



Gratitude as a Buffer: Exploring Its Moderating Role in the Link Between Daily Hassles and Life Satisfaction Among Students

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Abstract: Satisfaction with life is part of the cognitive process that can be negatively affected by perceptions of everyday events, which is known as daily hassles. A sense of gratitude is always appreciating, recognizing, and responding to life events that are determinants of mental health and well-being, and have been shown to increase satisfaction with life. The purpose of this study is to investigate the moderating role of gratitude in the relationship between daily hassles and satisfaction with life. The study used a quantitative approach with a cross-sectional design and involved 169 undergraduate students as respondents. The selected respondents will fill out three research scales, namely the lives daily hassles scale (LIVES-DHS) 18 items, the gratitude questionnaire – five item form (GQ-5), and the satisfaction with life scale (SWLS) 5 items. Moderated regression analysis was conducted to test the role of gratitude as a moderator using R programming language (v4.4.0) and RStudio (v2024.04.1-748). Our results show that gratitude acts as a moderator in the relationship between daily hassles and satisfaction with life. This study contributes as a reference material in implementing gratitude interventions to increase satisfaction with life in dealing with daily hassles.

Keywords: Daily hassles, gratitude, satisfaction with life, students

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INTRODUCTION

Undergraduate students have been shown to be more vulnerable to developing mental health problems and psychological distress compared to the general population of their age (Larcombe et al., 2016),

including final students who are currently undertaking a thesis program. Final year students are defined as individuals who are in the final phase of their study period and accept demands to complete their studies immediately within a certain time limit. Of course, there are many psychological

problems faced by final students, such as demands to read textbooks and review journals, so that it takes enough time and energy for students. In addition, parental pressure to complete studies quickly results in students requiring the use of active coping strategies to adapt to the new conditions they experience (Shankland et al., 2009). Research has shown that academic demands and pressures (Baghurst & Kelley, 2014), as well as such everyday hassles can reduce student well-being (Réveillère et al., 2001). In addition, completing research on the final project (thesis) is a form of daily hassles that can cause stress (Devonport & Lane, 2006). Thesis is considered as the most powerful challenge and threat, for students who are completing their final project. Loads that are considered too heavy can trigger memory disturbances, concentration, decreased problem-solving abilities and academic abilities (Goff, 2011), thus impacting final year student satisfaction with life. The results of an initial survey of 30 final students who were programming their thesis showed that as many as 83,333% (25 people) experienced a low level of satisfaction with life. In addition, researchers conducted interviews with several students, and found that students who were working on their thesis experienced stress, difficulty sleeping, irregular eating patterns, lack of confidence, and difficulty concentrating. Therefore, with more demands by final students, of course it greatly affects the quality of satisfaction with life.

Daily hassles is defined as the experiences and conditions of everyday life of individuals that are considered dangerous or threaten their well-being (Lazarus, 1984). Individuals who bother making subjective and negative judgments about everyday events. Even if the hassle was directly related to objective and dangerous experiences, the meanings that people inferred made them remember it in a more depressing way. Students tend to use coping strategies that focus on emotions such as

avoidance and self-punishment to deal with daily hassles, which are associated with negative affect and have a negative impact on health (Brougham et al., 2009; Pritchard et al., 2007). Therefore, daily hassles is positively related to physical illness (DeLongis et al., 1988), and psychopathological symptoms such as stress and fatigue (Shankland et al., 2018; Larsson et al., 2016). Complexity is also negatively related to life satisfaction (Lavee & Ben-Ari, 2007). Thus, daily hassles negatively affects mental health and well-being. This influence can be understood by considering how individuals rate their subjective well-being. According to Diener's (1984) conceptualization, subjective well-being consists of a cognitive assessment of overall life satisfaction, and emotional response. Life satisfaction reflects the evaluation of one's life assessment (Diener et al., 1985). This cognitive process relies on a comparison of one's perceived living conditions with the targeted standard of living (Diener, 1984). Therefore, daily hassles and satisfaction with life are assessments of the conditions of everyday life. In an academic context, increasing subjective well-being can be overcome by reducing final student's negative perceptions of their daily demands.

One way to reduce the influence of daily hassles on satisfaction with life can be through the perception of gratitude for life. McCullough et al. (2002) suggest that gratitude is defined as a general tendency to recognize and respond to emotions for the benevolent role of others in various experiences in order to obtain positive effects. In this conceptualization, the disposition to be grateful is built on the process of cognitive appraisal of the benefits and assessment of its characteristics and on the emotional process of sharing the benefits of the appreciation received (Emmons & McCullough, 2003). Gratitude is negatively related to negative affect, depression, and anxiety (Cregg & Cheavens, 2020; Petrocchi &

Couyoumdjian, 2016), and positively related to well-being (Jans-Beken et al., 2020; Dickens, 2017). Indeed, scholars have highlighted the benefits of gratitude interventions in the context of mental health and well-being, but participants who were exposed to daily hassles did not display high levels of gratitude (Cunha et al., 2019; Emmons & McCullough, 2003). Grateful individuals tend to adopt more active coping strategies, such as seeking social support or reframing negative events into positive ones (Lambert et al., 2012). Therefore, they are better able to reassess negative events positively, and are less likely to blame themselves (Wood et al., 2007). The fundamental process that can explain how gratitude is related to higher levels of satisfaction with life, namely by being grateful individuals always experience positive thoughts, and allows them not to get too depressed (Lambert et al., 2012). Given the findings of previous studies (Brougham et al., 2009; Pritchard et al., 2007), we formulate the hypothesis as follows: daily hassles has effect on satisfaction with life (H1), and gratitude

moderates the effect of daily hassles on satisfaction with life (H2).

