



RESEARCH ARTICLE

The Moderating Role of Self-Regulation in the Emotional Intelligence and Life Quality of University Students

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Abstract

This research is based on the aim of examining the perspective of the quality of life of university students based on the level of emotional intelligence by placing self-regulation as a moderator variable, both in general and based on each student category. The research was conducted using a survey method of 560 selected university students and determined using a purposive sampling technique. All participants were sports and non-sports university students from five universities. The Emotional Intelligence Scale (EIS), self-regulation Questionnaire (SRQ) and Life Quality Scale (LQS) are used as instruments in this study. All collected data were analyzed using the structural equation model analysis technique and the type of AMOS version 20 application. Based on the results of the analysis it was found that overall, the perspective of university student quality of life was directly influenced by the level of emotional intelligence, but not applicable to non-sports and sports university student categories. In addition, it was found that self-regulation did not moderate the relationship between the quality of life perspective and the level of emotional intelligence.

Keywords

Emotional Intelligence, Self-Regulation, Quality Of Life, University Students

INTRODUCTION

The results of a survey found that university students are active users of the internet. All university student academic and non-academic activities are always related to the internet. Therefore, the internet is an integral part of student life. On the one hand, the use of internet access is needed by students as a medium for seeking information on their study assignments at the university. However, on the other hand, it can cause bad habits for students. The need, accompanied by the ease of accessing the internet, was found to be a driving factor for the tendency for students to experience high internet addiction (Tiarania et al.,

2014). The internet has become the main supplier of student needs and influences various aspects of one's life both socially, individually, academically, and even the formation of one's lifestyle.

Excessive use of technology will pose health risks (such as hypokinetics and unhealthy eating patterns) which can reduce the quality of life for university students, and can even threaten death (Ngafifi, 2014). It has been reported in several studies that a sedentary bad lifestyle can increase illness and negative feelings, such as anxiety, difficulty concentrating, depressed mood, physical inactivity and difficulty socializing due to excessive use of the internet (Peltzer & Pengpida, 2014; Rodríguez-Fernández et al., 2017). If this problem

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is left unchecked, it will greatly affect the quality of human life itself in living their daily lives.

As a multidimensional concept, quality of life is a very important aspect because it covers all areas of life including health, expectations, work, family, environment and other life situations (Muhaimin, 2010). Having a good quality of life is the goal of every human being who lives in order to achieve ideal life satisfaction and well-being. According to World Health Organization (WHO, 1996), quality of life is a person's perception of the conditions of cultural life and the value system in which individuals are associated with goals, expectations, and concerns (Gülgösteren, 2023; Knezevic et al., 2024).

Psychological factors are one of the important factors that are very useful for controlling all events experienced by individuals in their lives (Rohmah et al., 2012). It was reported by Jacob & Sandjaya (Jacob & Sandjaya, 2024) that individuals who do not suffer from mental emotional disorders, 2.5 times have a better quality of life (73.2%) compared to individuals who suffer from mental emotional disorders. Al-Huwailah (Al-Huwailah, 2017) reported the results of his research that every university student needs a quality psychological, mental-spiritual, and social environment, which can be achieved by providing knowledge and instilling positive values, developing life skills and emotional intelligence related to quality of life. This, can help individuals to cope with life situations and understand them in various perspectives. Thus, emotional intelligence has a major influence on the quality of human life in living their daily lives.

Emotional intelligence is a composite construct, including different emotional reasoning abilities, such as the ability to receive, understand, and regulate emotions which has a major influence on one's life satisfaction (Gul et al., 2014). As a composite construct, emotional intelligence is defined as the ability to control desires and delay their fulfillment, regulate moods, separate feelings from thoughts, and put oneself in the shoes of others. Therefore, in a theoretical perspective (Bar-On, 2006), emotional intelligence is constructed by various dimensions, namely the dimensions of intra-personal, inter-personal, adaptation, stress management and general mood. These five dimensions have interrelated meanings, namely how to regulate oneself regarding individual emotional problems both to oneself and to others. For that reason, the self-regulation variable in this

study is placed as a moderator variable that might strengthen or weaken the relationship between emotional intelligence and students' quality of life. Sari (Sari, 2014) explained that self-regulation is an integral part of the individual self that consistently regulates and manages the individual's thoughts, emotions, behavior, and environment.

Several studies have found that emotional intelligence, self-regulation and quality of life can be developed through positive experiences in the form of routine physical activity (Baciu & Baciu, 2015; Kruger & Sonono, 2016; Li et al., 2009; Rodríguez-Fernández et al., 2017), including the level of education. Experience, level of education and positive activity, especially physical activity have a major influence on the development of emotional abilities and self-regulation to achieve one's life welfare related to all aspects of quality of life, so the importance of increasing sports participation at the university level must be strengthened and implemented (Li et al., 2009; Rodríguez-Fernández et al., 2017).

