

POST-TRAUMATIC GROWTH IN CANCER SURVIVORS: EFFECT OF COPING & SOCIAL SUPPORT ON QUALITY OF LIFE

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Abstract

A cancer diagnosis and its subsequent treatment is a profoundly life-altering experience, impacting nearly every aspect of a survivor's existence. The psychological toll of coping with cancer is significant, however, psychological adaptation plays a central role in how cancer survivors manage and overcome these difficulties. While many face emotional struggles, research also points to the concept of post-traumatic growth—the notion that individuals can experience positive psychological changes following adversity. For many cancer survivors, this growth manifests in increased resilience, a renewed or deeper appreciation for life, and enhanced interpersonal relationships.

This duality—of distress alongside growth—illustrates the complexity of the survivorship experience. It highlights the potential for positive transformation, where survivors not only endure but emerge from their experiences with greater psychological strength and enriched perspectives. In the study utilizing purposive sampling, 152 cancer survivors were assessed for the mediating effect of perceived social support on coping strategies and quality of life through the Brief COPE scale, Perceived Social Support Scale, and WHO Quality of Life (QOL) Scale, respectively.

The parallel mediation analysis reveals that both Problem-Focused Coping (PFC) and Emotion-Focused Coping (EFC) enhance Quality of Life (QoL) through direct and indirect effects via Perceived Social Support (PSS). PFC has a direct effect of $\beta=1.2928$ and an indirect effect of $\beta=0.3154$ through PSS, contributing 16.2% to the total effect ($\beta=1.6082$). EFC shows a direct effect of $\beta=1.1568$ and an indirect effect of $\beta=0.2204$ through PSS, accounting for 16%

of the total effect ($\beta=1.3772$).

Keywords: Problem-Focused Coping, Emotion-Focused Coping, Post-Traumatic Growth

How to cite this article: G. Kannaiah Reddy¹ Meghanaa Karanam^{2*} MVR Raju³. POST-TRAUMATIC GROWTH IN CANCER SURVIVORS. Int J Drug Deliv Technol. 2026;16(78s):178-183. DOI: 10.25258/ijddt.16.78s.27

Introduction

Cancer is not only a biomedical condition but also a deeply psychological and social experience. A diagnosis of cancer disrupts an individual's sense of normalcy, evokes existential concerns, and demands significant psychological adjustment throughout diagnosis, treatment, and survivorship. Advances in medicine have improved survival rates, but with survival comes the challenge of navigating long-term psychosocial consequences (American Cancer Society, 2022). Survivors often grapple with anxiety, depression, uncertainty about recurrence, and disruptions in personal, professional, and social domains (Zhou et al., 2021).

Despite these adversities, a growing body of research highlights that cancer survivors are also capable of experiencing **post-traumatic growth (PTG)**—positive psychological changes resulting from the struggle with highly challenging life circumstances (Tedeschi & Calhoun, 2004). PTG

may manifest as greater appreciation of life, improved interpersonal relationships, a stronger sense of personal strength, and in some cases, spiritual development. This duality—distress coexisting with growth—reflects the complexity of survivorship, where cancer is not only a threat but also a potential catalyst for transformation.

Central to this adaptation process are **coping strategies** and **social support systems**. Coping refers to the cognitive and behavioral efforts individuals use to manage stressors (Lazarus & Folkman, 1984). **Problem-Focused Coping (PFC)** involves taking active steps to resolve stressors, while **Emotion-Focused Coping (EFC)** regulates emotional responses to distress. Both strategies play critical roles in adjustment, with evidence suggesting that they enhance resilience and psychological well-being among cancer survivors (Carver et al., 2015; Folkman & Moskowitz, 2004). Conversely, maladaptive

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strategies such as avoidant coping often exacerbate distress and reduce quality of life (Shand et al., 2018).

Equally important is **Perceived Social Support (PSS)**—the belief that one is cared for, valued, and embedded within a supportive network. Social support not only provides practical and emotional resources but also buffers against the negative effects of stress, thereby improving adjustment and quality of life (Cohen & Wills, 1985). Research in oncology contexts has consistently shown that survivors with higher levels of perceived support report better psychological health, lower distress, and higher satisfaction with life (Prati & Pietrantonio, 2009; Casellas-Grau, Ochoa, & Ruini, 2017).

