

Does Resilience Affect Students' Psychological Distress in Indonesia? A Meta-Analysis Study

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Abstract: Does Resilience Affect Students' Psychological Distress in Indonesia? A Meta-Analysis Study. **Objectives:** This research aims to assess the influence of resilience on the formation of psychological distress among students in Indonesia as a whole. **Methods:** The method used for the purposes of this research is correlational meta-analysis by analyzing 10 primary studies with a sample size ($N = 3600$), which meet the specified inclusion criteria. **Findings:** The results of the analysis using the random-effects approach obtained a combined effect size of ($g = 0.614$; $p < 0.01$). This effect size is in the "Medium Effect" category. **Conclusion:** Overall, resilience has a significant effect on the psychological distress of students in Indonesia. The findings of this meta-analysis can provide more accurate and reliable conclusions than single studies. Apart from that, this study can also be a consideration and solution in overcoming the problem of psychological distress in an academic context.

Keywords: psychological distress, resilience, meta-analysis.

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■ INTRODUCTION

Students are often vulnerable to various pressures and challenges during their academic journey. Intense learning processes, high academic demands, changing social environments, and personal challenges can be significant sources of stress for students. Not only that, there are many other things that are sources of pressure or stress for students, such as environmental changes, loss of social support networks, academic pressure, developing relationships with peers, and also financial problems (Azzahra, 2017). Some people can handle this stress well, while others may

experience significant difficulties. In this context, psychological distress including anxiety, depression, and other emotional distress can become a serious problem that affects students' mental and academic well-being. Psychological distress refers to an imbalance in emotional and mental well-being that can arise in response to stress, trauma, or other negative events (Zhang et al., 2018). Psychological distress can have a negative impact on students' academic abilities. Several studies show a relationship between psychological stress and academic ability (Ayu et al., 2023; Carranza-Esteban et al., 2022; Chen et al., 2022).

Research in various countries, such as America, China and Hong Kong, shows that levels of psychological distress tend to increase among students. The problem of psychological distress is very complex and varied, as shown by research by Pidgeon et al. (2014) who highlight the negative impacts, such as stress and distress, on students' experiences. Therefore, students who experience psychological distress require more intensive attention. Not only that, the impact of psychological pressure on students can reach an alarming level, with a number of cases even ending in tragedy, namely death. Research conducted by Forman-Hoffman et al. (2014) highlighted that the value or level of psychological distress is one of the most likely causes of premature death, regardless of sociodemographic, physical health and behavioral risk factors. These findings provide a serious picture of the fatal impact of psychological pressure on students. Apart from the risk of death, extreme psychological stress can also have serious impacts on mental health. The study by Cardozo et al. (2012) emphasize that extreme pressure can have negative impacts that have the potential to affect individual functioning and productivity in the work context. Therefore, an in-depth understanding of psychological stress in students is very important in efforts to prevent and overcome its negative impact on their mental and academic well-being. One factor that plays an important role in addressing this problem is the level of individual resilience.

Resilience refers to a person's ability to recover or adapt after experiencing pressure, stress, or challenges (Herman et al., 2011). Resilience to psychological distress is very important, especially for students, because the academic environment and university life are often full of pressures and demands that can affect their mental well-being. In facing these difficulties, resilience helps students not only survive, but also

grow and develop. Resilient students tend to be better able to overcome failure, adapt to change, and maintain a balance between academic tasks, social life, and personal challenges (Alexopoulou, 2019). Thus, resilience not only strengthens their mental resilience, but also prepares them to face the challenges of the world after college, where adaptation, resilience, and the ability to recover from adversity become crucial skills.

Many studies have confirmed that resilience can help overcome academic demands and improve academic results, so that it can be an effective coping strategy for psychological distress (Amalia et al., 2021; Azzahra, 2017; Khotimah et al., 2021; Prabowo, 2016; Sakti et al., 2019; Saumi, 2023; Bacchi et al., 2016; Rahayu, 2022; Rachmayani, 2016; Maryani, 2023; Zahra, 2023; Jaya & Irawan, 2022; Septiana, 2021; Kirana et al., 2022 ; Septiani & Fitria, 2016). Although some of the above studies have investigated the contribution of resilience to students' psychological distress, it is important to note that most of these studies tend to limit their focus to single study methods such as regression or correlation. As stated by Davies (2000), such research has limitations, mainly related to specific situations such as time constraints, sample size, and specific contexts, which can reduce the accuracy and generalizability of the findings. Therefore, although empirical evidence shows a positive correlation between resilience and academic achievement, further research is needed that incorporates a more comprehensive methodological approach to fully understand this relationship.

