

## Effective Contribution and Relative Contribution Determinants of the Quality of Life of Workers in the Textile Industry

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### Abstract

*Industrial workers often experience stress, depression, and anxiety problems that affect their quality of life. Apart from that, the quality of life is also influenced by factors such as age, gender, marital status, education, BMI, length of service, type of work, and place of residence. This research aims to analyze the relationship, coefficient of determination, effective contribution, and relative contribution of independent variables that dominantly influence the quality of life of textile industry workers. Data were collected using a demographic questionnaire, weight scale, height meter, DASS 42 questionnaire, and EQ-5D-5L questionnaire. Statistical analysis uses descriptive statistics, simple linear regression, and multiple linear regression using the backward method. The results of the multiple linear regression analysis using the backward method show that the coefficient of determination of the dominant independent variable is 71.7%, with each effective contribution being length of service (5.0%), gender (2.4%), depression (31.2%), anxiety (12.0%), and stress (21.2%). The relative magnitudes of contribution were length of service (7.0%), gender (3.3%), depression (43.4%), anxiety (16.8%), and stress (29.5%). This research found that the dominant factors influencing the quality of life of textile industry workers are length of service, gender, depression, anxiety, and work stress. Therefore, textile industry management needs to carry out job rotation taking into account length of service and gender, as well as holding programs to improve workers' physical health, mental health, and welfare.*

**Keywords:** *Effective Contribution, Relative Contribution, Determinants of Quality of Life, Textile Industry Workers.*

### 1. INTRODUCTION

Mental health is an important aspect of an individual's well-being, and it is increasingly clear that stress, depression, and anxiety play a significant role in influencing mental health problems. Stress, as a response to physical or emotional stress, can be a major trigger for mental health problems. According to research by McEwen (McEwen, 2017), prolonged stress can trigger biological changes in the brain that contribute to the risk of mental illness. The long-term implications of chronic stress can include negative impacts

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on workers' mental and physical health, as well as potentially harming overall quality of life (Eurofound, 2019).

Depression, as a serious mood disorder, is also closely related to mental health problems. Research by Dalton et al. (Dalton & Hammen, 2018) suggests that chronic stress and unresolved stressful events can trigger depression, while depression itself can exacerbate feelings of stress and create a vicious cycle that is difficult to break. Anxiety, which involves excessive feelings of worry and fear, can also interact with stress and depression to exacerbate mental health problems. The results of a study by Stein et al. (Stein et al., 2021) emphasize that untreated anxiety can increase the risk of depression and cause ongoing emotional instability that will be related to an individual's quality of life.

Depression is a serious concern in the context of industrial work environments, with a significant increase in the incidence of depression among workers. Research conducted by Wang et al. (Z. Wang et al., 2017) noted that factors such as high workload, time pressure, and lack of social support at work can increase the risk of depression in industrial workers. Increased competition and economic uncertainty are also believed to have contributed significantly to the spike in depression cases in the industrial sector. The implications for workers' quality of life are becoming increasingly apparent, because depression not only affects psychological aspects but also has the potential to harm work performance and social interactions. According to research by Sharma et al. (Sharma et al., 2021) from India, depression can lead to decreased productivity and increased absenteeism at work, which, in turn, affects overall quality of life.

Anxiety has become an increasingly profound issue among industrial workers, playing a significant role in affecting well-being and quality of life. Research conducted by Kalia et al. (Kalia et al., 2020) from Canada shows that industrial workers often experience higher levels of anxiety compared to other employment sectors. According to research by Hannerz et al. (Hannerz et al., 2021) from Denmark, anxiety can cause a decrease in overall quality of life by affecting aspects such as job satisfaction, mental health, and interpersonal relationships at work. Similar findings were found by Zhang et al. (Chen et al., 2020) from China, which shows that high levels of anxiety may be associated with reduced productivity and well-being of industrial workers.

The textile industry is a work sector that is often filled with high pressure and heavy work demands. Research by Yuan et al. (Yuan et al., 2022) highlighted the high levels of stress that can be caused by continuous production pressures among textile industry workers in Bangladesh, erratic work schedules, and uncertainty in employment conditions. As stress increases, depression and anxiety have also become significant problems in the textile sector. The study by Arif (Arif et al., 2017) from Pakistan found that textile industry workers often face economic uncertainty which can trigger depression, while anxiety can arise due to heavy workloads and high expectations.

