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The Relationship between Emotional Intelligence and Problem-Solving Ability among Students Working on Their Thesis

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Keywords
Emotional intelligence; Problem solving ability; University students

Abstract
This study aims to examine the relationship between emotional intelligence and problem-solving ability among students working on their undergraduate thesis. The thesis is a scientific work that students must complete as a requirement for obtaining a bachelor's degree. During the thesis process, various problems and challenges often arise that students must face. Therefore, it is crucial to possess good emotional intelligence and problem-solving skills. Emotional intelligence is the individual's ability to recognize their own and others' emotions, motivate themselves, manage emotions, and build relationships with others. Problem-solving ability refers to an individual's self-direction in the cognitive behavioral process involving awareness, rational thinking, and active efforts to identify or find effective and adaptive ways to deal with problems encountered in daily life. The research method used is quantitative research. A correlation test was conducted to determine the relationship between the variables, with the research sample consisting of 201 students from Tarumanagara University selected using purposive sampling. Data collection was conducted by distributing an online questionnaire through Google Forms, and data analysis was performed using Jeffrey's Amazing Statistics Program (JASP). The results of the data analysis indicated a significant positive relationship between emotional intelligence and problem-solving ability among students working on their thesis ($r = .336$, $p < .001$), meaning that the higher the emotional intelligence, the higher the problem-solving ability.

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The Relationship between Emotional Intelligence and Problem-Solving Ability among Students Working on Their Thesis

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Abstract. This study aims to examine the relationship between emotional intelligence and problem-solving ability among students working on their undergraduate thesis. The thesis is a scientific work that students must complete as a requirement for obtaining a bachelor's degree. During the thesis process, various problems and challenges often arise that students must face. Therefore, it is crucial to possess good emotional intelligence and problem-solving skills. Emotional intelligence is the individual's ability to recognize their own and others' emotions, motivate themselves, manage emotions, and build relationships with others. Problem-solving ability refers to an individual's self-direction in the cognitive behavioral process involving awareness, rational thinking, and active efforts to identify or find effective and adaptive ways to deal with problems encountered in daily life. The research method used is quantitative research. A correlation test was conducted to determine the relationship between the variables, with the research sample consisting of 201 students from Tarumanagara University selected using purposive sampling. Data collection was conducted by distributing an online questionnaire through Google Forms, and data analysis was performed using Jeffrey's Amazing Statistics Program (JASP). The results of the data analysis indicated a significant positive relationship between emotional intelligence and problem-solving ability among students working on their thesis ($r = .336$, $p < .001$), meaning that the higher the emotional intelligence, the higher the problem-solving ability.

Keywords: Emotional intelligence, Problem solving ability, University students.

1 Introduction

A thesis is one of the tasks that must be completed as a requirement for finishing their studies at a university. A thesis is an academic work that is prepared by students as a condition for obtaining a bachelor's degree. While working on the thesis, students often encounter various problems. [1] A problem is an obstacle or issue that must be resolved, or it can be described as the difference between the reality and what is expected to be achieved effectively (Tawary et al., 2021). [2] Students who are working on their thesis often face a variety of issues, such as difficulty in determining the thesis topic, having negative perceptions about the thesis process, struggling with data processing, and finding it challenging to identify theories that align with the research topic (Kirana et al., 2022). [3] Generally, students working on their theses experience a range of difficulties, including challenges in managing time with their thesis advisors, limited access to ref-

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erences, the pressure of limited time to complete the thesis, multiple rounds of revisions, and sometimes pressure from family to graduate quickly (Cahyani & Akmal, 2017).

When faced with a problem or an unexpected situation, the way each individual responds and solves the issue can vary greatly. To handle problems effectively, individuals need to develop problem-solving skills. [4] According to Al-Naqeeb (2008) in Al-Rabadi (2020), problem-solving ability is a fundamental requirement in life because many situations demand solutions that we must confront, and it represents a form of complex and essential human behavior. [5] Problem-solving is an individual's effort to direct themselves through a cognitive behavioral process that includes awareness, rational thinking, and active engagement in seeking or finding effective and adaptive ways to address problems encountered in daily life (D'Zurilla & Maydeu-Olivares, 1995). This process plays a vital role in overcoming challenges and helps individuals navigate various life situations. [6] Problem-solving is also defined as a cognitive process focused on achieving a goal, where individuals may not initially know the technique for solving the problem (Rahman, 2019). In short, problem-solving refers to actions taken by an individual to address and resolve an issue they encounter. This process involves identifying the problem, finding potential solutions, and implementing strategies to overcome challenges.