Based on the focus and constellation of these problems, this study will examine the perspective of the quality of life of sports university students, namely students who have contributed to physical activity (sports) in their subjects and non-sports university students, namely students who do not or have little contribution in physical activity in their subjects based on the level of emotional intelligence, whether the moderator variable of self-regulation can strengthen or weaken the influence of that perspective.

This research has crucial value especially because the ability to understand and manage one's own and others' emotions is one of the main abilities to improve the quality of life which is marked by achieving success and a more satisfying life happiness. Good self-regulation will have a positive impact on someone to always be on a path that is in accordance with their life goals. This can be developed through the contribution of experience, education and positive physical activity.

MATERIALS AND METHODS

The research was conducted using the survey method, a research method that is generally used to gather information about the existence of something both physical and material in the form of facts or behavioral and social phenomena. Data collection was carried out using a parallel participant design

or cross-sectional survey, which is a process of collecting data at a certain time (Creswell, 2012).

Participants

Participants involved in this study amounted to 560 university students. Participants were selected and determined using a purposive sampling technique, namely students coming from sports and non-sports study programs, male and female gender, and registered as active students in 2019-2022 from several universities. Data collection was carried out for two months, from May 2 to June 30, 2022.

Research is carried out strictly, then security and welfare. Participants are given priority during study design and implementation and steps are taken to ensure data confidentiality. Permission to conduct research was obtained from Ministry of Education, Culture, Research and Technology, Universitas Pendidikan Indonesia, numbered B-1040/UN40.PL/PJ.00.00/2022. All participants gave their opinions written informed consent. Consent form detailing research procedures, potential risks and benefits, data confidentiality measures, and participant rights.

Table 1. Characteristics of participant demographic variables

No.	Criteria	Category	AUSP		N-SUSP		SUSP	
			Sum	%	Sum	%	Sum	%
1.	Gender	Male university student	274	49%	151	27%	336	60%
		Female university student	286	51%	409	73%	224	40%
2.	Student category	Sport	347	62%	-	-	-	-
		Universitas Pendidikan Indonesia	-	-	-	-	194	56%
		University of Majalengka	-	-	-	-	45	13%
		University of Siliwangi	-	-	-	-	31	9%
		University of Surya Kencana	-	-	-	-	7	2%
		STKIP Cimahi	-	-	-	-	66	19%
		Non-Sport	213	38%	-	-	-	-
		Education	-	-	85	40%	-	-
		Economics and Business	-	-	51	24%	-	-
		Language and Literature	-	-	34	16%	-	-
	Social Science	-	-	43	20%	-	-	
3.	Age	19-20 years	336	60%	352	63%	330	59%
		21-22 years	196	35%	190	34%	202	36%
		23-24 years	28	5%	17	3%	28	5%
4.	University	Universitas Pendidikan Indonesia	314	56%	375	67%	314	56%
		University of Majalengka	56	10%	90	16%	67	12%
		University of Siliwangi	78	14%	73	13%	50	9%
		University of Surya Kencana	78	14%	22	4%	34	6%
		STKIP Cimahi	34	6%	-	-	95	17%
5.	Enrollment year	2019-2020	112	20%	-	-	-	-
		2020-2021	101	18%	-	-	84	15%
		2021-2022	117	21%	-	-	140	25%
		2022-2023	230	41%	-	-	336	60%
Total			560	100%	560	100%	560	100%

Note: AUSP = All university student participants; N-SUSP = Non-sport university student participants; SUSP = Sport university student participants

Procedures

The research was carried out in three stages of the process, namely the preparation,

implementation, and final stages. The preparatory phase consists of identifying and formulating problems, determining and selecting participants,

preparing and validating instruments, as well as the research design to be used. The implementation phase includes research data collection activities for two months (58 days) at five universities in West Java province, on 560 sports and non-sports students, starting from class 2021-2024, aged between 19-24 years, both male and female university students. The final stage consists of data analysis and interpretation activities using structural equation modeling (AMOS application program version 20), formulating conclusions, implications, and recommendations.

Instrument

Life Quality Scale (LQS) adapted from WHOQOL-BREF

LQS is measured by 26 items, spread over four dimensions of quality of life, namely physical, psychological, social relations and environmental conditions. This scale is accessed via the link provided by WHO (1996) and has been translated into Indonesian through parallel back translation (Nunez et al., 2006). The CFA results for 560 participants obtained good goodness of fit values (RMSEA = 0.000, p-values = 0.353, GFI = 0.994, TLI = 0.999 and PNFI = 0.333). The four dimensions obtained standardized loading estimate values > 0.60 , so that none of the items included in the four dimensions were excluded. This model obtained a construct reliability value of 0.818 and a variance extracted (AVE) of 0.532.

