

## Personality and Resilience in Breast Cancer Patients and their Caregivers

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Not just cancer patients but also next of kin of cancer patients are also subjected to great distress, and personality can influence one's reaction to stressful life situations and coping. The present study examines the relationship between personality and resilience among breast cancer patients and their caregivers. A purposive sample of 180 breast cancer patients in the age group 30–73 years and their caregivers in the age group of 21–78 years participated in this study. The sample completed self-report measures, viz., Personality Adjective Checklist (PACL) and Bharathiar University Resilience Scale (BURS). The findings show that there is a positive correlation between the resilience of breast cancer patients and the resilience of their caregivers. Traits cooperative and forceful positively, and traits inhibited and confident negatively, predicted resilience in breast cancer patients. Trait respectful positively, and the traits cooperative and sensitive were negatively predicted resilience in caregivers of breast cancer patients. Caregivers play a major role in breast cancer patient's resilience. Further, personality factors play an important role in contributing to resilience among breast cancer patients and their caregivers.

**Keywords:** personality, resilience, breast cancer, caregivers, patients

Among females of all races and ages, cancer is the second most prevalent disease (20.7%), following heart disease (21.8%) and chronic lower respiratory diseases (6.2%). Additionally, for women aged 45 to 84, cancer stands as the most common health condition (Heron, 2021). Globally, 670,000 people died from breast cancer in 2022, with 2.3 million women receiving a diagnosis. All across the world, breast cancer affects women at any age after adolescence; however, its prevalence rises with age (WHO, 2024). Psychosocial adjustment to any illness, including cancer, may be influenced by dispositional personality traits (Cerezo et al., 2020). The quality of life of patients is

influenced by personality features, suggesting that an individual's personality has a substantial impact even after they have experienced a terrible life event, such as overcoming cancer and its treatment (De Clercq et al., 2004).

Vulnerability to the illness is the primary determinant that determines a patient's ability to cope, adapt, and ultimately survive cancer (Dahl, 2020). Cancer diagnosis, treatment, and survival have a significant impact on patients. However, because many cancer patients depend on the care of their loved ones, the experience also has a significant impact on the wives and families

of those patients (Tolbert et al., 2018). In most cases, caregivers are members of the patient's family; they are frequently their spouse or partner or their adult child. In rare circumstances, friends may also fill this role (Laidsaar-Powell et al., 2017). From the diagnostic evaluation to the end of treatment, cancer patients typically deal with the overwhelming experience of their disease with the support of caregivers. They must manage doctor visits and treatment schedules, side effects of medications, adjustments to their daily routine, and considerable distress (Fatigante et al., 2021; Laidsaar-Powell et al., 2017; Laryionava et al., 2018)

Resilience is the ability to use one's ability to cope with adversity to effectively adapt to adverse situations while maintaining optimism for the future (Anthony & Cohler, 1987; McKay et al., 2020). Resilience in cancer patients is a dynamic process that encourages effective adjustment to challenges associated with their condition (Eicher et al., 2014). Compared to cancer patients with low resilience, those with high resilience may require less psychosocial support to manage their stressful circumstances (Brix et al., 2008). An individual's resilience refers to their capacity to manage hardship and adjust to difficult situations, such as receiving a life-threatening diagnosis (Davydov et al., 2010). Patients who are more resilient can reflect on both their positive and negative emotions more effectively than less resilient patients, which facilitates resource restoration and more adaptable behavior (Tugade et al., 2004). Perseverance, having goals in life, and self-belief are some traits of a resilient personality that help to moderate the negative effects of stress or unfavorable circumstances, facilitating the process of emotional strength, courage, and adaptability (Wagnild & Young, 1993).