The present study

In short, the main purpose of this study is to test whether gratitude acts as a moderator in the relationship between daily hassles and satisfaction with life, as evidenced by using a cross-sectional design.

METHOD

Design

This study uses a quantitative approach with a cross-sectional design, where data is collected at a certain point in time. The use of this design was chosen because it is more practical in terms of time and cost, thus allowing data collection from many respondents efficiently.

Participant

Recruitment of research participants was carried out using convenience sampling techniques with inclusion criteria of undergraduate students aged 20 to 23 years.

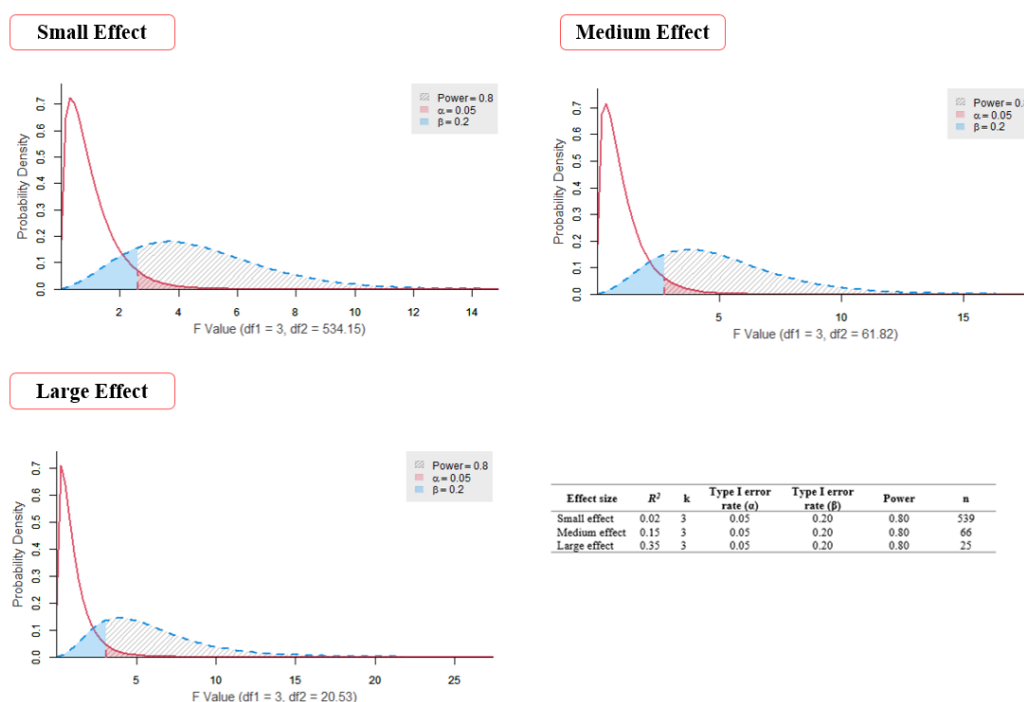


Figure 1: Distribution of Determining the Number of Samples in Statistical Power Analysis

The results of the statistical power analysis (using the *pwrss* package; Bulus,

2023) showed that this study required a minimum of 66 participants for adequate

analysis ($r^2 = 0.15$, $\alpha = 0.05$, power = 0.80; Faul et al., 2007; Perugini et al., 2018). The selection of a moderate effect (0.15) was carried out because it is considered the most ideal condition in empirical data, avoiding effects that are too low or too high. In addition, the influence of each effect on determining the number of samples can be seen in more detail in Figure 1.

Procedure

Selected respondents in this study were given an online questionnaire. On the first page of the questionnaire, there is informed consent that must be filled out by each respondent as proof of agreement to contribute considering that this research is voluntary and applies an anonymity system. The online questionnaire was distributed from 1 to 28 December 2020.

Instruments

Demographic data

Demographic data was measured using several questions related to the sociodemographics of the respondents, such as gender, age, and generation which produced dummy and categorical variables, before giving the research questionnaire.

Daily hassles

Daily hassles are measured using The LIVES Daily Hassles Scale (LIVES-DHS) 18 items and five factors, namely financial sources (3 items; e.g., "Need the financial help of someone I know"), physical sources (4 items; e.g., "Facing the effects of aging"), relational source (4 items; e.g., "Being alone, without friends"), environmental source (3 items; e.g., "Become the victim of theft or burglary"), and professional source (4 items; e.g., "Losing my job"), adapted from Udayar et al.'s scale. (2021) with responses assessed using the 4-point Likert model (1 = not at all, 2 = a little, 3 = somewhat, 4 = very much). In addition, this scale has good psychometric properties with a Cronbach

alpha coefficient value of 0.95 (for all scales), and for each factor, namely financial sources ($\alpha = 0.87$), physical sources ($\alpha = 0.87$), relational sources ($\alpha = 0.81$), environmental sources ($\alpha = 0.88$), and professional sources ($\alpha = 0.92$).

