Strategies of Survival and Resilience: Psychological Dynamics of Cancer Survivors in Indonesian Navy

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Abstract. This study aims to explore the psychological dynamics and identify the relationships between survival-resistance strategies, social support, and resilience among Indonesian Navy cancer survivors. A mixed-methods sequential exploratory design was adopted by combining in-depth interviews of 3 participants with quantitative surveys of 36 respondents. The qualitative analysis identified five critical phases in psychological trajectory which were symptom avoidance behavior and denial, multidimensional psychological distress (anxiety, body image disruption, spiritual disappointment), intra-individual mitigation through religiosity and cognitive reappraisal, amplification by family and institutional support, and resilience outcomes manifesting as tranquility and post-traumatic growth. The quantitative results showed substantial correlations between social support and resilience ($r=0.894$; $p<0.001$), social support and coping strategies ($r=0.932$; $p<0.001$), as well as coping strategies and resilience ($r=0.839$; $p<0.001$). The methodological triangulation confirmed that resilience was a synergistic product of intra-individual capacities and social ecology rather than an isolated dispositional attribute.

Keywords: cancer, coping strategies, navy soldiers, psychological resilience, social support

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Introduction

Cancer is an increasingly urgent global health issue as observed from the recent data which projects 20 million new cases and 9.7 million deaths in 2022 (Bray et al., 2024). The data also expect an increase to 35 million cases by 2050 due to population aging and changes in lifestyle (Dee et al., 2025). In Indonesia, cancer is ranked third as the cause of death with those related to the breast and cervix most common in women as well as lung and liver in men. The data retrieved from hospitals also showed that 57.3% of cancer cases occurred in women (Bray et al., 2024; Dee et al., 2025). The health challenge has impacts on civilians and serious effects on military personnel. For example, studies show that aircrew and flight support personnel face a 75% higher risk of melanoma, a 31% higher risk of thyroid cancer, and a 20% higher risk of prostate cancer compared to the general population (Webber et al., 2022).

Cancer survivors often experience complex and multidimensional psychological effects. This was confirmed from previous studies that survivors faced several continuous psychosocial stresses including anxiety about recurrence, depression, changes in body image, loss of social roles, and feelings of helplessness during uncertain health conditions (King et al., 2024; Marzorati et al., 2025). Moreover, treatments such as chemotherapy or surgery often lead to physical exhaustion and emotional distress which affect quality of life and subjective well-being (Chan et al., 2024). Survivors can also experience stigma, limited interactions, and social isolation which further add to the psychological burden (Wang et al., 2023). The previous study by Wahab et al. (2024) reported the need for survivors to prepare for continuous psychosocial challenges and actively find support to strengthen mental resilience.

The preliminary study conducted through a literature review and initial observations of the phenomenon of cancer survivors in Indonesia led to the identification of three main subthemes related to the psychological dynamics which included social support, coping strategies, and resilience. The three elements provide an essential foundation for understanding the psychosocial recovery process and the role of the social environment in fostering mental resilience in cancer patients (Brajković et al., 2023; Dev et al., 2024). A participant in the study who was a member of

Indonesian Navy and survived stage 3 breast cancer actively used several psychological strategies to sustain mental resilience. The observations showed that the participant tried to entertain herself, stay optimistic, and channel emotional energy through meaningful activities as part of the efforts to survive and manage the physical and psychological stress caused by the illness.

The social impact of the health issues faced by cancer survivors who are active and retired personnel in Indonesian Navy presents significant challenges. These include a social identity crisis caused by the shift from healthy personnel to illness survivors, the risk of social isolation due to physical limitations in performing duties, difficulties in reintegrating into unit activities, and the stigma associated with health conditions. The efforts to manage the pressures require adaptive psychological strategies to function effectively and maintain emotional stability. The social dynamics require changes in interaction patterns in the military environment, adjustments to roles within the command structure, and shifts in relationships with colleagues and family. The trend reflects that the social aspect provides the heaviest burden for survivors even more than the physical challenges of the illness.

The psychological dynamics in cancer survivors are present in the general population and have unique complexities in groups with specific professional backgrounds such as the military. In this context, the life experience of soldiers who strongly identify with the values of discipline, resilience, and responsibility to the institution makes the process of adapting to a chronic illness such as cancer a distinct challenge. The psychological challenges of managing the illness include psychosocial issues such as emotional stress (anxiety, depression), cognitive shifts (self-acceptance), social functioning difficulties (isolation, stigma), and role adjustments in daily life specifically in the military which is an interesting concept to study.

Several previous studies have examined the psychological aspects of cancer survivors across different areas. For example, Chan et al. (2024), George and Devakirubai (2025), Raz et al. (2024), van der Smissen et al. (2025), and Wahab et al. (2024) focused on psychological distress and emotions after illness. The other studies by Hobden et al. (2024), Kafi et al. (2024), King et al. (2024), Kusi-Appiah et al. (2025), Marzorati et al. (2025), and Wang et al. (2023) also explored self-identity, social relationships, and stigma. Moreover, Ma et al. (2025), Nepal et al. (2024), van der Smissen (2025), and Yu et al. (2025) discussed coping mechanisms, resilience, and psychological recovery. Kafi et al. (2024) also examined the social needs and support while Adams (2024), Ho et al. (2023), and Jennings et al. (2024) studied the physical and cognitive stress related to adapting to illness and health technology.

The studies were conducted using participants with significantly different characteristics from those in the present context. Participants were skydiving instructors and civilian pilots (Raz et al., 2024), patients showing exceptional responses to cancer treatment (Wahab et al., 2024), and even civilian communities in South Africa (Jennings et al., 2024). These differences in backgrounds have important implications for the psychological dynamics because military personnel have a hierarchical organizational culture, specific operational task demands, as well as distinct value systems and professional identities. Therefore, the results from previous studies cannot be directly applied to Indonesian Navy without considering the unique psychosocial environment. The focus of some past studies related to cancer survivors in civilian populations was on emotional distress, self-identity, and individual coping strategies. However, a significant gap was observed in understanding the psychological behaviors of cancer survivors in Indonesian Navy. This study aims to address the gap by thoroughly exploring coping and resistance strategies influenced by military culture, organizational hierarchy, and operational demands. The specific focus was to investigate how military professional identities, unit-based support systems, and corps values shaped distinctive psychological mechanisms for coping with cancer compared to earlier studies that were centered on individual experiences in civilian settings.

Previous studies on the psychological strategies and dynamics of cancer survivors in social life are highly context-dependent. This is because psychological experiences and coping mechanisms are closely connected to the cultural background, social structure, value system, and institutional environment in which individuals are integrated. The military context, specifically Indonesian Navy, develops a unique psychosocial framework characterized by a culture of discipline, command hierarchy, corps identity, and operational readiness demands that differ significantly from those of civilians. Therefore, the psychological dynamics observed in Indonesian Navy cancer survivors cannot be universally applied but need to be understood within a specific social and institutional ecological framework. Marzorati et al. (2025) also emphasized the need for further studies to explore psychological dynamics and provide more effective interventions to enhance the quality of life for cancer patients.

Psychological dynamics are related to the changes in emotional, cognitive, motivational, and behavioral responses to stressors that require significant adaptations. In the context of cancer survivors, the dynamics often lead to several psychological

symptoms such as anxiety, depression, or Post-Traumatic Stress Disorder (PTSD). These symptoms are experienced by both civilian and military patients who face different professional challenges and social roles. Therefore, cancer experience is a complex biopsychosocial phenomenon that cannot be simplified to only physical issues.

The adaptation to the psychological challenges significantly depends on the ability of an individual to manage emotions and find purpose in life after diagnosis. Adaptive coping strategies such as problem-solving, mindfulness practices, and seeking social support have been proven effective in lowering psychological distress and building resilience (Dev et al., 2024). Meanwhile, maladaptive coping methods such as avoidance or excessive rumination often worsen emotional burdens and can interfere with maintaining healthy social functioning which potentially disrupts overall recovery.

In the context of Indonesian Navy, effective coping influences psychological well-being as well as direct effects on social functioning and service performance. The social functioning includes the ability of an individual to maintain quality relationships, participate in unit activities, and fulfill roles in the hierarchical structure of the military. Meanwhile, the operational performance covers task completion capacity, work productivity, decision-making accuracy, as well as the physical and mental readiness to face dynamic challenges related to operations. The two aspects are key indicators of successful psychological adaptation for survivors and have a direct impact on the effectiveness of the service unit.

Studies on the psychological dynamics of cancer survivors have expanded rapidly but a higher percentage focus on emotional aspects, resilience, quality of life, or stigma in civilian contexts. These characteristics differ fundamentally from the trend in the military environment which is defined by a culture of discipline, a collective work orientation, strict command structures, and a strong sense of professional identity. Therefore, the application of the results from civilian populations to the military setting is often insufficient. The trend shows the need for empirical studies that specifically examine how the psychological dynamics influence the daily lives of Indonesian Navy cancer survivors.

The context was in line with the report of Chen et al. (2023) that social support and spirituality significantly mediated the relationship between resilience and quality of life. The trend was further supported by the observation of Dev et al. (2024) that cancer patients generally adopted adaptive coping strategies such as acceptance, emotional support, and positive reframing. Furthermore, Sihvola et al. (2022) showed that resilience levels in colorectal cancer patients were moderate with resilience serving as a vital mediator in managing both positive and negative impacts of the illness and also closely related to social support, post-traumatic growth, hope, and quality of life.

The Present Studies

This study was conducted based on three main considerations. First, mental health issues specifically the dynamics of coping in a socio-military context have rarely been empirically studied even though military personnel face dual pressures between recovery requirements and the expectations of operational readiness inherent in their roles. Second, the importance of psychosocial studies in the military environment is significant due to the unique organizational culture which includes command hierarchy, institutional discipline, and solidarity. These factors can foster distinctive coping mechanisms that differ from those in civilian populations (Brajković et al., 2023). Third, there are practical implications for developing structured psychological interventions and shaping military health policies to address the needs of cancer survivors towards ensuring the maintenance of task effectiveness and personnel well-being (Marzorati et al., 2025).

The focus is specifically to address a gap in existing studies by examining the psychological dynamics of cancer survivors in Indonesian Navy context which has not been previously explored. Previous studies focused on civilian populations or non-military professional groups (Jennings et al., 2024) but this study investigated how military professional identity, unit-based support systems, corps values, and hierarchical structures influenced unique psychological mechanisms for coping with cancer. The primary emphasis is on two psychological adaptation strategies which include the defense to maintain psychological stability during distress as well as resistance to actively confront the challenges of the illness while preserving the identity of the soldiers.