The Self-Regulation Questionnaire (SRQ)

The self-regulation scale was adapted from the factor structure of the Self-Regulation Questionnaire (SRQ) at Spanish Universities", consisting of indicators of goal setting, persistence, and decision making (Pichardo et al., 2014), and translated into Indonesian through a parallel back translation procedure (Nunez et al., 2006) nuneznu. The results of the EFA and CFA obtained good goodness of fit values (RMSEA = 0.041, p-values = 0.212, GFI = 0.961, TLI = 0.984, CFI = 0.99 and PNFI = 0.583). The complete model is proven fit after going through the modification process twice. The final result, this scale has nine items with fairly good convergent validity. Overall, the self-regulation construct obtains a reliability value of 0.901 with a variance extracted (AVE) of 0.520.

The Emotional Intelligence Scale

The emotional intelligence scale was developed based on Bar-on's theoretical framework (Bar-On, 2006), consisting of intrapersonal, interpersonal, general mood, stress management,

and adaptability dimensions. The results of the EFA and CFA obtained 27 items. The complete model proved fit after going through the modification process once (RMSEA = 0.040, p-values = 0.058, GFI = 0.939, TLI = 0.974, CFI = 0.981 and PNFI = 0.675). Convergent validity through the standardized loading estimate value > 0.50 , so that it can be said that it meets the valid criteria. Meanwhile, the reliability of this latent construct obtained a value of 0.94 with a variance extracted (AVE) value of 0.534.

Statistic Analysis

There are two statistical analysis procedures used, namely the SEM analysis procedure and the SEM moderation method. In the SEM analysis procedure, all data collected was analyzed using SEM analysis techniques, the AMOS 20 application program. The analysis procedure was carried out through the following stages: (1) development of a theoretical model based on conceptual study of variables which were elaborated into several indicators. emotional intelligence variables (Bar-On, 2006), self-regulation variables (Pichardo et al., 2014), and quality of life variables (WHOQOL-BREF-1996 (WHO, 1996); (2) development of causality relationship flowcharts between factors or indicators using the AMOS 20 application program (figure 1), with the quality of life equation ($\eta_1 = \gamma_1 \xi_1 + \gamma_2 \xi_2 + z_1$); (3) assessing the identification of the structural model to see the unique set of parameters, whether consistent with the data or not, if there is a unique solution from the values of the structural parameters, then the model can be identified and consequently the parameters can be estimated and the model can be tested; (4) assessing the goodness of fit based on goodness of fit measures: (a) absolute fit measures (overall measures include CMIN, probability values, GFI, RMSEA), (b) incremental fit measures (TLI and CFI), and (c) parsimony of fit indices using PNFI values (5) model interpretation and model modification.

The analytical procedure using the SEM moderation method was carried out in two stages, namely: the first stage consisted of activities (a) estimating the model on two exogenous variables ξ_1 and ξ_2 to predict the endogenous variable η_1 (figure 2); (2) the output results are used to calculate the loading factor value of the interaction latent variable (λ interaction) and the error variance value (θ_q) of the interaction latent variable indicator. An analysis flowchart using the moderation construct is presented in Figure 2.

