

INTERCONNECTIONS AMONG SOCIAL CONNECTEDNESS,
PSYCHOLOGICAL INFLEXIBILITY, AND MEANING IN LIFE AMONG
CAREGIVERS OF CANCER PATIENTS

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ABSTRACT

The present study explores the interconnections among social connectedness, psychological inflexibility, and meaning in life among caregivers of cancer patients these psychological variables interact with demographic and caregiving factors, such as gender, age, cancer stage, daily caregiving hours, total caregiving duration, and the caregiver's relationship to the patient. Understanding these interconnections is essential for developing psychological support tailored to caregivers' unique challenges in oncology settings. The sample consisted of 141 caregivers (76 females and 65 males) aged 18 to 45, who provide daily support to cancer patients in varying stages of the disease. Participants were assessed using three validated scales: the Social Connectedness Scale-Revised (Lee & Robbins, 2001) to measure their sense of belonging and interpersonal relationships, the Meaning in Life Questionnaire (Steger, 2006) to assess their sense of purpose, and the Acceptance and Action Questionnaire-II (Bond et al., 2011) to evaluate their level of psychological inflexibility, or rigidity in handling stress.

Pearson's Product-Moment Correlation analysis was conducted to examine the relationships among SC, PIF, and MIL, revealing significant positive correlations across all variables, indicating that caregivers who felt a strong sense of social connectedness and purpose in life tended to experience lower psychological inflexibility. Additionally, multiple linear regression analyses highlighted how demographic and caregiving factors influenced these core psychological dimensions, shedding light on complex, multifaceted interactions. The findings underscore the importance of social and psychological support structures for caregivers. Caregiving characteristics, such as the time spent in caregiving per day and total caregiving duration, were found to have significant impacts on the sense of connection, adaptability, and meaning that caregivers derive from their roles, while variables like gender and caregiver-patient relationship did not show significant effects. The study emphasizes the need for targeted interventions that address these dynamics to bolster caregivers' mental well-being and resilience.

Concepts used in the Study

Humans are social creatures and have a basic human need to connect with others. Meeting this need is so important that our level of social connection impacts nearly every aspect of our lives, including mental health, physical health, and even longevity . “Social Connectedness can be defined as a state of feeling close or “connected” to another person or other people. This includes feeling cared about by others and caring about others, as well as a feeling of belonging to a group or community.”

Meaning in life (MIL) refers to people's concerns with the core significance and purpose of their personal existence. “It is believed that adaptation to the caregiving of a chronic condition requires individuals to revise one's life goals and expectations, given that serious illness often crosses valued goals and life plans” (Pinquart, Silbereisen, & Frohlich, 2009). Apart from caregiving feeling that one’s life is significant, comprehensible, and purposeful may be necessary for healthy psychological functioning.