The theoretical foundation is that cancer survivors recover physically are reconstruct their psychosocial well-being as a whole (Sihvola et al., 2022). The social psychology included refers to the dialectical interaction between internal psychological processes such as emotion regulation, cognitive reconstruction, and intrinsic motivation with external social dynamics in the form of social support, interpersonal relationships, and integration in a unified structure. The interplay of the two dimensions provides a psychological dynamic that cannot be understood in isolation but rather as a product of continuous exchanges between individual agency and socio-institutional structures in the military setting.

Study Objectives

This study examined the psychological dynamics experienced by cancer survivors in Indonesian Navy to provide a foundation for designing future service interventions (Brajković et al., 2023). The aim was to comprehensively explore the psychological processes of cancer survivors with a focus on the mechanisms that shaped the two adaptive strategies. The analysis of the two mechanisms was expected to contribute theoretically to the understanding of the psychological resilience in the military context and offer an empirical basis for developing more relevant psychosocial interventions for cancer patients and survivors in Indonesian Navy.

The focus was on five key issues derived from a preliminary study that identified critical phases in the psychological journey of survivors from pre-diagnosis to post-intervention recovery. First, the initial condition and behavior of the survivor before diagnosis were used as a psychological baseline. Second, the psychological impact of a cancer diagnosis. Third, intra-individual psychological mitigation at diagnosis. Fourth, intra-individual supporting factors during illness. Fifth, intra- and inter-individual post-mitigation psychological conditions. This study specifically emphasized the third and fourth phases which included the mitigation strategies as well as the supporting factors shaping the psychological defense and resistance mechanisms.

The aim was to thoroughly examine the psychological dynamics and coping strategies of Indonesian Navy cancer survivors as well as identify factors influencing resilience in a military setting. The results are expected to contribute to the theoretical understanding of the psychosocial aspects of cancer survival in the military and offer practical recommendations for developing comprehensive psychological support programs and health policies in Indonesian Navy.

Methods

Study Design Overview

A mixed-methods sequential exploratory design was used in this study (Creswell & Creswell, 2018). The design required the combination of qualitative and quantitative methods in sequence. The qualitative phase was conducted first to explore the subjective experiences of Indonesian Navy cancer survivors, identify key psychological themes, and develop a conceptual framework for subsequent application in the quantitative phase. This design was preferred due to the complexity of the phenomenon studied. The trend is associated with Indonesian Navy cancer survivors facing multiple challenges from adjusting to the diagnosis and managing treatment to maintaining professional functioning in a military culture that emphasizes physical and mental toughness.

The qualitative phase was based on an interpretive phenomenological method which was applied to understand the lived experiences of the participants in coping with cancer (Levitt et al., 2018). The quantitative phase used a cross-sectional correlational design to examine the relationships and predictive contributions between variables identified from the qualitative analysis. The study question posed was "how do social support and resilience predict the coping strategies of Indonesian Navy soldiers who are cancer survivors? This leads to the formulation of the hypothesis that social support and resilience significantly contribute to the development of adaptive coping strategies.

Table 1

Demographics of Indonesian Navy Cancer Surviviors

Variable	n	%
Gender		
Male	20	55.6
Female	16	44.4
Marital Status		
Married	27	75
Single	6	16.7
Divorced/Widowed	3	8.3
Number of Children		
None	7	19.4
1	7	19.4
2	11	30.6
3	6	16.7
4	5	13.9
Service Status		
Active	23	63.9
Inactive	13	36.1
Rank		
Non-commissioned Officer	17	47.2
Officer	13	36.1
Private	6	16.7
Family History of Cancer		
Yes	18	50
No	18	50

Participants and Data Sources

Qualitative Phase

Participants in the qualitative phase included three Indonesian Navy cancer survivors selected through purposive sampling. The selection was based on specific criteria which included being (1) active duty or retired Indonesian Navy personnel, (2) diagnosed with stage II-IV cancer treated for a minimum of 6 months, and (3) willing to participate fully in in-depth interviews. The preference for both active and retired status was aimed at capturing differences in psychological dynamics. The active-duty personnel

faced the dual pressures of duty and managing illness while retired personnel focused on post-career adaptation in different social support systems. The minimum 6-month period since diagnosis ensured that participants had sufficient experience in adapting to and applying coping strategies for chronic conditions.

This study included six significant others who consisted of core family members such as spouses or children and the closest coworkers to gain a comprehensive relational perspective. The selection criteria included (1) having frequent interaction with participants at a minimum of three times per week, (2) knowing the health condition, (3) participating in the treatment or recovery process, and (4) being willing to provide insights into the psychological dynamics of participants. The demographic characteristics of the qualitative participants were related to variations in gender, age range from 35 to 58 years, rank from Tambat to Perwira, and type of cancer as nasopharyngeal, colorectal, or lymphoma.

Quantitative Phase

Respondents at the quantitative phase were 36 Indonesian Navy cancer survivors recruited through purposive sampling using the same criteria applied in the qualitative phase. The demographic data showed that most respondents were male (55.6%), married (75.0%), and still on active duty (63.9%) with the highest rank being non-commissioned officer (47.2%). The distribution of cancer stages at diagnosis was I (11.1%), II (41.7%), III (30.6%), and IV (16.7%). Regarding treatment status, 61.1% were undergoing treatment while 38.9% were in remission. Respondents came from different corps in Indonesian Navy including the Health, Engineering, Music, and Sailor each with 16.7%. The complete demographic profile of respondents in the quantitative phase is presented in Table 1. The data showed variations in the characteristics such as gender, marital status, family structure, military status, rank, task force, year of diagnosis, and family history of cancer to offer a comprehensive overview of the representative sample for this study.

Data Collection Procedure

Qualitative Phase

Qualitative data were collected through in-depth semi-structured interviews from August 1-16, 2025. The interview guide was designed based on a theoretical framework of psychological resilience and coping strategies among cancer survivors. The focus was on five domains which included (1) medical history and initial diagnosis experience, (2) emotional and psychological responses to the diagnosis, (3) psychological coping strategies used, (4) social support from family and the community, as well as (5) changes in psychological well-being after treatment.

The sample interview questions included "How did you feel when you first received your cancer diagnosis?" "What strategies did you use to manage the emotional stress of the illness?" "How did your family and coworkers support you during treatment?", and "What positive changes did you notice after undergoing treatment?" Each interview lasted 60-90 minutes, was conducted face-to-face at a location convenient for participant, audio-recorded with written consent, and transcribed verbatim for analysis. Original interviews were conducted in Indonesian and translated by the authors.

Quantitative Phase

Quantitative data were collected using a questionnaire distributed between August 23-25, 2025 with an expected completion time of 20-30 minutes. The questionnaires were directly administered to 36 respondents with the researcher present to ensure adequate understanding of the instructions and completion of the data. Ethical procedures were followed by ensuring respondents received a study information sheet, signed an informed consent form, and were assured of data confidentiality and anonymity.

Measurement Instrument

Qualitative Phase

The primary instrument of the qualitative phase was a semi-structured interview guide applied to comprehensively explore the subjective experiences of participants while focusing on the study area. Field notes were also used to record contextual observations, non-verbal cues, and reflections during the interviews.

Quantitative Phase

Connor-Davidson Resilience Scale 10 (CD-RISC 10)

CD-RISC 10 developed by Gina and Fitriani (2022) was used to measure resilience through 10 items on a Likert scale ranging from 0 to 4 (0 = never, 4 = almost always). This instrument was adapted to Indonesian context by Gina and Fitriani (2022). The examples of the items included were "I was able to adapt to change", "I could cope with whatever happened", and "I tended to bounce back after experiencing difficulties."

Multidimensional Scale of Perceived Social Support (MSPSS)

MSPSS developed by Zimet et al. (1988) was applied to measure the perceived social support from three sources which included family, friends, and significant others through 12 items. Indonesian adaptation developed by Sulistiani et al. (2022) used a 0-4 Likert scale (0 = strongly disagree, 4 = strongly agree). The examples of the items included were "My family really helped me", "I could talk about problems with my friends", and "There were people who became a source of comfort for me."

Mini-COPE

Mini-COPE is a shortened version of the Brief COPE Inventory (Carver, 1997) modified by Brambila-Tapia et al., (2023) into 10 items on a Likert scale ranging from 0 to 4. It was used to measure three dimensions of coping strategies which were the problem-focused, emotion-focused, and dysfunctional coping. The instrument was translated into Indonesian using the forward-backward method and tested for readability on five soldiers before distribution. The examples of the items were "I took action to make the situation better" (problem-focused), "I tried to see the situation from a different perspective" (emotion-focused), and "I gave up trying to deal with it" (dysfunctional).

Data Analysis

Qualitative Phase

Qualitative data were analyzed using the thematic analysis developed by Braun and Clarke (2006). This was achieved through the six stages of (1) familiarization with the data by repeatedly reading the transcripts, (2) initial coding to identify relevant units of meaning, (3) searching for themes by grouping codes, (4) reviewing themes to ensure internal coherence and external distinction, (5) defining and naming themes, as well as (6) preparing the report.

Some examples of the initial codes identified were “family support during chemotherapy,” “continuing to work despite illness,” “praying for strength,” “deep sadness,” and “genuine acceptance.” These codes were subsequently grouped into three dominant themes including (1) social support (the roles of family, peers, and institutions), (2) resilience (the ability to recover from adversity), and (3) coping strategies (how to deal with stressors). The data retrieved from the survivor participants and significant others were analyzed separately and triangulated to validate the observations and identify convergence or divergence of perspectives. Trustworthiness was also maintained through (1) credibility with member checking and triangulation of data sources, (2) transferability with a rich description of the study context, (3) dependability with an audit trail of the analysis process, and (4) confirmability with study reflexivity regarding potential bias.

Quantitative Phase

Quantitative data were analyzed using JASP (Jeffrey's Amazing Statistics Program). This was achieved through several stages explained as follows:

Instrument Validity and Reliability Test

Construct validity was tested using Confirmatory Factor Analysis (CFA) to verify the theoretical factor structure of each instrument. The criteria for goodness of fit were CFI > .90, TLI > .90, RMSEA < .08, and SRMR < .08. Moreover, item factor loadings were evaluated with a threshold of > .50. CFA results showed that CD-RISC 10 supported a unifactorial model (CFI = .92, TLI = .91, RMSEA = .07), MSPSS supported a three-factor model (CFI = .93, TLI = .92, RMSEA = .06), and Mini-COPE supported a three-factor model (CFI = .91, TLI = .90, RMSEA = .08).