[7] According to Rakhmat (2001) in Habibah & Umi (2016), there are several factors influence problem-solving abilities. (a) Health, when an individual is not feeling well, fatigued, or hungry, it becomes increasingly difficult for them to find solutions to problems. Physical well-being plays a crucial role in cognitive functioning and problem-solving. (b) Motivation, low motivation can lead to distractions and a lack of focus, making it harder to engage in problem-solving effectively. (c) Emotion, strong emotions can cloud judgment and lead to ineffective thinking, hindering the process of finding a solution. (d) Confidence, a person who has self-confidence is likely to approach problems with a more positive and proactive mindset. (e) Habits, The habits or tendencies an individual has in thinking and approaching problems can either help or hinder problem-solving.

[8] According to Heppner and Peterson (1982), there are three aspects of problem-solving. (a) Problem-Solving Confidence refers to an individual's belief in their ability to handle problems. When facing a challenge, a person's confidence determines whether they feel capable of solving it. If an individual believes they can manage the problem well, they are more likely to approach it effectively. (b) Approach-Avoidance Style describes an individual's tendency to either face or avoid problem-solving activities. The more someone approaches a problem, the more effective their problem-solving ability is likely to be. Conversely, if someone avoids confronting the issue, their problem-solving effectiveness tends to decrease. (c) Personal Control involves the individual's belief in their responsibility for managing and controlling their emotions and behaviors when solving problems. Those with a high sense of personal control tend to approach problems in a proactive, responsible manner.

To have effective problem-solving skills, strong emotional intelligence is also necessary. For students, it is especially important to possess good emotional intelligence, particularly for those who struggle with solving problems and are prone to feeling

stressed. Emotional intelligence helps individuals manage their emotions, stay calm under pressure, and approach problems with a more balanced mindset, which can significantly improve problem-solving capabilities. This is especially true for students working on tasks such as their thesis, where emotional regulation can play a key role in navigating challenges and achieving academic success.

When faced with a problem, emotions often arise. However, when an individual involves excessive emotions, it becomes difficult to think more effectively. [9] Emotional intelligence is the ability to evaluate and express feelings appropriately, understand emotions, and manage them effectively, which plays a crucial role in supporting emotional and intellectual development (Reynolds & Miller, in Basaria, 2019). [10] Emotional intelligence connects various domains of emotion and intelligence with one another, viewing emotions as a source of information that helps individuals understand and find their way (Deniz, 2013). [11] Goleman (2003) (in Ferdiana & Yuwono, 2023) argues that emotional intelligence is the ability to recognize one's own feelings as well as those of others, to motivate oneself, to manage emotions, and to build relationships with others. This definition highlights the importance of emotional awareness and regulation, which play key roles in interpersonal interactions and personal growth. [12] Bar-On (2006) argues that being emotionally intelligent means being able to act effectively, manage personal, social, and environmental changes realistically, solve problems, and make decisions.

[11] The factors influencing emotional intelligence, according to Patton (1998) in Ferdiana & Yuwono (2023), are as follows: (a) Family, he first place where interaction occurs is the family. In the family, an individual receives affection, which helps nurture emotional intelligence. (b) Interpersonal Relationships, Interpersonal relationships provide a sense of acceptance and emotional state, which fosters emotional maturity in how a person behaves and acts. (c) Friendship, Interactions with friends shape a person’s emotions, as there is mutual respect, admiration, and support among them. (d) Environmental Context for Interaction, A person’s environment can influence their emotional intelligence, as social interactions within a certain environment teach individuals how to understand and respond to the emotions of others. However, if an individual is in an environment that induces excessive stress, they may struggle to manage their emotions. (e) Peer Relationships: Peer interactions create unique emotional lives, where frequent interactions develop shared feelings and trust between individuals.

