

## Psychological well-being and workplace well-being on the mental health of seafarers in Indonesia

### Kesejahteraan psikologis dan kesejahteraan di tempat kerja terhadap kesehatan mental pelaut di Indonesia

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#### ABSTRACT

This study investigates the influence of psychological well-being and workplace well-being on the mental health of Indonesian seafarers by examining both factors within a single model in the maritime work context. This approach provides a broader understanding of how personal psychological resources and workplace conditions are associated with mental health outcomes. Using a quantitative approach, data were collected from 124 active Indonesian seafarers through three validated instruments: the Depression Anxiety Stress Scale (DASS-42), the Workplace Well-Being Index (WWBI), and Ryff's Psychological Well-Being Scale. Multiple linear regression analysis showed that psychological well-being ( $\beta = -1.126, p < 0.001$ ) and workplace well-being ( $\beta = -0.475, p = 0.021$ ) were significant predictors of psychological distress. Psychological well-being contributed 14.22 percent and workplace well-being contributed 6.17 percent to the explained variance, while both variables jointly accounted for 20.4 percent of the variation in psychological distress. Higher levels of psychological well-being and workplace well-being were associated with lower levels of depression, anxiety, and stress among seafarers. These findings highlight the importance of both individual psychological resources and workplace conditions in supporting seafarers' mental health. The results suggest that efforts to improve mental health in the maritime sector should focus not only on strengthening psychological well-being but also on promoting supportive workplace environments.

#### ABSTRAK

Penelitian ini mengkaji pengaruh psychological well-being dan workplace well-being terhadap kesehatan mental pelaut Indonesia dengan mengintegrasikan kedua konstruk tersebut dalam satu model empiris dalam konteks kerja maritim. Pendekatan ini memberikan pemahaman yang lebih komprehensif mengenai bagaimana faktor psikologis internal dan kondisi lingkungan kerja saling berinteraksi dalam membentuk kesehatan mental. Dengan menggunakan pendekatan kuantitatif, data dikumpulkan dari 124 pelaut aktif melalui instrumen yang tervalidasi: Skala Depresi Kecemasan Stres (DASS-42), Indeks Kesejahteraan di Tempat Kerja (WWBI), dan Skala Kesejahteraan Psikologis Ryff. Analisis regresi linier berganda menunjukkan bahwa PWB ( $\beta = -1,126, p < 0,001$ ) berkontribusi sebesar 14,22 persen dan WWB ( $\beta = -0,475, p = 0,021$ ) berkontribusi sebesar 6,17 persen terhadap variasi hasil kesehatan mental, secara bersama-sama menjelaskan 20,4 persen variasi tekanan psikologis. Skor PWB dan WWB yang lebih tinggi secara signifikan terkait dengan tingkat depresi, kecemasan, dan stres yang lebih rendah. Temuan ini menekankan pentingnya meningkatkan ketahanan individu sekaligus kondisi tempat kerja sebagai strategi terpadu untuk melindungi kesehatan mental pelaut di lingkungan maritim yang menantang.

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## **1. INTRODUCTION**

Seafaring is widely regarded as an occupation with considerable psychological demands due to working conditions that require individuals to live in isolated environments, spend extended periods away from their families, manage heavy workloads, and deal with ongoing safety-related pressures during voyages. According to data from the Ministry of Transportation, more than 1.4 million people were employed as seafarers in 2024, and this number is expected to continue growing as interest in the profession increases (Kementerian Kelautan dan Perikanan, 2025). In this study, mental health is defined as a state of psychological well-being that enables individuals to cope with life stressors, maintain healthy emotional and social functioning, and carry out their work responsibilities effectively (Christoforou et al., 2024).

Behind their strategic contribution to the maritime sector, mental health issues among seafarers remain a growing concern. Several national studies and reports from the Kementerian Kelautan dan Perikanan (2025) indicate that Indonesian seafarers experience high levels of work-related stress, mental fatigue, and psychological pressure due to extended contract periods, limited social support, and demanding operational conditions during voyages. Survey findings further show that many seafarers report symptoms of emotional exhaustion and difficulties in maintaining psychological well-being while working on board, particularly during long-distance voyages characterized by prolonged isolation. In addition, limited communication with family members and sustained work pressure have been identified as major factors affecting seafarers' psychological well-being (Capunitan et al., 2023; Golewski, 2024; Tietenberg & Lewis, 2020). Taken together, these findings suggest that mental health challenges among Indonesian seafarers represent a significant issue that warrants greater attention from both researchers and practitioners in the maritime industry.

Meanwhile, empirical studies specifically addressing seafarers' mental health remain limited, particularly those examining psychological factors within the actual working context of seafarers (Han et al., 2020). This limitation results in the lack of a strong scientific basis for designing targeted interventions to support seafarers' psychological well-being. Simultaneously, social stigma surrounding mental health issues and limited access to psychological support services within the maritime work environment also bring further challenges. If left unaddressed, these issues may lead to decreased work performance, increased safety risks, and broader implications for the sustainability of the maritime sector. Therefore, this study seeks to provide empirical evidence that can serve as a foundation for developing more effective policies and interventions aimed at improving the mental health of seafarers in Indonesia.

