Life Orientation as a Predictor of Quality of Life among Cancer Patients "A Positive Health Psychology Perspective"

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Abstract

Quality of life (QoL) is a multidimensional construct reflecting physical, psychological, social, and environmental well-being, and in cancer patients, it is influenced not only by medical factors but also by psychological resources such as life orientation (optimism) (Scheier & Carver, 1985; Carver, Scheier, & Segerstrom, 2010). This study aimed to examine the relationship between life orientation and QoL and to investigate the predictive role of life orientation in explaining overall QoL among cancer patients in Algeria. A cross-sectional design was used with 114 patients (56 males, 58 females; M = 45.2, SD = 10.7) who completed the Arabic versions of the Life Orientation Test (LOT; Alansari, 2002) and WHOQOL-BREF (WHO, 1995). Results indicated that life orientation was positively correlated with overall QoL ($r = 0.413$, $p < .01$), particularly the psychological ($r = 0.446$, $p < .01$) and physical ($r = 0.361$, $p < .01$) dimensions, while the social dimension showed no significant correlation ($r = 0.017$, $p > .05$). Regression analysis showed that life orientation significantly predicted overall QoL ($B = 0.625$, $p < .001$), explaining 17% of the variance. These findings suggest that optimism is a significant psychological resource that is positively associated with patient well-being, particularly in the psychological and physical domains, and highlight the importance of integrating positive psychology interventions in oncology care.

Keywords: Life orientation, Optimism, Quality of life, Cancer patients, WHOQOL-BREF, Algeria.

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1. INTRODUCTION

Within the field of health and clinical psychology, the concept of Quality of life (QoL) serves as a central, multidimensional indicator for monitoring patients' overall subjective experience. It goes beyond measuring organic symptoms to reflect an individual's assessment of their psychological state, social relationships, and ability to perform daily life activities. This concept has gained increasing attention in the context of chronic, incurable diseases like cancer, highlighting the need for a comprehensive research approach that integrates medical indicators with psychological and social factors to understand adjustment to illness and improve care outcomes (Ferrell, Hassey Dow, & Grant, 1995).

The importance of this comprehensive approach stems from the complex and exhausting nature of the cancer treatment trajectory, which poses not only physical challenges but is also accompanied by a heavy psychological burden. Patients face symptoms like pain and chronic fatigue, in addition to feelings of distress, anxiety, and fear of the future all factors that studies have consistently linked to a decline in health-related quality of life (HRQoL) (Hickok & al., 2005; Bower, 2014).The high prevalence of psychological disorders, most notably depression and anxiety, among this patient group indicates that the psychological impact of the disease can be profound and long-lasting, hindering the adjustment process and contributing to a low self-assessment of well-being (Pirl, 2004; Bidstrup, et al., 2015). Local observations confirm this trend; a study by (Al-Rawashdeh, 2014) showed higher levels of depression and death anxiety among cancer patients compared to healthy individuals, and a study by (Titrawi & Boudehif, 2023) revealed a clear decline in positive feelings such as optimism and self-esteem. Another study in Jordan found that poor health-related quality of life was closely linked to high levels of anxiety and depression and a weak perception of social support (Mosleh, 2018)

To understand this complex interaction between organic, psychological, and social factors, the biopsychosocial model provides a comprehensive explanatory framework. It views quality of life as a dynamic and ongoing product of the interaction between these three aspects (Engel, 1977; Park, 2005). At the heart of this framework, the positive psychological resources an individual possesses are considered a key determinant of how they respond and adapt to the stresses of illness. Life orientation the relatively stable tendency of an individual to expect good outcomes and interpret events positively is considered one of the most prominent and studied of these resources. According to optimism theory, this orientation significantly influences motivations, helps regulate emotions, and guides the choice of more effective coping strategies when facing challenges

(Scheier, Carver, & Bridjes, 2001; Carver, Scheier, & Segerstrom, Optimism, 2010).