Based on the gap above, this research will adopt a meta-analysis study approach to investigate the influence of resilience on students' psychological distress. The meta-analysis technique, as explained by Cohen (2007), is a research method that uses statistical analysis to

combine and synthesize research results from several studies that have been previously conducted on a particular topic. The main goal of meta-analysis is to produce stronger and more accurate generalizations regarding the effects or relationships between variables in the scientific literature. This method provides advantages in holistically evaluating the results of previous research (Schmidt & Hunter, 2004; Retnawati et al., 2018). Meta-analysis studies allow researchers to reach deeper and more accurate conclusions regarding the relationship between resilience and psychological distress in college students. By adopting this approach, it is hoped that this research will make a significant contribution to our understanding of the link

between resilience and psychological distress in college students, while offering a more objective and comprehensive view.

METHODS

Research Design

This research uses a meta-analysis study to examine the effect of resilience on students' psychological stress in Indonesia as a whole. This design was chosen to integrate findings that have been produced by previous research, thereby allowing a holistic and general picture to be presented regarding the impact of resilience on students' psychological distress in Indonesia. In general, the stages in meta-analysis are presented in Figure 1.

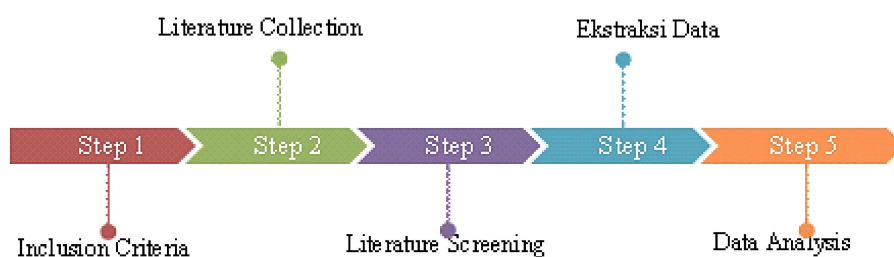


Figure 1. Study procedure-meta analysis

Inclusion Criteria

In this meta-analysis research, the established inclusion criteria aim to ensure that the studies included in the analysis reflect optimal quality and relevance. The inclusion criteria in this research include: 1) The studies considered are studies published within the last eight years, namely between 2016 and 2023; 2) The included studies must be published in national or international journals. This aims to ensure that the literature sources used have a high level of credibility and validity in the research context; 3) Only studies using correlation or regression research methods will be considered; 4) Selected studies must report sample size values as well as one of the following statistical parameters:

correlation coefficient, t-value, p-value, or F-value.

Literature Collection and Data Extraction

The stage of collecting relevant studies uses online databases such as Google Scholar and others. The keywords used in the literature search were “resilience” AND “student psychological distress” in Indonesian and English. From the results of the search for studies based on specified criteria, 15 primary studies were obtained from the 130 studies collected. After obtaining articles that were eligible (meeting the inclusion criteria), data extraction was then carried out to Ms. Excel for. Table 1 presents a summary of the data extraction results.

Table 1. Data extraction in ms. excel

No	Author	N	r
1	Azzahra (2017)	342	0.19
2	Khotimah et al., (2021)	200	0.18
3	Prabowo (2016)	1024	0.24
4	Sakti et al. (2019)	246	0.21
5	Saumi (2023)	412	0.07
6	Bacchi et al. (2016)	560	0.06
7	Rahayu (2022)	67	0.32
8	Rachmayani (2016)	100	0.69
9	Maryani (2023)	47	0.15
10	Zahra (2023)	161	0.56
11	Jaya & Irawan (2022)	30	0.60
12	Septiana (2021)	78	0.24
13	Kirana et al., (2022)	87	0.32
14	Septiani & Fitria (2016)	110	0.30
15	Amalia et al., (2021)	136	0.41
Total		3600	