Cancer not only traumatizes patients, but it can also have an impact on family

caregiver's mental health. These caregivers face numerous physical and psychological difficulties as a result of their financial burden and emotional engagement (Wadhwa et al., 2011). Depending on the situation, a woman is expected to assume different roles as a daughter, wife, mother, or mother-in-law. The capacity to carry out these duties and responsibilities is seriously hampered during the course of treatment, viz., chemotherapy, radiation therapy, and surgery (Akyüz et al., 2008; Banning et al., 2009). Patients with breast cancer who are more introverted, neurotic, or disagreeable report feeling exhausted (Michielsen et al., 2007). Individuals with low neuroticism and high extraversion and conscientiousness are more likely to engage in physical activity while receiving treatment (Rhodes et al., 2001).

A triadic relationship (patient, caregiver, and physician) replaces the traditional patient-physician interaction since patients almost always involve caregivers in decision-making (LeBlanc et al., 2017; Mitnick et al., 2010; Renzi et al., 2016). Caregiver's physical, emotional, social, economic, and spiritual resources are depleted by caregiving responsibilities (Biegel et al., 1991; LeSeure & Chongkham-Ang, 2015). Consequently, caregivers frequently have comparable outcomes for their physical and mental health to those of cancer patients (Hagedoorn et al., 2008).

The study's main objective is to examine the relationship between resilience levels and personality characteristics in breast cancer patients and their caregivers. The study contributes to the field by providing light on the relationship between different personality traits in predicting resilience in breast cancer patients and caregivers. These findings provide a framework for studying the psychological aspects that influence coping mechanisms and wellbeing during the cancer experience. The findings of the study can highlight the psychological aspects of cancer

that affect both patients and their caregiver's overall experiences. Healthcare providers can customize support services and treatments to enhance the wellbeing and quality of life for persons affected by breast cancer by determining the effect of personality factors on coping mechanisms and resilience levels. Healthcare practitioners might apply this knowledge to build focused interventions to support patients and caregivers, enhancing their quality of life.

## Method

### Participants

A purposive sample of 180 breast cancer patients (females = 100%) in the age group 30–73 years ( $M = 50.03$ ,  $SD = 9.74$ ) and their caregivers in the age group of 21–78 years ( $M = 42.13$ ,  $SD = 14.35$ ) participated in this study. The inclusion criteria were (1) eligible survivors who had curable breast cancer, (2) with age >18 years, and (3) who consented to participate in the study. For recruiting the next of kin of cancer patients, the inclusion criteria included participants (1) nominated by the patient from his or her immediate family (family of origin or family of marriage) as someone who knows the patient well before the diagnosis, (2) with age >18 years, (3) who gave consent to participate in this study. The majority of the patient participants belonged to the Hindu Community (88.8%), had high school education (36.6%), and were unemployed (56.3%). Most of the patient's participants (91.11%) were married and staying with family (99.39%). About 28.42% of the participants had a family inheritance of cancer.

### Measures

Below is a brief description of the self-report measures used in the study to assess personality and resilience among the participants.

*Personality Adjective Checklist (PACL; Strack, 2013)*. The Personality Adjective

Checklist (PACL) is a self-report and rating measure that aims to recognize personality traits and patterns based on Millon's theory. It provides insights into an individual's personality structure. The PACL consists of 153 items that respondents rate based on their self-perception. These items cover various personality dimensions. The 153 test items are distributed across eight subscales, and PI is categorized as Introversive, Inhibited, Cooperative, Sociable, Confident, forceful, Respectful, and Problem Indicator.

*Bharathiar University Resilience Scale (BURS; Annalakshmi, 2009)*. Bharathiar University Resilience Scale was designed to assess the capacity of an individual to cope with stress and catastrophe and a characteristic of resistance to future negative events. The scale measures the duration taken to return to normalcy, reaction to negative events, response to risk factors (specifically unfavorable environment) in life, perception of the effect of past negative events, defining problems, hope/confidence in coping with the future, and openness to experience and flexibility. In this research, the short version of BURS consisting of 10 items of the original scale was used. For all the items, 5-point rating scales were provided, ranging from 1 (completely disagree) to 5 (agree). The reliability of the scale for cancer patients is 0.89 and 0.84 for caregivers of cancer patients in this study.