Based on this theoretical foundation, many empirical studies have sought to test the relationship between optimism and quality of life in the context of cancer. In general, results have indicated a positive correlation, with higher levels of optimism associated with improvement in multiple aspects of quality of life, such as psychological well-being, physical function, and symptom reduction (Scheier, Carver, & Bridjes, 2001). For instance, a study by (Mazanec, Daly, Douglas, & Lipson, 2010) found that patients with a positive life orientation demonstrated better physical and psychological functioning across various treatment stages. Furthermore, a systematic review of seven studies revealed a statistically significant inverse relationship between optimism levels and pain severity in cancer patients, suggesting optimism serves as a protective factor (Forte, Guliyeva, McLeod, & Dabrh, 2021). Similarly, (Friedman, et al., 2006) found that life orientation accounted for a substantial proportion of the variance in cancer-related stress and emotional states among breast cancer patients.

However, this relationship is neither simple nor definitive, as a review of the literature reveals variability and contradictions in the findings. For example, while a longitudinal study by (Allison, Guichard, & Gilain, 2000) on head and neck cancer patients supported the strong and independent predictive role of optimism in maintaining better quality of life, another study by Mazanec et al. (2010) indicated that this direct predictive effect of optimism may disappear when accounting for common symptoms of depression and anxiety in the early diagnostic phase. This discrepancy opens the door to an important hypothesis: the effect of optimism on quality of life may not be direct in all cases but may instead operate through mediating mechanisms, such as enhancing perceived social support or reducing feelings of illness-related uncertainty, as recently proposed by a study by (Han & al., 2025).

Systematic reviews reinforce this nuanced perspective. (Rasmussen, Scheier, & Greenhouse, 2009) noted a relatively consistent relationship between life orientation and psychological health and quality of life among patients with chronic illnesses. Similarly, (Fasano, Shao, Huang, & Kessler, 2020) concluded that life orientation is a positive psychological predictor of health-related quality of life, although its predictive strength varies when other psychological variables are included. The importance of this psychological resource has been emphasized across different cultural contexts, including Arab societies .

In response to a clear research gap in the Algerian context—where local studies addressing the psychological health of cancer patients have often been limited to descriptive dimensions or simple correlations, and have not systematically examined the predictive power of life orientation within multivariate statistical

models that account for the influence of other psychological factors—and based on the theoretical and practical background presented above, the current study aims to achieve the following objectives:

- To test the correlational relationship between life orientation and quality of life among cancer patients.
- To investigate the predictive role of life orientation in explaining quality of life using linear regression analysis, within the theoretical framework of positive psychology and the chronic illness adaptation model, while considering the specificities of the local cultural and social context.

Based on these objectives, the following hypotheses were formulated

H1: There is a statistically significant positive correlation between life orientation and overall quality of life, as well as its physical, psychological, social, and environmental dimensions, among cancer patients.

H2: Life orientation (optimism) significantly predicts overall quality of life among cancer patients.

2.Theoretical Background

2.1. Life Orientation

Life orientation is a core concept in positive psychology, defined as a general tendency to expect positive or negative outcomes across life situations (Scheier & Carver, 1985). This construct is considered a relatively stable cognitive–emotional disposition that influences emotion regulation, decision-making, coping strategies, and self-motivation, especially in contexts of chronic illness and health threats (Carver, Scheier, & Segerstrom, 2010).

From a cognitive–motivational perspective, life orientation is conceptualized as a system of goal-related cognitive expectations. Individuals with a positive life orientation tend to interpret difficulties as temporary and manageable, which Scheier & Carver enhances perseverance and motivation while reducing behavioral withdrawal (Scheier & Carver, 1985). Empirical studies have shown that optimism is associated with lower levels of depression and anxiety, higher psychological adjustment, and greater life satisfaction, even after controlling for medical and demographic variables, including among cancer patients (Scheier, Carver, & Bridjes, 2001; Mazanec, Daly, Douglas, & Lipson, 2010).

Life orientation functions as a positive psychological resource, promoting effective coping strategies such as cognitive reappraisal, problem-solving, and

acceptance, while minimizing maladaptive strategies like avoidance or withdrawal (Carver & Scheier, 2014).

2.2. Quality of Life (QoL)

Quality of life (QoL) is a multidimensional construct reflecting an individual's subjective evaluation of their physical, psychological, social, and environmental well-being (WHO, 1995). In patients with chronic and life-threatening illnesses such as cancer, QoL represents a key indicator of psychological and social adjustment, as well as a marker of overall health (Ferrell et al., 1995).