Reliability was estimated using the omega coefficient (ω) which was considered more robust than Cronbach's alpha due to the ability not to assume tau-equivalence (Dunn et al., 2014). The results showed that CD-RISC-10 had a ω of .89, MSPSS recorded .87, while Mini-COPE had .82 for the Active/Adaptive factor, .68 for the Avoidant/Maladaptive factor, and .85 for the Emotional/Neutral factor. All reliability values met the minimum criteria of .70 for follow-up and .60 for the exploratory study (Nunnally & Bernstein, 1994).

Verification of Continuum Data Assumptions

The 0-4 Likert scale used in all three instruments was treated as continuum data based on certain arguments. First, the number of response categories was ≥ 5 with perceived equal intervals (Rhemtulla et al., 2012). Second, the distribution of responses was approximately normal with skewness < 2 and kurtosis < 7. Third, the purpose of the analysis was to model the relationships between latent constructs and not only ordinal categories.

Descriptive Statistics

The descriptive analysis includes the mean, standard deviation, minimum, and maximum scores for each variable. These were used to understand the characteristics of the data distribution.

Parametric Analysis Assumptions Test

Normality was tested using the Shapiro-Wilk test ($p > .05$ represents a normal distribution). Homoscedasticity was evaluated using a scatterplot of residuals versus predicted values. Multicollinearity was checked using Variance Inflation Factor (VIF < 10 shows no serious multicollinearity). The analysis showed that all assumptions were satisfied by the data used in this study.

Correlation Analysis

Pearson correlation was used to test bivariate relationships between variables. The interpretation of the correlation strength was based on r = .10 – .29 (weak), r = .30 – .49 (moderate), r = .50 – .69 (strong), and r ≥ .70 (very strong). The results showed very strong and significant correlations between social support and resilience ($r = .894$, $p < .001$), social support and coping strategies ($r = .932$, $p < .001$), as well as resilience and coping strategies ($r = .839$, $p < .001$).

Multiple Linear Regression Analysis

Multiple linear regression was used to test the predictive contribution of social support and resilience

to coping strategies. The model was estimated using the enter method and evaluated through the coefficient of determination (R^2), the F-test for overall model significance, and the t-test for individual predictor significance.

Mixed-Methods Data Integration

The data were combined through a complementary integration design (Greene et al., 1989). This allowed the quantitative results to provide evidence of the magnitude of relationships between variables while qualitative data showed the process mechanisms and explanatory contexts. Methodological triangulation was also conducted by comparing emergent themes from interviews with correlational patterns in the survey to enhance the validity and credibility of the conclusions. The final synthesis produced a comprehensive understanding of how social support and resilience shaped the adaptive coping strategies of Indonesian Navy cancer survivors through mechanisms of cognitive reappraisal, strengthening intrinsic motivation, and reconstructing the meaning of life.

Results and Discussion

Results

The results of the mixed-methods sequential exploratory study are presented in two main sections including qualitative and quantitative which complement each other to provide a comprehensive understanding of the psychological dynamics of Indonesian Navy cancer survivors. The initial step was the generation of qualitative data through in-depth interviews and participant observation to capture subjective meanings, emotional processes, and social experiences that shaped how participants manage the illness and rebuild psychological resilience. The qualitative results were subsequently used as a conceptual basis for formulating instruments and variables that were tested quantitatively. This was used to ensure stronger empirical validation of the relationships among the variables (social support, coping strategies, and resilience).

The quantitative applied in the next step was used to confirm the relationship structure produced from the initial qualitative findings through inferential statistical analysis. Accordingly, the two methods are not mutually exclusive but intertwined in an integrative process. The qualitative data developed the theoretical foundation and initial model and the quantitative data provided numerical evidence that corroborated the psychosocial interaction patterns identified narratively.

The application of the quantitative method sequentially after the qualitative phase was designed to statistically test the strength and significance of relationships between variables identified through thematic analysis. The term “sequential” refers to a temporal design in which quantitative data collection and analysis start after the qualitative results have reached theoretical saturation and an initial conceptual model has been generated. This sequential strategy has methodological advantages which include the qualitative data building a context-specific and bottom-up theoretical foundation while the quantitative data provide top-down numerical evidence considered generalizable in the study population. Therefore, the external validity of the qualitative results was enhanced through methodological triangulation. The interpretability of the statistical results was simultaneously enriched by a deeper understanding of the process mechanisms gained from interviews and participant observation.

The integration of the two methods was based on the logic of a sequential exploratory design with clear methodological justification. The qualitative phase was conducted first to comprehensively explore uncharted psychological phenomena among Indonesian Navy cancer survivors to produce an emergent theoretical model of the psychosocial adaptation process. The results were subsequently translated into structural hypotheses that could be operationalized through standardized instruments such as MSPSS, CD-RISC, and Mini-COPE in the quantitative phase. The trend showed that the quantitative phase served as a confirmatory phase to test the empirical validity of the relationship patterns identified narratively and to quantify the magnitude of effects through Pearson correlation analysis. The process ensured that the psychosocial model produced was contextually rich and also statistically robust to meet the methodological rigor criteria for a mixed-method study in health psychology.

Behavior and Baseline Condition of Participants

Healthy Lifestyle

Participants reported having adopted a regular and structured healthy lifestyle before cancer diagnosis. This included regular exercise at a minimum of three times a week, a balanced diet with appropriate nutrition, and avoiding risky behaviors such as smoking and alcohol consumption. However, the adoption of a healthy lifestyle did not guarantee freedom from serious illnesses such as cancer. The trend was evident in the response of the first participant as follows:

> *“...selalu olahraga, gapernah minum, ngerokok atau banyak makanan junkfood dan sejenisnya, pokoknya tante itu hidupnya teratur dan sehat deh.." (P1)”.*
>
> “...always exercises, never drinks, smokes, or eats a lot of junk food or anything like that. Basically, I live a regular and healthy life...” (P1).

A significant other to the participant confirms the statement by stating that

“Saya lihat beliau orang yang sangat peduli dengan kesehatan dan pola hidup yang sehat.." (SO2P1).
“I see that she is someone who really cares about health and a healthy lifestyle...” (SO2P1).

The third participant reported that:

"Saya juga merasa saya sehat walafiat pola hidup juga yaaa saya tergolong sehat…." (P3).
“I also feel healthy and have a healthy lifestyle too, I am considered healthy..." (P3).

The response showed that the participant felt healthy through the lifestyle implemented. The trend was further supported by a significant other who reported that

"sebelumnya istri saya ini aktif khususnya olahraga sama saya sepedaan, diving renang gitu" (SO1P3).
"Previously, my wife was active, specifically in sports by cycling, diving, and swimming with me" (SO1P3).

This supported the statement of the third participant in relation to the history of a healthy and active lifestyle. All three participants showed similar characteristics of a healthy lifestyle despite having different backgrounds. The characteristics include structured exercise routines, abstinence from harmful substances, and regular diets. This similarity reflected that a healthy lifestyle did not guarantee immunity against degenerative illnesses such as cancer.

Early Neglect Behavior
Participants exhibited early neglect behavior when initial symptoms of the illness appeared by delaying professional medical examination despite the observation of physical symptoms. This delay occurred because participants perceived the symptoms as minor and transient conditions expected to resolve spontaneously without medical intervention. The initial symptoms included fatigue, fluctuating fever, a neck lump, and intermittent, irregular discomfort that came and went without a clear and predictable onset. This behavior confirmed that the perception of symptoms as mild or transient could lead individuals to delay early detection and medical treatment. The pattern of delay was characterized by periods of passive observation ranging from 2 weeks to over a year during which participants opted for a watch-and-wait strategy without formal medical consultation. The final treatment included further diagnostic tests after symptoms had worsened significantly. The condition was reflected in the statements of three participants as follows:

"Jadi pas awal adaa gejala itu tante biarin sampai mmm kurang lebih 2 minggu..." (P1).
“So, when the symptoms first appeared, I let them be until, um, about 2 weeks..." (P1).

This showed that the participant waited without taking action despite the early signs. Another participant reported that

“Awalnya saya hanya merasa lelah dan ada benjolan di leher, sering panas terus naik turun hilang kambuh, hilang kambuh tapi saya biarkan saja" (P2).
“At first, I just felt tired and had a lump in my neck. I often had a fever that went up and down, then went away and came back, then went away and came back, but I just let it be” (P2).

The trend showed that symptoms such as lumps and fever were not immediately checked. A third participant stated

“Awalnya saya biarin sampai ga kuat lagi itu selama 1 tahunan lebih yaa ini sudah masuk 3 tahun" (P3).
“At first, I let it go until I could not take it anymore, for over a year, now it is 3 years" (P3).

The statement reflected a prolonged period of ignoring symptoms before finally seeking medical help. The initial neglect behavior is a form of avoidance coping which is associated with minimizing symptoms and delaying help-seeking. It is a defensive mechanism to protect self-concept and also shows anticipatory anxiety about potentially having a serious illness.

Denial
Some participants experienced feelings of acceptance or denial after learning about the condition. There was a struggle to believe which led to the rejection of the idea of being affected by serious illness such as cancer. The reactions were based on the previous feeling of being healthy which made the diagnosis a complete shock. Some participants also showed a mix of emotions from sadness and anger to frustration about the situation. The phenomenon was observed from the description of a participant as follows:

“….ngerasa ga terima tapi..." (P1).
"...I do not feel like I am accepting it, but..." (P1).

The statement reflects the start of a denial reaction. Another participant reported that

“Kaget... orang sebelumnya ngerasa baik-baik aja ganyangka kalau sudah stadium lanjutan.., saya sedih.. campur aduk.. marah ke Tuhan..masih muda kena kanker kronis" (P2).
"I was shocked... I felt fine before, I never thought it would be an advanced stage... I was sad... mixed feelings... angry at God... at such a young age with chronic cancer" (P2).

The trend showed a mix of denial and other emotions. The third participant stated that

> *“Perasaan ga percaya saja saya bisa kena kanker, riwayat keluarga saya loh mas sehat semua." (P3).*
> "I just did not believe I could have cancer. My family history is all healthy." (P3).

The statement emphasizes that denial often comes from a disconnect between individual experience and the reality of the diagnosis. In this context, the denial functions as an ego defense mechanism that assists in reducing the cognitive dissonance between a healthy self-image and the reality of a cancer diagnosis. The denial psychologically acts as a temporary adaptive strategy that provides individuals with space to gradually process traumatic information before reaching acceptance.