### Procedure

Ethical clearance was obtained to conduct research on cancer patients and their caregivers from the hospital's Ethics Committee where the study participants were recruited. Before collecting data, written informed consent was obtained from patients and their caregivers.

### Results

A correlation analysis was carried out to assess the relationship between the

resilience of breast cancer patients and the resilience of their caregivers. The results showed that the resilience of breast cancer patients is positively correlated with the resilience of their caregivers [  $r(180) = 0.19$ ,  $p < 0.05$ ].

Multiple regression analyses were carried out to examine personality predictors of resilience in breast cancer patients and their caregivers. The results are presented below:

Table 1. *Personality Predictors of Resilience among Breast Cancer Patients (N=180)*

Variable	Unstd. Coeff.		SD Coeff. Beta	t
	B	SE		
(Constant)	31.03	2.35		13.23 <sup>ns</sup>
Introversion	"0.10	0.36	"0.03	"0.27 <sup>ns</sup>
Inhibited	"0.97	0.34	"0.47	"2.83 <sup>*</sup>
Cooperative	0.74	0.24	0.34	3.09 <sup>***</sup>
Sociable	0.39	0.36	0.13	1.07 <sup>ns</sup>
Confident	"0.91	0.39	"0.30	"2.33 <sup>*</sup>
Forceful	1.08	0.30	0.44	3.64 <sup>***</sup>
Respectful	"0.24	0.23	"0.10	"1.03 <sup>ns</sup>
Sensitive	0.22	0.27	0.10	0.81 <sup>ns</sup>
PI	0.10	0.54	0.02	0.19 <sup>ns</sup>

Note:  $R^2=0.30$ , Adjusted  $R^2=0.26$ ,  $F(9,170)=8.07$ ,  $*** p < 0.001$ ,  $*p < 0.05$ ,  $ns =$  not significant

The multiple linear regression analysis for personality predictors in breast cancer patients  $R^2=0.30$ ,  $F(9,170)=8.07$ ,  $*** p < 0.001$ ,  $*p < 0.05$ . The analysis showed that the dimensions cooperative ( $\beta = 0.74$ ,  $p < 0.001$ ) and forceful ( $\beta = 1.08$ ,  $p < 0.001$ ) of PACL positively predict resilience. The dimensions of confidence ( $\beta = -0.91$ ,  $p < 0.05$ ) and inhibition ( $\beta = -0.97$ ,  $p < 0.05$ ) of PACL negatively predict resilience. None of the other dimensions of PACL significantly predicted resilience among cancer patients.

Table 2. *Personality Predictors of Resilience among Caregivers of Breast Cancer Patients (N=180)*

Variable	Unstd. Coeff.		SD Coeff. Beta	t
	B	SE		
Constant	36.54	1.62		22.50 <sup>ns</sup>
Introversion	"0.05	0.27	"0.02	"0.19 <sup>ns</sup>
Inhibited	0.34	0.26	0.21	1.30 <sup>ns</sup>
Cooperative	"0.54	0.23	"0.32	"2.37 <sup>*</sup>
Sociable	0.42	0.23	0.20	1.85 <sup>ns</sup>
Confident	"0.15	0.31	"0.06	"0.48 <sup>ns</sup>
Forceful	0.21	0.18	0.12	31.17 <sup>ns</sup>
Respectful	0.81	0.22	0.46	3.72 <sup>***</sup>
Sensitive	"0.90	0.27	"0.51	"3.29 <sup>***</sup>
PI	"0.21	0.45	"0.06	"0.45 <sup>ns</sup>

Note:  $R^2=0.37$ , Adjusted  $R^2=0.33$ ,  $F(9,170)=11.01$ ,  $*** p < 0.001$ ,  $*p < 0.05$ ,  $ns =$  not significant