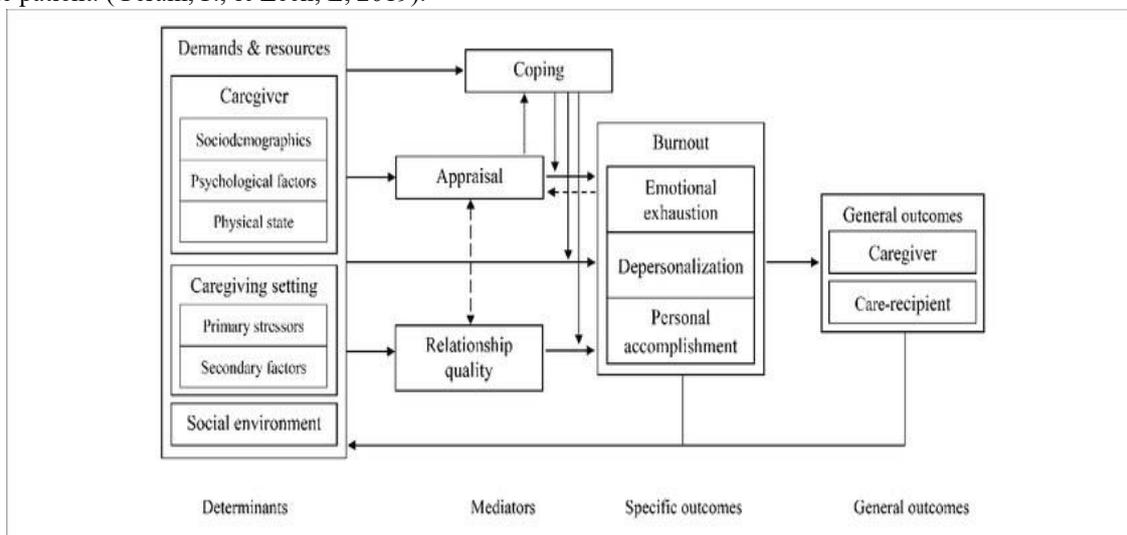
The capacity to remain open, present-focused, and alter or maintain the behavior in response to shifting internal and external conditions is called psychological flexibility. It is a comprehensive psychological construct including emotion, cognition, and conduct elements. While a lack of psychological flexibility is linked to psychopathology, psychological flexibility has shown longitudinal and cross-sectional linkages to resilience and mental health.

Kashdan and Rottenberg (2010) define psychological flexibility as the ability to "recognize and adapt to various situational demands; shift mindsets or behavioral repertoires when these strategies compromise personal or social functioning; maintain balance among important life domains; and be aware, open, and committed to behaviors that are congruent with deeply held values". Family caregivers are better able to adjust when they acknowledge the loss of their relative’s capacities and care requirements (Brodaty and Donkin, 2009). For instance, a recent analysis discovered the advantages of acceptance-based therapies for family carers of dementia patients (Collins and Kishita, 2019). ACT is an emerging evidence-based approach. ACT attempts to assist people in developing coping mechanisms and a greater acceptance of difficult situations as they are (Hayes et al., 2012). The psychological flexibility model underpinning ACT includes six interconnected psychological processes that function as therapeutic pillars (Hayes et al., 2012).