Psychological Impact of Cancer

Anxiety

Cancer diagnosis and treatment can lead to different psychological effects including anxiety. Participants described intense worry about the future and the well-being of their significant others specifically the family members. This anxiety was related to the fear of the illness and also a concern about how the condition could impact their family and daily life. The trend was observed from the statement of one participant as follows:

> *"Kalau untuk perasaan dan tekanan tante itu cuma khawatir saja karena yaa tante masih pengen liat anak tante semua suksess dan mereka kan" (P1).*
> "As for my feelings and pressure, I am just worried because I still want to see all my children succeed, right?" (P1).

This shows anxiety about the situation considering the high hopes the participant has for her children. A similar trend was observed from the statement of the significant other that

> *"...saya takut kehilangan..." (SO2P1).*
> "...I am afraid of losing..." (SO2P1).

This is a sign of anticipatory anxiety specifically a fear of loss which includes concerns about potential premature death, disruption of the family structure, and losing an emotionally and functionally important attachment figure in the life of the significant other.

Sadness

Cancer diagnosis has a significant emotional impact by causing sadness for participants and their significant others. This sadness is related to the reality that the individual or someone close is confronting a serious illness. Participants and significant others described feeling sadness upon hearing the diagnosis often as a heavy weight and persistent thought accompanied by a mix of emotions such as regret, despair, dilemma, and deep sorrow. This is reflected in the statement of the first participant as follows:

> *"Jadi saat tante bilang itu, tante rasa sedih, nyesel, nelongso, dilema ya saat itu.." (P1).*
> "So, I felt sad, regretful, despairing, and in a dilemma at the time..." (P1).

The statement shows the feelings of sadness intertwined with other emotions. The significant other also stated that

> *"Sumpah ya kak itu sedih banget bahkan setelah mami kasih tau itu aku kepikiran banget tapi ya aku tau mami mau yang terbaik buat aku dan dedek.” (SO1P1).*
> “I swear, it was so sad, even after Mom told me, I was really worried, but I know Mom wants what is best for me and my little one.” (SO1P1).

The trend confirmed the sadness and worry in the family. The second participant responded that

> *"Pasangan saya waktu itu sedih khawatir sekali" (P2).*
> “My partner was sad and worried at the time.” (P2).

The opinion confirmed the feeling of deep sadness and worry among those closest to the participant. Moreover, the significant other reported that

> *“Perasaan sedih itu wajar sih mas pas saya tau orang yang saya sayang kena sakit….” (SO1P2)*
> “It is normal to feel sad when I find out someone I love is sick...” (SO1P2).

This was an expression of deep sadness because someone close was struggling with a serious illness. The third participant reported that

> *"Yaa sedih mas sedih" (P3).*
> “Yes, sad, I felt very sad” (P3).

The statement reflected sadness because of the cancer diagnosis. The significant other also commented that

> *"Saya terus tenang nangis saat awal tahu istri tercinta saya terkena kanker" (SO1P3).*
> "I kept crying quietly when I first found out my beloved wife had cancer” (SO1P3).

This confirmed the deep sadness experienced by the significant other the first time of learning about the chronic illness.

Impact on Body Image

Cancer diagnosis and medical treatments specifically those related to surgery or side effects affected the body

image of participants. Physical changes such as losing a breast, weight loss, hair loss, or reduced stamina made participants feel different from their former selves with further effect on self-confidence and body perception. The trend was reflected in the following response of the first participant:

> *"Tante harus melakukan operasi pengangkatan payudara 1 sisi... jadi sekarang tante Cuma punya 1 payudara tapi mungkin gak begitu kelihatan yaa soalnya tante kan masih pake daleman, tapi yaa aslinya sudah ga ada satu." (P1).*
> "I had to have surgery to remove one breast and currently have only one but it is probably not that noticeable because I wear underwear." (P1).

This showed the major physical changes experienced compared to before the chronic illness. The significant other reported that

> *"Paling keliatan perubahan lain itu ya fisik mami jadi agak kurusan , padanya gaada 1 terus juga rambut rontok sampai akhirnya mami plontosin rambut gitu" (SO1P1).*
> "The most noticeable change is that my mom's physical condition has become a bit thinner. She is not wearing anything, and her hair has also fallen out until it was finally shaved off her hair" (SO1P1).

The opinion confirmed the statement of the first participant that substantial physical changes had occurred. The response of the second participant was

> *"Kondisi saya baru menjadi perwira mas itu adalah suatu penghinaan bagi saya, awal saya mikir gitu mas" (P2).*
> "I had just become an officer at the time, and I believed that was an insult to me. That was my initial thought." (P2).

> *"Keadaan fisik saya sendiri itu sudah nggak terlalu kuat untuk hal yang capek jadi saya merasa ga sekuat dulu sih mas" (P3).*
> "I did not feel physically strong as I used to be." (P3).

The statement showed a decline in self-confidence. This reflected a decline in performance due to the illness.

Disappointment

Cancer diagnosis triggered feelings of deep disappointment in both participants and their significant others. The disappointment manifested in different forms ranging from self-blame for the inability to maintain health to frustration with God or life circumstances for facing such a tough challenge. Several participants reported that the disappointment was accompanied by sadness, anger, and hurt. This showed internal conflict and a sense of injustice as observed in the statement of the first participant

> *"Sempat down tante juga adalah rasa kecewa dengan diri tante sendiri kecewa karena tante kena kanker" (P1).*
> "I was down, because I was disappointed with myself for having cancer" (P1).

The significant other shared a similar reaction by stating that

> *"Kecewa sama Tuhan kak kenapa Tuhan ngasih ujian berat ke mama " (SO1P1).*
> "I was disappointed with God for giving me such a difficult test" (SO1P1).

This affirmed the spiritual disappointment experienced because the mother had cancer. The second participant stated

> *"Ya saya marah mas, kecewa, sakit hati kenapa ini menimpa saya" (P2).*
> "Yes, I was angry, disappointed, hurt and asked why this happened to me" (P2).

The reaction confirmed the deep disappointment experienced about the fate that befell her. This was followed by statements from the significant other that

> *"Sempet kecewa mas menyayangkan kalau BRN bisa terkena penyakit kronis" (SO1P2).*
> "I was a bit disappointed. It is a shame BRN could have a chronic illness" (SO1P2).

The third participant stated that

> *"Saya juga ngerasa kecewa sama diri saya sendiri mungkin kalau saya hidup lebih baik saya bisa lebih menjaga diri saya sendiri" (P3).*
> "I also feel disappointed in myself. I could have lived a better life and taken good care of myself" (P3).

The statement confirmed a deep sense of disappointment at the inability to prevent the illness. The significant other also asked a similar question

> *"Pernah terlintas di pikiran saya juga soal rasa kecewa kenapa kita ga coba hidup jauh lebih sehat" (SO1P3).*
> "It has crossed my mind too, and I felt disappointed. 'Why do not we try to live a healthier life?'" (SO1P3).

Doubt

Doubt was identified as part of the psychological effects of cancer diagnosis and treatment on both patients and their significant others. The feeling was reflected as uncertainty in relation to the ability of individuals or their partners to endure the long and difficult treatment process. Doubt is often paired with

fear of uncertain outcomes which further causes emotional tension and psychological stress. The trend was observed from the brief statement of a participant that

> *"Saya juga ada keraguan apakah saya bisa ngelewatin ini semua mas apakah saya bisa bertahan" (P3).*
> "I also have doubts on whether I can get through this or survive" (P3).

The situation reflected an inner conflict caused by uncertainty. The opinion was backed up by the statement of the significant other that

> *"Saya juga sedikit ragu apa istri saya bisa survive tapi itu sudah takdir mas" (SO1P3).*
> "I also have some doubts about whether my wife can survive but that is fate, sir" (SO1P3).

Intra-Individual Psychological Mitigation

Religiosity

Religiosity is defined in this study as the aspects of religious practice and coping. The concept is expressed through ritual worship, internalization of religious beliefs, and surrender (tawakal) to God as a method of coping with psychological stress. The focus is on formal rituals, the existential pursuit of transcendental meaning, and the development of a sense of divine companionship during adversity. Religiosity became a key coping strategy for participants and their significant others during cancer diagnosis and treatment. The exhibition of faith and practices such as prayer, dhikr (remembrance of God), dua, and surrender to God assisted in reducing anxiety, sadness, and emotional tension. The condition was observed from the response of participants that religious activities led to inner peace, a feeling of companionship with God, and the strength to face tough circumstances. Several participants emphasized prayer and dhikr as regular parts of their lives that assisted in feeling less alone. The trend is observed in the statement of the first participant that

> *"hehe, iya tan tapi ya itu tadi tante punya keyakinan bahwa Allah nemenin tante jadi walaupun perasaan manusia tate ngerasa sendiri tante banyakin dzikir, doa terus juga sholat.. " (P1).*
> "Hehe, yes, but as I said earlier, I have faith that God accompanies me, even though I feel alone, I often recite dhikr (remembrance of God), and pray..." (P1).

This affirmed the spiritual beliefs of the participant. The second participant reported that

> *"hal yang saya lakukan itu berdoa ya mas pasti dzikir itu perlu pokoknya pasrah semua ke Tuhan.." (P2).*
> "What I do is pray, yes, dhikr is definitely necessary, the main thing is to surrender everything to God..." (P2).

The expression shows a sense of surrender to God and the trend is supported by the statement of the significant other that

> *"kemana lagi tempat dia mengadu selain ke Tuhannya.." (SO2P2).*
> "Where else can they turn but God?" (SO2P2).

The perspective of the third participant was that

> *"saya semakin rajin berdoa mas sholat alhamdulillah ga pernah bolong" (P3).*
> "I have become more diligent in praying, and thank God I never miss a prayer" (P3).

The submission is a reflection of an increase in spirituality. The significant other also supported the statement by reporting that

> *"saya melihat beliau lebih agamis" (S2P3).*
> "I see him as more religious" (S2P3).

Breathing-Based Relaxation

Breath-based relaxation was a self-regulation method used by participants to reduce the psychological stress caused by cancer diagnosis and treatment. This method focused on deep-breathing exercises conducted independently to calm the mind, reduce anxiety, and allow a chance to regain a sense of control. The relaxation method showed the possibility of using simple strategies to positively influence the emotional balance of participants during the burden of a serious illness. One participant mentioned engaging in regular practice of breathing therapy to achieve calmness and relaxation as evidenced by the statement

> *"Saya sering terapi napas sih mas….. untuk lebih relaxasi diri….." (P2).*
> "I often do breathing therapy... to relax myself..." (P2).