Mental health comes with multidimensional construct influenced by various factors, both internal and external. From an internal perspective, individual psychological conditions such as psychological well-being play a crucial role in determining one's ability to manage stress, maintain emotional balance, and adapt to work-related pressures (Adamopoulos, 2022). While from an external perspective, the work environment, reflected by workplace well-being, significantly contributes to mental health through aspects such as organizational support, social relationships at work, and safe and supportive working conditions (Brandt et al., 2023).

Despite growing global attention to workplace mental health, research focusing on Indonesian seafarers remains limited particularly in examining the interplay between

Psychological Well-Being (PWB) and Workplace Well-Being (WWB) in shaping mental health outcomes. Previous studies by Izzah et al. (2019) have addressed these factors individually or within different occupational settings, but comprehensive empirical models that integrate both constructs in the seafaring context are limited. In the context of seafaring, the interaction between internal and external factors becomes increasingly complex due to the demanding nature of the job, which requires high adaptability to isolation, work pressure, and limited social environments. Therefore, it is important to examine how psychological well-being and workplace well-being simultaneously influence mental health, particularly among Indonesian seafarers.

The selection of psychological well-being and workplace well-being as the main independent variables in this study is based on the theoretical perspectives suggesting that mental health is influenced not only by internal psychological conditions, but also by external factors, especially the quality of the work environment experienced by individuals. Psychological Well-Being (PWB), as developed by Ryff & Keyes (1995) describes how individuals evaluate themselves through six dimensions: self-acceptance, autonomy, environmental mastery, positive relations, purpose in life, and personal growth. Higher levels of PWB are associated with better coping abilities, greater resilience, and reduced vulnerability to stress-related disorders. Workplace Well-Being (WWB) encompasses employees' perceptions of comfort, satisfaction, and positive affect in the work environment (Martinho, 2021). WWB includes intrinsic factors (meaningful work, autonomy, achievement) as well as extrinsic factors (fair supervision, safety, recognition). Higher WWB levels can enhance work morale, reduce work-related fatigue, and improve overall mental health.

In occupational psychology, both PWB and WWB function as protective factors that can buffer the negative impacts of demanding work environments. Psychological well-being reflects an individual's capacity for personal growth, emotional balance, and the development of a meaningful life (Ryff & Keyes, 1995), while workplace well-being represents individuals' perceptions of their work experiences, including organizational support, social relationships, and supportive working conditions (Griffin, 2005).

The seafaring context provides a valuable opportunity to examine these theoretical relationships, particularly in understanding how psychological well-being and workplace well-being may help mitigate the negative effects of maritime work stress on mental health. Given the distinctive nature of maritime work, specifically in Indonesia, this study offers valuable perspective to address this gap. Current maritime mental health initiatives are focused on safety regulations and physical health, often neglecting the equally essential dimensions of psychological well-being and workplace well-being. Whereas Christoforou et al. (2024) found that mental health issues were prevalent among seafarers.

Addressing this gap is vital for developing holistic, evidence-based well-being frameworks that are specifically designed to the realities of seafaring life. Therefore, this study offers novelty by integrating psychological well-being and workplace well-being into a single empirical model to examine their influence on seafarers' mental health, thereby contributing both theoretically and practically to the development of more holistic and contextually relevant approaches.

This study aims to investigate the mental health of Indonesian seafarers by examining the individual and combined effects of psychological well-being and workplace well-being within the maritime work context. The findings of this study were used to test three

hypotheses regarding the effects of psychological well-being (PWB) and workplace well-being (WWB) on the mental health of Indonesian seafarers, including their individual effects and their combined contribution. By examining seafarers' experiences of stress, social support, and coping strategies, the study is expected to gain deeper perspectives into their mental conditions. The findings are expected to support the development of policies and programs that promote seafarers' mental well-being while improving productivity and safety.

## **2. METHODS**

### **Design**

This study employs a quantitative approach with an explanatory design aimed at examining the causal relationships between psychological well-being and workplace well-being on seafarers' mental health. The quantitative approach is selected to objectively measure the variables and to allow empirical hypothesis testing through statistical analysis. An explanatory design is also utilized to provide a deeper understanding of how independent variables influence the dependent variable within the unique context of seafaring work. Through provided designs, the study is expected to provide empirical evidence regarding the relationships among variables and the contribution of each factor in explaining seafarers' mental health.

### **Population and Sample**

The population of this study consists of Indonesian seafarers who are actively employed, both on Indonesian-flagged and foreign-flagged vessels. Considering the limited accessibility of this population and the dynamic nature of seafaring work, this study employs a non-probability sampling technique using a purposive sampling approach. This technique allows the researcher to deliberately select participants based on specific criteria relevant to the objectives (Pratama & Farida, 2025). The inclusion criteria for respondents in this study are: (1) Indonesian citizenship; (2) employment as a seafarer on either Indonesian- or foreign-flagged vessel; and (3) active working status at the time of data collection.

