The Process of Developing Resilience in Patients With Burn Injuries

Jing HAN1,5 • Xue-Ping ZHOU2,5 • Jun-E LIU3* • Peng YUE4 • Li GAO4

ABSTRACT

Background: Patients with burn injuries resulting in visible disabilities may face negative emotional experiences during rehabilitation. Understanding the development of resilience in these patients may help those who are seeking methods to better adapt to their new situation.

Purpose: This study aimed to explore the development of resilience in patients with burns during their convalescence.

Methods: Ten patients with burn injuries who were convalescing in a general hospital in China were recruited and enrolled as participants. Data were collected using recorded, semistructured in-depth interviews and analyzed following the principles of grounded theory.

Results: The development of resilience in patients with burns included five stages of "black hole," "introspection," "integration," "practice," and "growth." Both internal and external protective factors were identified. The internal protective factors included hope, sincerity, will, belief, and curiosity, and the external protective factor was mutual relationships that reflected the qualities of caring, support, sharing, commitment, and intimacy.

Conclusions: Resilience was achieved gradually over several progressive steps through the five stages (black hole, introspection, integration, practice, and growth). The results of this research may provide insights and support to patients who seek to improve their adaptation to new situations.

KEY WORDS:
burn, resilience, psychological rehabilitation, grounded theory.

Introduction

Patients with burn injuries have experienced a traumatic event that may lead to multiple psychological problems (Dunpath, Chetty, & Van Der Reyden, 2014). For example, during the discharge rehabilitation stage (3 months after injury), patients may feel shame or inferiority in interpersonal relationships, and these feelings may develop into posttraumatic stress disorder (PTSD; Dunpath et al., 2014). Although patients with burn injuries return to society once their physical ailments have been treated, postdischarge psychological rehabilitation determines how they manage the challenges of their new lives. PTSD affects approximately 30% of patients with burns (Cakir, Terzi, Abaci, & Aker, 2015; Van Loey, van de Schoot, & Faber, 2012) and may be caused by clinical symptoms such as itching, pain, ulceration, and contracture. Some burned patients adapt well to life after injury (Dahl, 2013; Waqas et al., 2016) after addressing the traumatic events that led to PTSD and related symptoms. Successful adaptation indicates that these individuals have tried to cope with the event and process the traumatic information, a process that is considered integral to the development of resilience (Endfield, 2012; Kornhaber, Bridgman, McLean, & Vandervord, 2016).

Resilience is a multifaceted concept that is characterized by a dynamic process involving the interaction between the intrapsychic and social factors of risk and protection (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O’Haherty, 2013). Resilience may be defined as “the human ability to adapt in the face of tragedy, trauma, adversity, hardship, and ongoing significant life stressors” (Newman, 2005). In Richardson's Resiliency Model (Richardson, 2002), although an individual initially experiences balanced biopsychospiritual homeostasis, stressors (e.g., adverse life events) may begin to interact with personal protective factors and lead to systemic collapse and reintegration. The four possible outcomes when protective factors are insufficient to withstand a stressor include resilient reintegration, reintegration back to homeostasis, reintegration with loss, and dysfunctional reintegration. Resilience influences the effective adaptation and mental health of individuals facing stressors, promoting personal development (Wanberg & Banas, 2000), improving mental health (Friiborg, Barlau, Martinussen, Rosenvinge, & Hjemdal, 2005), and predicting negative psychological symptoms after trauma (Campbell-sills, Cohan, & Stein, 2006).

Studies have shown a relationship between resilience and burn injury. Quantitative interviews have found that resilience exerts positive effects immediately after a burn occurs...
and may predict psychological symptoms after the injury (Wang & Chen, 2007). Moreover, the positive effects of resilience may occur in the process of self-reconstruction after a burn injury (Lau & van Niekerk, 2011). Cross-sectional surveys have found a significant correlation between the psychological resilience of burned patients and their subjective well-being (He, Cao, Feng, Guan, & Peng, 2013) and found that self-esteem and family support predicted resilience in patients with burns (Jang, Park, Chong, & Sok, 2017). However, there are few studies on the process of developing resilience in patients with burns. Some researchers have suggested that studying the development of resilience may help in understanding the phenomenon of resilience and ultimately foster occupational adaptation in patients (Lopez, 2011; Xi, Zuo, & Wu, 2012). This study examines the development of resilience among patients with burn injuries and the related factors of influence, with the intent to help nurses provide more effective support.