Theoretical Perspectives

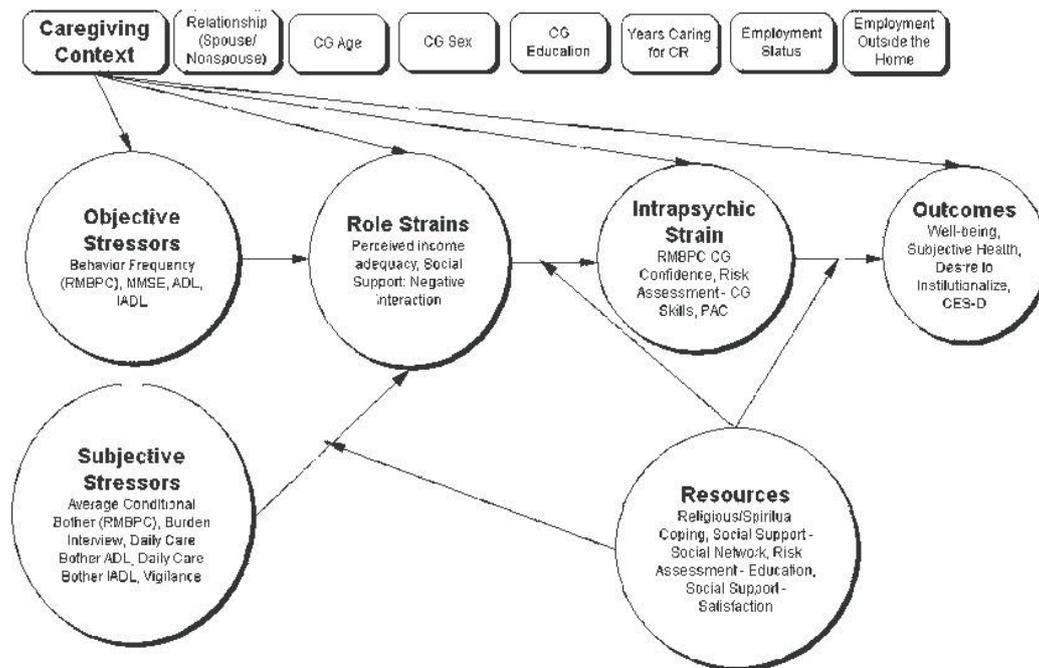
Informal Caregiving Integrative Model

According to The Informal Caregiving Integrative Model by Gérain and Zech the various factors or determinants that affect the caregiver are considered as a major mediator between the determinants and outcomes. The impacts of determinants on the caregiver depends on both caregivers appraisal of the situation and the quality of their relationship with the patient. (Gérain, P., & Zech, E, 2019).



Pearlin's stress process model

According to Pearlin's stress process model (1990) emphasizes that primary stressors or stressors directly related to the caregiver's role such as hospital visits and regular scans accelerate over time, impacting other components of the caregiver's life (employment, financial situation, interpersonal relationships etc) and result in secondary stressors. It also includes “internal and external mediators” that can moderate the relationship between primary stressors, secondary stressors, and wellbeing outcomes.



Objectives

1. To explore the relationship between Social Connectedness and Resilience among Caregivers of Cancer Patients
2. To explore the relationship between Meaning in Life and Resilience among Caregivers of Cancer Patients
3. To explore the relationship between Psychological Inflexibility and Resilience among caregivers of Cancer Patients.

REVIEW OF LITERATURE

A study was done by Opsomer et al., (2022) that aimed to create an overall picture of evidence on resilience in cancer caregiving by a theory-driven metasynthesis. It was based on the theoretical framework of Bonanno et al. The findings indicated that a family member or friend diagnosed with terminal cancer can be viewed as a potentially traumatic event that leads to three patterns of resilient outcomes: psychological well-being, usefulness, or personal growth. It can be a starting point for force processes. The resilience process itself is influenced by various contextual factors related to a caregiver's initial adaptation determined by individual history and sociocultural context, and an evolving and interacting set of predictors of resilience (Opsomer et al., 2022).

In a study done by Young T. (2021) Social professionals engaged in humanitarian and development work were polled for a study project. The research project surveyed 243 humanitarian and development workers in 77 countries who reported lower levels of happiness and higher levels of emotional distress than the general population. The results indicated that well-being and stress emerged as two related but distinct mental health outcomes. Better mental health outcomes were predicted by the presence of meaning in life, psychological Inflexibility, and resilience. Having importance was the strongest predictor and resilience was the weakest predictor. Meaning in life was a stronger predictor of good mental health for native workers, and psychological flexibility was a stronger predictor for female, older, and international workers. (Young, T.,2021)

A study was conducted by Nicholas et al. on caregivers of patients with advanced cancer, to find how they are able to withstand psychological stress and perform their role effectively while bearing the heavy burden of caregiving responsibilities. They used a secondary analysis of baseline data from two small pilot clinical trials using family caregivers of patients with newly diagnosed advanced cancer. The results indicated that higher caregiver resilience was associated with higher caregiver preparedness, higher readiness for surrogate decision-making, and lower anxiety and depression symptoms. The results also suggested that resilience is important for caregivers to manage stress, support patients effectively, and feel ready to make future medical decisions on their behalf. (Dionne-Odom et al., 2021)

A study was conducted by Yuen & Wilson (2021) to examine whether levels of caregiver burden, psychological well-being, and social connections reduce the association between caregiver burden and mental health symptoms in caregivers of cancer patients. The findings indicated that the relationships between caregivers and recipients (spouses, family members, friends) influenced the caregiver experience, with statistically significant differences in depression, caregiver distress, and social connectedness. No significant association with anxiety was observed. Caregivers who lived with the care recipient reported significantly less depression, anxiety, caregiver distress, and social connectedness compared with those who did not live with the care recipient. Caregivers caring for people currently receiving treatment tended to report higher social connectedness than caregivers caring for people not currently receiving treatment. Care recipient treatment status was not associated with depression, anxiety, or caregiver distress. No significant association was found between the duration of treatment or 'time since patient's diagnosis' and the primary variables of the study (Yuen & Wilson, 2021).