Creswell & Creswell (2022) suggested that the minimum sample size for testing individual predictors in regression analysis is  $N \geq 104 + m$ , where  $m$  represents the number of predictors. With two predictors included in the model, the minimum required sample size was 106 respondents. A total of 124 respondents met the inclusion criteria and were included in the study. As the final sample exceeded the recommended minimum, the analysis was conducted with an adequate sample size to support reliable statistical estimation. Therefore, the sample size in this study was determined to meet this minimum requirement in order to ensure sufficient statistical reliability for the analysis.

### **Instruments**

The instruments consist of a structured questionnaire designed to measure three main variables: psychological well-being, workplace well-being, and mental health. The measurement of psychological well-being is based on the framework developed by Ryff & Keyes (1995), which includes dimensions such as self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Meanwhile,

workplace well-being is measured using indicators proposed by Griffin (2005), including perceptions of working conditions, organizational support, and the quality of social relationships in the workplace. The mental health variable is assessed using indicators that reflect individuals' psychological well-being, including their ability to manage stress, maintain emotional stability, and sustain social functioning.

Data were collected through an online questionnaire distributed to Indonesian seafarers who met the inclusion criteria. Three instruments were used to measure the study variables. Mental health was assessed using the Depression Anxiety Stress Scale (DASS-42), which consists of 42 items measuring depression, anxiety, and stress on a 4-point Likert scale (Aguiar-Quintana et al., 2021). Workplace well-being was assessed using the Workplace Well-Being Index (WWBI), which was adapted into Indonesian by Moda et al. (2021). The scale consists of 14 items covering the dimensions of intrinsic well-being, extrinsic well-being, and core affect, rated on a 6-point Likert scale. Psychological well-being was assessed using the 18-item short version of Ryff's Psychological Well-Being Scale, adapted by Godlewska et al. (2023). The instrument measures six dimensions of psychological well-being and includes both favorable and unfavorable items rated on a 4-point Likert scale.

### **Data Analysis**

The data analysis in this study was conducted in several stages using the Statistical Package for the Social Sciences (SPSS). The initial stage involved descriptive statistics to summarize respondents' characteristics and the distribution of scores for each variable. Subsequently, inferential analysis was performed to examine differences in mental health levels based on respondents' demographic or occupational characteristics, using t-tests or analysis of variance (ANOVA) as appropriate.

To examine the effects of the independent variables on the dependent variable, multiple linear regression analysis was employed to determine the contribution of psychological well-being and workplace well-being to seafarers' mental health. Prior to conducting regression analysis, classical assumption tests were performed to ensure the adequacy of the model, including tests of normality, multicollinearity, and heteroscedasticity. All statistical tests were conducted at a significance level of 0.05. In addition, reliability testing was performed to ensure the internal consistency among the instruments.

## **3. RESULTS AND DISCUSSION**

### **Results**

#### **Descriptive statistics**

A total of 124 participants who are active seafarers on both Indonesian-flagged and foreign-flagged from various shipping companies, with a diverse representation of ranks, voyage durations, and age groups were taken part as subjects on this study. Descriptive statistics for the main variables are presented in Table 1.

The data from Table 1. shows 124 respondents as subjects with demographic variations: 121 men and 3 women. Based on age groups, the majority were 30–39 years old (58 people, 46.8 percent), followed by 40–49 years old (42 people, 33.9 percent), 20–29 years old (16 people, 12.9 percent), and 50–59 years old (8 people, 6.5 percent).

**Table 1.** Respondent characteristics

Aspects	Frequencies	Percentages (%)
<b>Age</b>		
20-29 years old	16	12.9
30-39 years old	58	46.8
40-49 years old	42	33.9
50-59 years old	8	6.5
<b>Gender</b>		
Male	121	97.6
Female	3	2.4

### **Description of data categorization**

The study assesses three response variables among 124 seafarers, there are psychological well-being, workplace well-being, and mental health.

#### ***Psychological well-being***

Psychological well-being was measured using the short version of Ryff's Psychological Well-Being scale (18 items), which assesses six dimensions of well-being. Scores of 18–36 are categorized as low, 37–54 as moderate, and 55–90 as high. Further details are provided in the Table 2

**Table 2.** Psychological well-being test result

Variable Criteria	Frequencies	Percentages	Valid Percentages	Cumulative Percentages
Moderate level of well-being	22	17.7	17.7	17.7
High level of well-being	102	82.3	82.3	100.0
<b>Total</b>	<b>124</b>	<b>100.0</b>	<b>100.0</b>	

Out of 124 respondents, 82.3 percent (102 seafarers) showed high Psychological Well-Being (PWB) and 17.7 percent (22 seafarers) showed moderate PWB, with none in the low category. Most seafarers viewed their lives positively, particularly in meaning, autonomy, and personal growth, providing an important protective factor against psychological pressure during long, isolating voyages.