The aim of this study was to explore resilience development in patients who have suffered a burn injury.

Methods

Design and Participants

This study applied grounded theory because of the focus of this theoretical approach on processes and theory generation (Chen, 2000). Ten patients with burns in visible areas that were associated with cicatricial contracture or dysfunction who were convalescing in a general hospital in China were recruited from the comprehensive department of burn and orthopedics. Six men and four women, from 19 to 44 years old, participated in the study; five were married, four were single, and one was divorced; and nine of the 10 participants had completed at least high school. The burn areas covered from 16% to 50% of their bodies.

Ethical Considerations

This study was approved by the Ethics Committee of Capital Medical University (2010SY24) and adhered to the committee’s ethical guidelines. All recruits volunteered to participate and signed an informed consent. Codes were used to ensure participant anonymity and confidentiality.

Data Collection

This study was conducted from November 2012 to February 2013. Posters providing information about the study were placed in the burn ward, and patients interested in participating were asked to contact the researcher. The in-depth interviews were conducted in a quiet place using a semistructured guide with six questions (based on a literature review and the aims of the study). Example questions included (a) “When you felt stress after your burn experience, what did you do?”, (b) “What were your feelings during the convalescence period?”, and (c) “If you could, what changes would you make next?”. All interviews were tape-recorded and transcribed verbatim within 24 hours. Each participant received a printed interview transcript to ensure that the recorded information accurately reflected meaning. The printed copies were returned 3 days later, and no changes were made to the original transcripts.

One of the researchers, the nurse who had regular care responsibilities for the participants and had thus developed relationships of mutual trust, conducted the interviews. Data collection and analysis were conducted concurrently. On the basis of each data analysis experience, the researchers developed concepts, categories, and preliminary theories that were applied to subsequent in-depth interviews. This helped ensure that the rich data collection procedure generated reliable results.

Data Analysis

All data were analyzed using grounded theory methods, which involved coding, making constant comparisons, and writing memos. Two authors performed independent coding, which consisted of opening coding, axis coding, and selecting coding (Charmaz, 2006). Throughout the process, the results were discussed in regular group meetings and compared continually to refine the different concept categories and identify relationships among these categories. Written memos and self-reflection occurred continually during the research period.

Rigor

Credibility, dependability, conformability, and transferability were used to evaluate the rigor of the qualitative research (Streubert & Carpenter, 2010). As previously discussed, interviews were tape-recorded and transcripts were checked by each participant to ensure credibility. The audit trail, which involved the interview guide, audio recordings, field notes, and data analysis process, was clearly detailed. Two researchers carried out the initial coding independently, and weekly meetings involving five researchers helped establish dependability and conformability. In addition to the primary researcher, four researchers who were experienced in burn care were involved in the analysis of data. To ensure transferability, secondary interviews with the participants about the preliminary results and detailed descriptions based on the data were completed.

Results

The process of developing resilience was represented using a circular framework (Figure 1) after an analysis based on grounded theory. This process involved five closely related stages of resilience generation, with five internal and five external protective factors. These five stages, defined as black hole, introspection, integration, practice, and growth, were placed on the periphery of the circular resilience framework diagram. The five internal protective factors were hope, sincerity, will, belief, and curiosity, whereas the five external protective factors were caring, supportive, sharing, committed,
and intimate relationships. The five parts of the cyclical process shared dynamic and interactive relationships, and the development of each stage, facilitated by internal and external protective factors, occurred in an open, spiraling, and upward direction. The participants might repeat the cycle multiple times, incorporating additional experiences as they returned to each stage. Every cycle led to more experience and increased freedom; for example, the arrow emerging from the growth stage led to a more developed state rather than a return to the original black hole stage. However, the order of the cycle is not simple or linear; connections among the stages are indicated by arrows pointing in opposite directions. The solid outer ring represents protective factors that promote the development of resilience, and the dotted inner ring indicates regression. The dotted star in the middle of the diagram shows that resilience is based on interpersonal relationships that lead to several changes, each of which corresponds to one of the five stages in the periphery, ultimately leading to the emergence of the protective factors of resilience on the outer ring.