Apart from depression, anxiety, and stress, quality of life is also influenced by various demographic factors, namely age (Villas-boas et al., 2019), where increasing age until aging occurs will have an impact on reducing the quality of life of the elderly, gender as reported in Iran that the quality of life of elderly women is worse than that of men (Hajian-Tilaki et al., 2017), marital status indicated by those who are widowed or divorced tend to rate their physical and psychological health scores lower, education is indicated by the level of higher education tends to contribute to a better quality of life in the physical domain (Rumawas & Wijaya, 2023), BMI indicated by respondents with overweight-obesity had more health complaints than respondents with normal BMI (Syafina, 2017), work experience (Sumardiyono et al., 2019), where working periods that are too long can have a negative impact causing health problems so that the quality of life decreases (Herdiyanti, L., Krisna, 2020), types of work where the dangerous environment causes psychological and physical disorders which result in a decrease in the quality of life (J. Wang et al., 2023), and where a person lives in rural or urban areas has a direct

positive effect on a person's happiness which is ultimately related to the quality of life (Lopez-Ruiz et al., 2021).

Therefore, this research aims to analyze the relationship, coefficient of determination, Effective Contribution, and Relative Contribution of independent variables that dominantly influence the quality of life of textile industry workers.

## 2. METHOD

The research method uses analytical observational health research with a cross-sectional design, where data on independent variables (risk factors) and dependent variables (effects) are collected at one point in time, namely in July 2023 in the textile industry in Surakarta. This research investigates the dominant determinants influencing the quality of life of textile industry workers followed by calculating the effective contribution and relative contribution of each variable. The research population was 600 people. The sample size is determined using the formula:

$$n = \frac{Z^2_{1-\alpha/2} p (1 - p)}{d^2} = \frac{1.96 * 0.5 (1 - 0.5)}{0.1^2} = 96.04, \text{ dibulatkan} = 100 \text{ orang.}$$

The selection of a sample size of 100 people from a population of 600 people was carried out using simple random sampling via the website <https://www.random.org/>. Data collection techniques are carried out directly (primary data). Respondents were asked to fill out a hard-file printed questionnaire. The variables age, gender, and marital status were measured using population identification card data. The variables length of service, place of residence, education, and type of work are measured using company personnel data. The body mass index variable is measured using weight scales (in kilograms) and body height (in meters) which are calculated using the formula: BMI = weight in kilograms / height in meters squared. Depression, Anxiety, and Stress variables were measured using the DASS 42 questionnaire. Quality of life variables were measured using The Indonesian EQ-5D-5L Value Set with dimensions: mobility, self-care, daily activities, pain/discomfort, and anxiety or depression.

The collected data is presented through tabulations in univariate, bivariate, and multivariate analysis. Univariate analysis was carried out to describe each research variable data, bivariate analysis was carried out to describe the relationship between variables without controlling other variables. Multivariate analysis is carried out to describe the simultaneous influence and influence of each independent variable on the dependent variable by controlling other variables. In this multivariate analysis, the coefficient of determination on quality of life was also obtained which was used as a basis for calculating the value of the effective contribution and relative contribution of each independent variable.

Univariate analysis uses descriptive statistics, bivariate analysis uses simple linear regression, and multivariate analysis uses multiple linear regression. The statistical software used was the SPSS version 27 program with a significance level of 5% ( $\alpha = 0.05$ ).

### 3. RESULTS

This research measures 12 variables whose descriptive measurement results are shown in Table 1.

Table 1. Descriptive Statistics

Variables / Coding	Mean	Std. Deviation	n	%	N
Age (Years)	44.88	7.7			100
Body Mass Index (Kg/m <sup>2</sup> )	24.69	3.3			100
Work Period (Years)	20.04	8.2			100
Gender					100
Male (1)			44	44	
Female (2)			56	56	
Residence					100
In City (1)			32	32	
Out of Town (2)			68	68	
Status					100
Not Married yet			4	4	
Marry			96	96	
Education					100
Elementary school (1)			2	2	
Junior High School (2)			16	16	
Senior High School (3)			67	67	
Diploma 3 (4)			10	10	
Bachelor (5)			5	5	
Occupation					100
Production (1)			43	43	
Production			57	57	
Depression (Score)	4.11	2.5			100
Anxiety (Score)	5.36	5.1			100
Stress (Score)	4.86	3.8			100
Quality of Life (Score)	0.76	0.1			100

Furthermore, a description of the relationship between variables in bivariate analysis using simple linear regression can be seen in Table 2.