#### ***Workplace well-being***

The Workplace Well-Being (WWB) variable was measured using the 14-item Workplace Well-Being Index (WWBI), divided into intrinsic (5 items), extrinsic (8 items), and core affect (1 item) dimensions. Following Asamani (2020), results were categorized into high, moderate, and low workplace well-being levels. Result of workplace well-being test can be seen in Table 3.

Out of 124 respondents, 87.1 percent reported high workplace well-being and the rest 12.9 percent reported having moderate state of WWB, indicating overall positive perceptions of their work environment, social relationships on board, and feelings of safety and appreciation factors support mental health stability at sea.

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**Table 3.** Workplace well-being test result

Variable Criteria	Frequencies	Percentages	Valid Percentages	Cumulative Percentages
Moderate level of well-being	16	12.9	12.9	12.9
High level of well-being	108	87.1	87.1	100.0
Total	124	100.0	100.0	

**Mental health**

The dependent variable, mental health, was measured using Lovibond & Lovibond (1995) Depression Anxiety Stress Scale (DASS-42), comprising 42 items-14 each for depression, anxiety, and stress to assess seafarers' psychological conditions and classify their levels of psychological distress. Result of mental health analysis can be seen in the Table 4.

**Table 4.** Mental health variable results

Variable Criteria	Frequencies	Percentages	Valid Percentages	Cumulative Percentages
<b>Depression Severity</b>				
Normal	112	90.3	90.3	90.3
Mild	8	6.5	6.5	96.8
Moderate	4	3.2	3.2	100.0
<b>Total</b>	<b>124</b>	<b>100.0</b>	<b>100.0</b>	
<b>Anxiety Severity</b>				
Normal	88	71.0	71.0	71.0
Mild	10	8.1	8.1	79.0
Moderate	14	11.3	11.3	90.3
Severe	9	7.3	7.3	97.6
Very Severe	3	2.4	2.4	100.0
<b>Total</b>	<b>124</b>	<b>100.0</b>	<b>100.0</b>	
<b>Stress Severity</b>				
Normal	113	91.1	91.1	91.1
Mild	5	4.0	4.0	95.2
Moderate	6	4.8	4.8	100.0
<b>Total</b>	<b>124</b>	<b>100.0</b>	<b>100.0</b>	
<b>DASS-42</b>				
Normal	92	74.2	74.2	74.2
Mild	22	17.7	17.7	91.9
Moderate	8	6.5	6.5	98.4
Severe	2	1.6	1.6	100.0
<b>Total</b>	<b>124</b>	<b>100.0</b>	<b>100.0</b>	

The analysis revealed that most seafarers were in a normal and mentally healthy condition across the three dimensions measured by the DASS-42. For depression, 90.3 percent of respondents showed no symptoms, placing them in the non-depressed category. A small proportion showed mild depression (6.5 percent) and moderate depression (3.2 percent), indicating the presence of some depressive symptoms but not at a severe level.

In terms of anxiety, the majority of respondents (71 percent) fell within the normal range, showing no significant anxiety symptoms. However, nearly one-third (29 percent) showed varying levels of anxiety, with 8.1 percent showed mild anxiety, 11.3 percent moderate

anxiety, 7.3 percent severe anxiety, and 2.4 percent very severe anxiety. This distribution suggests that while most seafarers do not experience excessive anxiety, a substantial minority still face notable anxiety-related challenges.

For stress levels, 91.1 percent of respondents were categorized as normal, showing effective coping with work demands and environmental pressures. A smaller percentage showed mild stress (4.0 percent) and moderate stress (4.8 percent), with no specific cases of severe or very severe stress reported, indicating that most seafarers maintain manageable stress levels even in demanding maritime conditions.

When combining the scores from depression, anxiety, and stress, approximately 74.2 percent of respondents were classified as having overall normal mental health. In contrast, 25.8 percent showed some degree of psychological distress ranging from mild to severe. This indicates that although the majority of seafarers demonstrate stable mental health, roughly one in four are vulnerable to psychological pressure, particularly in the form of elevated anxiety and stress, highlighting the need for targeted mental health support and preventive interventions in the maritime sector.

## **Data analysis result**

### ***Assumption test result***

To assess data normality, Kolmogorov-Smirnov test were used to test the data. The results showed that unstandardized residuals yielded a significance value of 0.087 ( $> 0.05$ ), indicating the data are normally distributed. Both statistical results and visual inspection from SPSS plots confirmed no substantial deviations from the normality line. This fulfillment of the normality assumption ensures the validity and reliability of subsequent parametric analyses such as regression and correlation test.