While prior studies have examined coping and social support independently, relatively fewer have explored their **combined influence on Quality of Life (QoL)** in cancer survivors, particularly within the Indian context. Given the cultural emphasis on family ties and

community networks in India, social support may play an especially salient role in shaping survivors' coping strategies and well-being (Singh & Misra, 2019).

The present study aims to investigate the role of coping strategies and perceived social support in determining QoL among cancer survivors, with a focus on the mediating effect of social support. By examining the interplay between coping, social support, and QoL, this research seeks to advance understanding of post-traumatic growth processes in survivorship and to inform psychosocial interventions that enhance resilience and holistic recovery in cancer patients.

Methodology Objectives

1. To examine the relationship between coping strategies (Problem-Focused Coping & Emotion-Focused Coping) and Quality of Life (QoL).

2. To investigate the role of Perceived Social Support (PSS) as a mediator between coping strategies (Problem-Focused Coping & Emotion-Focused Coping) and Quality of Life (QoL).

Research Design

This study employs a quantitative, cross-sectional research design to explore the mediating role of Perceived Social Support (PSS) in the relationship between coping strategies (Problem-Focused Coping and Emotion-Focused Coping) and Quality of Life (QoL). A mediation analysis was conducted to evaluate both direct and indirect effects, providing insight into how coping mechanisms influence well-being through social support.

Participants

The study sample consisted of 152 participants,

who were selected using purposive sampling technique.

Inclusion Criteria-

1. Individuals diagnosed with any type of cancer.
2. Must have completed primary treatment (surgery, chemotherapy, radiation) at least (1 year to five years ago).
3. Currently in remission or stable condition, as confirmed by a healthcare provider.
4. Adults aged (18–65 years).
5. Capable of completing self-report questionnaires or participating in interviews.
6. No severe cognitive impairments or medical conditions that hinder participation.
7. Willingness to discuss coping strategies, perceived social support, and quality of life.

Measures

1. Perceived Social Support (PSS)– Measured using (Multidimensional Scale of Perceived Social Support by Zimet et al., 1988).
2. Coping Strategies (Brief COPE Scale, Carver, 1997)
3. Quality of Life (QoL)– Assessed using (WHOQOL-BREF, WHO 1995).
4. Demographic Variables– Age, Gender, Marital status, Education level, Income, Type of Cancer, Stage of Cancer, Time since diagnosis, Treatment type and Family history and Living situation.

RESULTS & DISCUSSION Table 1: Correlation Analysis

	Mean	SD	PSS	QoL	AC	PFC	EF C
Perceived Social support	51.97	9.563	1	-	-	-	-
Quality of Life	87.03	17.863	.325*	1	-	-	-
Avoidant Coping	8.95	4.401	-.023	-.171*	1	-	-
Problem Focused Coping	23.97	4.399	.381*	.396*	.043	1	-
Emotion Focused	23.39	4.856	.240*	.374*	-.020	.466*	1

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Coping							

The correlation analysis in Table 1 examines the relationships between Perceived Social Support (PSS), Quality of Life (QoL), Avoidant Coping (AC), Problem-Focused Coping (PFC), and Emotion-Focused Coping (EFC).

A positive correlation ($r = .325, p < .01$) was observed between PSS and QoL, indicating that higher perceived social support is associated with better quality of life. This finding aligns with research studies emphasizing the critical role of social connections in improving psychological resilience and overall well-being among cancer survivors (Leung, Pachana, & McLaughlin, 2010). Social support serves as an emotional and practical resource, helping individuals manage the distress associated with cancer diagnosis and treatment, ultimately contributing to better adaptation and quality of life (Zhou et al., 2021).

Problem-Focused Coping (PFC) showed a strong positive correlation with QoL ($r = .396, p < .01$), suggesting that individuals who actively engage in problem-solving and seek constructive solutions experience enhanced well-being. This finding supports the cognitive-adaptive model of coping, which posits that active coping strategies

contribute to greater psychological adjustment (Folkman & Moskowitz, 2004). Similarly, Emotion-Focused Coping (EFC) also exhibited a positive correlation with QoL ($r = .374, p < .01$), reinforcing the notion that emotional regulation and seeking emotional support can be beneficial for cancer survivors (Carver et al., 2015).