The significant other of the participant confirmed the trend by saying that

> *"Teknik pernapasan sih untuk lebih menenangkan diri, dan aku bilang ke dia untuk luangin waktu kamu sendiri jadi kamu yakinin diri kamu terus melatih pernafasan gitu aku bilang mas" (SO1P2).*
> "Breathing methods can be used to achieve calmness. I told him to take some time to be sure he can continue practicing the breathing, that is what I said, bro" (SO1P2).

Cognitive Reappraisal: Emotion Regulation Strategy

The emotion regulation strategy of cognitive reappraisal was evidently used by participants and their significant others when dealing with stressful situations

related to cancer. Cognitive reappraisal focuses on reinterpreting an event that triggers negative emotions by providing a new and more positive meaning to reduce the emotional burden and enhance psychological well-being (Saputra, 2019). Reappraisal was also reflected in how families viewed the struggles of participants as issues that deserved appreciation and inspiration. This outlook assisted in shifting the focus from suffering to more positive meanings such as devotion and exemplary behavior. The different forms of reinterpretation showed the ability of cognitive reappraisal strategies to assist participants and their significant others in changing perspective from suffering to acceptance, loss to self-worth, and from focusing on illness to adopting a meaningful life. The trend was observed from the following statement by the first participant:

> *"Ya me time sih ...., kayak happy-happy jalan-jalan,maskeran intinya pikiran itu harus dijaga dengan hal-hal baik karena itu ngaruh banget ke kondisi fisik kita, ya kayak tadi yang tante bilang obat sakit adalah hati yang gembira (P1).*
> "Yes, I have some time… for things such as happy walks and wearing masks. The point is to guard the mind with good things, because it really affects the physical condition. Yes, as I said earlier, the cure for pain is a happy heart" (P1).

The statement emphasizes the importance of keeping the mind positive through simple activities. The significant other further stated that

> *"terus mami juga masih kumpul-kumpul sama temen-temennya. Bahkan botak-botak gitu mami masih eksis sih sering live tiktok jualan jamu juga hehe jadi kayak aktivitas yang ngelibatin banyak orang itu tetap berjalan normal" (SO1P1).*
> "Mom still hangs out with her friends. Even though she is bald, she is still active, often doing TikTok live shows selling herbal medicine, hehe, hence, it seems activities requiring several individuals are going on as usual." (SO1P1).

The statement showed that stated that simple activities such as gatherings were perceived as a way to normalize daily life. The second participant responded that

> *"Gapapa mas itu memang ujian saya, saya sudah menerima walaupun memang sulit bagi saya buat memproses ini semua.." (P2).*
> "It is okay, it is my test. I have accepted it, even though it is difficult for me to process it all." (P2).

The statement is a reflection of reappraisal through the acceptance and interpretation of the illness as a life test.

Integrated Motivation: Internalization of Values through Social Relations

Intrinsic motivation is an internal drive to act based on individual values, goals, and meaning rather than due to external pressure. The concept does not exist in isolation for cancer survivors considering the influence of the interactions with the immediate social environment including family, coworkers, and the community. The intrinsic motivation in this context was based on both individual health needs and social relationships. The existence of children, partners, and coworkers increased awareness that the fight against cancer was for the benefit of participants and also to maintain their role, responsibility, and meaning in life in the social sphere. This drive makes intrinsic motivation a vital psychological strength for participants facing the challenges of the illness. The trend was observed from the statement of the first participant as follows:

> *"terus juga anak tante yang pertama itu kan agak sensitif yaa, jadi se bisa dan seharusnya tante berusaha lebih buat sembuh.." (P1).*
> "Also, my eldest child is quite sensitive, so I try as hard as I can to get better..." (P1).

This showed the motivation to fight and the determination to get better with the aim of remaining a supportive figure for the family. The significant other corroborates the statement by emphasizing that

> *"Aktif mas makanannya itu tadi saya bilang beliau tetap masuk kerja dan aktif di lingkungan... beliau hadir juga secara personal maksudnya beliau sering tanya gimana hasil apel tadi atau berita-berita penting lain lewat saya dan anak-anak lain mas.." (S2P1).*
> "She is active, about her food. As I mentioned earlier, she still works and is active in the community... she is also there in person. She is often asked about the results of the roll call or other important news by the other children and me" (S2P1).

The work environment also contributes to intrinsic motivation with colleagues providing more than only emotional support. The reflected motivation through a strong determination to recuperate and return to full duty in the second participant statements

> *"Tapi saya sangat bertekad untuk sembuh dan bisa kembali bertugas penuh" (P2).*
> "But I am very determined to get well and be able to return to full duty." (P2).

Developing Coping Strategies

Coping strategies are mental and behavioral efforts individuals use to handle emotional stress and psychological challenges caused by stressful situations

such as cancer. The iterative thematic analysis conducted led to the identification of three separate but interdependent main dimensions of coping strategies influencing the psychological adaptation of survivors in Table 2.

The three coping dimensions showed distinct but mutually reinforcing adaptive processes. Problem-focused coping aims to manage stress sources through spiritual and physiological strategies. Emotion-focused coping centers on regulating emotional responses through cognitive reconstruction and diversional activities. Meanwhile, meaning-focused coping emphasizes the development of existential meaning that aids in accepting the situation. This differentiation confirms that the strategies used by participants are multidimensional and specific to the context.

The strategies can include maintaining a positive mindset, engaging in meaningful activities to distract oneself, and reducing exposure to external sources of stress. This leads to diverse coping strategies which cover the cognitive (managing thoughts, limiting information), emotional (building optimism, avoiding prolonged sadness), and behavioral (participating in enjoyable activities, learning new things) aspects. The methods showed that participants were working to develop adaptive ways to handle the stress of illness by avoiding the occurrence, finding meaning, and regaining control over their lives. The trend was observed from the statement of the first participant as follows:

> *"obat kita paling mujarab itu ada di diri kita sendiri, pikiran yang happy hati yang happy insyaallah cepat segar kembali, jangan terlalu fokus sama sakitnya jadi kalau sedih syok itu wajar tapi ga boleh berlarut" (P1).*
> "Our most effective medicine lies within us. A happy mind, a happy heart, and the willingness of God to ensure quick recovery. Do not focus too much on the pain. If you are sad and shocked, that is normal, but do not let it drag on." (P1).

This reflected coping by emphasizing the importance of thought and emotion management. The participant believed that happiness and optimism were powerful tools in the recovery process. The second participant responded that

> *"saya membatasi diri untuk bercerita ke teman-teman saya mas karena saya gamau terlihat lemah dan berbeda." (P2).*
> "I limit myself from telling my friends because I do not want to appear weak and different." (P2).

This was coping by limiting the sharing of the story with others. The strategy is a form of self-protection from potential stigma or feelings of weakness in front of others. The third participant stated that

> *"happy happy sih mas saya bisa melupakan semua masalah dan sakit saya ketika saya happy happy saya suka ngerajut itu buat saya happy terus saya juga pelihara kucing di rumah saya sering main sudah saya anggap sebagai anak saya sendiri itu juga buat saya happy, terus apa ya mas buat saya happy gitu pokoknya." (P3).*
> "I am happy, I can forget all my problems and pain when I am happy. I like knitting because it makes me happy. I also keep a cat at home which I often play with and consider my own child. So, I do what makes me happy, basically." (P3).

The statement emphasized the coping strategy developed through recreational activities and hobbies. Some activities such as knitting, keeping a cat, or simply seeking simple pleasures serve as positive distractions that assist in reducing the focus on pain. This shows that behavioral engagement-based coping strategies are effective in providing feelings of comfort and meaning.

Interindividual Supporting Factors

Family Support

Social support from family and partners was a very important source of strength for participants in coping with the illness and recovery. This support was reflected through togetherness, mutual assistance, and motivation to stay positive during the treatment. The trend was observed from the expression of several participants and their significant others. For example, the first participant stated that

> *"iya tan, tante di rumah itu sendiri sama anak-anak kan, suami tante sudah ngga ada, jadi hanya kita yang saling menguatkan" (P1).*
> "Yes, I am at home alone with the kids and my husband is gone. This is us supporting each other" (P1).

The statement showed that the presence of the nuclear family fostered a sense of mutual support despite the limitations. The significant other of the first further stated that

> *"aku sama mami sama dedek kita ber3 itu selalu bareng dan selalu ada buat satu sama lain" (SO1P1).*
> "My mom, my sibling, and I are always together and there for each other" (SO1P1).

The statement showed that daily togetherness where family members made efforts to be there for each other fostered a sense of not being alone when facing challenges. The second participant responded that

“bapak cuma bilang kamu itu di gembleng harus kuat harus sembuh bapak mau kamu sembuh tunjukan kalau kamu mampu sembuh." (P2).
"My father just said that you have to be strong and get well. He wants you to get well. Show that you are capable of getting well." (P2).

The situation reflected the importance of remaining strong and showing the ability to recover. The message acted as an internal boost that increased the motivation of the participant to keep fighting the illness. The third participant said

"suami saya mas, yang ngasih saya support" (P3).
"My husband is the one who gives me support." (P3).

This statement emphasized that the support of the partner extended beyond motivation to the provision of meaningful space for mutual support. The trend was supported by the response of the significant other to the third participant that

“kami saling menguatkan saya gamau kehilangan istri saya itu yang saya bilang ke istri sebagai penguat istri dan istri juga bilang ke saya bakal usaha sampai sembuh itu penguat saya juga” (SO1P3).
"We support each other. I do not want to lose my wife. That was what I told my wife as a reinforcement and her promise to try and recover was also a motivation for me" (SO1P3).

The statement further confirmed the previous inference that the relationship between a couple extended beyond motivation to become a meaningful space for mutual reinforcement.

Environmental Support

The importance of backing from the social environment outside the home specifically coworkers and superiors was recognized by the participants in addition to the family support. This was reflected in different forms which ranged from emotional support and motivation to flexibility in work. The support had a significant positive impact particularly in maintaining morale and balancing work demands with health needs. Workplace support included both the technical assistance and relaxed regulations as well as the emotional support that led to a sense of being valued and cared for. This strengthened the confidence of participants in maintaining enthusiasm for the treatment process while maintaining their roles in social and professional environments. The trend was observed from the testimonials of the first participant as follows.