Table 2. Bivariate Analysis

Variables / Coding	$\beta$	t	P	Correlation Direction	Interpretation
Age (Years)	-0.003	-2.287	0.024	Negative	Significant
Body Mass Index (Kg/m <sup>2</sup> )	-0.007	-2.245	0.027	Negative	Significant

Work Period (Years)	-0.003	-2.285	0.024	Negative	Significant
Gender	0.036	1.778	0.079	Positive	Not significant
Male (1)					
Female (2)					
Residence	-0.041	-1.938	0.055	Negative	Not significant
In City (1)					
Out of Town (2)					
Status	0.083	1.633	0.106	Positive	Not significant
Not Married yet					
Marry					
Education	0.019	1.419	0.159	Positive	Not Significant
Elementary school (1)					
Junior High School (2)					
Senior High School (3)					
Diploma 3 (4)					
Bachelor (5)					
Occupation	0.048	2.443	0.016	Positive	Significant
Production (1)					
Production					
Depression (Score)	-0.030	-11.665	0.000	Negative	Significant
Anxiety (Score)	-0.013	-8.217	0.000	Negative	Significant
Stress (Score)	-0.019	-10.722	0.000	Negative	Significant

Note:

\*Dependent variable: Quality of Life

\*Significance level ( $\alpha$ ) = 0.05

To obtain more accurate analysis results by controlling confounding variables, multiple linear regression analysis was carried out. The normality assumption in multiple linear regression analysis is carried out on unstandardized residual data. The unstandardized residual data normality test using the Kolmogorov-Smirnov Test Monte-Carlo method obtained a p value = 0.155 (p-value > 0.05), so the assumption of data normality was met. However, because there are a large number of independent variables with the assumption that all independent variables have a relationship with a p value < 0.25, an independent variable selection method was carried out to obtain a fit model for the dominant predictor variables on quality of life using multiple linear regression analysis using the Backward method. The results of the backward method multiple linear regression analysis are shown in Table 3.

Table 3. Results of Multiple Linear Regression Analysis with Backward method

Model	Unstandardized Coefficients	Standardized Coefficients	t	p	95% CI for B	
	$\beta$	Beta			Lower Bound	Upper Bound
1 (Constant)	0.906		8.297	0.000	0.689	1.124
Age	0.003	0.208	1.647	0.103	-0.001	0.006
BMI	-0.002	-0.079	-1.239	0.219	-0.006	0.001
Work Period	-0.005	-0.402	-3.250	0.002	-0.008	-0.002
Gender	0.025	0.126	2.017	0.047	0.000	0.050
Residence	-0.001	-0.005	-0.076	0.939	-0.028	0.026
Status	-0.008	-0.015	-0.251	0.803	-0.070	0.054
Education	0.000	-0.003	-0.042	0.967	-0.017	0.016
Type of work	-0.006	-0.028	-0.418	0.677	-0.033	0.021
Depression	-0.014	-0.351	-3.108	0.003	-0.023	-0.005
Anxiety	-0.004	-0.211	-2.034	0.045	-0.008	0.000
Stress	-0.009	-0.342	-3.426	0.001	-0.014	-0.004
2 (Constant)	0.905		8.750	0.000	0.700	1.111
Age	0.003	0.208	1.658	0.101	-0.001	0.006
Body mass index	-0.002	-0.079	-1.247	0.216	-0.006	0.001
Work Period	-0.005	-0.402	-3.269	0.002	-0.008	-0.002
Gender	0.026	0.127	2.094	0.039	0.001	0.050
Residence	-0.001	-0.004	-0.072	0.943	-0.027	0.025
Status	-0.008	-0.015	-0.254	0.800	-0.069	0.054
Type of work	-0.006	-0.028	-0.419	0.676	-0.033	0.021
Depression	-0.014	-0.350	-3.175	0.002	-0.023	-0.005
Anxiety	-0.004	-0.211	-2.049	0.043	-0.008	0.000
Stress	-0.009	-0.343	-3.509	0.001	-0.014	-0.004
3 (Constant)	0.902		9.472	0.000	0.713	1.091
Age	0.003	0.208	1.672	0.098	-0.001	0.006
Body mass index	-0.002	-0.079	-1.253	0.213	-0.006	0.001
Work Period	-0.005	-0.403	-3.322	0.001	-0.008	-0.002
Gender	0.026	0.127	2.114	0.037	0.002	0.050
Status	-0.007	-0.015	-0.247	0.806	-0.068	0.053
Type of work	-0.005	-0.027	-0.416	0.678	-0.032	0.021
Depression	-0.014	-0.348	-3.287	0.001	-0.022	-0.005