Cancer patients face multiple physical and psychological challenges, including chronic pain, fatigue, sleep disturbances, and treatment-related stress (Hickok & al., 2005). These factors negatively affect physical, psychological, and social dimensions of QoL, while positive psychological resources, such as optimism and hope, serve as protective factors supporting adjustment and well-being (Pirl, 2004).

In the Algerian context, family support and social networks play a pivotal role in enhancing QoL among patients. Cultural values related to patience, hope, and optimism influence life orientation and psychological adaptation, particularly given the limited availability of integrated psychosocial support programs within healthcare institutions.

2.3. Relationship Between Life Orientation and QoL

The literature consistently indicates that Quality of Life (QoL) constitutes a fundamental axis in evaluating the care provided to cancer patients, as it transcends biomedical indicators to reflect the patient's comprehensive subjective experience. In this context, research highlights Life Orientation, or optimism, as one of the most consistent and potent psychological predictors of quality of life. This effect is not confined to a merely transient positive feeling; rather, it is a dynamic process involving intertwined cognitive, behavioral, and emotional mechanisms.

Cognitive Appraisal & Reappraisal: Optimists tend to reinterpret threatening situations, such as pain or treatment side effects, as manageable challenges rather than catastrophes. This mechanism helps reduce feelings of helplessness and increases the sense of control, thereby alleviating the psychological distress associated with symptoms (Allison, Guichard, & Gilain, 2000; Segerstrom, Carver, & Scheier, 2017).

Health Behaviors & Treatment Adherence: Optimism is linked to the adoption of more effective coping behaviors, such as actively seeking supportive

information and adhering to treatment and rehabilitation programs. It is also associated with better health behaviors like regular physical activity, which improves functional performance and physical well-being (Carver, Scheier, & Segerstrom, 2010; Rasmussen, Scheier, & Greenhouse, 2009).

Emotional Resilience & Social Support: A positive outlook aids in regulating negative emotions and maintaining hope, thus enhancing psychological resilience. Furthermore, optimists often possess stronger and more sustainable social support networks, either due to their social skills or because their positive nature attracts others. This support acts as a protective barrier against depression and anxiety (Friedman, et al., 2006; Han & al., 2025).From a methodological perspective, life orientation can be treated as an independent variable in regression models to explain variance in QoL, directly or via mediators such as self-efficacy, coping strategies, or emotional symptoms (Carver & Scheier, 2014).

3. Methodology

3.1 Participants

The study included 114 patients (56 males, 58 females) who were purposively selected from oncology treatment center in Biskra, Participants' ages ranged from 25 to 65 years (M = 45.2, SD = 10.7). The participants were diagnosed with various types of cancer, including breast, lung, colorectal, and hematologic cancers. Patients with severe psychological disorders or those unable to complete the questionnaires were excluded. Data were collected through face-to-face administration of the questionnaires during routine treatment visits. All participants provided informed consent, and the study received ethical approval from the relevant institutional review boards.

3.2 Instruments

3.2.1 Life Orientation Test – LOT

Developed by (Scheier & Carver, 1985), using the Arabic version prepared and validated by (Alansari, 2002). The scale measures individuals' orientation toward life as a dispositional tendency, reflecting generalized expectations about future outcomes, and is widely used as an indicator of optimism in health and clinical psychology research. The Arabic version consists of 8 items, including 4 positively worded and 4 negatively worded statements, rated on a five-point Likert scale. Negatively worded items are reverse scored, and a total score is computed, with higher scores indicating a more positive orientation toward life.

To assess the psychometric properties of the scale within the current sample construct validity was examined using exploratory factor analysis. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.82, and Bartlett's test of sphericity was statistically significant ($\chi^2 = 512.43$, $p < .001$). The analysis yielded a single-factor solution explaining 48.7% of the total variance, consistent with the theoretical structure of the scale. Internal consistency reliability was satisfactory, with a Cronbach's alpha coefficient of 0.81 for the total score, indicating that all reliability and validity indicators were computed based on the present study's data (N = 114).