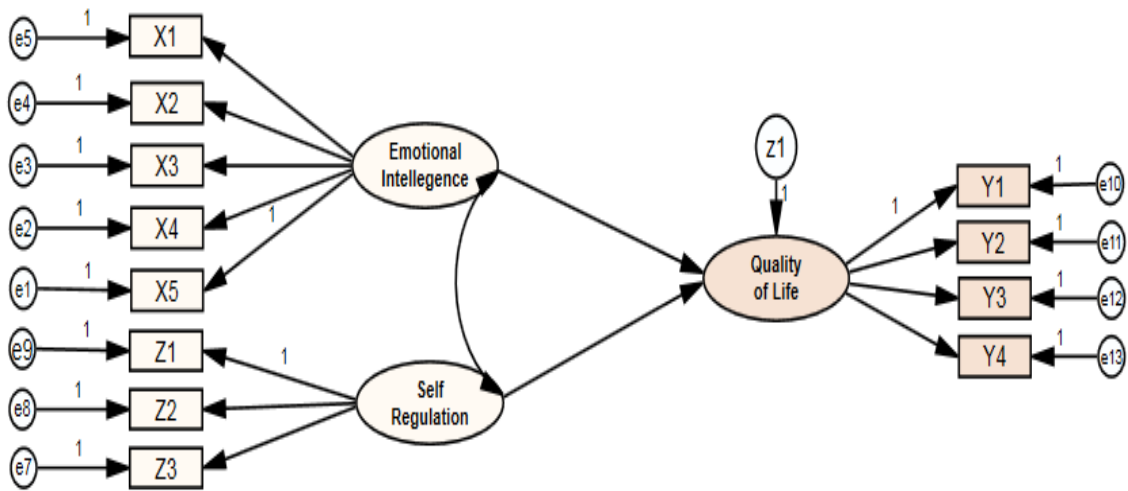


Fig 1. Flowchart of the causality relationship between indicators

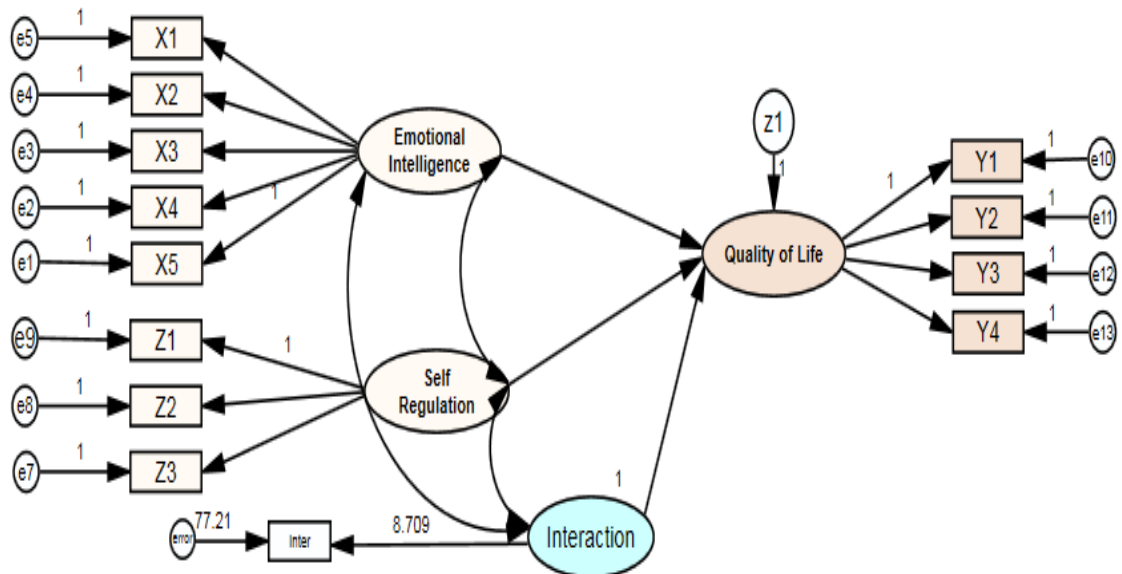


Fig 2. SEM Moderation Flowchart

RESULTS

Descriptive Statistics

According to the descriptive statistics in table 2, it is known that the emotional intelligence variable for sport university student participants has the highest mean (83.59), while the highest mean for self-regulation variables is for non-sport university student participants (27.65), and the highest mean for quality variables life occupied sport university student participants (86.73)

The Analysis of Demographic Variables

All university student participants. According to the demographic variable data, the participants numbered 560 students from the 2021-2024 class

with active status. Most participants were female students (51%), age range 19-20 years (60%), mostly from the Universitas Pendidikan Indonesia (56%), sports study program (62%), and class of 2024 (41%). As for the average value of the three constructs, the results obtained were 82.88 for the emotional intelligence variable, 26.73 for the self-regulation variable, and 83.72 for the quality of life variable.

Non-sport university student participants. The number of non-sports university student participants was 213 out of a total of 560 non-sports students, namely students from non-sports study programs, consisting of students from the Faculties of Education, Social Sciences, Languages and

Literature, and Economics and Business). Most of the participants were female university students (73%), aged 19-20 years (63%), participants from the Universitas Pendidikan Indonesia (67%), from the Faculty of Education (40%). As for the average value of the three constructs is 81.61 for emotional intelligence, 27.65 for self-regulation, and 82.82 for quality of life.

Sport university student participants, a total of 347 out of 560 sports study program students, namely students from the study programs of

Physical Education, Health, and Recreation, Sport Coaching Education, Sport Science, and Elementary School Physical Education Teacher Education. Most of the university students are male (60%), aged 19-20 years (59%), the majority of participants are from the Universitas Pendidikan Indonesia (56%), especially the 2024/2025 class (60%). As for the average value of the three variables is 83.59 for emotional intelligence, 26.22 for self-regulation, and 86.73 for quality of life.

Table 2. Descriptive statistics of emotional intelligence, self-regulation, and quality of life variables of all university students, non-sport university students, and sport university student participants.

All University Student Participants						
Variable	N	Minimum	Maximum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Emotional intelligence	560	60.00	110.00	82.88	.551	10.75
Self-regulation	560	9.00	45.00	26.73	.35	6.73
Quality of life	560	55.00	114.00	83.72	.49	9.51
Valid N (listwise)	560					
Non-Sport University Student Participants						
Variable	N	Minimum	Maximum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Emotional intelligence	213	60.00	107.00	81.61	.958	11.14
Self-regulation	213	11.00	45.00	27.65	.57	6.58
Quality of life	213	54.00	107.00	82.82	.89	10.36
Valid N (listwise)	213					
Sport University Student Participants						
Variable	N	Minimum	Maximum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Emotional intelligence	347	60.00	110.00	83.59	.67	10.49
Self-regulation	347	9.00	45.00	26.22	.43	6.77
Quality of life	347	62.00	118.00	86.73	.65	10.24
Valid N (listwise)	347					