The heteroscedasticity test using Spearman correlation showed a significance of 0.421 for Psychological Well-Being (PWB, X1) and 0.459 for Workplace Well-Being Index (WWBI, X2), both  $> 0.05$ , meaning there is no indication of heteroscedasticity and the assumption of homoscedasticity is met. Visually, the scatter plot between the predicted and residual values shows a random distribution without a pattern, with residuals evenly distributed above and below the zero line, supporting the conclusion that heteroscedasticity does not occur. Thus, further regression analysis can be continued.

A multicollinearity test was conducted to examine the correlation between the independent variables. The results showed that both variables had tolerance values greater than 0.10 and Variance Inflation Factor (VIF) values below 10, indicating the absence of multicollinearity. These findings suggest that the independent variables were sufficiently distinct from one another, allowing their individual contributions to the dependent variable to be estimated reliably. Overall, the results support the suitability of the regression model for subsequent analysis.

### ***Multiple linear regression analysis result***

The regression model results on Table 5. shows a constant of 111.774.

The PWB coefficient of -1.126 ( $p < 0.001$ ) indicates that PWB significantly influences the reduction of psychological distress severity (DASS); every 1-point increase in PWB is estimated to reduce DASS by 1.126 points, assuming other variables remain constant. The

WWBI coefficient of -0.475 ( $p = 0.021$ ) is also significant but its effect is smaller than PWB. The standardized beta coefficient shows that PWB (-0.347) has a stronger effect than WWBI (-0.200) on reducing DASS. Overall, both independent variables have a negative and significant effect on DASS, so that improving psychological well-being and well-being at work can reduce the level of psychological distress in seafarers, and this model is worthy of being used as a reliable predictive tool.

**Table 5.** Regression test results

Model	Unstandardized Co-efficients		Standardized Coefficients	t	Sig.	Collinearity Statistic	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	111.774	17.567		6.363	.000		
Psychological Well-Being	-1.126	.278	-.347	-4.058	.000	.900	1.111
Workplace Well-Being	-.475	.203	-.200	-2.335	.021	.900	1.111

a. Dependent Variable: Mental Health (DASS)

### Hypothesis test results

The study used multiple linear regression to test the effect of PWB (X1) and WWBI (X2) on DASS (Y). The F test (Simultaneous) tests whether the multiple linear regression is significant overall with the provision that if the p-value  $< 0.05$ , it means that the combination of PWB (X1) and WWB (X2) together have an effect on DASS (Y). In this study, the results of the F test are in Table 6.

**Table 6.** F-test results

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	5578.669	3	2789.335	15.499	.000 <sup>a</sup>
Residual	21776.750	121	179.973		
<b>Total</b>	<b>27355.419</b>	<b>124</b>			

a. Predictors: (Constant), Workplace Well-Being, Psychological Well-Being

b. Dependent Variable: Mental Health (DASS)

The F-test results (Table 6) indicated that the overall regression model was statistically significant ( $p < 0.001$ ), demonstrating that Psychological Well-Being (PWB) and Workplace Well-Being (WWB) collectively contribute to explaining variations in psychological distress (DASS). The coefficient of determination ( $R^2$ ) was subsequently used to evaluate the proportion of variance in psychological distress accounted for by the two predictors. The results are presented in Table 7.

Based on Table 7, the  $R^2$  value of 0.204 indicates that Psychological Well-Being (PWB) and Workplace Well-Being Index (WWBI) accounted for 20.4 percent of the variation in seafarers' psychological disorder severity (DASS), while the remaining 79.6 percent is influenced by

other factors, may include high job demands, long working hours, extended voyages, poor onboard conditions, limited social interaction, crew conflicts, lack of family support, prior psychological issues, and individual stress management and physical health practices. Last measurement analysis is effective contribution analysis and the results can be seen in Table 8.

**Table 7.** Coefficient determination results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.452 <sup>a</sup>	.204	.191	13.41541	1.980

a. Predictors: (Constant), Workplace Well-Being, Psychological Well-Being  
 b. Dependent Variable: Mental Health (DASS)

**Table 8.** Effective contribution results

Variables	r	X	Beta	=	SE (%)
Psychological Well-Being (PWB)	-0.410	x	-0.347	=	14.22
Workplace Well-Being (WWB)	-0.309	X	-0.200	=	6.17
Total				=	20.39

Based on Table 8, the effective contribution analysis showed that Psychological Well-Being (PWB) contributed 14.22 percent and Workplace Well-Being Index (WWBI) contributed 6.17 percent to the variation in psychological disorder severity, totaling 20.39 matching the R<sup>2</sup> value of 0.204. This indicates that while both PWB and WWBI significantly influence mental health, the majority of variation is explained by other factors, highlighting the need for further research to identify additional influences. Practically, the findings emphasize the importance of improving both individual psychological well-being and workplace conditions to help prevent and address psychological disorders.