The multiple linear regression analysis for personality predictors in caregivers  $R^2=0.37$ ,  $F(9,170)=11.01$ ,  $*** p < 0.001$ ,  $*p < 0.05$ . The analysis showed that the dimensions cooperative ( $\beta = -0.54$ ,  $p < 0.05$ ) and sensitive ( $\beta = -0.90$ ,  $p < 0.001$ ) of PACL are negative predictors of resilience. The dimension respectful ( $\beta = 0.81$ ,  $p < 0.001$ ) of PACL positively predicts resilience. None of the other dimensions of PACL significantly predict resilience among caregivers of breast cancer patients.

## Discussion

The current study aimed to examine the relationship between resilience levels and personality characteristics in breast cancer patients and their caregivers. The present findings demonstrated a positive correlation between the resilience of breast cancer patients and that of their caregivers. Resilient behaviors and attitudes can help patients and

caregivers navigate the difficulties of diagnosis, treatment, and recovery. It is well established that patient and caregiver well-being are interconnected (Northouse et al., 2012; van Ryn et al., 2011). The greater the resilience of cancer patients, the greater their recovery (Sonnentag & Fritz, 2007). Manzari et al. (2023) report a significant inverse relationship between caregiver burden and resilience. Resilience in family caregivers can help them overcome stress and adjust to complex challenges and the negative impact of the situation, thereby reducing burden and emotional distress (Palacio et al., 2020). Hence, resilience can create a supportive and flexible caregiving environment that benefits both parties and improves outcomes. Family resilience plays a critical role in supporting both advanced cancer patients and their caregivers. When family members exhibit resilience, it positively impacts their ability to cope effectively with the challenges posed by advanced cancer. Protective factors such as resilience, purpose in life, and social connections contribute to better mental health for caregivers. As these protective factors increase, depression decreases, and quality of life improves for those caring for others. Positive caregiver attitudes and enhanced family communication can result from family resilience, which can predict the quality of life for cancer patients and their primary caregivers. For dyadic care to be as successful as possible, it is imperative to promote resilience in patients and caregivers (Cui et al., 2023).

Personality-related risk and resilience factors become particularly critical when one is challenged by a serious stressor, such as a life-threatening disease like cancer (Diehl, 2013). Personality traits relevant to controlling and regulating mental and emotional states are central to resilience pathways. Among others, a coherent self-concept, self-esteem, optimism, positive

emotions, and personal control have been discussed as important personality-related factors that aid in building resilience in cancer patients (Amstadter et al., 2016).

The trait “cooperative” positively predicted resilience in breast cancer patients in the present study. Those with high score on cooperative trait are considerate, and are willing to live in accordance with the desires of others. They tend to be happy when they can rely on others and may feel insecure when they are on their own. Other studies have reported a positive correlation between cooperative trait and resilience in other populations also (Burtaverde et al., 2021; Eley et al., 2013; Fayombo, 2010; Oshio et al., 2018). Each phase of the cancer experience profoundly impacts the patients’ lives (Lechner, 2003). Patients high on cooperative trait will not resent being dependent on others or family, which can help them not feel depressed or guilty of taking support from others. Cooperative patients tend to draw more social support than those who are non-cooperative. It is well known that a strong positive relationship exists between social support and positive treatment outcomes for breast cancer patients. Emotional support from spouses, partners, children, siblings, or friends can significantly affect patients’ well-being (Adam & Koranteng, 2020). The transactional model of stress and coping (Lazarus & Folkman, 1984) emphasizes the dynamic relationship between individuals and their environment during stress. Breast cancer patients who are cooperative engage in prosocial behaviors and collaboration as adaptive responses to manage the emotional and practical challenges posed by the illness (Lazarus & Folkman, 1984). This cooperative approach enhances their resilience and ability to navigate the cancer experience effectively. In the case of breast cancer, cooperative patients actively seek social support, engage in group therapy, and participate in support

networks. Their focus on social connections and mutual assistance aligns with the other-nurturing strategy, contributing to resilience.