3.2.2 Quality of Life Scale (WHOQOL-BREF)

Developed by the World Health Organization (WHO, 1995), in its Arabic version, which was translated and culturally adapted according to WHO guidelines and widely validated in Arabic-speaking and clinical populations.

The instrument comprises 26 items distributed across four domains: physical health, psychological health, social relationships, and environmental health, in addition to two general items assessing overall quality of life and general health. Items are rated on a five-point Likert scale, and scores are transformed to a 0–100 scale, with higher scores indicating better quality of life.

In order to verify the psychometric properties of the Arabic version in the current sample, exploratory factor analysis was conducted to examine construct validity. The KMO value was 0.86, and Bartlett's test of sphericity was statistically significant ($\chi^2 = 2145.37$, $p < .001$). The analysis supported a four-factor structure consistent with the theoretical model, accounting for 63.4% of the total variance. Internal consistency reliability was high, with Cronbach's alpha coefficients ranging from 0.79 to 0.88 across the four domains, and 0.91 for the total scale, indicating excellent internal consistency. All reported validity and reliability coefficients were derived from the present sample (N = 114).

Although the WHOQOL-BREF is conceptually multidimensional, the total score was used as a global indicator of perceived quality of life. This approach is supported by recent psychometric research demonstrating that total scores may be more appropriate when model fit for the original four-factor structure is not fully reached (Morales-Valiente, et al., 2023). Furthermore, a broad 24-item total score has been validated as a reliable measure of general well-being in chronic illness populations (Pomeroy, Tennant, Mills, & al, 2020). Accordingly, the high internal consistency of the total score ($\alpha = 0.91$) provides empirical support for its use in this study as a complementary global indicator, provided that domain-level analyses are also reported to preserve the multidimensional nature of the construct.

3.3 Data Collection Procedures

Informed consent was obtained from all participants after explaining the purpose of the study and ensuring the confidentiality of their responses. Completing the questionnaires took approximately 15–20 minutes per participant.

3.4 Statistical Analysis

Data were analyzed using SPSS version 27. The analysis included:

- Descriptive statistics: mean, standard deviation, minimum, and maximum values.
- Pearson correlation tests to examine the relationships between life orientation and the dimensions of quality of life.
- Simple linear regression analysis to assess the predictive ability of life orientation on overall quality of life and its dimensions.

4. Results

4.1 Descriptive Statistics of the Study Variables

Table 1. Descriptive statistics of the study measures (N = 114)

Variable	Range	Minimum	Maximum	Mean	Standard Deviation
Life Orientation (LOT)	32.00	8.00	40.00	23.98	8.73
Overall Quality of Life (QLWHO)	77.53	10.01	87.54	50.27	17.92
Physical Dimension (Phys)	100.00	0.00	100.00	50.25	26.94
Psychological Dimension (Psy)	100.00	0.00	100.00	50.91	25.27
Social Dimension (Soc)	100.00	0.00	100.00	49.70	28.24
Environmental Dimension (Env)	100.00	0.00	100.00	50.22	25.86

- **LOT:** Mean = 23.98, SD = 8.73, indicating moderate variability in optimism/pessimism.
- **Overall QOL:** Mean = 50.27, SD = 17.92, showing notable differences in perceived quality of life.

- **Physical:** Mean = 50.25, SD = 26.94, high variability may reflect differences in health/lifestyle.
- **Psychological:** Mean = 50.91, SD = 25.27, moderate scores with substantial variability.
- **Social:** Mean = 49.70, SD = 28.24, midpoint scores but wide individual differences.
- **Environmental:** Mean = 50.22, SD = 25.86, moderate perception with notable variability.

Summary:

- Scores are centered around midpoints, but high SD values suggest substantial inter-individual differences across all dimensions.
- Variability may reflect personal, social, and environmental factors influencing participants' quality of life.

4.2 Testing Hypothesis 1: correlations between Life Orientation and Quality of Life Dimensions

To test H1, which posited a statistically significant positive correlation between life orientation and overall quality of life as well as its physical, psychological, social and environmental dimensions, Pearson correlation coefficients were computed.

