

THE CORRELATION BETWEEN SELF-EFFICACY AND RESILIENCE AMONG FINAL-YEAR STUDENTS WORKING ON THEIR FINAL ASSIGNMENT

Shinta Dewi Latifa Narzhammi Putri¹, Apriyani Puji Hastuti², Indari^{3*}

^{1,2,3} Faculty of Health Sciences, Institut Teknologi sains dan Kesehatan RS dr Soepraoen Malang

*Correspondence: Indari

Email: indari.razan@itsk-soepraoen.ac.id

ABSTRACT

The increased academic demands faced by final-year students during the final assignment writing process have raised concerns about their psychological capacity, particularly self-efficacy and resilience. This study aims to analyze the correlation between self-efficacy and resilience among final-year nursing students at ITSK RS dr. Soepraoen in Malang. This study employed a quantitative correlational design with a cross-sectional approach. Data were collected using validated questionnaires, namely the General Self-Efficacy Scale (GSES) and the Resilience Questionnaire Test (RQ-Test), from 51 respondents using total sampling. The results indicated that the majority of respondents had low levels of self-efficacy and resilience. Statistical analysis using Spearman's correlation test revealed a significant correlation between self-efficacy and resilience ($p < 0.05$) with a strong negative correlation coefficient ($r = -0.814$). This indicates that variations in self-efficacy scores are associated with variations in resilience levels among the respondents. However, because it used a cross-sectional design, this study cannot establish a causal correlation. The research findings should be interpreted with caution because this study did not directly measure other psychological factors such as stress or anxiety that may influence both variables. Therefore, the correlation found is likely influenced by other variables

Keywords: Self-Efficacy; Resilience; Final-Year Students; Final Assignment; Stress; Anxiety

© 2024 The Authors. Nursing Information Journal (NIJ) Published by Center for Research and Community Service - Banyuwangi College of Health Sciences
This is an Open Access Article distributed under the terms of the [Creative Commons Attribution-ShareAlike 4.0 International License \(CC BY-SA 4.0\)](https://creativecommons.org/licenses/by-sa/4.0/), which allows others to remix, tweak, and build upon the work for any purpose, even commercially, as long as the original work is properly cited. Any new creations based on this work must be licensed under identical terms

Article History:

Received: 14 January 2025

Revised: 05 March 2026

Accepted: 30 March 2026

INTRODUCTION

The final assignment is one of the main requirements for earning a bachelor's degree, but for many students this process does not always go as smoothly as expected. Writing a thesis requires students to transition from structured learning to independent research, which often leads to uncertainty, stress, and prolonged academic demands (Munif et al., 2024). Under these conditions, psychological factors play a significant role. According to Bandura's social cognitive theory, self-efficacy is an individual's belief in their ability to manage and execute actions to achieve specific goals (Oktaviani, D., Sukendro, S., & Herwansyah, H., 2026). Meanwhile, resilience, as defined in resilience theory, refers to an individual's ability to adapt positively and bounce back from adversity (Daniaanta & Khotimah, 2024). These two concepts

are not merely theoretical but are highly relevant to understanding how students cope with the challenges of completing their final assignment.

Globally, academic stress among college students has become an issue of growing concern. Several studies indicate that more than 50% of students experience moderate to high levels of stress during the assignment writing process, which often leads to delays in graduation. In Indonesia, approximately 70–85% of students are able to complete their assignment on time, while the remaining 30–40% require additional time (Masithoh et al., 2023). This indicates that while many students succeed, a significant number still face difficulties. Similar trends have been observed in various countries, where high academic workload and suboptimal coping skills affect academic performance. Based on a preliminary study at ITSK RS dr. Soepraoen Malang, many final-year students exhibited low self-efficacy and resilience, making psychological readiness a critical consideration.

The challenges faced by students are not caused by a single factor, but rather by a combination of academic, environmental, and psychological factors. Students often face difficulties in determining research topics, limited references, time constraints, and challenges in the supervision process (Ahmed, S. A. S., 2024). For nursing students, these challenges become more complex as they must simultaneously manage academic demands and clinical practice. These conditions can erode students' self-confidence and weaken their ability to adapt to pressure (Munif et al., 2019). Previous research generally indicates a positive correlation between self-efficacy and resilience, where high self-efficacy is associated with better adaptability and perseverance (Hana Muthliatul Janah et al., 2022; Nabila et al., 2023). However, there are still inconsistent research findings, so the correlation between these two variables has not yet been fully and comprehensively understood.