Gratitude

The Gratitude Questionnaire – Six Item Form (GQ-6; McCullough, et al., 2002) whose measurement aims to recognize and respond to the emotion of gratitude for the role of other people's benevolence in one's experience and positive results. However, for theoretical and empirical purposes item number six was omitted (see for full reasons in Bernabe-Valero, et al., 2020; Hudecek, et al., 2020), so that the scale used in this study only amounted to five items (e.g., "I am grateful to a wide variety of people") with an internal consistency of $\alpha = 0.89$ (Bernabe-Valero et al., 2021). This scale uses a 7-point Likert model (1 = strongly disagree to 7 = strongly agree), with scores ranging from 5 to 35 with high scores indicating high gratitude.

Satisfaction with life

Satisfaction with Life Scale (SWLS) is a scale used to measure life satisfaction in general, and is a cognitive aspect in the subjective well-being (SWB) construct. This scale was developed by Diener, et al. (1985) and translated into Indonesian by Akhtar (2019). This scale uses a 5-point Likert model (1 = Strongly disagree to 5 = Strongly agree). This scale consists of five items (e.g., "I am satisfied with my life") which describes an individual's assessment of his life with internal consistency in the good category ($\alpha = 0.828$; Akhtar, 2019).

Data analysis

The researcher conducted a descriptive analysis to see the average scores obtained by respondents, followed by correlation, comparative, and moderated

regression analysis to test the role of gratitude variables in the relationship between daily hassles and satisfaction with life. This analysis was conducted using the R programming language (v4.4.0, R Core Team, 2024) and RStudio (v2024.04.1-748, RStudio Team, 2024). Several R packages used include: *readxl* (Wickham et al., 2023a) to import Excel files, *jmv* (Selker et al., 2023) for descriptive and inferential analysis, including moderated regression, and *lmtest* (Hothorn et al., 2022) to support regression analysis.

Data visualization was performed using several packages, such as *ggplot2* (Wickham et al., 2023b) to organize the plot structure, *ggstatsplot* (Patil & Powell, 2024) for plot themes and correlation visualization, *ggpmisc* (Aphalo et al., 2024) for interaction plots, *performance* (Lüdtke et al., 2024) to compare model performance, *rempsyc* (Thériault, 2024) to check model assumptions, and *patchwork* (Pedersen, 2024) to combine multiple plots in one layout. In addition, researchers also conducted a power analysis to see the relationship between variables using the main package *InteractionPoweR* (Baranger et al., 2024), which is supported by other packages such as *gridExtra* (Auguie & Antonov, 2017), *cowplot* (Wilke, 2024), and *ggpubr* (Kassambara, 2023) to compile plots, *grid* (R Development Core Team, 2024) supports the arrangement of

graphical elements, *ggrepel* (Slowikowski et al., 2024) to avoid overlapping labels on the plot.

RESULTS AND DISCUSSION

Statistical description and correlation

The number of students who participated in this study was 169, consisting of 125 (73.964%) female students and 44 (26.035%) male students, with an age range of 20 to 23 years ($M_{age} = 21.6$, $SD = 0.96$). Respondents came from the psychology department, namely 15.384% of students from the 2015 intake, 24.852% of students from the 2016 intake, and 59.763% of students from the 2017 intake. Meanwhile, participants gave an assessment of the condition of daily hassles with an average value of 55.023 ($SD = 11.473$), gratitude of 24.662 ($SD = 6.191$), and satisfaction with life of 14.071 ($SD = 4.192$), with skewness values for the three variables sequentially moving from -1.799 to 0.438. This means that the research data has been normally distributed because it does not exceed the value of -2 to 2 (Field, 2024). The use of the skewness method to prove univariate normality has been required by the American Psychological Association (APA) as a standard form of reporting quantitative research results (Appelbaum et al., 2018).

Table 1. Descriptive Statistics and Correlation Between Main Variables

Variables	<i>M</i>	<i>SD</i>	<i>Skew</i>	Daily hassles	Gratitude	Satisfaction with life
Daily hassles	55.023	11.473	-1.799	–		
Gratitude	24.662	6.191	-1.401	0.036	–	
Satisfaction with life	14.071	4.192	0.438	-0.204**	0.037	–

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

In addition, the results of Pearson correlation analysis (Table 1) show that daily hassles are negatively and significantly correlated with satisfaction with life ($r = -0.204$, $p = 0.007$), but not correlated with gratitude ($r = 0.036$, $p = 0.641$). The same thing was also obtained that gratitude was not correlated with satisfaction with life ($r = 0.037$, $p = 0.631$).

These results can be said that gratitude may act as a moderator variable that can change the direction or strength of the indirect relationship between daily hassles and satisfaction with life. Meanwhile, the correlation results have also been visualized in Figure 2 to clarify the direction of the relationship. Through this plot, we can clarify the dynamics of the relationship.