	Anxiety	-0.004	-0.213	-2.144	0.035	-0.008	0.000
	Stress	-0.009	-0.344	-3.568	0.001	-0.014	-0.004
4	(Constant)	0.888		11.669	0.000	0.737	1.039
	Age	0.003	0.204	1.663	0.100	-0.001	0.006
	Body mass index	-0.002	-0.080	-1.287	0.201	-0.006	0.001
	Work Period	-0.005	-0.400	-3.331	0.001	-0.008	-0.002
	Gender	0.026	0.129	2.164	0.033	0.002	0.050
	Type of work	-0.005	-0.024	-0.380	0.705	-0.030	0.021
	Depression	-0.014	-0.344	-3.309	0.001	-0.022	-0.005
	Anxiety	-0.004	-0.213	-2.159	0.033	-0.008	0.000
	Stress	-0.009	-0.342	-3.578	0.001	-0.014	-0.004
5	(Constant)	0.875		13.107	0.000	0.742	1.007
	Age	0.003	0.195	1.628	0.107	-0.001	0.006
	Body mass index	-0.002	-0.072	-1.237	0.219	-0.006	0.001
	Work Period	-0.005	-0.391	-3.334	0.001	-0.008	-0.002
	Gender	0.027	0.135	2.364	0.020	0.004	0.050
	Depression	-0.014	-0.342	-3.308	0.001	-0.022	-0.005
	Anxiety	-0.004	-0.211	-2.147	0.034	-0.008	0.000
	Stress	-0.009	-0.339	-3.576	0.001	-0.014	-0.004
6	(Constant)	0.827		15.100	0.000	0.718	0.936
	Age	0.002	0.170	1.436	0.154	-0.001	0.005
	Work Period	-0.004	-0.360	-3.130	0.002	-0.007	-0.002
	Gender	0.029	0.144	2.552	0.012	0.006	0.052
	Depression	-0.015	-0.367	-3.614	0.000	-0.023	-0.007
	Anxiety	-0.004	-0.199	-2.029	0.045	-0.008	0.000
	Stress	-0.009	-0.338	-3.560	0.001	-0.014	-0.004
7	(Constant)	0.895		32.433	0.000	0.840	0.950
	Work Period	-0.003	-0.222	-3.479	0.001	-0.004	-0.001
	Gender	0.027	0.134	2.377	0.019	0.004	0.050
	Depression	-0.016	-0.409	-4.181	0.000	-0.024	-0.009
	Anxiety	-0.004	-0.189	-1.920	0.058	-0.008	0.000
	Stress	-0.008	-0.288	-3.241	0.002	-0.012	-0.003

Note:

\*Dependent Variable: Quality of Life

\*Model 7, F test value = 47.707; p-value = 0.000

\* Significance level ( $\alpha$ ) = 0.05

In Table 3, Model 1 shows all the independent variables in the regression model, then in Models 2 to Model 7 several variables have been eliminated, namely education (Model 2), place of residence (Model 3), marital status (Model 4), type of work. (Model 5), body mass index (Model 6), and the last thing eliminated was age (Model 7). Thus, the dominant variables on quality of life are length of service, gender, depression, anxiety and work stress. The regression model can be formulated as follows:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5$$

$$Y = 0.895 - 0.003*Work\ Time + 0.027*Sex - 0.016*Depression - 0.004*Anxiety - 0.008*Stress$$

Coefficient of determination ( $R^2$ ) in Model 7 obtained 71.7%, thus it can be interpreted that the variables of work experience, gender, depression, anxiety and stress explain 71.7% of the variation in quality of life values, while the remaining 28.3% cannot be explained by the regression model, and is possibly caused by other factors not included in the regression model. The effective contribution value for each independent variable can be calculated using the EC formula  $(x)\% = \text{Beta}_x \times \text{Regression Coefficient} \times 100\%$ . The Effective Contribution Value of each variable is presented in Table 4. The Relative Contribution Value can be calculated using the RC formula  $(x)\% = \text{EC}_{(x)\%}/R^2$ . The Relative Contribution Value of each variable is presented in Table 5.

Table 4. Effective Contribution of Each Independent Variable

Variable	Beta	Pearson Correlation	Effective Contribution (%)
Work Period	-0.222	-0.225	5.0
Gender	0.134	0.177	2.4
Depression	-0.409	-0.762	31.2
Anxiety	-0.189	-0.639	12.0
Stress	-0.288	-0.735	21.2
Total			71.7

Note:

\* Percentage constant = 100%

Table 5. Relative Contribution of Each Independent Variable

Variable	Effective Contribution (%)	Relative Contribution (%)
Work Period	5.0	7.0
Gender	2.4	3.3
Depression	31.2	43.4
Anxiety	12.0	16.8
Stress	21.2	29.5
Total	71.7	100.0

Note:

\*Score  $R^2 = 71.7\%$

#### 4. DISCUSSION

After carrying out the backward model linear regression analysis, 6 independent variables were eliminated that influence quality of life, namely education, place of residence,



status, type of work, body mass index, and age. Thus, the dominant variables on quality of life are length of service, gender, depression, anxiety, and work stress.