**The Process of Developing Resilience**

**Black hole stage**
The black hole, representing the psychological dilemma faced by the patient with burn injury, is typified by a lost sense of security and low self-esteem caused by victimization, negative feelings, and defensive coping.

“Victimization” refers to a patient’s self-perception of his or her own identity and situation. The patient self-perceives as a “burned patient” who has experienced serious physical and psychological harm and thus assumes the role of a victim. Victimization is a manifestation of low self-esteem: “The burn left me with nothing and makes me nothing. What can I do from now on? There is nothing I can do. I rely on others to take care of me in my daily life and will depend on others to realize my dreams.” (A)

“Negative feelings” primarily include fear, anxiety, anger, and depression. During this stage, participants directly experienced negative feelings (e.g., low self-esteem and poor sense of security) but may not be aware of the underlying reasons: “I always feel anxious when I think about gains and losses, speculate about what others say and do, get angry without rhyme or reason, and want to decide or control something. I wear a lot of clothes, even a hat in the ward. Sometimes I think that maybe I would feel most comfortable living in a desert.” (E)

“Defensive coping” refers to reactive and unconscious behaviors undertaken by a participant to survive, self-protect, and achieve desires. Each defensive coping style represents an attitude toward survival and manifests low self-esteem. In this study, defensive coping was exhibited in four ways:

1. Placating (nonassertive): Participants suppressed their feelings, such as sadness, disappointment, and anger; were nonassertive; and avoided being disagreeable. Thus, participants avoided conflict and concerns over how others perceived them. “My wife took me to visit many plastic surgeons, hoping that I could recover better. Actually, I don’t want to go out. I hate being talked about. But she thought it would be good for me, and so I cooperated with her.” (D)

2. Blaming: Participants thought, “It’s all my fault, and I have to change first.” (A, B, C, F). The participants also blamed themselves for feeling guilty: “I just think of myself over and over again. I should care not only about my own thoughts but also about the needs of others.” (B, C)

3. Denying: Emotions may manifest in physical symptoms: “Even I don’t like this (my) face. So, I never look in the mirror, never go out, never want to stay with someone.

![Figure 1. The process of developing resilience in patients with burns.](image-url)
4. Super reasoning: Participants disregarded their own and others' feelings and focused only on the current situation. For example, when a doctor asked one participant if the process of changing her wound dressings was overly painful, she replied: "The pain is bearable." (G)

"Desires" are often hidden and were conveyed in participants' expectations of others and their situation. After asking themselves why others had so many expectations, the participants realized that they also had many desires that had been buried through their survivalist attitudes: "In the past, I always made every effort to meet my desires, and [now] it is others who meet my desires. When [my desires] fail to be met, I feel pain and blame others. But I couldn't see all this before." (E)

**Introspection stage**

Introspection refers to the process by which participants understood their inner world by developing perceptive abilities. The main feature of this stage is perception, and participants in this stage reflected on topics such as defensive wall construction, unmet expectations, and desires.