Assumption Test

All university student participants. The results of the analysis of the assumption test on all university student participants proved that the data were normally distributed in a multivariate manner. The scatter-plot indicator between the mahalanobis distance and the chi-square tends to form a straight line and more than 50% the value of the mahalanobis distance is less than or equal to the chi-square. This is the main requirement that must be met in SEM analysis. The results of the multicollinearity test on the determinant matrix covariance output of AMOS obtained a value of 488601278153.243 (much greater than zero), meaning that there is no indication of

multicollinearity or singularity problems, so the data can be used in research. In addition, the data on the results of the mahalanobis distance on the p2 column values were found to be all above 0.00. This means that there are no outlier data or no data that must be removed from the analysis (Ghozali, 2022). Likewise for *non-sport university student participants*, the data were found to be normally distributed in a multivariate manner, the value of the determinant matrix covariance was much higher than zero (629461150918.365), and from the results of the maha-lanobis distance, no value was found in the p2 column below 0.00. The same results were found in the *sport university student participants* data, it was proven that the data were normally

distributed in a multivariate manner, there was no multicollinearity problem because the determinant matrix covariance value was far above zero (92981309.224), and there were no outlier data in the mahalanobis distance results as indicated by the value in column p2 was found to be all above 0.00. In accordance with the results of this analysis, it is evident that all the basic assumptions of the SEM analysis technique have been fulfilled, and the analysis can proceed to the overall model fit

assessment based on the three goodness of fit size categories (Ghozali, 2022; Lei & Wu, 2007) (table 3).

Model Fit Test

The Goodness of Fit (GoF) model test was carried out three times, namely on all university student participants, non-sport university student participants, and sport university student participants (table 3).

Table 3. Goodness of Fit Model Results of All University Students, Non-Sport University Students, and Sport University Student Participants.

Participants	Criteria	Limit Value	Model	Conclusion
All university student participants	Absolut Fit Indices			
	X ² , Sig. Probability	≥ 0.05	0.000	No-fit
	GFI	> 0.90	0.927	Better fit
	RMSEA	≤ 0.08	0.075	Better fit
	Incremental Fit Indices			
	CFI	> 0.90	0.947	Better fit
	TLI	> 0.90	0.926	Better fit
	Parsimoni Fit Indices			
	PNFI	> 0.90	0.707	Marginal fit
	Non-sports university student participant	Absolut Fit Indices		
X ² , Sig. Probability		≥ 0.05	0.001	No-fit
GFI		> 0.90	0.897	Marginal fit
RMSEA		≤ 0.08	0.071	Better fit
Incremental Fit Indices				
CFI		> 0.90	0.941	Better fit
TLI		> 0.90	0.924	Better fit
Parsimoni Fit Indices				
PNFI		> 0.90	0.669	Marginal fit
Sports university student participant		Absolut Fit Indices		
	X ² , Sig. Probability	≥ 0.05	0.000	No-fit
	GFI	> 0.90	0.935	Better fit
	RMSEA	≤ 0.08	0.061	Better fit
	Incremental Fit Indices			
	CFI	> 0.90	0.961	Better fit
	TLI	> 0.90	0.949	Better fit
	Parsimoni Fit Indices			
	PNFI	> 0.90	0.709	Marginal fit

According to table 3, the complete model for all university student participants is good enough (marginal fit), although the chi-square value is not significant (p-values < 0.05). According to Ghozali (Ghozali, 2022), the chi-square value is strongly influenced by the number of participants, the greater the participants, the more significant it will be. For this reason, the authors ignore the chi-square assumption and assume that the model meets the marginal fit criteria for interpretation. This is

because there are still sufficient criteria to represent each GoF category. Empirical research depends on the judgment of each researcher when assessing the feasibility of the model and is not required to fulfill all GoF criteria. Likewise for the non-sports university student participant and sports university student participant models, the model was found to be marginally fit, the chi-square value was not significant (p-values < 0.05), but the other criteria representing each GoF category were met. In other

words, the model developed and tested is assumed to meet the criteria that are good enough to be interpreted.

Hypothesis Testing

Furthermore, to answer and prove the research hypothesis, the results of the analysis can

be seen in the moderation diagram and the significance of the parameter values of the maximum likelihood estimates output summary (table 4).

Table 4. Summary of Output maximum likelihood estimates for the variables of emotional intelligence, self-regulation, and quality of life in all categories of participants.