In an integrative review done by Sun et al. on factors associated with resilience in spousal caregivers of patients with cancer, it was found that caring for cancer patients can be stressful and can affect the health and well-being of caregivers. Resilience played a key role in promoting positive adaptation in cancer caregivers in the face of adversity. Results showed that resilience was associated with several positive and negative factors. Different approaches lead to conflicting risk factors and protection processes related to resilience. The review was a synthesis of the current empirical research on the resilience of caregivers to care for loved ones from a developmental perspective (Sun et al., 2021).

A study was done by Yuen et al, (2021) to explore the extent of caregiver burden and psychological well-being and to test whether social ties moderate the association between caregiver burden and psychological symptoms in caregivers of cancer patients. It was a cross-sectional study that included a sample of 189 cancer caregivers. Data had been amassed on caregiver burden, social connectedness, and melancholy (depression) and anxiety. Moderation analysis was conducted to examine the impact of social connectedness on the association between caregiver burden, depression and anxiety. The results indicate that Social connectedness seem to provide a protective buffer from the negative effects of caregiving by providing more psychological resources to cope with the burden of caregiving, resulting in less depression symptoms (Yuen et al, 2021).

A study was done by Yeter Sinem (2020) on quality of life, caregiver burden and resilience among family caregivers of cancer survivors. A descriptive cross-sectional study was conducted on participants who were selected from an oncology ward from a hospital in Turkey. The Connor-Davidson Resilience Scale was used to measure resilience, Zarit Burden Interview to identify the caregiver burden and Caregiver Quality of Life Index- Cancer was the research tools used. The findings indicated that the caregivers who were low on resilience were also found to be high on caregiver burden. It was further found that resilience negatively mediated the caregiver burden and positively predicted the quality of life of the caregivers. From the study it was concluded that resilience played a direct and indirect role on predicting quality of life of the caregivers and their caregiver burden. (Yeter Sinem, 2020)

A study by McCracken in 2020 studied adult participants from Sweden in the context of COVID-19 they studied the role of psychological flexibility in the context of COVID, The results indicated that individuals who were low on psychological flexibility had higher symptoms of anxiety, depression and insomnia as compared to others along with excessive expression of physical symptoms. Individuals who were high on Psychological Flexibility reported lower symptoms of anxiety depression and insomnia and were more resilient to the stressors. (McCracken. L, 2020).

A Qualitative study was done by Van Roij et al., (2018) on social consequences of advanced cancer in patients and their informal caregivers. Seven focus groups and seven semi-structured in-depth interviews were conducted with patients with advanced cancer and their informal caregivers. Audiotapes were transcribed verbatim using a thematic analysis approach and open coding. The results were as follows: Social impact was categorized into three themes: "Social commitment", "social identity", and "social network". Regarding social engagement, patients and caregivers reported striving to normalize by continuing to live as they did before the diagnosis but faced obstacles in doing so, and informal caregivers reported feelings of social isolation. Social networks have become more transparent and the value of social relationships has increased since diagnosis. Many individuals have experienced positive and negative changes in the quantity and quality of their social relationships (Van Roij et al., 2018).