**Defensive wall:** The participants in this study referred to walls that they had built around their hearts because they were victims. Participants maintained this wall using survivalist attitudes and holding limited expectations to resist pressures from the outside world and to protect themselves. (a) "Survivalist attitude" consisted of a series of communication styles that were used to develop a sense of security and that may reflect inner desires. The consequences of participants exhibiting survivalist attitudes included separating from their true selves, alienating others, and strengthening the perception of their role as a victim, thereby continuously experiencing negative feelings: "After introspection, I found that I had adopted many behaviors just to avoid hurt and to survive. But I didn't know why I did that (adopted these behaviors). In fact, in the end, these methods didn't make me feel better." (E); (b) "Limiting beliefs" are trauma-inspired ideas that prevented the participants from becoming successful and happy. Participants stated that their feelings were often affected by limiting beliefs, which hampered their understanding of the true nature of certain situations and engendered feelings of low self-esteem: "I always had some beliefs before, such as 'I am worthless, I don't deserve to be happy, I always cause trouble for my family.' I used to feel that my thoughts were right, and I was like a person with a limited outlook, right? Because of those thoughts, I did a lot of harm to myself and others. As a result, I felt I was never good enough and like I was driven to a dead end." (A)

**Unmet expectations:** Participants often expected others to satisfy their desires, and when these were unmet, they experienced negative feelings or developed a survivalist attitude: "In the beginning, my doctor said plastic surgery could change my appearance. You know, this kind of surgery can only save life but can't improve one's appearance. So, I didn't want to acknowledge the doctor, as he made me very disappointed. My poor treatment of my doctor also reflected my unwillingness to accept the reality and my counting on him to resolve all of these [disappointments]. However, in the course of treatment and rehabilitation, my doctors and nurses provided professional care and psychological support for me. Later, I opened my heart to communicate my feelings and expectations sincerely with them, and now I have accepted myself." (B)

**Integration stage**

Integration is the process by which patients assimilate their experiences to create a new self. The main features of integration are recognition and acceptance, which come from acknowledging feelings, cognitive restructuring, and taking responsibility for expectations.

"Acknowledging feelings" refers to recognizing and accepting one's feelings after realizing that they are an interpretation of perceptions: "My pain is not someone else's fault, but my choice. The pain is actually a revelation for me, telling me that there is trouble. However, the feeling itself is not a problem, as it guides me to see where the problem is. I just need to follow its guidance in order to solve the problem." (E)

"Cognitive restructuring" refers to restructuring restrictive beliefs as positive beliefs: "I grew to believe that one good turn deserves another. But why did I get burned? What did I do wrong to suffer such retribution? I was stuck in such confusion and was unable to extricate myself. Later, I began to realize that this was just my idea, not a fact. Actually, this world is always unpredictable, and whatever happens is normal. The key is how we face these things." (C)

"Being responsible for one's expectations" refers to participants' recognition that their expectations of others and their situation resulted from their inner desires and that they must accept and take responsibility for their expectations: "The closer people were to me, the more I wanted them to follow my ideas to do this and that. After understanding that these were all just my requirements and thoughts, I realized that all these were normal. The reason I had requirements of others lies in the fact that I couldn't accept myself. Even failing to accept myself generates a lot of self-dissatisfaction. So, I disagreed with [the people close to me] and blamed them for many irrational behaviors." (F)

**Practice stage**

The practice stage refers to when participants practiced and maintained new skills. The main characteristic of this stage is action, namely, letting go, accepting more choices, and taking responsibility for oneself.

"Letting go" means that, once participants perceived, recognized, and accepted that they were still strongly influenced by experiential feelings and behavioral patterns, they could work on setting these feelings and patterns aside to realize the freedom of living in the moment: "Every time fear wells up, I have a dialogue with it to see what it wants to say and what makes me afraid. If I no longer firmly hold it, it will be gone..."
soon, and I will feel very relaxed and pleasant. At the same time, I no longer worry or fear, so I can do enjoyable things.” (F)

“Accepting more choices” refers to becoming empowered and free to acknowledge more choices. After removing defensive walls and letting negative feelings go, participants perceived opportunity for more choices at every turn: “I believe that only by learning to love yourself first can you love others. When I treat myself well instead of asking family members to do things for me, the distance between family members and me grows smaller. This distance was so wide once, and I was so dissociated from myself.” (B)

“Taking responsibility for oneself” meant that participants took ownership of their behaviors, feelings, expectations, desires, and choices to become empowered to take responsibility for their own lives. The participant who experienced an electrical burn during work described her accident during this stage: “It’s not anyone’s fault, and I have the ability to let it go.” (G)

**Growth stage**

During the growth stage, participants gained positive power and an appreciation for life after struggling with their dilemmas. The main features of this stage include development and appreciation, as reflected in defining the significance of the burn, living in the moment, and achieving harmony.