Work period is the length of time a person works in a company or industry. Long working years can provide several benefits for workers, such as increased skills and work experience, increased salaries, and opportunities for promotion (Hasani et al., 2023). However, long working periods can also cause several problems, such as fatigue (Sunaryo & Ratriwardhani, 2022), stress (Prasad & Vaidya, 2018), and the risk of work accidents (Wahyuni et al., 2022). The relationship between length of service and the quality of life of textile industry workers can be analyzed through several aspects, namely: economic aspects, psychological aspects, and social aspects (Estoque et al., 2019).

From an economic aspect, a long working period can increase workers' income, thereby improving their quality of life (map, 2023). However, long working periods can also increase workers' costs of living (Narpati, J. R., Ekawati, E., & Wahyuni, 2019), thereby reducing their quality of life (Herdiyanti, L., Krisna, 2020). From a psychological aspect, long working periods can cause fatigue and stress in workers. Fatigue and stress can reduce workers' quality of life, both physically and mentally (Yoo et al., 2018). From a social aspect, long working periods can reduce workers' free time to socialize with family and friends (Pratiwi, 2020). This can reduce the quality of life of workers socially. Based on this description, it can be interpreted that the relationship between length of service and the quality of life of textile industry workers is complex and can be influenced by various factors. In general, a long working period can improve the quality of life of workers from an economic perspective, but it can reduce the quality of life of workers from a psychological and social perspective.

Gender is a category based on biological differences between men and women (Colineaux et al., 2023). Gender can influence the quality of life of textile industry workers through several aspects, namely: Economic, psychological, and social aspects. In general, male workers tend to have higher incomes than female workers. This is because male workers generally have higher job positions and greater responsibilities. Higher income can improve the quality of life of workers, both from an economic and social perspective. Psychological aspects Female workers tend to be more susceptible to stress and depression than male workers. This is because female workers generally have a double burden, namely work and family (Aurellia Prihastuti, 2022). Based on this description, it is interpreted that there is a complex relationship between gender and the quality of life of textile industry workers. In general, male workers tend to have a better quality of life than female workers, especially from an economic perspective. In contrast, female workers tend to be more vulnerable to stress and depression, and have more limited opportunities to socialize.

Depression, anxiety, and work stress are some of the psychosocial conditions that can affect quality of life (de Freitas et al., 2023). These three conditions can be interrelated and strengthen each other. Depression is a mood disorder characterized by feelings of sadness, hopelessness, and loss of interest. Depression can cause various physical and mental problems, such as fatigue, sleep disorders, and appetite disorders. Depression can also reduce workers' quality of life, both physically and mentally (Chand & Arif, 2023). Anxiety is a mood disorder characterized by feelings of anxiety, worry, and restlessness (Annisa & Ifdil, 2016). Anxiety can cause various physical and mental problems, such as sleep disorders, digestive disorders, and heart problems. Anxiety can also reduce workers' quality of life, both physically and mentally (Munir & Takov, 2022). Work stress is an emotional reaction to demands or pressure felt at work (Qori & Mulyana, 2022). Work stress can be caused by various factors, such as excessive workload, unsafe working conditions, and poor working relationships (Qoyyimah et al., 2019). On the job nursing in hospitals during the Covid-19 Pandemic, it was found that the workload was increasing, which was in the heavy category experienced by the majority of nurses (73.4%), and this increase in heavy workload caused the majority of nurses to experience severe stress

(66%) and only a small portion experienced moderate stress (2.1%), and mild stress (2.1%). This shows a relationship between workload and work stress in nurses ( $p$ -value = 0.001) (Zakiyah et al., 2023). Work stress can cause various physical and mental problems, such as fatigue, sleep disorders, and digestive disorders (Saedpanah et al., 2023). Work stress can also reduce workers' quality of life, both physically and mentally (Da Silva & Guimarães, 2016).