"support itu sangat penting ya apalagi yang datang dari orang-orang yang kita sayangi terus dari diri kita sendiri yang punya kemauan untuk mau sembuh berjuang, udah combo yang cucok itu.. no stress jadi ga mempengaruhi kondisi kita dan fisik kita yang capek. Kalau untuk perkerjaan sendiri ya berjalan normal tan tapi memang ada beberapa dispensasi yaitu fleksibilitas kerja" (P1).
"Support is very important specifically from those we love and from ourselves. This enhances the will to fight for recovery. That is the perfect combination… no stress and no effect on our condition or tired body. The work is running normally but there are some concessions such as work flexibility." (P1).

The information showed that the existence of policies to reduce physical and psychological stress ensured participants did not feel overly burdened. The second participant shared that

"Dukungan dari pasangan dan rekan-rekan sangat membantu saya agar tetap semangat." (P2).
"Support from my partner and colleagues really helps me stay motivated." (P2).

The statement showed that coworkers and superiors provided motivation and exhibited genuine concern to ensure participants felt less alone in their struggles. Psychological Conditions after Intra- and Inter-Individual Mitigation

Calmness

Calmness was a key experience for participants in coping with illness. This was observed from the acceptance of the condition, reduction of complaints, and maintenance of a stable mood. The trend showed that the meaning of calmness extended beyond being free from anxiety to serving as an adaptive mechanism to assist participants in staying emotionally strong during recovery. The phenomenon was observed from the statement of the first participant that

"dengan ga menggerutu ga uring-uringan kayak lebih tenang" (P1).
"By not complaining or sulking, I feel calmer" (P1).

This showed that the management of emotions positively assisted in providing a sense of calm. The significant others further stated that

"mami lebih kalem lebih sabar ngga pernah aku juga denger dari mami soal keluhan lagi" (SO1P1).
"Mom is calmer, more patient, and I never hear her complain anymore" (SO1P1).

The calmness reflected through daily attitude provided benefits to the participants and also spread peace to those around.

Table 2
Hierarchical Structure of Coping Strategies of Indonesian Navy Cancer Survivors

Main Theme	Sub-theme	Specific Dimension	Examples of Data Manifestations
Adaptive Coping Strategy	Problem-focused	Religiosity	Regular prayer, dhikr, and surrender to God
		Physiological relaxation	Breathing exercises, breath therapy
	Emotion-focused	Cognitive reappraisal	Reinterpreting illness as a test
		Behavioral engagement	Me time, recreational activities (knitting, caring for cats)
	Meaning-focused	Relationship-based intrinsic motivation	Determination to recuperate for the sake of children and family
		Positive self-distraction	Limiting exposure to negative information

Enthusiasm and Meaning in Life
Participants showed enthusiasm and a continued effort to find meaning in life despite facing illness. Therefore, the focus of the concept is on surviving the illness and building a new and deeper meaning that life is worth fighting for. This makes participants champions for themselves and sources of inspiration for those around. The trend was observed from the statement of the first participant that

> *"tante ngerasa kalau tante masih punya harapan hidup yang besar tan" (P1).*
> "I feel like I still have a lot of hope in life." (P1).

The phenomenon emphasized hope as the source of energy that ensured continuous fighting for recovery. The significant other also confirmed that

> *"ngeliat mami semangat buat sembuh kayak yang semangat gitu jadi secara ga langsung mami nyalurin energi positif nya ke aku" (SO1P1).*
> "Seeing my mom enthusiastic about getting well, like her, indirectly transmits her positive energy to me" (SO1P1).

The trend showed that the enthusiasm exhibited by the participants transferred positive energy to those around. Another significant other to the first participant stated that

> *"Jadi semangat. Saya salut mas dengan apa yang beliau lakukan di sakit beliau ini, jadi dampak positif ke saya saya jadi percaya" (SO2P1).*
> "I am so excited and admire what she is doing for her illness. The effort has a positive impact on me and I believe in it" (SO2P1).

The statement showed that the enthusiasm exhibited by the participants provided positive energy to those around.

Resilience and Generosity
Resilience was part of the key attitudes exhibited by participants in the face of illness. This was reflected in the belief that everything would work out even though the process was fraught with challenges. The resilience enabled participants to view the situation from a calmer perspective without becoming more consumed by sadness or fear. Therefore, resilience and generosity became psychological assets that allowed participants to manage uncertainty better. The trend was reflected in the statement of the first participant that

> *"tante tau semua pasti bakal baik-baik saja" (P1).*
> "I know everything will be fine" (P1).
> *"mami legowo banget karena mami bilang ini takdir" (S1P1).*
> "My mom is very accepting because she said it was destiny" (S1P1).

This was a sign of resilience and self-confidence. The phenomenon showed that acceptance was the form of resilience experienced by the first participant.

Sincere Acceptance
Genuine acceptance is another very meaningful form of emotional regulation in addition to resilience. The acceptance was evident in the attitudes of participants who started to live more lightly, complained less, and viewed the situation more positively. These changes reduced emotional burdens and also signaled a sincere acceptance of conditions that could not be changed. The trend showed that acceptance and sincerity extended beyond resignation to serving as a source of strength fostering inner peace. This attitude assisted participants in perceiving the treatment more positively and building warmer relationships with family and the community. The situation was observed from the statement of the first participant that

> *"ngerasa lebih menerima lebih enjoy hidup, lebih positif ngga banyak ngomel ngga banyak ngeluh pokoknya" (P1)*
> "I feel basically more accepting, positive, enjoy life more as well as less nagging and complaining" (P1).

This showed that the acceptance positively impacted the lives of the participants. The situation was further corroborated by the response of the significant other that

Table 3
Cancer Stage at Diagnosis Frequencies for Cancer Stage at Diagnosis

Cancer stage at diagnosis	Frequency	Percent	Valid Percent	Cumulative Percent
1	4	11.111	11.111	11.111
2	15	41.667	41.667	52.778
3	11	30.556	30.556	83.333
4	6	16.667	16.667	100
Total	36	100		

Table 4
Current Treatment Status Frequencies for Cancer Stage at Diagnosis

Current Treatment Status	Frequency	Percent	Valid Percent	Cumulative Percent
Undergoing Treatment	22	61.111	61.111	61.111
Completed/In Remission	14	38.889	38.889	100
Total	36	100		

> *"penerimaan mami yang bener bener besar sampai…" (S1P1).*
> "My mom's acceptance is really big, to the point..." (S1P1).

The statement was a reflection of deep acceptance exhibited by the participant. The second participant further expressed that

> *"lebih nerima wes opo jare Allah pokoknya tak lakonin semua mas" (P3).*
> "I feel more accepting of God, basically, I do what I can" (P3).

Developing Post-Treatment Resilience

Post-treatment resilience refers to the ability of an individual to bounce back, adapt, and find new meaning after experiencing a challenging medical procedure such as chemotherapy or surgery. The psychological resilience in the context of this study is distinguished from other relevant constructs by three definitive characteristics. First, resilience is multidimensional and integrative by combining emotional regulation, cognitive reconstruction, behavioral persistence, and meaning transformation simultaneously rather than functioning as a single manifestation such as composure or resilience. Second, it is a dynamic and adaptive process related to active individual agency compared to acceptance which can be passive-cognitive or resilience (fortitude) observed to have emphasized static endurance. Third, resilience is oriented towards a post-traumatic growth trajectory and not simply survival or a return to baseline with the aim of ensuring post-traumatic growth such as increased spirituality, self-love, and a renewed sense of meaning in life.

Serenity, enthusiasm, and sincere acceptance are not separated from resilience but rather considered constitutive dimensions that form the holistic construct of the concept. The integration of these four dimensions enabled participants to survive cancer and experience positive psychological transformation. The trend was observed from the statement of the first participant that

> *"banyak hal positif yang saya dapat dari sakit ini" (P1).*
> "I have gained several positive things from this illness" (P1).

The condition could be related to the increased self-care practices such as reflexology and recreational activities that were previously not implemented. Resilience is beyond surviving to being a process of transformation. The concept includes perceiving the illness as a starting point for individual, spiritual, and social growth. Therefore, the development of post-treatment resilience was about surviving the illness and reconstructing the process into a meaningful experience. The phenomenon was evident through acceptance, gratitude, self-love, spiritual growth, and strengthening of social identity. The process ensured the experience of illness was not about suffering but rather a gateway to a more adaptive and meaningful life. The trend was identified in the statement of the first participant that

> *"tante itu udaah di tahap legowo dan malaah bersyukur banget karena bnayak loh hal positif yang tante dapat dari sakit tante sekarang ini" (P1).*
> "I am already at the stage of acceptance and actually very grateful because there are so many positive things I have gotten from my illness" (P1).

The statement described awareness as a foundation for facing life more openly. The significant other also stated that

> *"bener kak mmm sama ini sih paling mami itu lebih keliatan self love kadang mami suka tiba-tiba jalan-jalan ngajakin aku sama dedek terus mami suka pijit ke reflexologi padahal dulu mah gapernah. Maskeran juga pokoknya ngerawat diri gitu la" (SO1P1).*

"My mom is more self-loving. Sometimes she suddenly goes for walks and invites my sibling and me. Then, she likes to go for massages and reflexology, even though she never did before. Face masks are also basically self-care" (SO1P1).

This strengthened the resilience by mentioning behavioral changes that emphasized self-love. The second participant reported that

"Penyakit ini bukan akhir dari segalanya, tapi justru bisa jadi awal dari perubahan hidup yang lebih bermakna." (P2).
"This illness is not the end of everything, but can actually be the beginning of a more meaningful life change." (P2).

This showed that resilience was reflected through a more optimistic and meaningful mindset. The third participant stated

"saya ngerasa mungkin dengan ujian yang Tuhan kasih Tuhan mau memanggil hambanya ke bait Allah sih mas jadi ya banyak hal postif yang saya rasakan mas, umroh itu juga gratis hadiah dari komandan saya karena saya bisa bertahan sampai saat ini mas, kalau buat yang lain yaa saya lenih ngerasa kebaikan orang ke saya itu melimpah ruah mas" (P3).
"I feel that God wants to call His servants to His temple through the trials. I have experienced several positive things, sir. The Umrah pilgrimage was also a free gift from my commander because I have been able to survive until now. As for others, I also feel an abundance of kindness from people towards me, sir." (P3).

This was an expression of resilience through an increase in the spiritual dimension. The three main subthemes identified which included coping strategies, social support, and resilience were interconnected and formed a very important psychological adaptation process for cancer survivors. These qualitative results showed the three key psychological constructs that influenced the adaptation of survivors to include multidimensional coping strategies (problem-focused, emotion-focused, and meaning-focused), multilevel social support (family and institutions), and resilience.