All University Student Participants				
		Standarized Regression	Weight	P
University student quality of life	<---	University student's_Emotional Intelligence	0.610	0.000
University student quality of life	<---	University student's_Self-regulation	0.109	0.233
University student quality of life	<---	Interaction	0.000	0.985
Non-Sport University Student Participants				
		Standarized Regression	Weight	P
University student quality of life	<---	University student's_Emotional Intelligence	-0.090	0.420
University student quality of life	<---	University student's_Self-regulation	0.181	0.341
University student quality of life	<---	Interaction	-0.029	0.416
Sport University Student Participants				
		Standarized Regression	Weight	P
University student quality of life	<---	University student's_Emotional Intelligence	-0.045	0.570
University student quality of life	<---	University student's_Self-regulation	-0.013	0.523
University student quality of life	<---	Interaction	0.005	0.969

For all university student participants, the parameter coefficient is 0.610 and is very significant at $p\text{-values } 0.00 \leq 0.05$. This means that the hypothesis is accepted, in other words emotional intelligence has a very significant direct effect on the quality of life of students. In contrast to the results with the influence of the moderator variable self-regulation, the parameter coefficient is 0.00 and is not significant at $p\text{-values } 0.985 \geq 0.05$. Thus, the hypothesis is rejected, and it can be interpreted that self-regulation does not affect the quality of life of university students based on the level of emotional intelligence.

In non-sport university student participants, it was found that emotional intelligence did not have a significant direct effect on the quality of life of non-sport university student participants ($p\text{-value } 0.420 > 0.05$ and parameter coefficient -0.090), also the interaction between self-regulation moderator variables and emotional intelligence was proven did not have a significant effect on the quality of life of non-sport university student participants ($p\text{-value } 0.416 > 0.05$ and parameter coefficient 0.029). Although in fact, if interpreted from the coefficient value of the parameter of emotional intelligence on quality of life before entering the interaction

variable it shows an increase from -0.10 to -0.86, meaning that self-regulation can actually strengthen the relationship between emotional intelligence and quality of life in non-sports university students, even though statistically it is not significant.

The same results were found for sport university student participants, it was proven that the quality of life of sport university student participants was not directly affected by emotional intelligence ($p\text{-value } 0.570 > 0.05$ and the parameter coefficient was -0.045), nor was it affected by the interaction between the moderator variable self-regulation and emotional intelligence ($p\text{-value } 0.523 > 0.05$ and parameter coefficient -0.013), in other words the hypothesis is rejected. Even if it is interpreted from the coefficient value of the emotional intelligence parameter on quality of life before entering the interaction variable it shows a decrease from -0.3 in the initial design to -0.45 in the final design. This means that self-regulation can weaken the relationship between emotional intelligence and the quality of life of sport student participants, even though it is not statistically significant.

DISCUSSION

The purpose of this study was to examine the role of self-regulation moderator variables in the relationship between emotional intelligence and the quality of life of university students, both for all university student participants as a whole, as well as for non-sport university student participants and sport university student participants. To achieve this goal, data collection was carried out on 560 students from 5 (five) universities. In general, the results show that the quality of life of students is affected by emotional intelligence, but not in the categories of non-sport university student participants and sport university student participants. Self-regulation variables were found not to moderate the effect of emotional intelligence on quality of life, both for all university student participants, non-sport university student participants, and sport university student participants.

The Role of Emotional Intelligent

All University Student Participants. In all university student participants it was found that quality of life was directly influenced by emotional intelligence. The results of this study corroborate the results of previous studies on Kuwait University student participants (Al-Huwailah, 2017). Students who have a high level of emotional intelligence show a better quality of life. Quality of life is a variable that can increase the life satisfaction of every student (Alibabaie, 2015). According to these findings, individuals who have high emotional intelligence are individuals who have the ability for themselves, adapt to their environment, manage the pressures and problems they face and regulate their moods by always assessing their best side. Humans are gregarious and sociable creatures, so emotional intelligence helps build closer relationships (Baloch et al., 2014). In addition, emotional intelligence becomes a more important ability in achieving life goals, both personal, academic and professional success (Para, 2022). Emotional intelligence can lead to success in life and increase satisfaction and quality of life levels. The higher the level of emotional intelligence, the higher the quality of life of students. Quality of life already exists in humans including the characteristics represented by the integration between self strengths (Redhwan Ahmed Al-Naggar et al., 2013). Quality of life is referred to as a multidimensional concept that covers all areas of life related to expectations, work,

family, environment and other life situations (Redhwan Ahmed Al-Naggar et al., 2013).

Non-sport university students participants. Different results were found that in non-sport university student participants, quality of life was not directly affected by emotional intelligence. Lei & Wu (Lei & Wu, 2007) explained that the SEM technique is very sensitive to the number of participants. This requires a relatively large number of participants, which is at least 15 times the number of indicators. In this study there were 12 indicators, so the minimum number of participants was 180 person. Although the size of the participants greatly influences the level of accuracy of research results (Abt et al., 2020), the exact size of the participants is very difficult to determine, due to the many types and sizes of the population, the limitations of the researchers, the many rules and formulas available. One of the most likely explanations related to the results of this study is the diversity in the characteristics of the participants.