The trait “forceful” positively predicted resilience in breast cancer patients. Those with high scores on forcefulness are assertive, dominant, and tough-minded. Breast cancer patients who are forceful or assertive may choose a problem-focused coping style, which is defined by actively participating in collaborative efforts within the cancer community, seeking social support, and taking charge of their treatment decisions. Their tough-mindedness helps them navigate through the challenges in their lives. Mental toughness is associated with increased well-being and reduced anxiety and depression (Naden et al., 2023), as it helps adapt in the face of change. By giving patients a greater sense of control and efficacy in coping with cancer’s challenges, this proactive approach promotes resilience (Lazarus & Folkman, 1984). These psychological characteristics may encourage mental toughness which in turn may lead to increased resilience that is needed to overcome or manage cancer-related obstacles effectively. Forceful traits in breast cancer patients can take the form of an unwavering determination to fight the disease, speak up for their needs, and actively participate in treatment choices.

The dimension “inhibition” negatively predicted resilience in breast cancer patients. Those high on this trait are marked by a tendency towards social withdrawal; however, they desire closeness with others, anticipate that others will be critical or reject them, and hence tend to stay away from others and prefer to work alone. They are sensitive to positive and negative feedback and need a long period to develop trust in others. According to cognitive-behavioral models, Maladaptive cognitive processes impact emotional reactions and coping

mechanisms. Those who are inhibited may ruminate, have catastrophic thoughts, or engage in negative self-talk, all of which increase stress and weaken resilience (Beck, 1976). These mental habits affect resilience outcomes by feeding an avoidance cycle and decreasing adaptive coping. Social support networks are essential for breast cancer patients’ resilience. Fear of criticism or rejection can make it difficult for inhibited people to ask for or accept social support, resulting in isolation and limited access to resources that foster resilience. Diminished resilience may also result from ineffective social coping strategies (Taylor, 2011). Fear of rejection can increase anxiety in patients, thereby increasing their vulnerability.

The dimension “confident” negatively predicted resilience in breast cancer patients. High scorers in this dimension tend to be egocentric and self-reliant. They may have a keen sense of self-importance or entitlement. They are so self-preoccupied that they may lack concern and empathy for others. When feeling vulnerable or undermined, they can be angry, disdainful, obstructive, or vindictive. Previous studies have shown that egocentrism negatively correlates with ego resiliency (Gjerde et al., 1986). Empathy can promote resilience through emotional intelligence (Xing et al., 2023). People with greater self-assurance and self-belief in their skills are more likely to display resilient and adaptive coping strategies when faced with difficulties. However, when one who is egocentric and has a sense of entitlement confronts a traumatic experience like a diagnosis of breast cancer, where they have to depend on others to care for them, it can cause resentment and anger in them. Thus, this condition can increase vulnerability in patients, making them feel angry and frustrated. Those who are low on this “confident” trait may be able to accept their

condition and dependence on others more readily compared to those who are high on this trait.

Caregivers are essential in helping those receiving cancer treatments by offering emotional support and assistance. In addition to performing practical duties, caregivers provide emotional support, speak up for patients' needs, and organize care services (Lazarus & Folkman, 1984). The present study discovered that the dimension "respectful" is positively predicted with resilience in caregivers of breast cancer patients. High scorers on this dimension are responsible, industrious, and respectful of authority. Caregivers high on the respectful trait may be comfortable taking up the caregiving role as it aligns with their natural tendency to have a sense of responsibility. Thus, those high on this trait may not perceive caregiving as a burden. They are diligent and hardworking and so exhibit enormous energy in attending to the needs of the patients they care for. Thus, this tendency supports resilience in caregivers, thereby reducing burnout.