Table 2. Pearson Correlation Coefficients between Life Orientation (LOT) and Quality of Life Dimensions (N = 114)

Variable	Overall QOL (QLWHO)	Physical (Phys)	Psychological (Psy)	Social (Soc)	Environmental (Env)
Life Orientation (LOT)	0.413**	0.361**	0.446**	0.017	0.314**

**$p < 0.01$

- **Overall Quality of Life (QLWHO):** LOT is positively correlated ($r = 0.413$, $p < 0.01$), indicating that higher optimism is associated with higher overall quality of life.
- **Physical Dimension (Phys):** Positive correlation ($r = 0.361$, $p < 0.01$), suggesting that more optimistic participants report better physical well-being.

- **Psychological Dimension (Psy):** Strongest positive correlation ($r = 0.446$, $p < 0.01$), showing a significant link between optimism and psychological well-being.
- **Social Dimension (Soc):** Correlation is negligible and not significant ($r = 0.017$), indicating that optimism does not appear related to social quality of life in this sample.
- **Environmental Dimension (Env):** Positive correlation ($r = 0.314$, $p < 0.01$), suggesting a moderate association between optimism and perceived environmental quality.

Summary:

Life orientation was positively and significantly correlated with overall quality of life ($r = 0.413$, $p < .01$), psychological dimension ($r = 0.446$, $p < .01$), physical dimension ($r = 0.361$, $p < .01$), and environmental dimension ($r = 0.314$, $p < .01$). However, the correlation with the social dimension was not significant ($r = 0.017$, $p > .05$). Thus, **H1 is partially accepted** (supported for overall QoL and physical psychological, and environmental dimensions, but not for the social dimension).

4.3 Testing Hypothesis 2: life Orientation as a Predictor of Overall Quality of Life

To test H2, which proposed that life orientation (optimism) significantly predicts overall quality of life among cancer patients, simple linear regression analysis was conducted with life orientation as the independent variable and overall quality of life as the dependent variable.

Table 3a. Regression Model Summary Predicting Overall Quality of Life from Life Orientation (N = 114)

Model	R	R^2	Adjusted R^2	F	Sig.
LOT → QLWHO	0.413	0.170	0.163	23.001	0.000

Table 3b. Regression Coefficients Predicting Overall Quality of Life from Life Orientation

Predictor	B	SE B	β	t	p
Life Orientation (LOT)	0.625	0.130	0.413	4.796	0.000

- **Model Strength:** The correlation ($R = 0.413$) indicates a moderate positive relationship between LOT and overall quality of life.

- **Variance Explained:** LOT explains 17.0% of the variance in overall quality of life ($R^2 = 0.170$; Adjusted $R^2 = 0.163$).

- **Model Significance:** The regression model is statistically significant ($F = 23.001$, $p < 0.001$), confirming that LOT is a significant predictor of overall quality of life.

- **Regression Coefficient:** $B = 0.625$ indicates that for each one-unit increase in life orientation (optimism), overall quality of life increases by 0.625 units on average.

- **Statistical Significance:** The t-value ($t = 4.796$) and $p < 0.001$ confirm that this effect is highly significant.

Summary:

The regression model was statistically significant ($F = 23.001$, $p < .001$), with life orientation explaining 17% of the variance in overall quality of life ($R^2 = 0.170$). The unstandardized coefficient ($B = 0.625$, $t = 4.796$, $p < .001$) indicates that for each one-unit increase in life orientation, overall quality of life increases by 0.625 units on average. Thus, **H2 is accepted** (life orientation is a significant predictor of overall quality of life).

Interpretation:

- Participants with higher optimism tend to report higher overall quality of life.
- Although the predictive power is moderate (17%), this result demonstrates that life orientation is an important factor influencing individuals' perceived quality of life.
- These findings are consistent with previous literature highlighting the role of optimism in enhancing general well-being.

5. Discussion

The present study examined the relationship between life orientation (optimism/pessimism) and quality of life (QoL) among cancer patients, as well as the predictive role of life orientation in overall QoL. The results provide important insights into the psychological mechanisms influencing patient well-being in a chronic illness context.