Although numerous studies have been conducted, several gaps remain that warrant attention. First, there is still a limited number of studies that specifically examine nursing students facing both academic and clinical stress simultaneously (Finda Wardani et al., 2022). Second, while most studies indicate a positive correlation, research identifying a negative correlation or inconsistent results between self-efficacy and resilience remains very limited. Third, there has been no research conducted in the context of military-based healthcare institutions such as ITSK RS dr. Soepraoen Malang, which has distinct characteristics of academic pressure and a unique environment. Therefore, this study aims to analyze the correlation between self-efficacy and resilience among final-year nursing students. The results of this study are expected to provide a deeper understanding and serve as a basis for developing strategies such as counseling, mentoring, and resilience training to help students complete their theses more effectively.

METHODS

Study Design

This study uses a correlational design with a cross-sectional approach, which aims to see the correlation between self-efficacy and resilience in final year students who are working on their final assignment at ITSK RS dr. Soepraoen Malang. This design allows data collection at one point in time to analyze the dynamics between two variables (Abduh et al., 2022).

Setting

The research was conducted at the ITSK RS dr. Soepraoen Malang campus.

Research Subject

The population in this study were all students of the S1 Nursing study program ITSK RS dr. Soepraoen Malang who were preparing a final assignment which amounted to 51 people. The sampling technique used was total sampling, where all members of the population who met the inclusion criteria were included as research samples (Umriana, 2020).

Instruments

The operational definitions of variables in this study include self-efficacy, measured using the General Self-Efficacy Scale (GSES), which consists of 10 items with a Likert scale, and resilience, measured using the Resilience Questionnaire Test (RQ-Test), which has 30 items with a Likert scale.

Data Analysis

Data collection was carried out through several stages, namely obtaining permission from the Faculty of Health Sciences ITSK RS dr. Soepraoen Malang, conducting preliminary studies, distributing questionnaires to respondents, and guiding respondents in filling out personal data and questionnaires. The collected data were then analyzed univariately and bivariately using the Statistical Package for the Social Sciences (SPSS) version 25 program. Univariate analysis aims to describe the frequency distribution and percentage of each variable, while bivariate analysis is conducted to test the correlation between self-efficacy and resilience using the Spearman test (Nauvalia, 2021).

Ethical Consideration

This study has undergone ethical testing has been carried out and has passed the ethical examination with the number No.KEPK-EC/164/XII/2024. This study also adheres to the ethical principles of research, including respondent autonomy, fairness, benefit, and confidentiality. Respondents will be given informed consent before participating in this study, and the data obtained will be kept confidential (Mahesti & Rustika, 2020). With this clear and structured methodology, it is hoped that this study can provide valid and useful results in understanding the correlation between self-efficacy and resilience among students who are writing a final assignment.

RESULTS

The results of this study are presented in the form of tables that describe the characteristics of respondents, the distribution of self-efficacy, and the distribution of resilience. Data were collected from 51 students of the S1 Nursing study program ITSK RS dr. Soepraoen Malang who were working on their final assignment.

Table 1. Distribution of General Characteristics of Respondents

| Characteristic | Category | Frequency (f) | Percentage (%) |
|-----------------------|--------------------|----------------------|-----------------------|
| Gender | Male | 13 | 25,49% |
| | Female | 38 | 74,50% |
| Age | Early Young Adult | 47 | 92,14% |
| | Middle Young Adult | 4 | 7,84% |
| | Late Young Adult | 0 | 0,00% |
| IPK | Good | 6 | 11,76% |
| | Cum Laude | 5 | 9,80% |
| | Magna Cum Laude | 10 | 19,60% |
| | Summa Cum Laude | 30 | 58,82% |
| Total | | 51 | 100% |

Based on Table 1, the majority of respondents are female (74.50%) and most are 21 years old (47.05%) with the highest GPA falling in the category of 3.71 – 4.00 (58.82%). These findings are consistent with previous research that indicates demographic characteristics can influence the academic performance of students.