A study was done by Warapornmongkholkul et al., (2018) on self efficacy, social support and quality of life among primary family caregivers of patients with cancer in Thailand. This was a hospital-based cross-sectional study conducted at a teaching hospital in Bangkok. Questionnaire was administered to 178 primary family members of cancer patients. According to the findings almost 80% of the caregivers were females and reported a moderate level of perceived self efficacy. Primary family members who were responsible for caring for male cancer patients and paying for the patient's treatment had lower levels of self-efficacy and perceived social support. They also reported that their quality of life declined. Patient characteristics were more strongly associated with caregiver quality of life than caregiver characteristics, self-efficacy perceptions, and social support perceptions (Warapornmongkholkul et al, 2018)

A study was conducted by Thirumoorthy et al, (2016) to study Social support among the Caregivers of Persons Living with Cancer they employed a descriptive study design to account for various psychosocial aspects of caregivers of cancer patients. KIDWAI (Kidwai Memorial Institute of Oncology) caregivers of patients diagnosed with cancer (acute, intermediate, or terminal cancer) who were admitted to a cancer hospital in Bangalore were selected as the participants of the study. A sample of 300 caregivers was selected based on simple random sampling. The results indicate, inadequate social support among caregivers of married, female, rural, illiterate, and caregivers who have never heard of cancer treatment. Relatives of cancer patients need more support to improve social support. With all these findings in mind, it is important to be aware of the potential burdens and consequences of the caregiving process and closely monitor caregiver adaptation to the caregiving process in order to support caregivers. In this process, assessing social support systems in consultation with caregivers can yield effective results in raising caregiver awareness of this issue (Thirumoorthy et al, 2016).

In a study done by Sunkarapalli et al (2016) on hope and quality of life in caregivers of cancer patients, The sample was collected using a non-probabilistic targeted sampling method and included 40 caregivers (20 caregivers of breast cancer patients and 20 caregivers of ovarian cancer patients). According to the findings, the caregivers of cancer patients who bear the dual responsibility of caring for the physical and psychological needs of cancer patients and coping with their own cancer-induced distress in family members results in experiencing a lot of stress. Factors such as stress, anxiety, anxiety, tension, depression, and hope were found to affect caregivers' psychological well-being and, in turn, their quality

of life. The social support of caring relatives was also found to have an indirect impact on patient recovery (Sunkarapalli et al,2016).

METHODOLOGY

Inclusion Criteria

The participants were primary family caregivers of Cancer Patients who were taking care of only 1 patient. Caregivers were between 18 to 45 years of age .

Caregivers who were living in India and were carrying out caregiving duties for a minimum of 6 months or more were retained in the study . Caregivers of cancer patients who don't have any external professional support and those who did not have a chronic or acute psychological or physical illness were considered in the study.

Caregivers who were working or were full time caregivers were included in the study.

Exclusion Criteria

Caregivers of individuals other than Cancer Patients and caregivers who were not family members of the patient were not included in the study. Caregivers taking care of more than 1 patient and caregivers below 18 years of age and above 45 years of age were not retained in the study. Caregivers who were residing outside India and those who were carrying out caregiving duties for less than 6 months were excluded from the study. Caregivers having external support system like professional full time nurses to take care of the patient were not retained. Caregivers who were diagnosed with chronic or acute psychological or physical illnesses themselves and caregivers who were students were excluded

Data Collection Procedure

The current study follows a correlational study design using survey method.

Since the selected scales are open-access scales no permission was needed to use them. A google form was created in order to collect data online. The form included necessary instructions followed by a participant consent form and demographic details, which were then followed by the Social Connectedness Scale- Revised(SCS-R), Meaning in life questionnaire (MLQ) which includes (MLQS) and (MLQ-P) and Acceptance and Action Questionnaire II (AAQ II). The form was circulated via email and other social media platforms among caregivers of cancer patients who were above 18 years of age and were residing in India. Responses were collected from the caregivers at Tata Memorial Hospital and International Oncology Cancer Institute (IOCI), Mumbai, India. Participants were briefly debriefed about the study once they had completed their participation. Once the data was collected it was entered into an excel sheet. The data was then screened for outliers and according to the inclusion and exclusion criteria. Data was then analyzed using Pearson's productmoment correlation

RESULTS & DISCUSSION

Results

The present study aimed to explore the relationship between social connectedness, Psychological Inflexibility, Meaning in life, among caregivers of cancer patients.