Thus, the relationship between depression, anxiety, and work stress and the quality of life of textile industry workers can be analyzed through: 1) the physical impact in the form of fatigue, sleep disorders, and digestive disorders. These physical problems can reduce workers' quality of life, both physically and mentally; 2) the psychological impact in the form of feelings of sadness, hopelessness, and worry. These psychological problems can reduce workers' quality of life, both physically and mentally; 3) the impact on social problems in the form of difficulties socializing and poor relationships with other people. These social problems can reduce workers' quality of life, both physically and mentally. Based on the description above, it can be concluded that the relationship between depression, anxiety, and work stress and the quality of life of textile industry workers is complex and can be influenced by various factors. These three conditions can be interrelated and reinforce each other, so that they can significantly reduce the quality of life of workers.

## 5. CONCLUSION

There are several factors that dominantly influence the quality of life of textile industry workers, namely length of service, gender, depression, anxiety, and work stress; while the risk factors of education, place of residence, status, type of work, body mass index, and age have a relatively smaller influence. Simultaneously, the magnitude of the influence of length of service, gender, depression, anxiety, and work stress is 71.7%. Sequentially, the largest influence in terms of the value of effective contribution and relative contribution is depression (effective contribution = 31.2%, relative contribution = 43.4%), work stress (effective contribution = 21.2%, relative contribution = 29.5%), anxiety (effective contribution = 12.0%, relative contribution = 16.8%), work period (effective contribution = 5.0%, relative contribution = 7.0%), and gender (effective contribution = 2.4%, relative contribution = 3.3%). Based on the findings of this research, the textile industry needs to carry out job rotation taking into account length of service and gender, where long service periods and women are rotated to departments with a lower risk of danger compared to new employees. In addition, holding programs to improve workers' physical health, mental health, and welfare.

### Ethical Feasibility

Approval of ethical suitability from the Ethics Committee of Dr. Moewardi Hospital Surakarta through the issuance of letter No. 1.101/VI/HREC/2023 dated June 23, 2023.

### Conflict of Interest

The authors state that this paper was carried out professionally, there was no personal or financial competition that affected the contribution of the research results described in this manuscript.

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## References

- Annisa, D. F., & Ifdil, I. (2016). Konsep Kecemasan (Anxiety) pada Lanjut Usia (Lansia). *Konselor*, 5(2), 93–99. <https://doi.org/10.24036/02016526480-0-00>
- Arif, A., Naveed, S., & Aslam, R. (2017). Factors causing stress among Pakistani working women. *Pakistan Administrative Review*, 1(3), 159–174.
- Aurellia, V. S., & Prihastuty, R. (2022). Hubungan Beban Kerja dengan Stres Kerja Pada Wanita Peran Ganda yang Berprofesi Sebagai Perawat. *Journal of Social and Industrial Psychology*, 11(2), 79–85. <https://doi.org/10.15294/sip.v11i2.64797>
- Chand, S. P., & Arif, H. (2023). *Depression* (pp. 1–8). StatPearls Publishing.
- Chen, L., Wang, W., Zhang, X., Zhao, K., Zhang, G., Feng, R., Chen, J., & Xu, D. (2020). Occupational Stress and Mental Health : A Comparison Between Frontline Medical Staff and Non-frontline Medical Staff During the 2019 Novel Coronavirus Disease Outbreak. *Frontiers in Psychiatry*, 11(December), 1–9. <https://doi.org/10.3389/fpsy.2020.555703>
- Colineaux, H., Neufcourt, L., Delpierre, C., Kelly-Irving, M., & Lepage, B. (2023). Explaining biological differences between men and women by gendered mechanisms. *Emerging Themes in Epidemiology*, 20(1), 1–17. <https://doi.org/10.1186/s12982-023-00121-6>
- Da Silva, A. M., & Guimarães, L. A. M. (2016). Occupational Stress and Quality of Life in Nursing. *Paidéia*, 26(63), 63–70. <https://doi.org/10.1590/1982-43272663201608>
- Dalton, E. D., & Hammen, C. L. (2018). Independent and relative effects of stress, depressive symptoms, and affect on college students' daily health behaviors. *Journal of Behavioral Medicine*, 41(6), 863–874. <https://doi.org/10.1007/s10865-018-9945-4>
- de Freitas, P. H. B., Meireles, A. L., Ribeiro, I. K. da S., Abreu, M. N. S., de Paula, W., & Cardoso, C. S. (2023). Symptoms of depression, anxiety and stress in health students and impact on quality of life. *Revista Latino-Americana de Enfermagem*, 31(e3885), 1–13. <https://doi.org/10.1590/1518-8345.6315.3885>
- Estoque, R. C., Togawa, T., Ooba, M., Gomi, K., Nakamura, S., Hijioka, Y., & Kameyama, Y. (2019). A review of quality of life (QOL) assessments and indicators: Towards a “QOL-Climate” assessment framework. *Ambio*, 48(6), 619–638. <https://doi.org/10.1007/s13280-018-1090-3>
- Eurofound. (2019). Workers in Europe in good health, but emotional demands take their toll.
- Hajian-Tilaki, K., Heidari, B., & Hajian-Tilaki, A. (2017). Are Gender Differences in Health-related Quality of Life Attributable to Sociodemographic Characteristics and Chronic Disease Conditions in Elderly People? *International Journal of Preventive Medicine*, 8, 1–5. [https://doi.org/10.4103/ijpvm.IJPVM\\_197\\_16](https://doi.org/10.4103/ijpvm.IJPVM_197_16)
- Hannerz, H., Albertsen, K., Nielsen, M., & AH, A. G. (2021). Long working hours and psychiatric treatment: A Danish follow-up study. *Scand J Work Environ Health*, 47(3), 191–199. <https://doi.org/10.5271/sjweh.3936>
- Hasani, Y. R., Tewal, B., & Walangitan, M. D. B. (2023). The Influence of Welfare, Seniority and Promotion on Employee Morale at PT. Catur Sentosa Adiprana Tbk Manado Branch. *Jurnal EMBA : Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 11(3), 1520–1531. <https://doi.org/10.35794/emba.v11i3.50711>
- Herdianti, L., Krisna, F. (2020). Hubungan Masa Kerja dengan Kualitas Hidup Nelayan di Derawan Tahun 2020. *Borneo Student Research (BSR)*, 2(1), 321–326. <https://doi.org/10.21203/rs.3.rs-2036567/v1>
- Kalia, V., Knauff, K., & Hayatbini, N. (2020). Cognitive flexibility and perceived threat from COVID-19 mediate the relationship between childhood maltreatment and state anxiety. *PLoS ONE*, 15(12), 1–18. <https://doi.org/10.1371/journal.pone.0243881>
- Lopez-Ruiz, V.-R., Huete-Alcocer, N., Alfaro-Navarro, J.-L., & Nevado-Peña, D. (2021). The relationship between happiness and quality of life: A model for Spanish society. *PLoS ONE*, 16(11), 1–15. <https://doi.org/10.1371/journal.pone.0259528>