Data Analysis

Data analysis was carried out with the help of Comprehensive Meta Analysis (CMA) software. The meta-analysis scheme used in this article consists of several steps, namely: (1) calculating the effect size of each study; (2) heterogeneity test; (3) Calculate the Combined effect size; (4) Evaluation of publication bias. (5) Analysis results report. Interpretation of effect sizes in this study uses the classification proposed by Cohen et al (2018). Heterogeneity evaluation uses the Q parameter or p-value approach. If the p-value <0.05 then the most appropriate estimation model for calculating the summary

effect is the random-effect model. Conversely, if the p value is > 0.05, then the fixed-effect model is used (Borenstein et al., 2009; Retnawati et al., 2018). In addition, to assess the quality and validity of the statistics used in the meta-analysis, a publication bias test was carried out (Badawi et al., 2023; Kamsurya et al., 2022; Martaputri et al., 2021; Muhtadi et al., 2022; Setiawan et al., 2022; Mullen et al., 2001; Sulistyowati et al., 2023;). Test The publication bias test method in this study uses the File-Safe N (FSN) approach. The classification of effect sizes in this study is presented in Table 2 below.

Table 2. Classification effect size (g) group

Category	Interpretation
Not Effect	$0.00 < g \leq 0.19$
Small Effect	$0.19 < g \leq 0.49$
Medium Effect	$0.49 < g \leq 0.79$
Large Effect	$0.79 < g \leq 1.29$
Very Large Effect	$g > 1.29$

■ **RESULTS AND DISCUSSION**

Researchers collected data from 15 main studies investigating the effect of resilience on students' psychological distress. The effect size

of each study was calculated using Comprehensive Meta-Analysis (CMA) Version 3 software. Table 3 presents a summary of the effect size values for each study.

Table 3. Effect size for each study

No	Author	Effect Size	Standar Error	z	p
1	Azzahra (2017)	0.39	0.11	3.50	0.00
2	Khotimah et al. (2021)	0.36	0.14	2.53	0.01
3	Prabowo (2016)	0.49	0.06	7.67	0.00
4	Sakti et al. (2019)	0.43	0.13	3.27	0.00
5	Saumi (2023)	0.14	0.10	1.42	0.16
6	Bacchi et al. (2016)	0.12	0.08	1.42	0.16
7	Rahayu (2022)	0.67	0.26	2.56	0.01
8	Rachmayani (2016)	1.89	0.28	6.80	0.00
9	Maryani (2023)	0.30	0.30	0.99	0.32
10	Zahra (2023)	1.35	0.19	7.04	0.00
11	Jaya & Irawan (2022)	1.46	0.47	3.12	0.00
12	Septiana (2021)	0.49	0.24	2.08	0.04
13	Kirana et al., (2022)	0.67	0.23	2.93	0.00
14	Septiani & Fitria (2016)	0.62	0.20	3.10	0.00
15	Amalia et al., (2021)	0.89	0.19	4.73	0.00

Based on Table 3, from a total of 15 effect sizes involving 3600 respondents analyzed, an effect size range was obtained from 0.120 to 1.892. These results indicate that the influence of resilience on students' psychological distress

in Indonesia has varying effect sizes, so to get more accurate conclusions, it is necessary to calculate the combined effect size. Table 4 displays a summary of the heterogeneity tests and random effects and fixed effects estimation models.

Table 4. Summary of heterogeneity test and combined effect size

Model	N	Effect Size	P	Df	Heterogeneity		
					Q	p	I ²
Random-Effect	15	0.614	< 0.01	14	87.677	< 0.01	84.032%
Fixed-Effect	15	0.442	< 0.01	14			

The estimation model used to assess the pooled effect size was adjusted for the results of the heterogeneity analysis. The results of heterogeneity analysis (see Table 4) obtained a p value <0.05. This value indicates that the heterogeneity assumption is met so that a random

effects estimation model is used. The pooled effect size based on the random effects estimation model was (g = 0.614; p < 0.01). Thus, it can be concluded that resilience has a significant influence on the psychological distress of students in Indonesia.

Furthermore, we also evaluated the possibility of publication bias in these meta-analysis studies. The N (FSN) method was used to evaluate possible publication bias. The FSN test results are documented in Table 5.