## Discussion

### Analysis of the influence of Psychological Well-being on Mental Health

The findings indicate that psychological well-being (PWB) has a significant negative effect on seafarers' psychological distress as measured by the Depression Anxiety Stress Scale (DASS). The regression coefficient ( $\beta = -1.126$ ,  $p < 0.001$ ) suggests that higher levels of PWB are associated with lower levels of depression, anxiety, and stress. This finding highlights the protective role of psychological well-being in the demanding maritime work environment. With an effective contribution of 14.22 percent, PWB emerged as the strongest predictor in the model. From a theoretical perspective, individuals with higher psychological well-being are generally better able to regulate their emotions, evaluate stressful situations more adaptively, and derive meaning from challenging experiences, which may help them cope more effectively with occupational demands.

These findings are aligned with Ryff & Keyes (1995) multidimensional model, which emphasizes self-acceptance, personal growth, positive relationships, purpose in life, autonomy, and environmental mastery as pillars of optimal functioning. In seafaring contexts, these dimensions play a particularly crucial role given the emotional, social, and physical

strains of maritime work. Self-acceptance and the ability to derive meaning from extended periods of isolation create an internal buffer against emotional exhaustion. Moreover, the presence of positive interpersonal relationships supports healthier emotional regulation in highly uncertain work environments. Thus, high PWB provides a psychological safety net that enables seafarers to manage prolonged occupational demands more resiliently.

The protective mechanism of PWB operates through more adaptive stress regulation. Individuals with high PWB tend to appraise stressful situations more realistically and flexibly, mitigating emotional arousal before it escalates into psychopathological symptoms. In the case of seafarers, stressors such as long working hours, restricted communication with families, and monotonous vessel environments often precipitate psychological pressure. However, with PWB as a psychological resource, seafarers deploy both problem-focused and emotion-focused coping strategies more effectively. This, in turn, reduces the likelihood of developing depressive or anxiety-related symptoms commonly reported in high-risk maritime occupations.

Nonetheless, the analysis reveals that the influence of PWB is not absolute; rather, it is contingent upon specific contextual factors. Based on the results, the positive effect of PWB weakens when seafarers experience severe loneliness, limited social interaction, or work aboard highly isolating vessels such as tankers. Such isolation disrupts relational needs and emotional balance, resulting in reduced protective value of PWB despite high individual psychological functioning. This suggests that moderating variables such as loneliness, workload intensity, and social interaction quality play an important role in shaping the relationship between PWB and mental health.

These outcomes are consistent with the ecological psychological perspective, which argues that psychological well-being cannot operate optimally without environmental support. In maritime settings, external factors such as shipboard leadership, social support among crew members, and the availability of recreational facilities significantly strengthen or undermine the benefits of PWB. When the work environment is supportive, PWB becomes a powerful protective factor. Conversely, a tense or conflict-driven environment may suppress the positive impact of PWB. This explains the reason some seafarers with relatively high PWB still exhibit psychological distress when environmental pressures are excessive or chronic.

From an applied standpoint, the findings underscore the importance of integrating psychological capacity-building into seafarer training and education. Enhancing PWB can be promoted through mindfulness-based programs, emotional intelligence training, character-building activities, and continuous resilience development. As highlighted in the results, structured support systems (such as counseling services, mentoring programs, and soft-skills training) play an essential role in fostering PWB. These initiatives not only strengthen individual psychological conditions but also contribute to long-term reductions in depressive and anxiety symptoms, which are prevalent in maritime professions characterized by chronic stress exposure (Sabela & Etikariena, 2025).

Study by Otero et al. (2019) demonstrated a significantly negative association between PWB and occupational stress among maritime workers, reinforcing the present study's conclusion that internal psychological states shape individuals' capacity to manage work-related pressure. Similarly, Han et al. (2020) found that students with higher PWB showed fewer symptoms of mental distress, suggesting cross-population consistency in PWB's protective role. Ketelaars et al. (2024) reported that resilience mediates the relationship

between PWB and mental health in seafarers, explaining why PWB's effect may weaken under extreme isolation. Furthermore, Ilmarinen (2006) highlighted the moderating influence of external factors such as extended work hours and low social support on the efficacy of PWB. Collectively, these studies corroborate the present findings by illustrating that although PWB is a key psychological resource, its effectiveness is highly dependent on the surrounding social and environmental context.

In summary, the results suggest that PWB shows up as a critical determinant of seafarers' mental health, functioning as a dynamic protective factor that interacts with both internal and external variables. The magnitude of its effect underscores the potential impact of targeted PWB-enhancement programs on reducing psychological disorders. However, the 14.22 percent contribution also reveals substantial influence from other determinants such as work environment quality, voyage duration, vessel conditions, and sleep quality. Therefore, effective mental health promotion strategies for seafarers must integrate both individual psychological interventions and improvements in shipboard environmental conditions.