Conversely, Avoidant Coping (AC) was negatively correlated with QoL ($r = -.171, p < .05$), suggesting that individuals who rely on avoidance strategies experience lower quality of life. Avoidance coping has been linked to higher distress levels and poorer psychological outcomes in cancer patients, as it prevents individuals from engaging in adaptive strategies to manage stressors (Shand et al., 2018). Perceived Social Support was positively correlated with both Problem-Focused Coping ($r = .381, p < .01$) and Emotion-Focused Coping ($r = .240, p < .01$), suggesting that individuals with strong social support networks are more likely to engage in adaptive coping strategies. Social support acts as a buffer against stress and facilitates engagement in proactive coping mechanisms (Prati & Pietrantonio, 2009). The findings reinforce the buffering hypothesis, which states that social

support can mitigate the negative effects of stress and enhance resilience in cancer patients (Casellas-Grau, Ochoa, & Ruini, 2017).

Problem-focused coping and Emotion-Focused Coping showed a positive correlation ($r = .466, p < .01$), indicating that individuals often employ a combination of these strategies rather than relying on one exclusively. This supports the transactional model

of stress and coping, which suggests that individuals adapt their coping strategies based on situational demands (Folkman & Moskowitz, 2004).

Table 2.1: Parallel Mediation Analysis PFC → PSS → QoL

Antecedent	M (PSS)				Y (QoL)			
	Coeff	SE	p	95% CI (LL - UL)	Coeff	SE	p	95% CI (LL - UL)
X1 (PFC)	a 1.0827	0.164	<.001	0.503–1.151	c 1.292	0.323	<.001	0.654–1.9316
M (PSS)	d 0.315	0.128	-	0.0961–0.5924	b 0.381	0.148	0.011	0.0873–0.6750
Total Effect	Coeff. = 1.6082 R-sq = 0.1925, F = 25.416, p-value = 0.000							

Table 2.2: Parallel Mediation Analysis EFC → PSS → QoL

Antecedent	M (PSS)				Y (QoL)			
	Coeff	SE	p	95% CI (LL - UL)	Coeff	SE	p	95% CI (LL - UL)
X1 (EFC)	a 0.422	0.172	0.056	0.164–0.7809	c 0.256	0.277	<.001	0.6078–1.7058
M (PSS)	d 0.220	0.101	-	0.0596–0.453	b 0.466	0.141	0.001	0.1878–0.745

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Total Effect	Coeff. = 1.3772 R-sq = 0.1990, F = 18.5063, p-value = 0.002							

The parallel mediation analyses examined the indirect effects of Problem-Focused Coping (PFC) and Emotion-Focused Coping (EFC) on Quality of Life (QoL) through Perceived Social Support (PSS). The findings suggest that PSS significantly mediates the relationship between both coping strategies (PFC & EFC) and QoL, reinforcing the role of social support in buffering stress and improving well-being.

Mediation Analysis: PFC → PSS → QoL

The results in Table 2.1 show that PFC has a significant direct effect on QoL ($c1' = 1.292$, $p < .001$) and an indirect effect through PSS ($id1 = 0.315$, 95% CI = 0.0961–

0.5924). The total effect of PFC on QoL is significant ($\beta = 1.6082$, $p < .001$), explaining 19.25% of the variance in QoL. These findings indicate that individuals who engage in problem-focused coping strategies experience an enhanced quality of life, partly due to increased perceived social support.

The mediation model explained **19.25%** of the variance in Quality of Life (QoL), indicating that coping strategies and perceived social support play a significant role. Notably, **19.59%** of the total effect of Problem-Focused Coping (PFC) on QoL was mediated by Perceived Social Support (PSS), while **80.40%** remained a direct effect. These findings suggest that while social support enhances QoL, a substantial portion of the improvement is directly linked to coping strategies.

Cancer survivors who adopt goal-oriented coping, information-seeking, and problem-solving approaches are more likely to regain a sense of control over their condition, which enhances well-being (Shand et al., 2018). Research studies have highlighted that problem-focused coping is an adaptive strategy that helps individuals actively address stressors, leading to better psychological outcomes (Folkman & Moskowitz, 2004). The significant mediation effect of PSS suggests that social support plays a crucial role in strengthening the effectiveness of problem-solving efforts, which aligns with research showing that strong support networks enhance resilience and

overall well-being in stressful conditions, particularly among individuals managing chronic illnesses (Prati & Pietrantonio, 2009).