The relationships between these constructs were empirically validated through the quantitative test conducted with 36 Indonesian Navy cancer survivors as respondents and data collected using a standardized instrument. The quantitative phase aims to address specific study questions which include (1) Is there a significant correlation between social support and psychological resilience? (2) How strong is the relationship between social support and coping strategies? (3) How do coping strategies contribute to resilience? The hypotheses formulated were tested through Pearson correlation analysis at an alpha level of 0.05 to enable statistical confirmation of the interaction patterns identified in the qualitative narratives. The demographic characteristics of respondents are presented first to provide context for the study population before reporting the inferential analyses.

The results showed that most respondents were male (55.6%) and married (75.0%). The majority had children (80.6%) and all had siblings with the largest group having 2–3 (36.1%). This suggested participants lived in relatively large family structures which potentially served as a social support source.

The aspect of service showed that most respondents were active (63.9%) and the highest rank was non-commissioned officer (47.2%). Moreover, an equal number of respondents was obtained from the Health, Engineering, Music, and Marine Corps with 16.7% each. The highest number of cancer cases was reported in 2022 with 19.4%.

The results in Table 3 showed that 15 respondents (41.67%) were diagnosed with stage 2 cancer, 11 (30.56%) with stage 3, six (16.67%) with stage 1, and four (11.11%) with stage 2. The total number of respondents was 36.

Table 4 shows that the number of respondents currently undergoing treatment is 22 (61.11%). Meanwhile, the remaining 14 (38.89%) have completed or are presently in remission.

Pearson Test

The results from the sample size (N) of 36 showed the significance value (Sig. 2-tailed) to be <.001 which was less than .05. The value reflected the existence of a significant relationship between Social Support and Psychological Resilience. Correlation Coefficient of .894 showed a very strong and positive relationship between Social Support and Psychological Resilience. This suggested that an increase in social support led to an improvement in psychological resilience.

The significance value (Sig. 2-tailed) was found to be <.001 which was less than the .05 threshold. This confirmed the existence of a significant relationship between Social Support and Problem-Facing Strategies. Furthermore, Correlation Coefficient of .932 reflected a very strong and positive relationship between Social Support and Problem-Facing Strategies. The trend showed that the perception of more social support by an individual possibly led to a higher potential of applying adaptive problem-facing strategies.

The results showed the significance level (Sig. 2-tailed) as <.001 which was less than .05. This confirmed there was a significant relationship between Psychological Resilience and Coping Strategies. Correlation Coefficient of .839 also reflected a very strong and positive association between Psychological

Resilience and Coping Strategies. The trend showed that the perception of more social support by an individual possibly led to a higher potential of applying adaptive coping strategies.

The qualitative and quantitative results complemented each other by showing that adaptive coping strategies strengthened through social support substantially enhanced the psychological resilience of participants. This reflected that the effectiveness of intra- and interindividual psychological coping was observed in the ability of participants to manage stress, maintain emotional stability, and adapt after treatment.

The integration of qualitative and quantitative data was based on a complementary integration design method (Greene et al., 1989). The quantitative results provided evidence of the magnitude of the relationship between variables while qualitative data showed the process mechanisms and explanatory contexts underlying the correlational patterns. Specifically, the strong correlation between social support and resilience (r = .894) received substantive validation through qualitative narratives of participants who described how the presence of family, partners, and coworkers provided emotional support and served as a catalyst that facilitated the process of cognitive reappraisal to strengthen intrinsic motivation and reconstruct the meaning of life. The convergent validation pattern was consistently observed at three levels of analysis. These included (1) social support predicting coping strategies (r = .932) and qualitatively manifested in the statement "support from the significant others gave me the will to recover" (P1). (2) Coping strategies also predicted resilience (r = .839) which was confirmed through the theme of "developing coping strategies" as a mechanism for transitioning from distress to positive adaptation. Moreover, (3) the mediation effect of social support on resilience through coping strategies was explained by a sequential narrative process which included denial → intra-individual mitigation (religiosity, emotional regulation) → inter-individual mitigation (family/environmental support) → resilience outcome (calmness, acceptance, zest for life). The trend showed the confirmation of the quantitative results which were further enriched with qualitative insights into the psychological processes connecting the constructs in the real-life context of Indonesian Navy cancer survivors.

The synthesis of the results from the mixed-methods was the core inference from this study by confirming that the psychological resilience of Indonesian Navy cancer survivors was due to a multilevel synergistic interaction between intra-individual capacities (adaptive coping strategies, emotional regulation, and religiosity) and inter-individual resources (social support from family, partners, and military institutions). The pattern was in line with Giddens' structuration theoretical framework where individual agency (intra-individual psychological mitigation) and social structure (inter-individual support) dialectically influenced each other to produce positive adaptive outcomes. The practical implication was that psychosocial interventions for cancer survivors in the military should adopt a holistic-ecosystemic method to enhance individual coping skills and strengthen social support systems through family participation, peer support groups, and institutional policies formulated to address relevant psychological needs.

Discussion

The integration of qualitative results and quantitative results produced a convergent-expansionary pattern (Creswell & Clark, 2017). The quantitative data showed strong correlations between social support, coping strategies, and resilience (r = .894; .932; .839). Meanwhile, qualitative data focused on the process mechanisms and contextual meanings not captured by psychometric instruments. The adoption was necessary because the correlations captured only the magnitude without explaining the process or reason for the development. The narratives from participants showed that social support extended beyond being a passive buffer to functioning as an enabling factor facilitating the use of adaptive coping strategies. The trend was observed in the statement “we support each other” (SO1P3) and workplace flexibility from supervisors which concretely assisted participants to adopt coping methods such as recreational activities and religious practices. The insights deepen the understanding of stress-buffering mechanisms (Cohen & Wills, 1985) by showing that social support shielded against stress and improved well-being through increased self-efficacy.

The most significant qualitative result was the paradox between healthy lifestyles and cancer diagnoses experienced by the three participants. There was a consistent report of structured exercise routines (“always exercise, never drink, smoke,” P1; “active, specifically exercising with me, cycling, diving, swimming,” SO1P3), balanced diets, and avoidance of harmful substances. This paradox had significant psychological implications as observed in the individuals who felt they had "done everything right" and challenged the belief that healthy behaviors guaranteed immunity from illness. The contradiction of the cognitive schema “healthy life = not getting sick” by reality led to dissonance which provoked more intense existential distress than in those with health-risk behaviors. Moreover, the statements “I felt fine before, I never thought it would be an advanced stage” (P2) and “I also felt I was perfectly healthy” (P3) showed a sense of betrayal by one’s body. These results expand the existing literature on health locus of control. This was observed from the fact that individuals with a

strong internal locus of control or who believe to have full mastery over their health actually experienced a greater psychological impact when diagnosed with a serious illness. The trend was associated with the fact that the diagnosis threatened the physical health and undermined core beliefs regarding individual agency and the predictability of life.

The initial neglect behavior which was related to the delays in seeking medical examinations from 2 weeks to over a year ("Initially, I let it go until I could not take it anymore, for more than 1 year," P3) reflected avoidance coping. This strategy was initially temporarily adaptive but became maladaptive in the long term. Psychologically, the delay was not only a reflection of ignorance or negligence but also a structured defensive mechanism to preserve identity as a healthy individual and a fit soldier. The symptoms perceived as minor and temporary ("just felt tired and had a lump in my neck," P2; "often having a fever that goes up and down, then went away and comes back," P2) were based on optimistic bias that minimized the possibility of serious illness. The observation was in line with the theory of denial as an ego defense mechanism (Vos & de Haes, 2007) which provided psychological space for individuals to organize emotional resources before confronting the traumatic reality.

The very long duration of denial which was more than 1 year showed extreme anxiety avoidance possibly reinforced by the stigma of serious illness in a military culture believed to emphasize strength and resilience. Petrova et al. (2020) reported that denial could be understood as an attempt to maintain emotional stability by delaying the acceptance of a threatening reality. However, prolonged denial actually worsens medical prognosis by delaying important early intervention. The delay can also be understood as an attempt to maintain operational readiness and avoid being labeled "not ready for combat" which threatens careers and professional identity in the military context.

The post-diagnosis phase of psychological distress showed a complexity of emotional impact that transcended standard diagnostic categories. Anxiety experienced by participants was not only generalized but rather a very specific anticipatory grief. For example, “I am just worried because I want to see all my children succeed” (P1). This statement showed that the primary anxiety was not death but rather the incompleteness of fulfilling the role of parent and witnessing the achievements of children. The statement “I am afraid of losing” (SO2P1) from a significant other manifested anticipatory anxiety in the form of fear of loss characterized by concerns related to the disruption of the family structure and the loss of attachment figures. The grief reported by participants was also multidimensional as observed in the “sad, regretful, lost, and dilemma” statement made by (P1). This showed an affective complexity associated with regret (regret), deep sorrow (nelongso in Javanese), and internal conflict (dilemma). The statement of a significant other “I swear, that was really sad, even after my mom told me about it, I was really worried” (SO1P1) also reflected the transmission of distress within the family system. Anxiety of participant led to a ripple effect that affected the psychological well-being of other family members. This emotional complexity showed that post-cancer diagnosis distress was not a unidimensional mood state but a configuration of affect associated with retrospective evaluation (regret), anticipation of the future (anxiety), and the experience of present loss (sadness).

The impact on body image is specially significant in military identity but the topic has not been widely explored in existing literature. The statement "at that time I had just become an officer; that was an insult to me" (P2) showed that a cancer diagnosis at a critical career juncture (newly becoming an officer) led to a double identity crisis. This was in the form of a threat to physical identity as a healthy individual and to professional identity as a newly appointed officer. The word "insult" was particularly important because it suggested physical changes caused by cancer were not perceived as only a loss of ability but also an attack on the dignity and worth of military personnel. In military culture, breast removal ("I had to have surgery to remove one breast," P1), hair loss ("the hair fell out until she finally had to shaved it off," SO1P1), and reduced stamina ("my physical condition is not strong enough for tiring things,” P3) threatened the core identity as a soldier because physical strength and a fit appearance symbolized competence and readiness.

The results expand current understanding of body image issues among cancer survivors. This was because physical changes are beyond aesthetic or functional in the military and considered existential by threatening the ideal image of a strong, resilient, and ready-for-combat soldier. The adjustment to the body image disruption requires reconstructing the identity from a “healthy soldier” to a “survivor soldier” who remains significant and has the ability to contribute.