The hypotheses proposed were 1) There will be a significant positive correlation between Social Connectedness and resilience among caregivers of cancer patients i.e. Caregivers of cancer patients who are high on social connectedness will also be high on resilience. 2) There will be a significant positive correlation between Meaning in life and Resilience among caregivers of cancer patients i.e. Caregivers of cancer patients who have a higher score on meaning in life will also have a higher level of resilience. 3) There will be a significant negative correlation between Psychological inflexibility and resilience among caregivers of cancer patients. i.e Caregivers of cancer patients who are high on psychological inflexibility will be low on resilience The analysis was conducted on a sample of 141 participants, who belonged to the age range of 18 to 45 years, living in India, and were family caregivers of cancer patients for more than 6 months. The participants in the study were not diagnosed with any major physical or psychological problems themselves and voluntarily participated in the study. Individuals who do not reside in India, who are taking care of more than 1 patient, who are caring for patients other than cancer patients, and who are not in the age range of 18-45 were excluded from the study. Other individuals who did not fit the inclusion and exclusion criteria were also excluded from the study.

A total of 167 responses were collected which were reduced to 141 after data cleaning. 26 responses were deleted as they did not meet the above-mentioned criteria.

Pearson Product moment correlation was used to understand the strength of the relationship between the variables, the reason being the variables are continuous and linear.

| | N | Mean | SD | Skewness | Kurtosis |
|-----------------------------|-----|-------|------|----------|----------|
| Social Connectedness | 141 | 84.17 | 8.54 | -1.16 | 0.92 |
| Meaning In Life | 141 | 27.17 | 6.31 | -1.00 | 0.10 |
| Psychological Inflexibility | 141 | 20.61 | 8.81 | 1.48 | 1.22 |

Descriptive statistics regarding the sample on all three scales administered.

| Variable | Resilience | SC | MIL | PF |
|-------------------------|------------|----|-----|----|
| 1. Social Connectedness | 0.69 *** | — | | |

| | | | |
|------------------------------|-----------|-----------|-----------|
| 2. Meaning In Life | 0.69 *** | 0.64 *** | — |
| 3. Psychological Flexibility | -0.64 *** | -0.67 *** | -0.52 *** |

* p < .05, ** p < .01, *** p < .001

Correlational analysis of variables (Resilience, Social connectedness, Meaning in life, and Psychological Inflexibility).

The results were in line with the first hypothesis which states that there will be a significant positive correlation between Social Connectedness and resilience among caregivers of cancer patients i.e. Caregivers of cancer patients who are high on social connectedness will also be high on resilience. The results helped validate the second hypothesis as well which states that there will be a significant positive correlation between Meaning in life and Resilience among caregivers of cancer patients i.e. Caregivers of cancer patients who have a higher score on meaning in life will also have a higher level of resilience. The results were also found to be in line with the third hypothesis which states that there will be a significant negative correlation between Psychological inflexibility and resilience among caregivers of cancer patients. i.e Caregivers of cancer patients who are high on psychological inflexibility will be low on resilience.

All the results were in the expected direction as per the hypotheses and significance.