From the age characteristics, the 2007 Riskesdas survey, the prevalence of the Indonesian population aged 15 years or more, the level of quality of life is less than 31.9% (Muhaimin, 2010). The higher a person's age, the quality of life will decrease, because the physical condition decreases (Ramón-Arbués et al., 2022). This physical condition can be caused by a lack of self-regulation in carrying out movement activities and or a good lifestyle, causing psychosomatic health problems such as symptoms of panic, anxiety, stress and bad moods (Kruger & Sonono, 2016). As explained by Rohmah, Purwaningsih, & Bariyah (2012), Pradono et al., (2009), and Ramón-Arbués, et al., (2022), that the main causes that affect quality of life are psychological factors or mental emotional disorders and risky behaviors such as smoking, lack of physical activity, drinking alcohol or not eating enough fiber. This is very closely related to everyone's lifestyle which should be anticipated, one of which is through physical activity.

Participants in this study were aged 19-24 years, most likely rarely doing physical activity, both in the form of lectures and outside of lectures. There may even be no physical activity at all. Therefore, the quality of life of non-sports university students can be said to be in the low category. This can be proven by the average score of non-sports university students which is lower than that of sports university students with an average score of 82.7. Unlike the case with

emotional intelligence, the older a person is, the better his ability. The results of research show that emotional intelligence shows a gradual increase when it is in the late teens to the age of 40 and when it goes beyond the age of 50, it only shrinks slightly (Stein & Book, 2011). Therefore, this increase in emotional intelligence contrasts with the quality of life of non-sport university student participants which decreases in the age range of 19-24 years. As age increases, emotional stability improves, but goes hand in hand with a person's quality of life decreasing, because as the age group increases, the risk of suffering from disease and stress increases. This risk is due to decreased physical condition and worse health risks, namely unhealthy living and eating habits and drug consumption, drinking habits, sleeping late, smoking, and other bad habits (Muhaimin, 2010).

Sport university students participants. The same results were found for sport student participants, it was proven that emotional intelligence did not have a direct effect on quality of life. The habits and activities of sports students are closely related to physical activities, while physical health is one of the factors that affect a person's quality of life. Physical health conditions greatly affect a person's functional condition in living his life. Research Jacob & Sandjaya (2024) states that the higher the perceived physical factors, the better the quality of life of the people in Karubaga Village, Karubaga District, Tolikara Regency. Declining health conditions will lead to activity limitations resulting in complaints on the person's quality of life. Based on the survey results, most of the habits of sports students are carrying out strenuous physical activities, such as athletic lectures, swimming, gymnastics, training activities and others. Physical activity and exercise are key factors on a person's perception of their quality of life, both in the area of physical and psychological health. This ultimately affects their quality of life. Therefore, the higher the physical condition and feel better, the better the quality of one's life will be. This finding is corroborated by several other research results (Jacob & Sandjaya, 2024; Morimoto et al., 2006; Rodríguez-Fernández et al., 2017).

If the physical condition decreases, it will pose a worse health risk (Stein & Book, 2011). If it is associated with the level of emotional intelligence, the results of the descriptive analysis show that the level of emotional intelligence in

university students is in the medium category with a percentage of 44%. For this reason, the level of emotional intelligence of sports university students is not at the ideal level (very good) so that it does not produce a significant effect on the quality of life of sports and non-sports university students. Based on participation, the participants in this study were dominated by male students, even though several research results proved that the level of emotional intelligence of female students was higher than that of male students (Bahadir, 2018; Mathivanan, 2013). Therefore, the data distribution which is dominated by male students with a low level of intelligence is in contrast to the quality of life. Thus, if the emotional intelligence is low but active in movement or physical activity it will be able to improve the quality of life, because it has a better physical health condition.

The Moderating Role of Self-Regulation

All university student participants. This research is an initial study involving self-regulation as a moderator variable on the influence of emotional intelligence on the quality of life of students. The test results on the moderator variable are indicated by the interaction variable between emotional intelligence and self-regulation. These findings conclude that self-regulation does not affect the relationship between the level of emotional intelligence and quality of life, both for all university student participants, non-sport university student participants, and sport university student participants.

The results of the analysis show that self-regulation does not affect the relationship between the level of emotional intelligence and quality of life, both for all university student participants, non-sport university student participants, and sport university student participants. One of the indications of the non-significance of this finding includes the abilities possessed by individuals and the relatively homogeneous educational environment. According to (Fawait et al., 2020), factors that influence self-regulation are individual background related to knowledge abilities, such as a supportive environment (length of education, parental education, and individual education level). In addition, confirmed by Ratnasari & Suleeman (2017), that self-regulation is a tendency that is shaped by parenting, socialization and education. Activities at the university are very heterogeneous and numerous, all students are required to take part, both lecture activities and activities outside of

lectures (for example student activity units). Students jointly optimize the arrangement and organization of various activities on campus, so that students' self-regulation abilities are generally seen as quite standard. This is corroborated by data on descriptive statistics, it was found that the average self-regulation of all university student participants was only 26.7, so it did not moderate the effect of emotional intelligence on quality of life.