The dimension "cooperative" negatively predicted resilience in caregivers of breast cancer patients. Caregiving requires acting independently and nurturing the patient rather than harboring a tendency to rely on others. Thus, those high on this trait may find the role of caregiving challenging, thereby resulting in anxiety and fear in them. Further, excessively cooperative caregivers who are considerate and tend to live in accordance with others' desires, ignoring their own, may suffer from role overload when heavy demand is placed on their coping. This mismatch between personal needs and caregiving obligations can weaken resilience and lead to unfavorable psychological outcomes (Zarit et al., 1986). Caregivers may find it difficult to set limits and make their demands known, which can result in emotional exhaustion and burnout. By

draining the caregiver's resources and coping ability, neglecting self-care and setting boundaries can reduce resilience (Clark, 2000).

The dimension "sensitive" negatively predicted resilience in caregivers of breast cancer patients. High scorers tend to be indecisive, angry, or dissatisfied with themselves and others. They may harbor resentment without expressing it directly and revert to passive-aggressive behavior to communicate their feelings. This could result in increased emotional exhaustion, burnout, and a diminished ability to overcome hardship, all of which would lower resilience levels (Gross, 1998). On the other hand, expressing emotions is positively correlated with resilience (Eldelekliöđlu & Yýldýz, 2020). Emotional sensitivity can result in increased perceived burden, emotional distress, and trouble coping with stress, resulting in reduced resilience (Lazarus & Folkman, 1984). Further, passive-aggressive tendencies can suppress emotional conflicts and impaired problem-solving capabilities owing to their negativistic and covert nature (Cramer, 2015), reducing one's capacity for resilience.

Overall, these results highlight how important personality traits are for comprehending and fostering resilience in the context of breast cancer. Healthcare practitioners can create focused interventions to assist and improve resilience in patient and caregiver groups confronting the challenges of breast cancer by understanding these correlations.

### **Conclusion**

The results of this study highlight the complex role that personality traits play in predicting resilience in people with breast cancer and their caregivers. Higher levels of resilience in one person (the patient or caregiver) may facilitate and support

resilience in the other, creating a mutually reinforcing relationship marked by shared coping strategies, emotional support, and adaptive responses to the challenges of cancer caregiving, according to the positive correlation between the resilience of cancer patients and caregivers. Cooperative and assertive personality traits are positive contributors to resilience in breast cancer patients, indicating the potential advantages of prosocial behavior and confidence in overcoming cancer's obstacles. On the other hand, characteristics linked to restraint and overconfidence are recognized as obstacles to resilience, emphasizing the detrimental influence of avoidance behaviors and inflated self-images on flexible coping. The significance of cultivating supportive and courteous relationships in caregiving roles is emphasized by the fact that respectfulness is emphasized in caregivers as a positive predictor of resilience. Cooperativeness and sensitivity, for example, are characteristics of caregivers associated with lower resilience. This suggests that caregivers may have trouble setting boundaries and controlling their emotions. The importance of tailored interventions that target particular personality traits to improve resilience in patients and caregivers is highlighted by these findings, which provide insightful information about the complex relationships between resilience outcomes and personality factors in the context of breast cancer.

The study's reliance on self-reported measures of personality and resilience risks potential response biases such as social desirability bias or recollection bias. This study did not consider confounding factors such as socioeconomic status, coping mechanisms, and social support. Furthermore, cultural and environmental aspects that could impact the study's findings were not included in this study, thereby

limiting its generalizability to individuals from diverse cultural backgrounds and healthcare systems.

The findings of the study indicate a positive correlation between resilience in patients and their caregivers, thereby indicating how involving caregivers in counseling extended to patients can help promote patient outcomes. The findings also highlight the personality attributes that can promote resilience in breast cancer patients and their caregivers. The findings can be used by healthcare professionals and organizations that offer support services to comprehend better the requirements of people with breast cancer and their caregivers. Training programs can be designed for breast cancer patients and their caregivers to improve their resilience by focusing on their unique personality attributes.

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