Mediation Analysis: EFC → PSS → QoL

Table 2.2 indicates a similar mediation effect for EFC. The direct effect of EFC on QoL ($c2' = 1.156$, $p < .001$) is complemented by a significant indirect effect through PSS ($id2 = 0.220$, 95% CI = 0.0596– 0.4537). The total effect of EFC on QoL ($\beta = 1.3772$, $p = 0.002$) suggests that individuals who engage in emotion-focused coping also experience higher QoL, partly due to increased perceived social support.

The mediation analysis showed that Emotion-Focused Coping (EFC) significantly influenced Quality of Life (QoL), both directly and indirectly via Perceived Social

Support (PSS). The total effect of EFC on QoL was **1.3772**, out of which **16.00%** was mediated through PSS, while **83.99%** remained a direct effect. This suggests that although social support plays a role in improving QoL, the majority of the impact comes directly from coping strategies themselves.

Emotion-focused coping, which involves emotional regulation and seeking social support, has been widely recognized as a key strategy in dealing with distress (Carver et al., 2015). The results support research findings that individuals who rely on emotion-focused coping strategies, such as seeking comfort from others or engaging in self-care, tend to experience greater emotional well-being, particularly when strong social support is available (Casellas-Grau, Ochoa, & Ruini, 2017).

Both problem-focused and emotion-focused coping contribute to better QoL, but through different pathways. While PFC directly improves QoL by helping individuals manage stressors effectively, EFC aids in emotional regulation and stress relief, which becomes more effective when social support is high. The significant mediation role of PSS in both models highlights the buffering hypothesis, which suggests that social support mitigates the negative effects of stress, thereby improving overall well-being (Cohen & Wills, 1985).

Singh and Misra (2019) found that perceived social support positively influences coping mechanisms and psychological resilience in Indian cancer patients. Similarly, Gupta and Agrawal (2021) demonstrated that patients who utilized a combination of problem-focused and emotion-focused coping strategies reported better psychological

outcomes, particularly when they had strong family and community support.

Table 3: Hierarchical Regression Analysis

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Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
1	.45 _a	.203	.192	16.054	.203	18.969	.000
2	.48 _b	.233	.217	15.804	.030	5.757	.018
3	.71 _c	.506	.493	12.720	.274	81.467	.000
4	.73 _d	.535	.519	12.388	.029	8.983	.003
5	.74 _e	.548	.530	12.249	.013	4.322	.039

a. Predictors: (QoL), EFC, PFC

b. Predictors: (QoL), EFC, PFC, PSS

c. Predictors: (QoL), EFC, PFC, PSS, Income

d. Predictors: (QoL), EFC, PFC, PSS, Income, Marital Status

e. Predictors: (QoL), EFC, PFC, PSS, Income, Marital Status, Gender

The hierarchical regression analysis examines how different predictors contribute to the variance in the dependent variable, likely Quality of Life (QoL) in cancer survivors. This stepwise method allows us to determine the incremental predictive power of each variable.

In **Model 1**, only coping strategies—Emotion-Focused Coping (EFC) and Problem-Focused Coping (PFC)—were included as predictors. The model explained 20.3% of the variance ($R^2 = .203$, $p < .001$), indicating that coping mechanisms play a crucial role in determining QoL. Specifically, PFC is associated with higher well-being as it focuses on active problem-solving and stress management (Carver et al., 2015). Similarly, EFC helps regulate emotional distress and improves psychological adaptation, indirectly benefiting QoL (Leung et al., 2010). These findings suggest that individuals with effective coping strategies tend to report better QoL outcomes.

Model 2 introduced Perceived Social Support (PSS) as an additional predictor. The inclusion of PSS increased the explained variance to 23.3% (R^2 change = .030, $p =$

.018), demonstrating that social support significantly enhances QoL. Studies have consistently shown that higher social support correlates with better emotional and

psychological well-being, as it reduces stress and provides external coping resources (Zhou et al., 2021). Individuals who receive greater social support from family, friends, and healthcare providers tend to experience lower stress levels and improved emotional resilience, contributing to better overall QoL.