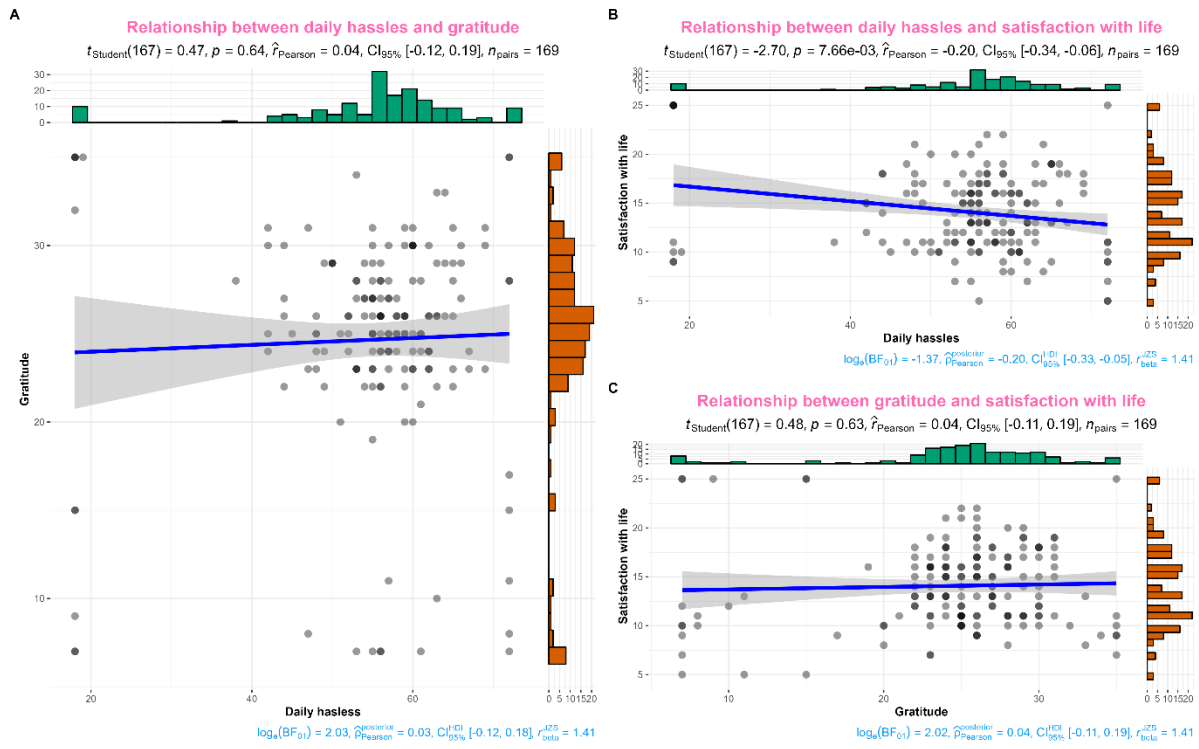


Figure 2: Scatterplot Correlation

Comparison of outcome variable

Comparative analysis (Table 2) using the independent sample t-test method showed that men had a lower average life

satisfaction score ($M = 11.795$; $SD = 3.488$) compared to women ($M = 14.872$; $SD = 4.136$), but this difference was not significant ($t_{(1;167)} = 1.955$; $p = 0.163$) and not statistically significant.

Table 2. Descriptive statistics and comparisons on observed variables

Demographic characteristics	N	M	SD	t/F	df1	df2	p
Gender							
Male	44	11.795	3.488	1.955	1	167	0.163
Female	125	14.872	4.136				
Age							
20 years old	23	14.260	5.762	5.326	3	68.776	0.002
21 years old	54	14.537	4.355				
22 years old	57	12.684	3.365				
23 years old	35	15.485	3.390				
Force							
2015	26	15.000	3.752	2.725	2	65.014	0.073
2016	42	14.928	3.750				
2017	101	13.475	4.399				

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Then, comparative analysis using the one-way ANOVA method found that there was a significant difference in life satisfaction based on age ($F_{(3; 68.776)} = 5.326$; $p = 0.002$), but not significant when viewed

based on student generation ($F_{(2; 65.014)} = 2.725$; $p = 0.073$). Meanwhile, a post-hoc analysis of the differences in *satisfaction with life*, based on more detailed studies, is presented in Figure 3.