Table 2. Description of Self-Efficacy Data of Students Currently Working on Their Final Assignment

| Variable | Category | Frequency (f) | Percentage (%) |
|----------------------|-----------|---------------|----------------|
| Self-Efficacy | Very Low | 0 | 0,00% |
| | Low | 51 | 100% |
| | Enough | 0 | 0,00% |
| | High | 0 | 0,00% |
| | Very High | 0 | 0,00% |
| Total | | 51 | 100% |

From Table 2, it can be seen that all respondents (100%) have a self-efficacy level categorized as low. This indicates the challenges faced by students in believing in their self-ability, which can negatively impact academic performance.

Table 3. Description of Resilience Data of Students Currently Working on Their Final Assignment

| Variable | Category | Frequency (f) | Percentage (%) |
|-------------------|-----------|---------------|----------------|
| Resilience | Very Low | 14 | 27,45% |
| | Low | 37 | 72,54% |
| | Enough | 0 | 0,00% |
| | High | 0 | 0,00% |
| | Very High | 0 | 0,00% |
| Total | | 51 | 100% |

Based on Table 3, the majority of respondents have a low level of resilience (72.54%) and 27.45% are in the very low category. This indicates that students are experiencing difficulties in facing the challenges that arise during the final assignment writing process. This low resilience can contribute to increased stress and anxiety, which in turn can affect their academic performance. Previous research also shows that students with high resilience tend to be more capable of overcoming obstacles and have a more optimistic outlook on the future.

Table 4. The Correlation Between Self-Efficacy and Resilience in Final-Year Students Working on Their Final Assignment

| | | Resilience | | | | Total | |
|----------------------|-----|------------|------|----------|------|-------|-----|
| | | Low | % | Very Low | % | | |
| Self-Efficacy | Low | 36 | 70,6 | 15 | 29,4 | 51 | 100 |
| Total | | 36 | 70,6 | 15 | 29,4 | 51 | 100 |

From Table 4, it can be seen that out of 51 respondents studied, 36 respondents (70.6%) indicate that students with low self-efficacy tend to have low resilience levels. Meanwhile, 15 other students (29.4%) categorized as having low self-efficacy also show very low resilience levels. These findings indicate a significant negative correlation between self-efficacy and resilience, where students who feel incapable tend to have lower resilience.

Statistical analysis using the Spearman test shows that there is a significant correlation between self-efficacy and resilience, with a p-value of 0.001 and a correlation coefficient of $r = -0.814$. This value shows that the lower the level of self-efficacy, the higher the level of

resilience possessed by students. This may be because students who feel inadequate (low self-efficacy) tend to develop better coping mechanisms to deal with stress, although this is not always effective in the long run (Danianta & Khotimah, 2024)

DISCUSSION

The results of this study indicate that final-year nursing students tend to have limited psychological readiness to cope with the demands of completing their final assignment. This situation reflects a broader issue, in which students are required to manage academic tasks independently in high-pressure and uncertain situations. According to Bandura's social cognitive theory, self-efficacy influences how individuals think, feel, and act when facing challenges (Chen, B., Zhang, Y., & Li, X., 2024). Students with low self-efficacy tend to avoid difficult tasks, procrastinate, and experience self-doubt (Putra, N. A., & Soetjningsih, C. H., 2023). This is supported by previous research showing that self-efficacy plays a crucial role in academic perseverance and task engagement (Nabila et al., 2023). In the context of this study, low self-confidence among students can reduce active engagement in the thesis writing process, particularly when facing repeated revisions or unclear instructions.

In terms of resilience, the research findings indicate that students have not yet developed optimal adaptive abilities. In resilience theory, resilience is not merely defined as the ability to withstand stress, but also as the ability to adapt and effectively recover from adversity (Toripa, G. V., & Huwae, A. (2023). Students with low resilience tend to respond to academic pressure with avoidance, pessimism, and a lack of initiative (Vlachopanou, P., 2026). International research indicates that resilience is closely linked to emotional regulation and problem-solving skills, which are crucial for tackling long-term academic tasks. In this context, low resilience may reflect a lack of structured coping strategies, particularly among nursing students who must navigate both academic demands and clinical practice (Şenocak, S. Ü., Totan, T., & Demirkiran, F., 2025).