“Significance of the burn” refers to participants finding new significance in their burn injury and themselves and consisted of three levels: (a) changing one’s perception: “The burn was just an event, and the problem is not the event but how I judge it and why I judge it. When I really feel and accept it (the event), the problem disappears. The event seems to have left me for a long time and is now just a life experience.” (I); (b) believing in the significance of the burn: “I no longer escape or resist. It’s like I was imprisoned after being burned and it was very painful. Now, I don’t want to be immersed in the pain of the burn anymore and have come to believe that the burn has brought me some positive things.” (D); and (c) significance of life: “The burn gave me a new life. It doesn’t mean that I like the burn. I regard the burn as a guide for life, guiding me to learn to appreciate and be grateful in my life’s path. It is just the beginning, not the end.” (F)

“Living in the moment” refers to the realization of a peaceful, devoted, and free state of life through acceptance of misfortune and discarding previous fantasies: “As I like writing, I kept writing at home, completely focusing on writing and feeling the peace of the pen touching the paper. I like myself in that moment, I feel alive. Then I find that I’m able to do this every time, more and more easily.” (E)

“Harmony” refers to participants experiencing an existential state after becoming more complete. Harmony reflects a communicative attitude that respects the self, others, and situations: “I can be increasingly true to myself, neither hurting others nor deprecating myself, which is not difficult, as all that is needed is just mutual respect and love.” (B, J)

**Protective Factors**

**Internal protective factors**

“Hope” represents a cognitive state in which participants realized their situation and chose to achieve challenging objectives. In this study, hope was generated in the participants and by caring relationships: “It seems that my daughter was never disturbed by my injury. Her attitude encouraged me to move forward instead of being pessimistic. You have to get over it.” (C) Hope motivated the participants to move from the black hole stage into the introspection stage.

“Sincerity” means sharing and expressing oneself or having honest reservations. In this study, the more a participant shared with and expressed to others, the more open and compassionate they were to themselves: “I admitted that I was often angry because I was afraid no one liked me anymore. I’m afraid because I’m not confident. I found that when I have the courage to expose myself, there will be no problem.” (B) Sincerity motivated the participants to move from the introspection stage into the integration stage.

“Will” reflects self-belief in one’s behavior that translates self-perceptions and feelings into desired practice: “I can stay at home as long as I want. But I want to go outside to face my life.” (J) Will motivated the participants to move from the integration stage into the practice stage.

“Belief” represents an inner belief that life will continue. In this study, the depth of this belief related positively to the encouragement that participants received to be actively involved in recovery: “Whatever it is going to be, it is better than anything I can imagine.” (B) Belief motivated the participants to move from the practice stage into the growth stage.

“Curiosity” represents open-mindedness about the unknown in terms of a participant’s individuality and about everything that will happen: “I have no so-called aims or plans. Just let me live like a three-year-old, curious kid.” (F) Curiosity helped participants progress into the upward spiral.

**External protective factors**

Caring relationships: In the black hole stage, participants needed to receive care from others and find comfort in this care. The participants in this study gained a sense of security from their caring relationships: “I feel I am just a dead dog, I have to be taken care of. Thank God that my family members are always there. It makes me feel warm and safe.” (A)

Supportive relationships: In the introspection stage, participants perceived abundant love, acceptance, and support in their relationships, which provided significant additional encouragement and strength: “I am sure that I still loved and supported by my family, merely through my observation with no analysis or judgement.” (I)

“Sharing relationships” were established based on the self-recognition, self-acceptance, and self-expression of participants during the integration stage: “I feel relaxed when I tell others how my mind suffered from the burn. One day my husband told me how sad and helpless he felt when I got injured
Discussion