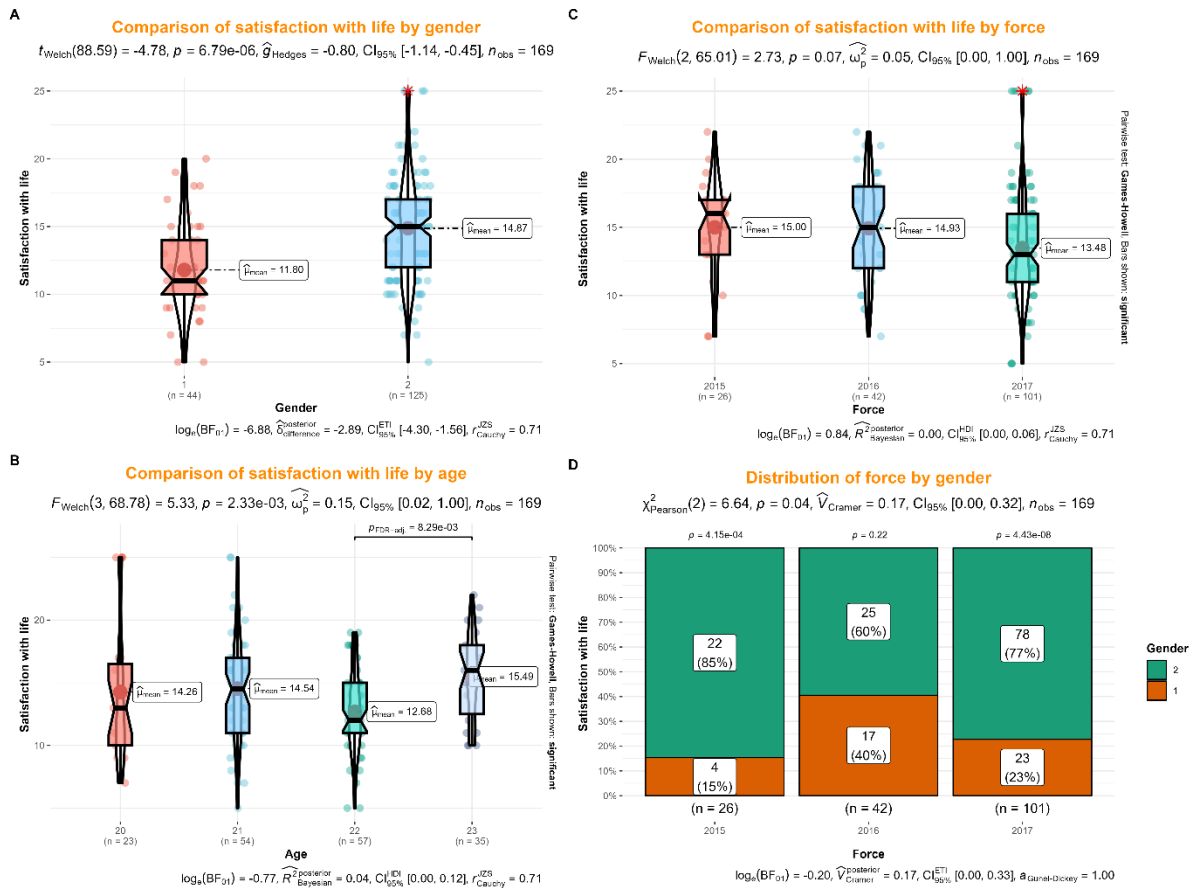


Figure 3: Comparison of satisfaction with life based on demographic data

Moderation regression analysis

Hypothesis evaluation requires a regression model that has a good fit to the data. Table 3 presents a comparison of various measurement models to determine the most appropriate model, using indicators such as R^2 , Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and overall model testing. In Model 1, the R^2 value of 0.418 indicates that this model explains about 41.8% of the data variability. This model has an AIC of 962 and a BIC of 971, with significant model testing results ($F_{(1, 167)} = 7.285, p =$

0.008). Although significant, this model still has room for improvement in fit.

In Model 2, there is a slight increase with an R^2 value of 0.437, which means this model explains 43.7% of the data variability, or an increase of 1.9% compared to Model 1 ($\Delta R^2 = 0.019$). Testing the difference between Model 1 and Model 2 showed no significant results ($\Delta F_{(1, 166)} = 0.345, p = 0.558$). The AIC (963) and BIC (976) values also showed a slight increase, but not significant enough. Thus, Model 2 did not provide a substantial improvement compared to Model 1, and was not able to explain the research data.

Table 3. Comparison of regression fit models

Model	R^2	AIC	BIC	Overall Model Test				Model Comparison				
				F	df1	df2	p	ΔR^2	ΔF	df1	df2	p
Model 1	0.418	962	971	7.285	1	167	0.008	—	—	—	—	—
Model 2	0.437	963	976	3.800	2	166	0.024	0.019	0.345	1	166	0.558
Model 3	0.319	908	924	25.791	3	165	<0.001	0.275	66.762	1	165	<0.001

Note. AIC: Akaike information criterion, BIC: Bayesian information criterion. ΔR^2 & ΔF : Model 2 (Model 2 – Model 1), Model 3 (Model 3 – Model 2).

Model 3 shows a much more significant improvement, with an R^2 value of 0.836, meaning that this model is able to explain 83.6% of the data variability. The decrease in the AIC value to 908 and BIC to 924 indicates a substantial increase in model fit compared to the previous model. In addition, the increase in R^2 compared to Model 2 ($\Delta R^2 = 0.275$) is statistically significant ($\Delta F_{(1, 165)} = 66.762, p < 0.001$). With the lowest AIC and BIC among the three models, Model 3 can be concluded as

the most appropriate model to explain the relationship between variables (Kline, 2023). These results also support the role of gratitude as a moderator variable, because Model 3 shows a strong measure of explanatory power (Chin, 1988) with a significant difference in fit compared to the other models. The results of the stepwise analysis for each regression model have also been summarized and visualized (Figure 4), with the aim of clarifying the dynamics of the research model.