- Mappigau, E. (2023). Analysis of the Factors Affecting the Level of Income of Micro and Small Enterprises in Mamuju District. *Growth: Jurnal Ilmiah Ekonomi Pembangunan*, 2(1), 56–68.
- McEwen, B. S. (2017). Neurobiological and Systemic Effects of Chronic Stress. *Chronic Stress*, 1, 1–11. <https://doi.org/10.1177/2470547017692328>
- Munir, S., & Takov, V. (2022). Generalized anxiety disorder. In StatPearls Publishing (pp. 1–6). StatPearls Publishing.
- Narpati, J. R., Ekawati, E., & Wahyuni, I. (2019). Hubungan Beban Kerja Fisik, Frekuensi Olahraga, Lama Tidur, Waktu Istirahat dan Waktu Kerja dengan Kelelahan Kerja. *Jurnal Kesehatan Masyarakat*, 7(1), 337–344. <https://doi.org/https://doi.org/10.14710/jkm.v7i1.22996>
- Prasad, K. D. V., & Vaidya, R. (2018). Causes and Effect of Occupational Stress and Coping on Performance with Special Reference to Length of Service: An Empirical Study Using Multinomial Logistic Regression Approach. *Psychology*, 09(10), 2457–2470. <https://doi.org/10.4236/psych.2018.910141>
- Pratiwi, I. W. (2020). Work life balanced pada wanita karier yang telah berkeluarga. *Jurnal Psikologi Pendidikan Dan Pengembangan Sdm*, 10(1), 72–89.
- Qori, S. N., & Mulyana, O. P. (2022). Hubungan antara Tuntutan Pekerjaan Dengan Stres Kerja. *Character: Jurnal Penelitian Psikologi*, 9(3), 99–108.
- Qoyyimah, M., Abrianto, T. H., & Chamidah, S. (2019). Pengaruh Beban Kerja, Stres Kerja dan Lingkungan Kerja Terhadap Kinerja Karyawan Bagian Produksi PT. INKA Multi Solusi Madiun. *ASSET: Jurnal Manajemen Dan Bisnis*, 2(1), 11–20. <https://doi.org/10.24269/asset.v2i1.2548>
- Rumawas, M. E., & Wijaya, E. (2023). Sociodemographic Predictors of General Health and Quality Of Life in The Elderly in Community or Nursing Home During The Covid-19 Pandemic. *International Journal Of Application on Social Science and Humanities Vol.*, 1(1), 76–88. <https://doi.org/10.24912/ijassh.v1i1.25689>
- Saedpanah, K., Ghasemi, M., Akbari, H., Adibzadeh, A., & Akbari, H. (2023). Effects of workload and job stress on the shift work disorders among nurses: PLS SEM modeling. *European Journal of Translational Myology*, 33(1). <https://doi.org/10.4081/ejtm.2022.10909>
- Sharma, S. K., Mudgal, S. K., Thakur, K., Parihar, A., Chundawat, D. S., & Joshi, J. (2021). Anxiety, depression and quality of life (QOL) related to COVID - 19 among frontline health care professionals: A multicentric cross-sectional survey. *Journal of Family Medicine and Primary Care*. <https://doi.org/10.4103/jfmpc.jfmpc>
- Stein, A. T., Carl, E., Cuijpers, P., Karyotaki, E., & Smits, J. A. J. (2021). Looking beyond depression: A meta-analysis of the effect of behavioral activation on depression, anxiety, and activation. *Psychological Medicine*, 51(9), 1491–1504. <https://doi.org/10.1017/S0033291720000239>
- Sumardiyono, Probandari, A., Hartono, & Wijayanti, R. (2019). A Path Analysis: Study of Correlation between Noise Intensity and Quality of Life of Workers in Textile Industry. *Journal of Physics: Conference Series*, 1424(1). <https://doi.org/10.1088/1742-6596/1424/1/012045>
- Sunaryo, M., & Ratriwardhani, R. A. (2022). The effect of workload and length of work on the occurrence of fatigue in workers in the informal industry. *Bali Medical Journal*, 11(1), 310–314. <https://doi.org/10.15562/bmj.v11i1.3110>
- Syalfina, A. D. (2017). Body Mass Index (BMI) dan Lama Menopause Berpengaruh Terhadap Kualitas Hidup Menopause (Studi di Desa Karang Jeruk Kecamatan Jatirejo Kabupaten Mojokerto). *Hospital Majapahit*, 9(1), 28–42. <https://doi.org/10.5281/zenodo.3514516>
- Villas-boas, S., Oliveira, A. L., Ramos, N., & Montero, I. (2019). Predictors of Quality of Life in Different Age Groups Across Adulthood. *Journal of Intergenerational Relationships*, 17(1), 42–57. <https://doi.org/10.1080/15350770.2018.1500330>
- Wahyuni, Chairunisa, M., Rauh, A., & Purwana, R. (2022). The Effect Analysis of The Risk Factor in Work Accident on Nurses at Dr. RM Pratomo Hospital Bagan Siapiapi. *Jurnal Kesehatan LLDIKTI Wilayah 1 (JUKES)*, 1(107), 19–26. <https://doi.org/https://doi.org/10.54076/jukes.v2i1.210>