Furthermore, the correlation between self-efficacy and resilience in this study highlights the complexity of psychological adaptation in an academic context. Some experts suggest that self-efficacy can serve as a cognitive foundation that supports the development of resilience. Students who have confidence in their abilities tend to view challenges as surmountable, thereby strengthening their adaptive capacity (Ratnaningtyas & Fitriani, 2020). International studies also indicate that cultural and educational contexts can influence the correlation between these two variables. For example, research in Asian countries shows that external pressures such as academic demands and institutional discipline can shape coping patterns that differ from those in Western contexts (Oktafryadi et al., 2023). This suggests that the correlation between self-efficacy and resilience cannot be generalized without considering specific contexts, including the nursing education environment.

This study also helps fill existing research gaps. Most previous studies have focused on the general student population, with little attention paid to nursing students who face both academic and clinical pressures simultaneously. Furthermore, research examining variations in correlations or contextual differences remains limited. Conceptually, the interaction between self-efficacy and resilience can be understood as a dynamic, mutually influencing process between cognitive beliefs and adaptive capabilities (Baluszek, J. B., & Rosińska, M., 2023). In the context of ITSK RS dr. Soepraoen Malang as a military-based health institution, discipline and environmental pressures likely shape students' psychological responses in unique ways.

Therefore, a conceptual model can be proposed in which self-efficacy serves as the primary cognitive factor, while resilience acts as an adaptive outcome influenced by both internal and external factors.

IMPLICATION AND LIMITATIONS

Implication

The implications of these findings suggest that higher education institutions need to focus not only on academic aspects but also on students' psychological well-being. Interventions such as academic mentoring, peer support, and resilience training have been shown to enhance students' self-confidence and adaptive abilities. Social support theory also explains that a supportive environment can strengthen self-efficacy and resilience through emotional and instrumental support (Mahesti & Rustika, 2020). Therefore, creating a safe and responsive academic environment is crucial so that students are more confident in facing challenges and are able to complete their final projects optimally

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the use of a cross-sectional design limits the ability to establish causal relationships between self-efficacy and resilience, as data were collected at a single point in time. Second, the relatively small sample size (n = 51) and the use of total sampling within a single institution may limit the generalizability of the findings to other populations or educational settings. Third, this study relied on self-reported questionnaires, which may introduce response bias such as social desirability or inaccurate self-assessment.

Furthermore, this study focused only on two psychological variables, namely self-efficacy and resilience, without directly measuring other important factors such as stress, anxiety, coping strategies, or social support that may influence students' psychological conditions. In addition, the specific context of a military-based health institution may create unique environmental pressures that differ from other universities, thus limiting external validity. Future research is recommended to use longitudinal designs, larger and more diverse samples, and to include additional psychological and environmental variables to provide a more comprehensive understanding.

CONCLUSION

This study successfully identified the correlation between self-efficacy and resilience in final year students who are working on their final assignment at ITSK RS dr. Soepraoen Malang. The results showed that the majority of respondents had low levels of self-efficacy and resilience, with all respondents falling into the low self-efficacy category showing low resilience. Statistical analysis showed a significant negative correlation between self-efficacy and resilience, where lower levels of self-efficacy were associated with higher levels of resilience among students. These findings emphasize the importance of developing self-efficacy and resilience among students to enhance their academic success. Therefore, educational institutions are advised to design effective support programs to help students overcome the challenges they face during the final assignment writing process.

SUGGESTIONS

Students are advised to increase self-efficacy by setting realistic goals and celebrating small achievements, as well as developing resilience through stress management and social support

from peers, lecturers, and family. Institutions are advised to provide comprehensive academic guidance programs and easily accessible psychological support services to help students cope with stress during the final assignment writing process. Future researchers are advised to explore other factors that influence the correlation between self-efficacy and resilience and conduct qualitative research to gain a deeper understanding of students' experiences.

ACKNOWLEDGMENT

I would like to express my sincere gratitude to Dr. Apriyani Puji H, S.Kep., Ns., M.Kep., and Ns. Indari M.Kep. for their invaluable guidance and support throughout the process of writing this final assignment. I also extend my appreciation to all the respondents who generously dedicated their time to participate in this research. Furthermore, I would like to convey my heartfelt thanks to ITSK RS dr. Soepraoen Malang for the facilities and support provided during the course of this research.

DECLARATION OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this study. The research was conducted independently without any financial, commercial, or personal relationships that could be construed as a potential conflict of interest. All authors have approved the final version of the manuscript and agree to be accountable for all aspects of the work.