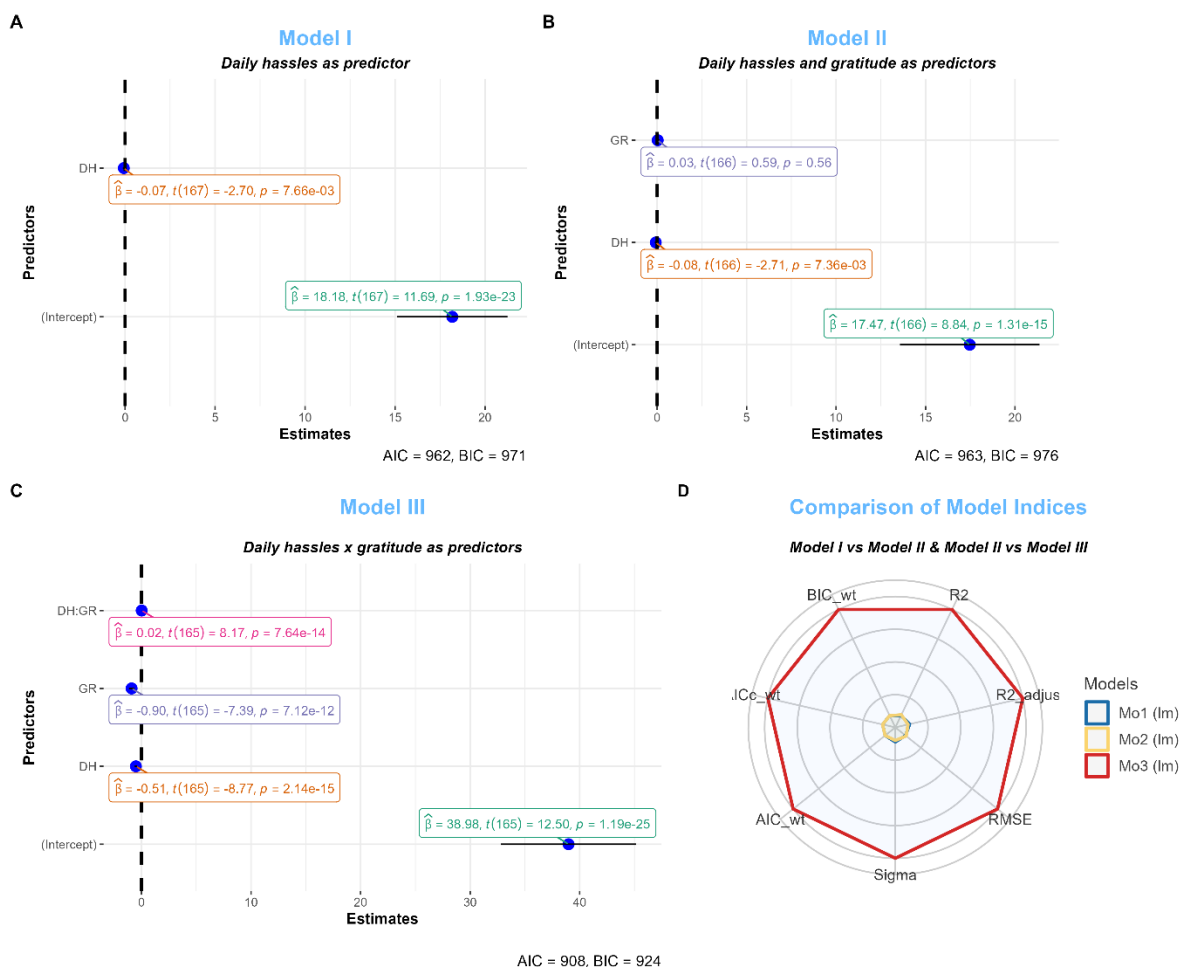


Figure 4: Comparison of regression models

With the obtained fit model, the analysis was continued with hypothesis testing using moderated multiple regression analysis. Table 4 presents the results of the regression model used to predict satisfaction with life and prove the research hypothesis.

Model 1 shows an R value of 0.204 and an Adjusted R^2 of 0.036, which means

that this model only explains 3.6% of the variability in satisfaction with life. The intercept of 18.182 is significant ($p < 0.001$), while the coefficient for the daily hassles (X) variable is -0.074 ($p = 0.007$), indicating a significant negative effect on satisfaction with life. Although significant, the contribution of this model to variability is still very small.

Table 4. Moderated regression analysis

Model		B	SE	β	95% CI		<i>t</i>	<i>p</i>	
					Lower	Upper			
Model 1									
<i>R</i> = 0.204, <i>Adj.R</i> ² = 0.036, <i>RMSE</i> = 4.091									
	Intercept	<i>iY</i>	18.182	1.555	–	15.111	21.253	11.687	<0.001
	Daily hassles (X)	<i>b1</i>	-0.074	0.027	-0.024	-0.129	-0.020	-2.699	0.007
Model 2									
<i>R</i> = 0.209, <i>Adj.R</i> ² = 0.032, <i>RMSE</i> = 4.087									
	Intercept	<i>iY</i>	17.469	1.975	–	13.569	21.369	8.844	<0.001
	Daily hassles (X)	<i>b1</i>	-0.075	0.027	-0.206	-0.130	-0.020	-2.713	0.007
	Gratitude (W)	<i>b2</i>	0.030	0.051	0.044	-0.071	0.131	0.587	0.558
Model 3									
<i>R</i> = 0.565, <i>Adj.R</i> ² = 0.306, <i>RMSE</i> = 3.449									
	Intercept	<i>iY</i>	38.981	3.118	–	32.823	45.139	12.499	<0.001
	Daily hassles (X)	<i>b1</i>	-0.507	0.057	-0.136	-0.622	-0.393	-8.768	<0.001
	Gratitude (W)	<i>b2</i>	-0.901	0.122	-0.179	-1.142	-0.660	-7.386	<0.001
	Daily hassles × Gratitude	<i>b3</i>	0.018	0.002	0.315	0.014	0.023	8.170	<0.001

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Model 2 shows a slight increase with an R value of 0.209 and an Adjusted R^2 of 0.032. The intercept decreases to 17.469 ($p < 0.001$), while the coefficient for daily hassles (X) remains significant at -0.075 ($p = 0.007$). However, the gratitude variable (W) has a coefficient of 0.030 and is not significant ($p = 0.558$), so its effect on satisfaction with life is not statistically detected. Thus, Model 2 only shows a slight improvement compared to Model 1.

Model 3 shows a much better fit, with an R value of 0.565 and an Adjusted R^2 of 0.306. This indicates that this model can explain 30.6% of the variability in satisfaction with life. The intercept increased significantly to 38.981 ($p < 0.001$). The coefficient for daily hassles (X) of -0.507 ($p < 0.001$) indicates a significant negative effect. The gratitude variable (W) has a coefficient of -0.901 ($p < 0.001$), which is also significant. In addition, the interaction between daily hassles (X) and gratitude (X $\times$ W) provides a coefficient of 0.018 ($p < 0.001$), indicating that gratitude acts as a moderator that reduces the negative impact of daily hassles on satisfaction with life.