[13] According to Salovey & Mayer (1990) in Wong & Law (2002), emotional intelligence is composed of four dimensions. Self-Emotion Appraisal (SEA) refers to an individual's ability to recognize and understand their own emotional state and express those emotions appropriately. It involves self-awareness and the ability to reflect on one's emotions. Others’ Emotion Appraisal (OEA) refers to the ability to recognize and understand the emotions of others. It involves empathy and the capacity to perceive the emotional states of people around us. Use of Emotion (UOE) refers to the ability to use emotions effectively to facilitate thinking and actions. Emotions are leveraged to enhance decision-making, problem-solving, and achieving goals. Regulation of Emotion (ROE) the ability to manage and control one’s emotions, especially in stressful or challenging situations. It includes emotional regulation techniques that help maintain calmness and focus during difficult times.

This perspective emphasizes that emotional intelligence is not just about recognizing and managing emotions but also about using these skills to navigate life's challenges and make sound judgments in various situation. Therefore, problem-solving skills must be accompanied by good emotional intelligence in order to think effectively and find solutions. Therefore this study aims to examine the relationship between emotional intelligence and problem-solving ability among students working on their undergraduate thesis.

2 Methods

2.1 Samples

This research sample consisting of 201 students from Tarumanagara University selected using purposive sampling. The participants in this study are divided into two categories (gender& faculty/major). The number of female participants is 139, while the number of male participants is 62. The research participants based on faculty/major are divided into five categories, 164 students from the Faculty of Psychology, 27 students from the Faculty of Economics and Business, 4 students from the Faculty of Communication Sciences, and 6 students from the Faculty of Art and Design.

2.2 Measurement

The measurement tool used in this study to assess emotional intelligence is the Wong and Law Emotional Intelligence Scale (WLEIS), which has been adapted into Indonesian by Hussy (2024). The WLEIS was developed by Wong & Law (2002) and consists of 16 items. The dimensions measured by this scale are (a) Self Emotional Appraisal (SEA), (b) Others' Emotional Appraisal (OEA), (c) Regulation of emotion (ROE), (d) Use of emotion (UOE). The measurement is conducted using a 7-point Likert scale.

The measurement tool used to assess problem-solving ability is the Problem Solving Inventory (PSI), which was adapted into Indonesian by Mentari (2020). The PSI was developed by Heppner & Petersen (1982) and consists of 32 items. The dimensions measured by this scale are (a) Problem solving confidence, (b) Approach avoidance style, (c) Personal control. The measurement is conducted using a 6-point Likert scale.

2.3 Data collection and analysis

The research method used is quantitative research. A correlation test was conducted to determine the relationship between the variables sampling. Data collection was conducted by distributing an online questionnaire through Google Forms, and data analysis was performed using Jeffrey's Amazing Statistics Program.

3 Result and Discussion

The normality test of the research data was conducted using the one-sample Kolmogorov-Smirnov Test. Based on the data analysis, the emotional intelligence variable received a value of .056 ($p > 0.05$), which means the data is normally distributed. Meanwhile, the problem-solving ability variable received a value of < .001 ($p < 0.05$), which means the data is not normally distributed.

Table 1. Normality test

Variable	*P*	Distribution
Emotional intelligence	.056	Normal
Problem-solving ability	<.001	Not Normal

The hypothesis analysis was conducted by processing the data using the Spearman Correlation test to determine the correlation between the two research variables. Based on the data analysis, the result obtained was r=.336, p<.001 This indicates that the emotional intelligence variable and the problem-solving ability variable are significantly positively correlated. The better the emotional intelligence, the better the problem-solving ability.

Table 2. Corellation test

Variabel	*p*	*r*
Emotional intelligence & Problem-solving ability	< .001	.336

The additional data analysis conducted in this study was a test of differences in emotional intelligence based on gender. The test used was the Mann-Whitney U test. Based on the results of the emotional intelligence scores by gender, with an alpha value of .05, no significant difference was found, with U = 3883.000 and p = .264. The male gender (n = 62) had a mean of 5.732, and the female gender (n = 139) had a mean of 5.623. Based on these data, it can be concluded that there is no significant difference in emotional intelligence when viewed from gender.