The results showed that Social connectedness has a significant positive correlation with resilience, the results were in line with the 1st hypothesis. The results of the simple linear regression also revealed that social connectedness is a significant predictor of resilience which is in line with the next hypothesis as well. One of the reasons that could help explain these results could be that social connections within and between different groups have strongly been associated with recovery from trauma at the individual and community levels basically by demonstrating high levels of resilience. Social connectedness plays an important role in promoting resilience by buffering the individual against negative physical and mental health outcomes, particularly in times of adversity. A strong social connection elicits an effective shortterm response to stress and reduces the overall pressure put on the body by adaptive processes. Even at the psychological level- just knowing that there is someone to support you, or just knowing that you have some backup will help individuals cope better with hardships. Others may help, advice, and provide other factors of support. The lack of social interactions and unfulfilled personal and social needs cause loneliness which has neurocognitively been compared to experiencing physical pain. In a study done by Thirumoorthy et al in 2016 it was found that social support was an important factor in predicting anxiety and depression among the caregiving population. Another study by Agaste et al., in 2021 found that social bonds provide resilience when an individual needs to adapt and adjust to new and challenging situations.

The results showed that Meaning in life and resilience have a significant positive correlation. The results of simple linear regression also revealed that Meaning in life is a significant predictor of resilience, hence the results were in line with the next hypothesis as well. These results could be explained by past research where meaning in life has been found to impact the resilience of an individual (Proulx, T., 2020). Life feels meaningful to the caregivers when they can satisfactorily answer the big questions about their lives, such as who I am, why am I here, what is truly important to me, and what am I supposed to do with my life. Instead of blaming themselves or the patient for the situation, if they try to give it a structure and try to understand the deeper meaning behind the problem and this helps them overcome the stressor and become more resilient. When an individual has a purpose in life it helps the individual to better adjust to the changes and challenges they face. It also deals with whether individuals can understand the nature of their personal existence, and feel that their lives are significant and purposeful, when the individuals feel that their life is significant they would be better able to face stressors because each stressor no longer remains a stressor and turns into a meaningful incident to learn from and hence they are more resilient and not affected with the stressor which would have otherwise affected individuals who have not found a meaning in life.

The results also showed that there was a significant negative correlation between Psychological Inflexibility and Resilience. These results are in line with the third hypothesis Psychological inflexibility was also found to be a significant predictor of resilience when simple linear regression was used which is in line with the next. Psychological flexibility is the ability to adapt to various situational demands. Individuals who are better able to adapt to the various life stressors, in general, will be able to face the caregiving challenges and the stressors that the caregiving role and duties pose in a better way which would in term make them resilient towards caregiving stress. When challenging ideas, feelings, or sensations appear, being psychologically flexible (Low on psychological Inflexibility) enables individuals to remain grounded in the current moment and helps them to adopt a wider, more comprehensive perspective of the circumstance which helps them to cope better with the challenges and in turn leads to resilience. People who are high on psychological inflexibility lack these qualities which could explain the negative correlation with resilience.

Ancillary Observations were conducted in the present study, firstly a series of independent sample t-tests were conducted to understand the gender difference between males and females in the resilience scores. Following this a one-way ANOVA was performed to understand if the relation that the caregiver had with their patient had an effect on the resilience of the caregiver. The results indicate that there was no significant difference between the mean resilience scores of males and females among caregivers of cancer patients, and there was no significant difference between the relationship of the caregiver with the patient in resilience among caregivers of cancer patients. This means that the caregivers gender and the type of relationship with the patient did not have a significant impact on resilience among caregivers of cancer patients.

CONCLUSION-

The study's findings successfully validated all three hypotheses, demonstrating significant correlations between the variables of social connectedness, meaning in life, psychological inflexibility, and resilience among caregivers of cancer

patients. Specifically, social connectedness and meaning in life were positively correlated with resilience, highlighting that caregivers who are well-connected socially and find a deeper sense of purpose are more resilient in facing caregiving challenges. Additionally, psychological inflexibility was negatively correlated with resilience, indicating that those who struggle to adapt to changing circumstances are less resilient. These results align with previous research, suggesting that strong social bonds and a clear sense of purpose enhance coping mechanisms, while psychological inflexibility hinders them. Ancillary observations revealed no significant gender differences or differences based on the caregiver-patient relationship in resilience, indicating that resilience is influenced more by psychological and social factors than by demographic or relational variables.

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