Based on the results of this moderated regression, it can be said that

model 3 is the best model in predicting satisfaction with life, as evidenced by a significant increase in the Adjusted R^2 value and a significant interaction coefficient. These results support the first hypothesis that daily hassles have an effect on satisfaction with life (H1 is accepted), and also support the second hypothesis that gratitude can moderate the negative effect of daily hassles on satisfaction with life (H2 is accepted).

This interaction effect is also visualized in Figure 5, which shows the relationship between daily hassles, gratitude, and life satisfaction more clearly. The visualization of the interaction effect shows that even though individuals are exposed to daily hassles, but they are always grateful, the satisfaction with life they feel is getting higher. The role of high gratitude is certainly very meaningful and statistically significant in influencing the relationship between daily hassles and life satisfaction ($B = 0.75$, $p = 0.024$), with a given effect of 75%. Conversely, when individuals are exposed to daily hassles, but have moderate gratitude ($B = -0.55$, $p = 0.033$) and low ($B = -1.90$, $p < 0.001$), then the satisfaction with life they feel is relatively significantly reduced.

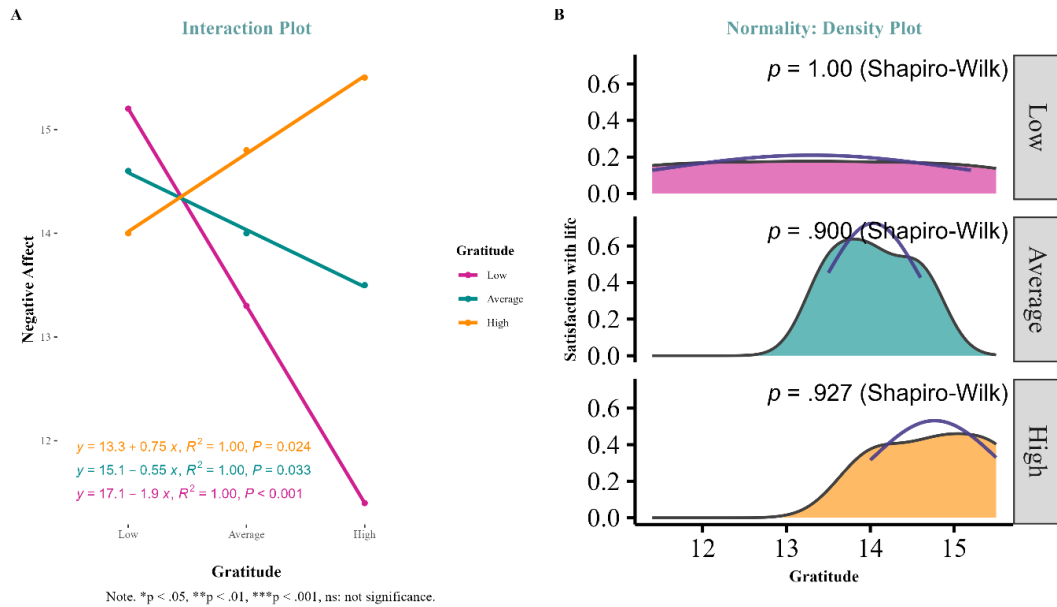


Figure 5: Plot of daily hassles × gratitude interaction on satisfaction with life

This analytical evaluation involved several important parameters, including the correlations between daily hassles and satisfaction with life (X1 and Y; $r = -0.204$), gratitude and satisfaction with life (X2 and Y; $r = 0.037$), and daily hassles and gratitude (X1 and X2; $r = 0.036$), with sample size ($N = 169$). The hypothesized interaction effect (daily hassles × gratitude; $r = -0.044$) showed a change in the

relationship between daily hassles and satisfaction with life for every 1 SD change in gratitude (Figures 6A and 6C). Variations in the correlation between daily hassles (X1) and gratitude (X2) (Figures 6B and 6D) produced either suppressive or reinforcing effects, depending on their direction and magnitude, providing important insights into the dynamics of the interaction between the two variables.

