were killed with 47,000 others displaced. A group of docents from the September 11 Families Association in New York traveled to Japan to meet with survivors and share their tales of survival. Both groups were encouraged to take photos of the destruction and the healing in Japan. Then, they met together to discuss the photographs.

From the interactions, different themes were prevalent (Lurie et al., 2020). One was the usefulness of sharing in overcoming trauma. The survivors realized that healing is a process, and it takes time to recover. They also were able to overcome the barriers of telling their stories. Many did not want to burden others with their pain, so they did not talk about it. However, hearing other people talk about their experiences inspired and allowed people to talk about their own difficulties. They also experienced the power of physical touch and the significance of human connection in the process of developing resilience. A firefighter who worked at The Pile of Ground Zero was able to connect with Japanese firefighters who shared similar experiences. This led to rejuvenation for the two groups and restored the enthusiasm in the individuals to share their stories and create a positive impact. Before the trip to Japan, the museum docents had felt compassion fatigue, but left feeling rejuvenated and relieved. This study highlighted the importance of social connection and support in building resilience and recovering from trauma. Avoiding the feelings associated with trauma can be exhausting, as the

body is putting every effort into hiding them. Identifying and exposing these feelings can lead to a sense of freedom and lift some of the burden.

Van der Kolk (2014) explains that sharing these intimate feelings out loud to another individual can be difficult or impossible for some, but there are ways to process trauma that do not require speaking. One of the ways to do this is through writing. One proposed exercise is to choose an object and write whatever comes to mind while looking at it. This object provides an opening to create associations to both positive and traumatizing memories. Instead of having to speak the trauma to another person, writing can create a private way to work through trauma or make it easier to simply show another person what was written and share experiences that way. Van der Kolk details a study by a man named James Pennebaker who illustrated the role of writing in healing. He separated a group of 200 college students into three groups wherein one group would write what was going on in their life, the second would recall details of a traumatic or stressful event, and the third would write about a traumatic experience and the feelings and emotions that resulted from it as well as how the rest of their life was affected by the experience. Compared to the other two groups, the third group reported a 50% decrease in doctor's visits. Both their mental and physical health improved, leaving them feeling more optimistic.

Another method van der Kolk (2014) reviewed is geared more towards adolescents is theatre programs. Programs such as Urban Improv in Boston can help adolescents experience past traumas and the associated feelings in a safe place. Those who are traumatized are often afraid to feel emotions too deeply, as this can lead to the loss of control. However, the purpose of theatre is to feel and convey powerful emotions. Expressing these emotions in this

environment allows the adolescent complete control of the situation. Along with allowing children to process their emotion, acting also depicts the consequences of decisions. Having adults work alongside the students and provide guidance helps them heal from trauma in their own time and regain control of their life and their decisions.

## **Nursing**

### **Trauma**

Because of the nature of the profession, Kennedy and Booth (2022) found that nurses can experience trauma vicariously through their patients. Nurses who empathetically engage with patients who have experienced trauma have reported a shift in their views regarding themselves and the surrounding world. They may gain skewed perspectives pertaining to trust, intimacy, self-esteem, control, and safety. Because of this, they may feel anxious, despaired, or unworthy of love. These thoughts can be intrusive and lead to the avoidance of activities, as well as decreased ability to work effectively.

Forkey et al., (2021) categorized the effects of vicarious trauma into three groups: burnout, compassion fatigue, and moral injury. Burnout is defined as the emotional fatigue, derealization, and diminished sense of accomplishment that result from exposure to daily stressors and the activation of the stress response. Constant cortisol activation can lead to sleeplessness while frequent illness and depression could be caused by increased inflammatory mediator activation. Forgetfulness and feelings of ineffectiveness may be caused by the effects of cortisol on the prefrontal cortex. Compassion fatigue, or secondary traumatic stress, is the symptoms that occur due to indirect exposure to other individual's trauma. These symptoms mirror those of posttraumatic stress disorder. Moral injury results from carrying out or

neglecting to stop an act that goes against one's moral standards and beliefs. This can result in both emotional and spiritual distress. Within healthcare, there seems to be an increase in both burnout and compassion fatigue, likely due to both organizational and internal factors with one factor being the recent pandemic.

### **Building Resilience**

To address the growing prevalence, interventions should be taken at both the individual and organizational level, falling under the categories of both prevention and treatment, as explained by Forkey et al. (2021). Individual factors include steps a person can take to improve their mental state. Establishing a healthy work-life balance is one of these steps, as is learning time management. Another is participating in self-care activities such as connecting with nature, finding a creative hobby, journaling, or participating in yoga and meditation. Learning how and when to say no and how to ask for help is also important. Seeking professional support from a licensed counselor or getting peer support from a friend or through joining a support group can be very beneficial.

The National Academy of Medicine along with other organizations have worked to create organizational strategies to help create a positive work environment (Forkey et al., 2021). Some of these things include prioritizing safety, optimizing workload, adopting policies that support self-care and stress management, providing education, and minimizing the stigma related to burnout and with seeking help. Mayo Clinic developed a program called COMPASS (Colleagues Meeting to Promote And Sustain Satisfaction) in which physicians would join a group of six to seven other colleagues to attend a meal together every two weeks. The first 20 minutes of each meal were spent discussing a topic related to the medical profession. The

institution paid for the meal and found that the participants were able to find more meaning in work and reported reduced burnout.

Forkey et. al (2021) goes on to explain that connecting with other people can be one of the most helpful interventions. When the body goes into fight or flight, befriending another individual can help promote feeling of safety. The reward pathway is triggered, resulting in a decrease of cortisol secretion and other stress responses. However, when other colleagues are also experiencing trauma and burnout, it can be difficult to form these bonds. If one is met with hostility when attempting to make these interactions, stress responses can increase as the body interprets a threat.

To simplify the interventions, Forkey et al. (2021) explains that there are three main steps to build resiliency and combat the effects of vicarious trauma: awareness, balance, and connection. Awareness includes the ability to slow down and notice the feelings and effects of daily trauma and how these are impacting behavior. Rather than relying on the quick and emotional response of the amygdala, slowing down allows the prefrontal cortex more time to adequately process information and formulate less extreme responses. Balancing involves including enough time in a schedule to rest and recover from a stressful event, as well as having self-compassion and knowing when to set limits. Connection is bonding with and befriending other individuals.

### **Conclusion**

Trauma and adversity are impossible to control. However, to some degree, one can control their reaction to these circumstances through resiliency. Resiliency results from a combination of genetics, environmental impacts, and personal qualities, making it harder for

some to have a positive response to stressful events. There are ways to promote resilience, even for those who may encounter numerous stressors. These include strong human connections and support, finding enjoyable hobbies or participating in self-care, and seeking help. Nurses can also employ these tactics to combat vicarious trauma and can help teach patients these things to promote resilience. Building resilience is a process, one that takes time and patience, but people do not have to struggle alone. While resiliency can be hard, the effects of trauma and stress are severe enough to make working towards becoming a more resilient and balanced individual worth it.

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