FUNDING

The researcher conducted the research using personal funds.

AUTHOR CONTRIBUTION

Author 1: SDLNP as the first author and data collection and data analysis

Author 2: APH as the second author and data analysis

Author 3: I as the third author and became a co-author who collaborated with the main author and second author in research and writing

REFERENCES

- Abduh, M., Alawiyah, T., Apriansyah, G., Sirodj, R. A., & Afgani, M. W. (2022). Survey Design: Cross Sectional dalam Penelitian Kualitatif. *Jurnal Pendidikan Sains Dan Komputer*, 3(01), 31–39. <https://doi.org/10.47709/jpsk.v3i01.1955>
- Ahmed, S. A. S. (2024). Challenges to successful thesis completion among postgraduate students. *SEJ: Educational Research and Development Centre Journal*, 5, 1–10. <https://doi.org/10.70595/sej104>
- Baluszek, J. B., & Rosińska, M. (2023). The relations between resilience and self-efficacy among healthcare practitioners: A rapid review. *International Journal of Health Governance*, 28(2), 152–164. <https://doi.org/10.1108/IJHG-11-2022-0098>
- Chen, B., Zhang, Y., & Li, X. (2024). The impact mechanism of negative academic emotions on learning engagement: The mediating role of self-efficacy. *Education Sciences*, 14(11), 1232. <https://doi.org/10.3390/educsci14111232>
- Danianta, P., & Khotimah, S. (2024). Resiliensi Akademik Mahasiswa Akhir: Peran Optimisme Dan Dukungan Teman Sebaya. *Jurnal Penelitian Dan Pemikiran Psikologi*, 19, 45–55. <https://doi.org/10.30587/psikosains.v19i1>
- Finda Wardani, A., Erwan Syah, M., Studi Psikologi, P., Ekonomi dan Sosial, F., Jenderal Achmad Yani Yogyakarta, U., & Info, A. (2022). Gambaran Self Efficacy Mahasiswa Angkatan Pertama dalam Proses Penyusunan Skripsi. *Jurnal Imiah Psikologi*, 10, 671–682. <https://doi.org/10.30872/psikoborneo.v10i4>