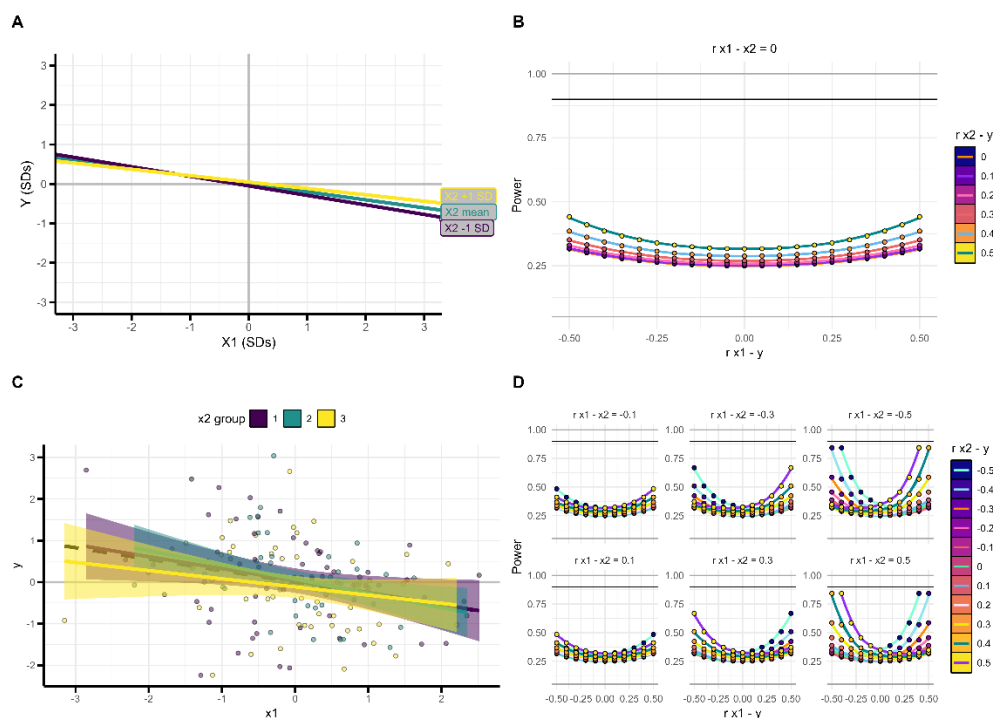


Figure 6: Plot of analytical evaluation

Exposure to daily hassles is the main predictor of poorer life satisfaction. However, this relationship is weaker for happily grateful individuals. This suggests that a grateful disposition moderates and weakens the effect of daily hassles exposure on life satisfaction. Thus, gratitude seems to act as a buffer against daily hassles. In line with previous research which reported that gratitude acts as a moderator in the daily hassles linkage with satisfaction with life (Tachon et al., 2021). In addition, previous research also found that gratitude is a positive source for dealing with adverse situations (daily hassles), based on a coping process that reframes the situation, resulting in a positive interpretation (Lambert et al., 2012; Wood et al., 2007). The more grateful individuals are, the more likely they are to reinterpret negative events in a more positive way and are able to develop personal growth through these adverse situations (Wood et al., 2007). By reframing events that were previously considered negative to positive, gratitude has a moderating role in explaining the dynamics of the influence of daily hassles on satisfaction with life (Lambert et al., 2012). So, even though individuals are always exposed to daily hassles, they are always grateful, so the effects arising from daily hassles exposure will not affect the respondent's satisfaction with life. As a cognitive appraisal process, satisfaction with life can be influenced by how individuals perceive the event (Diener et al., 1985). Therefore, daily hassles is a threat to the well-being of individuals who evaluate events negatively (Lazarus, 1984).

In addition, our research shows that gratitude has a moderate role in the influence of daily hassles and satisfaction with life. These findings support the literature which suggests the role of a grateful disposition as a determinant of well-being (Jans-Beken et al., 2020), and provides insight into the dynamics of gratitude and daily hassles affecting satisfaction with life. One possible explanation for this result depends on the

strategies grateful people use to deal with stress. This perspective supports the relevance of the development of gratitude for increasing well-being, and the investigation of positive reframing processes involved in the relationship between daily hassles, gratitude, and satisfaction with life among college students. Findings about the buffering role of gratitude between daily hassles and satisfaction with life can encourage the development of gratitude-based interventions among university students. Gratitude-based interventions can be useful for students as a way to promote more adaptive coping strategies (Lambert et al., 2012; Wood et al., 2007). This type of intervention also has the advantage of being a low-cost, easily accessible intervention in the context of a diverse student population with a limited budget (Bono et al., 2020). In fact, a weak to moderate effect was found on the effectiveness of the gratitude intervention in reducing anxiety and depression (Cregg & Cheavens, 2020; Dickens, 2017), and gratitude interventions can be useful for overcoming daily hassles disorders and then increasing student satisfaction with life.

Limitation

The main limitation of this study is that the research design is cross-sectional, making it difficult to conclude a causal relationship between the variables measured. Additionally, self-reporting of data for each respondent introduces potential biases, such as social desirability or recall bias, further limiting the generalizability of our findings. Future research is recommended to adopt a longitudinal design to better identify causal relationships between the measured variables. The cross-sectional design in our study also hindered the assessment of the reliability of the Indonesian version of the GQ-5 scale through test-retest methods. Therefore, further research is highly encouraged to comprehensively evaluate the psychometric properties of the GQ-5

scale in the Indonesian population, including its factorial structure, measurement invariance, and test-retest reliability.

CONCLUSION AND RECOMMENDATION

Our research finds that gratitude acts as a moderator in the relationship between daily hassles and satisfaction with life for students, especially in Makassar City, Indonesia. In addition, although our study has limitations, it also contributes to the gratitude literature that allows the assessment of gratitude in clinical and research domains in the context of Indonesia. Then, gratitude among students acts as a self-defense mechanism against daily hassles on satisfaction with life. This certainly supports the perspective that gratitude is a determinant of mental health and well-being. These results can be used as a reference in implementing gratitude

interventions to increase satisfaction with life in dealing with daily hassles in everyday life.

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Author Contributions

Dibyo Restu Nugraha: Conceptualization; Project Administration; Visualization; Writing Original Draft. **Dwi Yan Nugraha:** Conceptualization; Data Curation; Formal Analysis; Methodology; Visualization; Writing, Review & Editing. **Bambang Pratama Jamaluddin:** Formal Analysis; Project Administration. **Andi Khaerul Imam:** Writing, Review & Editing. **Fadhil Mubharak:** Writing, Review & Editing.

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