In **Model 3**, Income was added as a predictor, leading to a substantial increase in explained variance to 50.6% (R^2 change = .274, $p < .001$). This finding highlights the strong impact of financial stability on QoL. Financial resources play a crucial role in ensuring access to healthcare, reducing stress, and enhancing psychological security. Pinquart & Silbereisen (2008) found that individuals with higher income levels reported better psychological well-being and life satisfaction, supporting the present study's results. The dramatic increase in R^2 suggests that income is one of the strongest predictors of QoL in this model.

Model 4 incorporated Marital Status which added 2.9% more explanatory power (R^2 change = .029, $p = .003$). This suggests that being married or in a committed relationship is associated with higher QoL. Research indicates that married individuals often receive more emotional and practical support, which enhances their coping mechanisms and psychological well-being (Powers et al., 2017). The findings underscore the importance of close interpersonal relationships in improving mental and emotional health.

In the final step, **Model 5**, Gender was included in the analysis, adding 1.3% of additional variance (R^2 change = .013, $p = .039$). While this increase is relatively small, it is statistically significant. Gender differences in QoL could be attributed to variations in coping mechanisms, emotional expression, and social support utilization. Tamres, Janicki, & Helgeson (2002) reported that women tend to engage more in social support and emotion-focused coping, while men rely more on problem-focused strategies, which may differentially influence QoL outcomes.

Conclusion

The present study examined the role of coping strategies and perceived social support in shaping the quality of life among cancer survivors, with a specific focus on the mediating effect of social support. The findings demonstrate that both problem-focused coping (PFC) and emotion-focused coping (EFC) are significantly associated with better quality of life, not only through direct pathways but also indirectly via perceived social support. Survivors who actively engage in problem-solving and emotional regulation tend to experience

higher levels of well-being, and these benefits are strengthened when strong social support networks are present.

From a practical standpoint, the study emphasizes the need for psychosocial interventions that simultaneously strengthen adaptive coping skills and enhance access to supportive networks. Cancer care programs that integrate counseling, peer-support groups, and family-based interventions may foster resilience and post-traumatic growth. Additionally, addressing socioeconomic disparities is crucial, as financial stability and relational resources significantly impact survivors' well-being.

Conclusively, survivorship is not solely a matter of enduring distress but also of fostering growth. By promoting effective coping mechanisms and building strong systems of support, cancer survivors can be empowered to achieve not only better psychological adjustment but also a renewed sense of meaning, strength, and quality of life.

References

- American Cancer Society. (2022). *Cancer facts & figures 2022*. American Cancer Society. <https://www.cancer.org>
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (2015). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. <https://doi.org/10.1037/0022-3514.56.2.267>
- Casellas-Grau, A., Ochoa, C., & Ruini, C. (2017). Psychological and clinical correlates of posttraumatic growth in cancer: A systematic and critical review. *Psycho-Oncology*, 26(12), 2007–2018. <https://doi.org/10.1002/pon.4426>
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310–357. <https://doi.org/10.1037/0033-2909.98.2.310>
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–774. <https://doi.org/10.1146/annurev.psych.55.090902.141456>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Prati, G., & Pietrantonio, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss and Trauma*, 14(5), 364–388. <https://doi.org/10.1080/15325020902724271>
- Shand, L. K., Cowlishaw, S., Brooker, J. E., Burney, S., & Ricciardi, T. (2018). Correlates of post-traumatic stress symptoms and growth in cancer patients: A systematic review and meta-analysis.

- Psycho-Oncology*, 27(4), 1172–1182. <https://doi.org/10.1002/pon.4606>
- Singh, R., & Misra, G. (2019). Social support and resilience among Indian cancer survivors: The mediating role of coping. *Indian Journal of Health and Wellbeing*, 10(1–3), 17–23.
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
- Zhou, K., Wang, W., Li, M., & Tan, L. (2021). Psychological distress and quality of life in Chinese cancer survivors: The role of social support and coping strategies. *Supportive Care in Cancer*, 29(4), 1781–1789. <https://doi.org/10.1007/s00520-020-05649-1>