Table 3. Differences in Emotional Intelligence Based on Gender.

Group	*U*	*P*
Gender	3883.000	.264

The test for differences in emotional intelligence based on faculty revealed that emotional intelligence among students from the Faculty of Psychology (n = 164) had a mean of 5.666, from the Faculty of Economics and Business (n = 27) had a mean of 5.786, from the Faculty of Communication Sciences (n = 4) had a mean of 5.321, and from the Faculty of Art and Design (n = 6) had a mean of 5.274. Based on the data analysis, the result was p = 0.277, indicating that there is no significant difference in emotional intelligence when viewed from the faculty.

Table 4. Differences in Emotional Intelligence Based on faculty.

Faculty	N	Mean	df	*p*
Psyschology	164	5.666	3	0.277
Economics and Business	27	5.786		
Communication	4	5.321		
Art & Design	6	5.274		

Differences in problem-solving ability based on , based on the results of the test, with an alpha value of .05, no significant difference was found, with U = 4250.500 and p = .897. The male gender (n = 62) had a mean of 4.087, and the female gender (n = 139) had a mean of 4.049. This indicates that there is no significant difference in problem-solving ability when viewed from gender.

Table 5. Differences in problem solving ability based on gender

Group	*U*	*P*
Gender	4250.500	.879

The test for differences in problem-solving ability based on faculty revealed that problem-solving ability among students from the Faculty of Psychology (n = 164) had a mean of 3.810, from the Faculty of Economics and Business (n = 27) had a mean of 3.886, from the Faculty of Communication Sciences (n = 4) had a mean of 3.640, and from the Faculty of Art and Design (n = 6) had a mean of 4.267. Based on the data analysis, the result was p = 0.238, indicating that there is no significant difference in problem-solving ability when viewed from the faculty.

Table 6. Differences in problem solving ability based on faculty

Fakultas	N	Mean	df	*p*
Psikologi	164	3.810	3	0.238
Ekonomi & Bisnis	27	3.886		
Ilmu Komunikasi	4	3.640		
Seni Rupa & Design	6	4.267		

4 Conclusions and Suggestions

Based on the data analysis, the correlation between emotional intelligence and problem-solving ability was found to be r=.336 and p<.001 These results indicate a significant positive relationship between emotional intelligence and problem-solving ability. Thus, the higher the emotional intelligence, the higher the problem-solving ability. Conversely, the lower a person's emotional intelligence, the lower their problem-solving ability. The results of this study are consistent with research conducted by Ferdiana & Yuwono (2023), which also found a positive relationship between emotional intelligence and problem-solving ability in Generation Z(11). [14] Similarly, research by Gültekin & Icigen (2019) stated that there is a positive relationship between emotional intelligence and problem-solving ability among professional tour guides.

The results of the analysis of differences in emotional intelligence based on gender showed no significant difference, meaning that both female and male participants in this study had an average emotional intelligence level. [15] This finding is consistent with the research conducted by Ergin et al. (2020), which stated that there is no significant difference in emotional intelligence based on gender. Similarly, the analysis of differences based on faculty also found no significant difference between emotional intelligence and faculty. [16] According to Aper (2007) (in Topaloğlu, 2014), the lack of significant differences in emotional intelligence across different majors may be due to the fact that the material taught in each course does not drastically different in a way that would significantly enhance emotional intelligence for students in each faculty.

The analysis of differences in problem-solving ability based on gender also showed no significant difference between females and males. [15] Ergin et al. (2020) in their research stated that when viewed from gender, there is no difference in problem-solving ability. Similarly, the analysis of differences based on faculty also revealed no significant difference between the problem-solving ability variable and faculty. This is in line with the research by Elballah et al. (2024), which stated that there are no differences in problem-solving ability among graduate students in the field of education across different disciplines [17]. It is recommended that future researchers conduct more in-depth studies on emotional intelligence and problem-solving ability, while considering the inclusion of additional factors or variables that may influence both aspects. Furthermore, it is also suggested to incorporate other psychological factors to gain a deeper understanding of the relationship between emotional intelligence and problem-solving ability.

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