Based on Table 5, with target significance values ($\alpha = 0.05$) and $p < 0.001$, this indicates that although there are a number of unpublished studies, a statistically significant combined effect is maintained. Therefore, the conclusion that can

Table 5. Summary of publication bias test using file-safe n

Alpha	0.05
P	0.00
N	15
z for Alpha	1.96
P > number of missing studies	721

be drawn is that this meta-analysis has a high level of security against publication bias issues, and the results can be considered scientifically valid. In other words, even if there are additional studies that have not been published or the results are not significant, this will not change the overall conclusion of this meta-analysis.

The results of meta-analysis conducted on 15 main studies with a sample size of ($N = 3600$) show that resilience has a significant influence on students' psychological distress in Indonesia with an effect size of ($g = 0.614$; $p < 0.01$). This effect size is included in the medium effect category (Cohen et al., 2018). These findings show that the higher the level of student resilience, the lower the level of psychological distress they experience. Conversely, students with low levels of resilience tend to face higher psychological distress. Although research conducted by Azzahra (2017) concluded that resilience cannot be used to predict students' psychological distress, the results of this study prove that by combining statistical data from previous research it was found that resilience can be used to predict psychological distress. The implication is that increasing resilience can be considered an effective strategy in managing and reducing the psychological burden of students in Indonesia.

It should be remembered that although resilience has been proven to be a significant

factor in reducing students' psychological distress, it should be noted that each intervention must be adapted to the context and characteristics of the students. Although resilience has been shown to have a significant impact, other factors such as the social environment, peer support, and campus policies may also play an important role in reducing psychological distress. This is in accordance with research by Alawiyah and Alwi (2022), Alnazly et al. (2021), Cohen and McKay (2020), Harandi et al. (2017), Rueger et al. (2016), which states that social support can help reduce psychological distress that arises due to academic demands. Kurniawan et al. (2020) also found that peer support can also play a role in reducing learning boredom in students. Roorda et al. (2017) also found that building good relationships between students and teachers can help students be more motivated in learning. Therefore, further research could explore additional factors that may strengthen the impact of resilience on students' psychological well-being, thereby creating a foundation for a holistic approach to managing students' mental health.

Additionally, it is important to consider that school policies that support students' mental well-being are also an important factor in reducing psychological distress (Kern et al., 2017). Implementation of mental support programs, easy access to mental health resources, and the

creation of inclusive school environments can contribute to the holistic prevention and treatment of psychological distress (Aldridge et al., 2018). Encouraging collaboration between various parties in the school environment, including students, teachers and mental health service workers, can create synergy to improve overall psychological well-being (Hanley et al., 2020). Therefore, further research exploring these dynamics could provide the basis for a more holistic and integrated approach to managing students' mental health.

■ CONCLUSIONS

Based on the findings of this meta-analysis, it can be concluded that resilience makes a significant contribution to students' psychological distress. In Indonesia, students who have a high level of resilience tend to experience lower levels of psychological distress, while students who have a low level of resilience are more susceptible to experiencing psychological distress. The implication is that developing resilience in students can be considered a very effective strategy in reducing the psychological burden that may arise during their academic journey. The findings of this research provide a strong basis for the development of policies and intervention programs in schools and universities. The integration of resilience-building programs into curricula, student services, and leadership initiatives can be a concrete step that supports improving students' mental well-being. These programs can help students recognize their resilience potential, develop adaptive skills, and build a strong psychological foundation for coping with academic and social stress.

This research can also be a basis for further research that can deepen understanding of the relationship between resilience and psychological stress in students. First, future research could examine more deeply to identify factors that trigger resilience that may play an important role

in the context of higher education. This may include in-depth analysis of environmental aspects, social supports, and personal experiences that enrich the development of student resilience. Additionally, further research could focus on designing and evaluating specific interventions designed to increase students' levels of resilience, taking into account their unique needs and the challenges they may face during the academic journey. Second, further research could explore how students' levels of resilience influence other dimensions of well-being, such as academic achievement and life satisfaction. Through further analysis, it can be seen whether there is a significant correlation between the level of resilience and other aspects of well-being, thus opening up opportunities to better understand the implications of resilience in the context of higher education. Additionally, comparative research between groups may provide further insight into how individual demographic or background characteristics may moderate the relationship between resilience and psychological distress, providing a basis for the development of more focused and relevant intervention strategies for specific groups of students.

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