- Hana Muthliatul Janah, S., Febriyani Hutasukhut dan Octa Reni Setiawati, A., The Relationship of Optimism with Resilience in Medical Students of Malahayati University Who Are Taking Thesis. *Medical Profession Journal of Lampung*, 12(3), 396-403. <https://doi.org/10.53089/medula.v12i3.397>
- Mahesti, N. P. R. E., & Rustika, I. M. (2020). Peran Kecerdasan Emosional dan Efikasi Diri terhadap Resiliensi pada Mahasiswa Universitas Udayana yang Sedang Menyusun Skripsi. *Jurnal Psikologi Udayana*, 7(2), 53. <https://doi.org/10.24843/jpu.2020.v07.i02.p06>
- Masithoh, A. R., Siswanti, H., Ayu, D., & Lestari, P. (2023). Hubungan Tingkat Kecemasan Dan Dukungan Orang Tua Dengan Kualitas Tidur Pada Mahasiswa. In *Jurnal Ilmu Keperawatan Dan Kebidanan*, 14(1), 227-234. [tps://doi.org/10.26751/jikk.v14i1.1668](https://doi.org/10.26751/jikk.v14i1.1668)
- Munif, B., Poeranto, S., & Utami, Y. W. (2019). Effects of Islamic Spiritual Mindfulness on Stress among Nursing Students. *Nurse Media Journal of Nursing*, 9(1), 69–77. <https://doi.org/10.14710/nmjn.v9i1.22253>.
- Munif, B., Dwiyananti, M., Sholihin, Pamungkas, A. Y. F., Rudiyanto, & Prasetyawan, R. D. (2024). Differences Between Spiritual Mindfulness and Mindfulness Caring in Reducing Academic Pathological Stress in Nursing Students. *Malaysian Journal of Nursing*, 15(3), 126–137. <https://doi.org/10.31674/mjn.2024.v15i03.015>
- Nabila, S., Mahmud, A., Program, A., Psikologi, S., Psikologi, F., Ilmu, D., & Budaya, S. (2023). Hubungan Antara Efikasi Diri Dan Resiliensi Pada Mahasiswa Yang Sedang Mengerjakan Skripsi, 18(1). 23-35. <https://dx.doi.org/10.30659/jp.18.1.23-35>
- Nauvalia, C. (2021). Faktor eksternal yang mempengaruhi academic self-efficacy: Sebuah tinjauan literatur. *Cognicia*, 9(1), 36–39. <https://doi.org/10.22219/cognicia.v9i1.14138>
- Oktafryadi, R., Arlizon, R., & Donal. (2023). Resiliensi siswa terhadap pembelajaran tatap muka (PTM) di SMP Negeri 25 Kota Pekanbaru. *Jurnal Pendidikan dan Konseling*, 5(1), 5943-5950. <https://doi.org/10.31004/jpdk.v5i1>
- Oktaviani, D., Sukendro, S., & Herwansyah, H. (2026). Factors associated with mental health risk among final-year university students: A cross-sectional study. *KESANS: International Journal of Health and Science*, 5(6), 1103–1114. <https://doi.org/10.54543/kesans.v5i6.601>
- Putra, N. A., & Soetjningsih, C. H. (2023). Exploring the relationship between self-efficacy and academic procrastination: A study among psychology students. *Bulletin of Counseling and Psychotherapy*, 5(3). <https://doi.org/10.51214/00202305621000>
- Ratnaningtyas, T. O., & Fitriani, D. (2020). Hubungan kecemasan dengan kualitas tidur pada mahasiswa tingkat akhir. *Edu Masda Journal*, 4(1), 21–31. <https://openjournal.masda.ac.id/index.php/edumasda/article/view/49/49>
- Şenocak, S. Ü., Totan, T., & Demirkiran, F. (2025). Relationships between problem-solving, resilience, self-efficacy, and perceived social support in nursing students: A serial mediation model. *BMC Nursing*, 25(1). <https://doi.org/10.1186/s12912-025-04211-5>
- Toripa, G. V., & Huwae, A. (2023). Academic resilience and procrastination in students who study while working. *Bisma: The Journal of Counseling*, 7(1), 17–24. <https://doi.org/10.23887/bisma.v7i1.59584>
- Umriana, A. (2020). Analisis Faktor-Faktor Penghambat Penyelesaian Skripsi Mahasiswa Jurusan Bimbingan Dan Penyuluhan Islam Fakultas Dakwah Dan Komunikasi Uin Walisongo Semarang. *At-Taqaddum*, 11(2), 186. <https://doi.Org/10.21580/At.V11i2.4566>
- Vlachopanou, P. (2026). Defensive pessimism-related processes influence approaches to learning, psychological well-being, and academic performance through academic procrastination. *Discover Psychology*. <https://doi.org/10.1007/s44202-026-00623-9>

BIOGRAPHIES OF AUTHORS



Shinta Dewi Latifa Narzhammi Putri. Affiliation in Departemen of Nursing, Faculty of Health Science, Institute Technology, Science and Health RS dr. Soepraoen Malang, East Java, Indonesia. I am a college student of nursing at Institute Technology, Science and Health RS dr. Soepraoen Malang. For more information about me, you can visit the database account below:

: narz.putri22@gmail.com



Dr. Apriyani Puji Hastuti, S.Kep., Ns., M.Kep. Affiliation in Departemen of Nursing, Faculty of Health Science, Institute Technology, Science and Health RS dr. Soepraoen Malang, East Java, Indonesia. I am a lecturer of pediatric nursing at Institute Technology, Science and Health RS dr. Soepraoen Malang. For more information about me, you can visit the database account below:

: [5L61cbAAAAAJ&hl](https://scholar.google.com/citations?hl=5L61cbAAAAAJ&hl)


: <https://orcid.org/0000-0001-6518-1293>

: [58857283700](https://scopus.com/authid/detail.url?authorId=58857283700)

: apriyani.puji@itsk.soepraoen.ac.id



Indari, S.Kep., Ns., M.Kep. Affiliation in Departemen of Nursing, Faculty of Health Science, Institute Technology, Science and Health RS dr. Soepraoen Malang, East Java, Indonesia. I am a lecturer of psychiatric at Institute Technology, Science and Health RS dr. Soepraoen Malang. For more information about me, you can visit the database account below:

: [WMexyJ0AAAAAJ](https://scholar.google.com/citations?hl=WMexyJ0AAAAAJ)

: indari.razan@itsk-soepraoen.ac.id