- Wang, J., Mo, C., Sheng, Q., Huang, Y., Lin, D., Liang, Y., & Zhang, N. (2023). Association of length of service and job category with occupational health literacy of port employees in Shenzhen, China. *BMC Public Health*, 23, 1–10. <https://doi.org/10.1186/s12889-023-15769-7>
- Wang, Z., Liu, H., Yu, H., Wu, Y., Chang, S., & Wang, L. (2017). Associations between occupational stress, burnout and well-being among manufacturing workers: mediating roles of psychological capital and self-esteem. *BMC Psychiatry*, 17, 1–10. <https://doi.org/10.1186/s12888-017-1533-6>
- Yoo, E. H., Choi, E. S., Cho, S. H., Do, J. H., Lee, S. J., & Kim, J. (2018). Comparison of Fatigue Severity and Quality of Life between Unexplained Fatigue Patients and Explained Fatigue Patients. *Korean Journal of Family Medicine*, 39, 180–184. <https://doi.org/10.4082/kjfm.2018.39.3.180>
- Yuan, D., Gazi, A. I., & Rahman, A. (2022). Occupational stress and health risk of employees working in the garments sector of Bangladesh: An empirical study. *Frontiers in Psychiatry*, 10(1).
- Zakiah, Z., Karim, U. N., Dewi, A., Nuraini, S., Sutandi, A., & Alnur, R. D. (2023). Workload and Stress Level in Non-COVID-19 Zoning Nurses at National Central Public Hospital Jakarta. *Kesmas: Jurnal Kesehatan Masyarakat Nasional*, 18(3), 186. <https://doi.org/10.21109/kesmas.v18i3.7326>