The participants in this study achieved resilience through a gradual process. Although causal factors and injury severities were not the same, the development of resilience in the 10 participants always involved the five stages identified in the previous discussion: black hole, introspection, integration, practice, and growth. The development of resilience is one of change and transformation. A process represents the way to change, which is the core of developing mental resilience. Many small changes experienced by participants contributed to the development of resilience. The cycle through the five stages may need to be repeated many times before a major transformation occurs. This finding supplements and supports the reintegration process that is described in Richardson’s Resiliency Model (Richardson, 2002), which provides a framework for understanding the individual experience of system collapse and reintegration without giving details of the process of resilience development. This study described the full process of resilience development and clearly defined the specific events of system collapse and reintegration and internal change. This information may assist medical staff and families to understand the experiences of patients with burn injury and provide targeted support during the different processes.

Changes during the resilience development process involve adaptations from consciousness to behavior at the three levels of consciousness, interpersonal relationships, and life direction. Individual transformation occurs at every stage. During the black hole period, one participant (G) regularly complained that she was a victim. However, through continuous growth, her self-responsibility improved. During the introspection stage, she was aware that her mindset was the reason why she perceived herself as a victim; during the integration stage, she told herself to face the burn, although doing so was psychologically painful; during the practice stage, she believed that the burn was no one’s fault and that she had the ability to let her negative thoughts about it go; and during the growth stage, she discovered the significance of the burn and found its benefits and gained strength from it. Other participants experienced similar feelings and changes. Participant B regularly blamed his wife during the black hole stage; with self-responsibility and continuous growth during the introspection and integration stages, he faced his unmet expectations and took responsibility for them; during the practice stage, he perceived more choices before blaming others and learned to love himself; and during the growth stage, he experienced harmony in understanding that he and his wife respected and loved each other. This finding regarding behaviors, emotions, and cognition at each stage may assist medical staff to understand the changes that patients with burn injury undergo during the development of resilience.

In this study, the internal protective factors were the participants’ core resources of hope, sincerity, will, belief, and curiosity, whereas the external protective factors were the participants’ relationship resources of caring, supportive, sharing, intimate, and committed relationships. Although these factors affected each stage of resilience development, there were essential protective factors at critical junctions, such as hope and caring relationships in the black hole stage. Interactive relationships between internal and external protective factors promote mental resilience. This is consistent with the findings of Luthar, Cicchetti, and Becker (2000) in that resilience is affected by the interaction between protective factors and the environment. Resilience is promoted when protective factors are enhanced and supported (Quezada, González, & Mecott, 2016). However, the findings of this study differ from Connor and Davidson’s five factors: sense of control, spirituality, perseverance, positive acceptance of change, and strong interpersonal relationships (Connor & Davidson, 2003). Prior studies have shown that the protective factors underlying resilience may differ between different populations with different living conditions, cultural backgrounds, and sociodemographic characteristics (Manzano-Garcia & Ayala Calvo, 2013; Sexton, Byrd, & von Kluge, 2010; Wu, Tan, & Liu, 2017). Moreover, Ungar pointed out that protective factors are specific to each patient’s environment, which is a significant consideration when working to understand the development of resilience in different cultural systems (Ungar, 2008). In China, inner resources and relationship resources are major factors affecting the development of psychological resilience in burned patients. The findings of this study may help healthcare providers provide better and more effective psychological support to Chinese patients with burn injury.

Implications

On the basis of the characteristics of the five stages of resilience, opportunities to promote the development of resilience in different stages are discussed here to provide guidance for practitioners. The black hole stage is based on thoughts and caring relationships. Therefore, practitioners should provide constant care during this stage to establish a secure environment in which patients may develop their resources and nurture hope. During the introspection stage, practitioners should work to establish a relationship with patients and gain their trust, offering a reliable and supportive environment to improve their cognitive abilities. During the integration stage, practitioners should actively listen when patients share information, even when they find that their patients are trapped in a defensive mode or hold harmful beliefs. During the practice stage, practitioners should assess whether
patients have made their choices and are ready to put these choices into action and then provide their patients with an open, accepting, and sharing environment. During the growth stage, practitioners should provide a platform to allow patients to achieve their desires.