Non-sport university students participants. When elaborated on non-sport university student participants, the same results were found. Evidently, self-regulation does not strengthen the effect of emotional intelligence level on quality of life. As far as is known, this is an initial study that places the construct of self-regulation as a moderator variable on the effect of emotional intelligence on the quality of life of non-sport university student participants. This is the same as the research conducted by [Morosanova & Fomina \(2017\)](#) and [Yaningsih & Fachrurrozie \(2019\)](#), although the endogenous variables are different. Although the results of previous research proved that the quality of life of non-sport university student participants was not affected by emotional intelligence, when including self-regulation as a moderator variable and interacting with emotional intelligence, an increase in the parameter coefficient was found from -0.10 to -0.86. That is, the self-regulation variable causes a change in the value of the parameter coefficient and has the potential to strengthen the relationship between emotional intelligence and the quality of life of non-sport university student participants, although it is not significant in this study. For this reason, further discussion and study is needed, both conceptually and empirically. Even though the change in value is not statistically significant, conceptually it can be interpreted that non-sport university student participants can manage their own habits and are responsible for always being on a good path in accordance with their life goals.

Based on the descriptive data, most of the participants were female students (73%). It was found in a study at the Jakarta State University, that the level of self-regulation of female students was higher than that of male students ([Liu et al., 2021](#)), and gender was one of the variables that influenced self-regulation. If related to this research, based on the author's survey of non-sport university student participants who were dominated by female students, they did not have more activities than male

students apart from lectures and organizational activities. In addition, bad habits such as sleeping late, night sports, and other activities outside of campus until late at night are very rare. Non-sport university student participants focus more on their education on campus, for that reason, even though they have a moderate level of emotional intelligence, if their self-regulation is good, they can improve their quality of life.

Sport university students participants. In the sport university student participants category, based on the coefficient value of the emotional intelligence parameter on quality of life before entering the interaction variable it showed a decrease from -0.3 to -0.45, meaning that the construct of self-regulation can weaken the relationship between emotional intelligence and quality of life, although in this study it was found not have a significant effect. However, to prove this, discussions and studies from various literature are needed. One of the possible causes is the poor self-regulation ability of the participants, which weakens the influence of emotional intelligence on the quality of life of sports students. This also prompted the authors to calculate the data using the t-test on the self-regulation construct and produce a significance value of $0.024 \leq 0.05$ (1-tailed), meaning that non-sport university student participant self-regulation is higher than sport university student participant. Strengthened by the mean sport university student participant (26.2) which is smaller than no-sport university student participant (27.65), and male students have less self-regulation than female students ([Liu et al., 2021](#); [Stanikzai, 2019](#); [Wijaya et al., 2020](#)).

Associated with the findings of this study, even though the level of emotional intelligence is moderate and the ability to self-regulate is low, this condition will still affect a person's quality of life decline ([Pachón-Basallo et al., 2022](#)). Apart from lectures, sports university student participants carry out many training activities or train until late at night, become activity committees, and others. Sport university student participants have components of a trained physical condition and this can form a good quality of life. Conversely, without self-regulation and low self-control ability and emotional adjustment, it can lead to a decrease in quality of life. Thus, having good emotional intelligence and self-regulation is needed by every living human being in order to be able to deal with every good or bad condition efficiently and

effectively so that the quality of life will remain good (Boon How Chew et al., 2013; Cocq & Bosscher, 2018; Di Fabio & Kenny, 2016), especially because quality of life is a multidimensional construct (Hendrayana et al., 2022) which is influenced by various factors and reflects the totality of one's happiness and life satisfaction (Arpentieva et al., 2022; Minghat & Arpentieva, 2023).

Conclusion

In general, the conclusion of this study is that the perspective of the quality of life of students is directly influenced by the level of emotional intelligence. However, this does not apply to no-sport university student participants and sports university student participants. The quality of life of no-sport university student participants and sport university student participants is not directly influenced by emotional intelligence. Self-regulation does not moderate the effect of emotional intelligence on quality of life, both in general and in the no-sport university student participant and sport university student participant categories. In order to obtain more accurate and maximum research results, several alternatives for further research development can be carried out with more participants, changing or adding other variables that can theoretically affect the quality of life of students, including moderator variables.

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Conflicts of Interest

The authors have no conflicts of interest to declare.

Ethical Statement

Permission to conduct research was obtained from Ministry of Education, Culture, Research and Technology, Universitas Pendidikan Indonesia, numbered B-1040/UN40.PL/PJ.00.00/2022.

Author Contributions

Study Design, YH, YH, WT, DS, AR; Data Collection, YH, YH, DT, DS, AR; Statistical Analysis, YH, YH UDU, RAL, DT, IGA; Data Interpretation, YH, YH UDU, RAL, DT, IGA; Manuscript Preparation, YH, YH UDU, RAL, WT, DT, IGA; Literature Search, YH, YH UDU, RAL, WT, DT, DS, AR, IGA. All the authors agreed on the final draft of the manuscript before submitting it for publication.

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