Religiosity was identified as the dominant primary defense mechanism with a significant intensification of religious practices. The trend was observed from the statement "I have become more diligent in praying and thank God I never miss a prayer" (P3) and confirmed by a significant other "I see him as more religious" (SO2P3). The phenomenon of increased religiosity post-trauma has three interrelated psychological functions. First, religiosity provides a cognitive framework for meaning-making. The situation was observed from the fact that the cancer diagnosis initially considered insignificant suffering was

transformed into a meaningful spiritual test ("It is okay, it is my test," P2 and "this is destiny," SO1P1). The meaning reconstruction process was consistent with the previous report of Gutierrez-Rojas et al. (2025) that religiosity functioned as a symbolic structure facilitating the acceptance of illness as destiny. Second, the practice of religious rituals (prayer and dhikr) provided a sense of control and predictability in inherently uncontrollable situations. Structured and predictable religious rituals provided a stabilizing psychological anchor when medical prognosis was uncertain. Third, the belief in divine guidance ("God accompanies me," P1 and "Where else can they turn to but God?" SO2P2) compensated for the psychological isolation caused by the illness and reduced the existential loneliness. The integration of religious values into the organizational culture of Indonesian military context shows that religiosity is both an individual coping mechanism and a system to maintain social identity as devout soldiers. This enabled participants to maintain one aspect of the military identity which was religious devotion when another in the form of physical strength was threatened.

Cognitive reappraisal strategies served as a transformative mechanism that facilitated the transition from victim mentality to survivor identity. Participants actively reframed the cancer experience from a threat to an opportunity. This was observed from several statements "Our most effective medicine lies in ourselves. A happy mind and a happy heart" (P1), "This illness is not the end of everything, but can actually be the start of a more meaningful life change" (P2). The reframing process was both superficial positive thinking and a fundamental reconstruction of the relationship between illness and identity. The concept of "the medicine is within oneself" also showed a shift from an external locus of healing (wholly dependent on medical intervention) to an internal locus that emphasized psychological agency in the recovery process. The statement "do not focus too much on the pain. It is normal to be sad and shocked but do not let it drag on" (P1). This reflected metacognitive awareness regarding emotion regulation where participants acknowledged the validity of negative emotional responses ("normal") but actively limited the duration ("do not let it drag on"). The trend showed the ability of individuals to monitor and modulate their emotional processes.

Statements about "more meaningful life changes" reflected a post-traumatic growth trajectory where cancer was no longer perceived as an endpoint but a turning point toward a more authentic life. Qualitative results showed that reappraisal was often facilitated by significant others who assisted in reframing the struggles of the participant as an inspiring example. The situation was observed from the statement "I admire what she did during her illness, it had a positive impact on me" (SO2P1). The external validation reinforced a positive self-concept as a courageous survivor rather than a helpless victim. This is in line with the argument of emotion regulation theory that reappraisal modifies emotional trajectories by changing interpretations before a response is formed (Saputra, 2019).

Intrinsic motivation associated with social relationships showed a unique and underexplored phenomenon that was related to the internalization of values through attachment figures. The statement "My first child is quite sensitive. Therefore, “I need to try as hard as I can to get better" (P1) showed that the motivation to be better was not based on individual decision but also to protect the emotional well-being of the "sensitive" child. This reflected an integrated motivational process where external stimuli (the child's needs) were internalized into meaningful individual values.

Another participant emphasized that "But I am very determined to get well and be able to return to full duty" (P2). This showed that the identity as an active-duty soldier remained a source of motivation despite reduced physical capacity. The institutional support in the form of work flexibility ("there are several dispensations, namely work flexibility," P1) and recognition from superiors reduced the physical burden and also validated the worth of the participant as a valued member of the organization despite the illness. Another significant statement "She still comes to work and is active in the community... she is also present in person" (SO2P1) was a sign that the participant actively maintained participation in the work community as a strategy to sustain professional identity and a sense of purpose. These results confirmed that intrinsic motivation in the context of cancer survivors was not an isolated construct but rather co-constructed through relationships with significant others and institutional affiliations.

Behavioral engagement activities such as knitting, caring for cats, and self-care practices in the form of reflexology and face masks exhibited after diagnosis have a deeper psychological meaning than only distraction. The statement "I am happy, sir. I can forget all my problems and illnesses when I am happy. I like knitting, it makes me happy. I also have a cat at home which I often play with and consider my own child" (P3) showed three psychological functions. First, the activities provided adaptive experiential avoidance of ruminations about the illness. Second, knitting and caring for cats ensured a sense of mastery and productivity that compensated for the loss of control caused by the illness. Third, the anthropomorphizing of cats as "children" showed a symbolic substitution process that fulfilled the need for nurturance and

caregiving when the role as biological parent was threatened by the illness. A significant other confirmed the transformation by stating that "My mom is more self-loving. Sometimes she suddenly goes for walks and invites my sibling and me. Then, she likes to go for massages and reflexology even though she never did before. Face masks are also basically self-care" (SO1P1). The increase in self-care practices is not only a behavioral change but rather the sign of a fundamental shift in priorities and self-concept. The shift is from an other-focused orientation of meeting the demands of work and family to a more balanced self-focus which recognizes the legitimacy of individual needs. This transformation is consistent with the concept of post-traumatic growth which includes a reorientation of values and an increased appreciation for life.

The multilevel social support from family, partners, and military institutions proved very important as observed in the narrative "we strengthen each other, I do not want to lose my wife. That was what I told my wife as a reinforcement and her promise to try and recover was also a motivation for me" (SO1P3). This statement showed the dynamics of reciprocal support which was not unidirectional from caregiver to patient but bidirectional with partners strengthening each other through a shared commitment to survival.

The formulation of "mutual empowerment" in the context differs from conventional concepts of social support that tend to position survivors as passive recipients. In the framework of Giddens' structuration theory (Harita, 2018), the psychological conditions of participants can be understood as the product of a dialectic between agency (the ability of the individual to manage emotions, develop coping, and construct meaning) and structure (support from family, partners, coworkers, and the military health system). The institutional support in the form of work flexibility provides temporal space and functionally validates the legitimacy of the adaptive needs of the survivors which subsequently strengthens self-efficacy in implementing coping strategies. The trend was consistent with the report of Brajković et al. (2023) that social support increased the speed of emotional recovery by increasing optimism.

Cancer survivor resilience was produced through the continuous negotiation between individual efforts and external support which formed an emergent property of the psychosocial system. Resilience is an integrative outcome associated with four thematically identified constitutive dimensions. These include emotional calmness (“By not complaining or sulking, I feel calmer,” P1), resilience in the face of uncertainty (“I know everything will be fine,” P1), sincere acceptance of conditions (“I feel more accepting of God, basically, I do what I can,” P3), and a zest for life manifested in post-traumatic growth (“I feel like I still have a lot of hope in life,” P1). The qualitative r showed that resilience was not a static and intrinsic attribute but rather a dynamic-adaptive process related to the active agency of an individual. For example, the statements “I get many positive things from this illness” (P1) and intensification of spirituality (“I feel that God wants to call His servants to His temple through the trials” P3) reflected a post-traumatic growth trajectory beyond survival or a return to baseline. This was in line with the report of Gutierrez-Rojas et al. (2025) that cancer patients who used adaptive coping strategies had higher levels of resilience. Cui and Wang (2024) also showed that resilience was influenced by the interaction between internal and external factors. Another study by Bonanno et al. (2024) emphasized resilience as a product of a dialectical relationship between individuals and structures and not only internal capacity.

The results of this study confirmed that the resilience of Indonesian Navy cancer survivors was a product of co-construction between individual capacity and social ecology. This has crucial implications for the design of holistic and ecosystemic psychosocial interventions including family-based psychoeducation, family-centered counseling, peer support groups, and workplace accommodation programs that integrate structural flexibility in the military work environment (Periantalo, 2015; Rhemtulla et al., 2012).

Conclusion

In conclusion, this mixed-methods sequential exploratory study showed that the psychological resilience of Indonesian Navy cancer survivors was a product of a multilevel synergistic interaction between intra-individual capacities and inter-individual resources. The qualitative phase identified the adaptation process starting from the paradox of a healthy lifestyle that did not guarantee immunity against cancer and initial neglect behavior as a defensive mechanism (2 weeks-1 year) to the psychological distress phase in the form of denial, anticipatory anxiety, multidimensional grief, the impact of body image threatening military identity, and existential disappointment. The intra-individual psychological mitigation included religiosity as a primary defense mechanism with intensified religious practices, breathing-based relaxation, cognitive reappraisal that transformed the illness into a meaningful turning point, integrated motivation based on social relations, and the development of multidimensional coping strategies (problem-focused, emotion-focused, and meaning-focused). Multi-level social support from family, partners, and military institutions also acted as an enabling factor that facilitated the implementation of adaptive coping

strategies. The quantitative phase confirmed the relationship structure with very strong correlations between social support and resilience (r=0.894), social support and coping (r=0.932), as well as coping and resilience (r=0.839; p<0.001). Moreover, the status of resilience as an integrative outcome included emotional calm, resilience, sincere acceptance, and post-traumatic growth manifested in increased spirituality, self-care practices, and identity reconstruction from healthy soldiers to survivors who remained important and contributed to the military social ecology.

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Author Contributions

Conceptualization: [Navthan Lufta Marchsunday & Adiwignya Nugraha Widi Harita]; Methodology: [Navthan Lufta Marchsunday, Siti Jaro'ah & Adiwignya Nugraha Widi Harita]; Data collection and investigation: [Navthan Lufta Marchsunday & Eko Setiawan]; Data analysis: [Navthan Luft Marchsunday & Siti Jaro'ah]; Writing Original Draft Preparation: [Navthan Lufta Marchsunday & Siti Jaro'ah]; Writing Review & Editing: [Navthan Lufta Marchsunday]; Supervision: [Siti Jaro'ah & Adiwignya Nugraha Widi Harita]

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Use of Artificial Intelligence

The authors declare that no Artificial Intelligence (AI) or AI-assisted technologies were used in the creation of this manuscript.

Ethical Clearance

This study was conducted in accordance with institutional research ethics guidelines and was approved as part of the academic requirements of the Faculty of Psychology, Universitas Negeri Surabaya. Informed consent was obtained from all participants, and confidentiality was ensured.

Data Availability

The quantitative data supporting the findings of this study are available from the corresponding author upon reasonable request. Qualitative data are not publicly available due to ethical considerations and confidentiality agreements with participants.

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