### **Analysis of the Influence of workplace well-being on mental health**

The findings of the present study indicate that workplace well-being exerts a significant and negative influence on seafarers' mental health, as reflected by the regression coefficient of  $-0.475$  with a significance value of  $p = 0.021$ . This suggests that improvements in workplace well-being defined in terms of safety, comfort, interpersonal climate, and perceived organizational support are associated with lower levels of depression, anxiety, and stress as measured by the DASS-42 scale. Given the highly demanding and isolated nature of maritime occupations, a supportive work environment appears to function as a critical psychological buffer. Descriptive data support this interpretation by revealing that 87.1 percent of seafarers fall within the high workplace well-being category, demonstrating that positive organizational climates substantially mitigate psychological distress during prolonged voyages.

The study further demonstrates that workplace well-being contributes a 6.17 percent effective contribution to the variance in mental health outcomes, underscoring its functional relevance despite its smaller magnitude relative to psychological well-being. This aligns with a concept proposed by Utomo & Pratama (2024), which highlights that both intrinsic and extrinsic dimensions of workplace experience shape employees' psychological functioning. In the maritime context, enhanced perceptions of work meaningfulness, supervisory support, and secure working conditions appear to decrease emotional strain, thereby reducing susceptibility to psychological disorders. Because seafarers spend extended periods in enclosed and hierarchical operational settings, workplace well-being may serve as a stabilizing factor that helps maintain emotional equilibrium under persistent occupational demands.

Correlation analysis further supports the results of the regression model, with the Pearson coefficient between workplace well-being and DASS scores reported as  $-0.309$ , indicating a statistically significant inverse association. This relationship suggests that positive appraisals of working conditions are consistently associated with reduced symptoms of anxiety, depression, and stress. For maritime personnel, interpersonal support, transparent communication, and fair supervisory practices play a central role in shaping perceived workplace well-being. These findings align with occupational stress theory, which emphasizes the interplay between environmental demands and available psychosocial resources. When the work environment fosters collegiality and predictability, seafarers are more capable of

regulating emotional stressors arising from operational pressures and social isolation at sea.

The multidimensional structure of workplace well-being encompassing intrinsic aspects (e.g., meaning, autonomy, achievement) and extrinsic aspects (e.g., recognition, safety, work conditions) is particularly relevant for seafarers, as reflected in this study's findings. Respondents categorized in the high workplace well-being group exhibited substantially lower DASS scores than those in the moderate category, reinforcing the role of work environment as a determinant of mental health. In the maritime sector, extrinsic factors such as ergonomic working conditions, predictable schedules, adequate rest, and supervisory fairness are indispensable for maintaining psychological stability. Meanwhile, intrinsic factors such as meaningfulness of work and opportunities for competence expression help cultivate emotional resilience. These dynamics underscore workplace well-being role is not limited as a comfort variable, but as a structural necessity for psychological health in high-risk professions.

The findings of this study correspond with a growing body of empirical literature underscoring the significance of workplace well-being in shaping seafarers' mental health outcomes. Nuryadi et al. (2025) observed that supportive communication, constructive leadership, and a collaborative onboard atmosphere significantly lower stress levels among maritime workers. Similarly, Puspitacandri & Sutoyo (2024) documented the interactive effects of physical ship conditions (noise, vibration, and heat) and social dynamics including interpersonal conflict in elevating psychological pressure. Bintang et al. (2024) further demonstrate that diminished workplace well-being amplifies the adverse effects of isolation, long working hours, and operational demands, thereby increasing the likelihood of anxiety and depressive symptoms. These convergent findings collectively reinforce the conclusion that enhancing workplace well-being is a strategic and evidence-based approach to strengthening mental health protection systems within the maritime industry.

Overall, the results indicate that workplace well-being functions as a psychosocial protective factor, although its influence on mental health is moderated by the broader complexity of maritime work. While its direct contribution accounts for 6.17 percent of the variance, this influence is meaningful due to the cumulative and prolonged exposure of seafarers to stress-inducing environmental conditions. Harsh weather, operational hazards, long working hours, and limited social interaction may exacerbate mental health deterioration, making workplace well-being a moderating variable rather than the principal predictor. Thus, improving the psychosocial quality of maritime workplaces is essential for mitigating psychological risks among Indonesian seafarers.

### **Analysis of the simultaneous effect of PWB and WWB on mental health**

The findings indicate that Psychological Well-Being (PWB) and Workplace Well-Being (WWB) jointly have a significant effect on the mental health of seafarers, as reflected by the statistically significant F-test result ( $p < 0.001$ ). This finding suggests that the two variables collectively explain a meaningful proportion of the variation in depression, anxiety, and stress levels among seafarers. The results highlight the importance of taking both individual psychological factors and workplace conditions when examining mental health in the maritime work context. For seafarers operating in demanding and high-risk environments, psychological well-being and workplace well-being appear to play complementary roles in supporting psychological functioning and overall mental health.