**Limitations**

Several limitations of this study should be considered when interpreting the results. This study recruited only those participants who were willing to discuss their feelings about their burn injury and treatment. Thus, patients who were not sufficiently communicative may have held opinions and thoughts on the process of resilience that differed significantly from the sample. Although interviews are the most commonly used method of data collection in grounded theory studies, observation and documents should also be used for data enrichment and triangulation to further bolster the validity of results.

**Conclusion and Recommendations**

Five stages of the development of resilience were introduced in this study. The essential aspects of resilience were discussed thoroughly by the participants, who were all burned patients currently undergoing treatment in a hospital. The findings may provide helpful insight and support patients seeking to adapt to new situations. In addition, it is recommended that medical staff, patient families, and survivors who have succeeded in achieving resilience share their experiences to help those who are still struggling to adapt and to face future challenges.

**Acknowledgments**

This research was funded by the Importation and Development of High-Caliber Talents Project of Beijing Municipal Institutions (Grant no. CIT&TCD20140328).

**Author Contributions**

Study conception and design: JEL, XPZ
Data collection: XPZ, PY
Data analysis and interpretation: XPZ, PY, LG, JEL
Drafting of the article: XPZ, JH
Critical revision of the article: JH, JEL

*Cite this article as: Han, J. Zhou, X. P., Liu, J. E., Yue, P., & Gao, L. (2020). The process of developing resilience in patients with burn injuries. *The Journal of Nursing Research, 28*(1), e71. https://doi.org/10.1097/jnr.0000000000000342

**References**

Cakir, U., Terzi, R., Abaci, F., & Aker, T. (2015). The prevalence of post-traumatic stress disorder in patients with burn injuries, and their quality of life. *International Journal of Psychiatry in Clinical Practice*, 19(1), 56–59. https://doi.org/10.3109/13651501.2014.981545

Campbell-sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, 44(5), 585–599. https://doi.org/10.1016/j.brat.2005.05.001

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis* (1st ed.). London, England: Sage.

Chen, X. M. (2000). *Qualitative research in social sciences*. Beijing, PRC: Educational Science Publishing House.

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor–Davidson Resilience Scale (CD-RISC). *Depression & Anxiety*, 18(2), 76–82. https://doi.org/10.1002/da.10113

Dahl, O. (2013). *Memories of pain, adaptation to life and early identification of stressors in patients with burns*. Stockholm, Sweden: Karolinska Institutet.

Dunpath, T., Chetty, V., & Van Der Reyden, D. (2014). The experience of acute burns of the hand—Patients perspectives. *Disability and Rehabilitation*, 37(10), 892–898. https://doi.org/10.3109/09638288.2014.948129

Endfield, G. H. (2012). The resilience and adaptive capacity of social-environmental systems in colonial Mexico. *Proceedings of the National Academy of Sciences of the United States of America*, 109(10), 3676–3681. https://doi.org/10.1073/pnas.1114831109

Friborg, O., Barlaug, D., Martinussen, M., Rosenvinge, J. H., & Hjemdal, O. (2005). Resilience in relation to personality and intelligence. *International Journal of Methods in Psychiatric Research*, 14(1), 29–42. https://doi.org/10.1002/mpr.15

Garcia-Dia, M. J., DiNapoli, J. M., Garcia-Ona, L., Jakubowski, R., & O’Flaherty, D. (2013). Concept analysis: Resilience. *Archives of Psychiatric Nursing*, 27(6), 264–270. https://doi.org/10.1016/j.apnu.2013.07.003

He, F., Cao, R., Feng, Z., Guan, H., & Peng, J. (2013). The impacts of dispositional optimism and psychological resilience on the subjective well-being of burn patients: A structural equation modelling analysis. *PLoS ONE*, 8(12), e82939. https://doi.org/10.1371/journal.pone.0082939