5.1 Relationship between Life Orientation and Quality of Life

Consistent with previous research, life orientation was positively correlated with overall quality of life ($r = 0.413$, $p < 0.01$), supporting the hypothesis that optimism is positively associated with perceived well-being. This finding aligns with Scheier, Carver, and Bridges (2001), who emphasized the role of positive expectations in promoting psychological and physical functioning.

- The **psychological dimension** showed the strongest correlation with life orientation ($r = 0.446$, $p < 0.01$), indicating that optimism primarily linked to internal well-being, emotional regulation, and resilience. This is consistent with prior studies reporting that optimism is linked to lower levels of depression and anxiety, improved coping strategies, and greater life satisfaction (Fasano et al., 2020; Mazanec et al., 2010).

- The **physical dimension** also demonstrated a significant positive correlation ($r = 0.361$, $p < 0.01$), suggesting that optimistic patients tend to report better physical health and appear more likely to engage in adaptive health behaviors such as exercise and adherence to treatment (Carver, Scheier, & Segerstrom, 2010).

- The **environmental dimension** was moderately associated with life orientation ($r = 0.314$, $p < 0.01$), implying that optimism contributes to perceiving one's surroundings, resources, and support systems more positively.

- Interestingly, the **social dimension** was not significantly correlated with optimism ($r = 0.017$, $p > 0.05$). This may reflect cultural or contextual factors in Algeria, where social support is largely influenced by family and community networks rather than individual psychological traits. It also suggests that while optimism can enhance personal coping, it may not directly influence social interactions in all contexts (Han et al., 2025).

5.2 Life Orientation as a Predictor of Overall Quality of Life

The simple linear regression analysis confirmed that life orientation is a significant predictor of overall QoL ($B = 0.625$, $p < 0.001$), explaining 17% of the variance. Although moderate, this effect highlights optimism as a meaningful psychological resource for cancer patients.

- These results support the **biopsychosocial model** (Engel, 1977; Park, 2005), which posits that psychological resources, such as optimism, interact with physical and social factors to influence overall well-being.

- The moderate predictive power suggests that while life orientation is important, other factors—including symptom burden, social support, and emotional distress—also contribute substantially to QoL. This is consistent with previous findings indicating that the predictive strength of optimism can diminish when controlling for depressive symptoms or anxiety during early diagnosis (Mazanec et al., 2010).

5.3 Theoretical and Practical Implications

From a **theoretical perspective**, the findings reinforce the role of optimism as a key cognitive–emotional resource in positive psychology and chronic illness

adaptation. Optimistic patients are more likely to engage in adaptive coping strategies, maintain emotional resilience, and perceive higher overall well-being.

From a **practical standpoint**, healthcare providers should consider integrating interventions that aim to foster optimism, such as cognitive-behavioral therapy positive reframing, and psychoeducation, into cancer care programs. These interventions could be beneficial forpatients' psychological adjustment and overall quality of life, particularly in cultural contexts where family and social support are critical.

5.4 Limitations and Future Directions

The sample was limited to patients who agreed to participate and were available at a single oncology center in Biskra. While this reflects the practical reality of conducting research in a clinical setting, the relatively modest sample size (N = 114) may reduce the stability of the exploratory factor analysis and regression coefficients. Although the Kaiser-Meyer-Olkin values (0.82 and 0.86) indicated adequate sampling adequacy, caution is still warranted when interpreting these results. Future studies should aim to recruit larger samples from multiple centers to enhance the robustness and generalizability of the findings. The cross-sectional design limits causal interpretations; longitudinal studies are needed to examine changes in life orientation and QoL over time.

The sample was limited to one oncology center in Algeria, which may affect the generalizability of the findings.

Future research should explore potential mediators (e.g., coping strategies, perceived social support) and moderators (e.g., cultural values, type of cancer) to better understand the mechanisms linking optimism to quality of life.

5.5 Conclusion

Overall, this study demonstrates that life orientation is significantly associated with quality of life among cancer patients. Optimism is particularly strongly correlated with the psychological and physical domains, while social outcomes may depend more on contextual and cultural factors. These findings provide a strong rationale for incorporating positive psychological interventions into comprehensive cancer care programs, as such interventions may be associated with improved patient well-being.

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