The regression model produced a coefficient of determination ( $R^2$ ) of 0.204, indicating that PWB and WWB together explain 20.4 percent of the variance in seafarers' mental health, while the remaining 79.6 percent is influenced by factors not included in the current model. Although this percentage reflects a moderate predictive power, it underscores the view that mental health among seafarers is a multifaceted construct shaped by occupational conditions (e.g., voyage duration, shift schedules, exposure to physical hazards), social factors (e.g., crew dynamics, family contact), and individual differences (e.g., coping strategies, prior mental health history). Nevertheless, the 20.4 percent contribution demonstrates that enhancing both psychological and workplace well-being yields substantial benefits in reducing negative psychological outcomes.

The synergy between PWB and WWB is further illustrated by the distribution of their effective contributions. PWB contributes 14.22 percent, whereas WWB contributes 6.17 percent to mental health outcomes, creating a combined effect that is stronger than the sum of their individual impacts when examined separately. PWB provides an internal foundation while WWB offers external support through safe working conditions, positive social relations, and supportive supervisory practices. This combination is particularly critical for seafarers who live and work in confined and isolated environments for extended periods. The interplay between internal psychological resilience and external workplace support acts as a dual protective system that enhances overall mental well-being.

The combined influence of PWB and WWB is reflected in the lower DASS scores reported by seafarers with higher levels of both psychological well-being and workplace well-being. This finding suggests that efforts to improve mental health should not focus solely on strengthening individual psychological resources but should also address workplace conditions that may affect employees' well-being. For example, seafarers who possess a strong sense of purpose and personal growth may be better able to cope with occupational stress. However, without a supportive work environment characterized by safety, fairness, and positive interpersonal relationships, the benefits of these personal resources may be limited. Therefore, seafarers' mental health can be understood as the result of the combined influence of individual characteristics and workplace conditions.

The results of this study align with international empirical research emphasizing that seafarers' mental health is shaped by the interaction of internal psychological factors and external workplace conditions. Liu et al. (2020) found that psychological well-being and supportive work environments jointly reduce anxiety and stress among maritime personnel. Christoforou et al. (2024) similarly reported that personal resilience combined with organizational support significantly decreases the risk of burnout and depressive symptoms. Additionally, Martinho (2021) demonstrated that a positive onboard work climate enhances the protective effect of psychological well-being, particularly in isolated and high-pressure conditions. Collectively, these studies reinforce the conclusion that improving PWB alone is insufficient without corresponding enhancements in workplace conditions and vice versa highlighting the necessity of simultaneous intervention to achieve optimal mental health outcomes among seafarers.

Overall, the findings highlight the complementary roles of Psychological Well-Being (PWB) and Workplace Well-Being (WWB) in supporting the mental health of seafarers.

Although the model does not explain all variations in mental health, its statistical significance suggests that interventions should adopt an integrated approach that strengthens individual psychological resources while simultaneously improving workplace conditions. Such efforts may include enhancing ergonomic, managerial, and interpersonal aspects of the maritime work environment. This approach is particularly important given the psychological pressures associated with prolonged isolation, physical hazards, irregular work schedules, and limited access to mental health support services at sea.

Nevertheless, several limitations should be acknowledged. First, this study focused only on two predictor variables, namely psychological well-being and workplace well-being, and did not consider other factors that may influence mental health, such as social support, family circumstances, job characteristics, or individual differences. Consequently, the findings should be interpreted as reflecting only a partial explanation of seafarers' mental health. Second, demographic characteristics were not examined as part of the analytical model. Although demographic factors, including gender, may be associated with mental health outcomes, their potential influence was beyond the scope of the present study. Moreover, the sample was predominantly composed of male seafarers, reflecting the gender composition of the maritime workforce. As a result, the findings primarily represent the experiences of male seafarers and may not be fully generalizable to female seafarers or more gender-balanced populations.

#### **4. CONCLUSION AND RECOMMENDATIONS**

This study demonstrates that psychological well-being and workplace well-being play important roles in influencing seafarers' mental health. Individual psychological well-being contributes to enhancing seafarers' ability to manage stress, maintain emotional balance, and adapt to the demands of maritime work. Simultaneously, a supportive work environment helps strengthen psychological stability during their duties. These findings highlight that seafarers' mental health is shaped not only by internal factors but also by the quality of the work environment. Therefore, efforts to improve seafarers' mental health should be carried out in an integrated manner by strengthening individual capacities while also enhancing workplace conditions.

Based on these results, both practical and theoretical recommendations are proposed. For shipping companies, it is important to develop structured programs to improve PWB, such as stress management and mindfulness training, while creating a supportive workplace environment through adequate facilities, effective communication, and fair reward systems. For seafarers, strengthening adaptive coping skills, maintaining physical health, and fostering positive social connections during voyages are essential, and can be further enhanced by participating in training and counseling programs. For future researchers, expanding the model to include other variables such as family support, workload, and physical work environment factors, and using mixed-method or longitudinal approaches, could provide a more comprehensive understanding of the factors affecting seafarers' mental health. Overall, the study highlights the critical interplay between individual psychological resilience and a supportive workplace environment in protecting mental health, particularly in high-risk and isolating professions such as maritime work.

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