Jang, M. H., Park, J., Chong, M. K., & Sok, S. R. (2017). Factors influencing resilience of burn patients in South Korea. *Journal of Nursing Scholarship*, 49(5), 478–486. https://doi.org/10.1111/jnu.12311

Kornhaber, R., Bridgman, H., McLean, L., & Vandervord, J. (2016). The role of resilience in the recovery of the burn-injured patient: An integrative review. *Chronic Wound Care Management and Research*, 3, 41–50. https://doi.org/10.2147/CWCMR.S94618

Lau, U., & van Niekerk, A. (2011). Restoring the self: An exploration of young burn survivors’ narratives of resilience. *Qualitative Health Research*, 21(9), 1165–1181. https://doi.org/10.1177/104973311405686

Lopez, A. (2011). Posttraumatic stress disorder and occupational performance: Building resilience and fostering occupational adaptation. *Work*, 38(1), 33–38. https://doi.org/10.3233/WOR-2011-1102

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of
resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543–562. https://doi.org/10.1111/1467-8624.00164

Manzano-García, G., & Ayala Calvo, J. C. (2013). Psychometric properties of Connor–Davidson resilience scale in a Spanish sample of entrepreneurs. *Psicothema, 25*(2), 245–251. https://doi.org/10.7334/psicothema2012.183

Newman, R. (2005). APA’s resilience initiative. *Professional Psychology: Research and Practice, 36*(3), 227–229. https://doi.org/10.1037/0735-7028.36.3.227

Quezada, L., González, M. T., & Mecott, G. A. (2016). Explanatory model of resilience in pediatric burn survivors. *Journal of Burn Care & Research, 37*(4), 216–225. https://doi.org/10.1097/BCR.0000000000000261

Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology, 58*(3), 307–321. https://doi.org/10.1002/jclp.10020

Sexton, M. B., Byrd, M. R., & von Kluge, S. (2010). Measuring resilience in women experiencing infertility using the CD-RISC: Examining infertility-related stress, general distress, and coping styles. *Journal of Psychiatric Research, 44*(4), 236–241. https://doi.org/10.1016/j.jpsychires.2009.06.007

Streubert, H. J., & Carpenter, D. R. (2010). *Qualitative research in nursing: Advancing the humanistic imperative* (5th ed.). New York, NY: Lippincott Williams & Wilkins.

Ungar, M. (2008). Resilience across cultures. *The British Journal of Social Work, 38*(2), 218–235. https://doi.org/10.1093/bjsw/bcl343

Van Loey, N. E., van de Schoot, R., & Faber, A. W. (2012). Posttraumatic stress symptoms after exposure to two fire disasters: Comparative study. *PLoS ONE, 7*(7), e41532. https://doi.org/10.1371/journal.pone.0041532

Wanberg, C. R., & Banas, J. T. (2000). Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of Applied Psychology, 85*(1), 132–142. https://dx.doi.org/10.1037/0021-9010.85.1.132

Wang, S. Y., & Chen, S. H. (2007). Associations of sense of self, resilience and posttraumatic stress symptoms among burn patients (Master’s thesis). National Taiwan University, Taipei, Taiwan, ROC. https://doi.org/10.6342/NTU.2007.00229

Waqas, A., Naveed, S., Bhuiyan, M. M., Usman, J., Inam-UL-Haq, A., & Cheema, S. S. (2016). Social support and resilience among patients with burn injury in Lahore, Pakistan. *Cureus, 8*(11), e867. https://doi.org/10.7759/cureus.867

Wu, L., Tan, Y., & Liu, Y. (2017). Factor structure and psychometric evaluation of the Connor–Davidson resilience scale in a new employee population of China. *BMC Psychiatry, 17*(1), 49. https://doi.org/10.1186/s12888-017-1219-0

Xi, J. Z., Zuo, Z. H., & Wu, W. (2012). Approaches to research on resilience. *Advances in Psychological Science, 20*(9), 1426–1447. https://doi.org/10.3724/SP.J.1042.2012.01426