

How does psychological well-being mediate the relationship between resilience and depression among Muslim students?

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ABSTRACT

Depression is a mental health concern that is prevalent worldwide, including among university students. This study aims to examine the mediating role of psychological well-being on the relationship between resilience and depression among Muslim students in Indonesia. Two hundred forty Muslim students at one Islamic college institution participated in this study. Participants completed the Indonesian version of the Center for Epidemiological Studies Depression Scale, Psychological Well-being Scale, and Connor-Davidson Resilience Scale. The results show resilience has a significant negative correlation with depression; the higher the resilience, the lower the depression will be. Moreover, the mediation analysis shows that psychological well-being fully mediated the relationship between resilience and depression among Muslim students. The relationship between psychological well-being and depression in Muslim students who were participants in this research can be explained using the dual continua mental health paradigm. Participants tend to have either a high level of psychological well-being and depression or low levels of psychological well-being and depression.

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Introduction

Depression is the largest mental health challenge in the world. The global health-related burden has only become increasingly prevalent since the COVID-19 Pandemic ([COVID-19 Mental Disorders Collaborators, 2021](#)). According to a Ministry of Health report in Indonesia, depression was already affecting 6.1 percent of the Indonesian population before the pandemic ([Kementrian Kesehatan, 2018](#)). Moreover, depressive symptoms have been found to be significantly associated with suicide attempts in ASEAN countries ([Ahmed et al., 2017](#); [Chee et al., 2022](#)).

Depression is a common problem among student worldwide. The problem has been observed across universities in various continents has increased significantly in the last decade ([Duffy et al., 2019](#); [Oswalt et al., 2020](#)). Depression rates among university students in Chile rose markedly, from 37.1% prior to the pandemic to 63.1% in the aftermath ([Martinez-Libano et al., 2023](#)). Among medical students worldwide, the prevalence increased from approximately 25–30% to more than 50% ([Lin et al., 2024](#)). In Indonesia, available

studies have reported depression rates among university students varying between 17.3% and 43.9%, depending on the population and instruments used (Andriani & Fitriani, 2022; Astuti & Wibowo, 2023; Fransiska & Widiastuti, 2020; Pramesti & Haryanto, 2022; Putri et al., 2022; Rahmawati & Nurhasanah, 2021; Wulandari & Susanti, 2024). Depression in students is associated with various academic demands (Nam et al., 2010). The demand to manage time, read and understand large amount of course material, along with uncertainties about their future and family and social issues, can significantly impact their ability to learn and perform well academically (Ribeiro et al., 2023). Therefore, the consequences of depression will affect students' attitudes, behavior, and interpersonal relationships (January et al., 2018).

Moreover, the prevalence of depression among college students is influenced by the complex transition from late adolescence to early adulthood period (Pedrelli et al., 2015). Various teaching methods and academic requirements can increase depression among students from school to higher education. Entering university can make individuals feel distant from their families and as a result student face new stressful situations that require adaptation. New students face numerous challenges such as transitioning to a free environment, new responsibilities, academic pressures, and financial challenges (Negash et al., 2021; Pham et al., 2019). Students are part of a group that is vulnerable to depression. Students throughout the world, from Asia to America, including Indonesia, tend to experience symptoms of depression (Kaloeti et al., 2019). Symptoms of depression in students were reported in studies in Pakistan (Khan et al., 2021), Japan (Nguyen et al., 2019), Brazil (Demenech et al., 2021), South Africa (Wagner et al., 2022) and Libya (Abuhadra et al., 2023). Depression experienced by students has a negative impact on their quality of life and academic performance (Ribeiro et al., 2023). Depression prevents students from concentrating and maximizing learning. Even suicidal ideation among medical students has been identified as being caused by depression and various depressive symptoms (Kumar et al., 2022).

Many prior studies have explored depression with negatively associated psychological topic such as suicide. However, with the emergence of positive psychology, depression became associated with concepts such as resilience and well-being. Resilience and psychological well-being significantly contribute to reducing depressive tendencies in students, operating through both direct influence and indirect processes such as mediation or moderation (Yan et al., 2024). Resilience is the adaptive ability to maintain an active life despite difficulties and stressful events (Herman et al., 2011). In other words, resilience can be understood as the ability to persist in resolving difficulties encountered in various areas of life by overcoming difficulties and, thus, strengthening one's resistance to stress and trauma in the future (Sisto et al., 2019). Psychological resilience allows society to activate its resources to recover after experiencing adversity, thereby re-establishing a state of balance. Therefore, resilience can reduce the risk of depression (Dai & Smith, 2023). Meanwhile, previous research has verified the relationship between resilience and depression (Poole et al., 2017).

Resilience also influences psychological well-being as it is an individual's capacity to bounce back when facing life's adversities. During the COVID-19 pandemic in South Africa, studies showed a strong relationship between resilience and psychological well-being (Sayed et al., 2024). More recent studies among university students showed a relationship between resilience and psychological well-being (Chaliawala et al., 2025; Sayed et al., 2024). Meanwhile, a study during the COVID-19 pandemic in Turkey showed that there was a relationship between psychological well-being and depression (Ceri & Cicek, 2021). Specifically, a study on students in Japan showed that a lack of psychological well-being influenced depression (Liu et al., 2009). Therefore, psychological well-being is expected to mediate the relationship between resilience and depression. The role of psychological well-being as a mediator between resilience and depression in this research is reviewed from the dual continua model of mental health as a theoretical framework (Keyes, 2005).

Recent international studies have examined the prevalence of depression among university students from diverse religious and ethnic backgrounds, offering relevant insights into mental health disparities between Muslim and non-Muslim populations. A previous study showed that Arab and Middle Eastern students—many presumed Muslim—exhibited higher depression rates than their White peers ([Abuelezam et al., 2022](#)). However, research from Sri Lanka found that Muslim (Moor) students reported fewer depressive symptoms compared to predominantly Buddhist Sinhala students ([Wickramasinghe et al., 2023](#)). Both studies indicate that religious identity and affiliation—particularly among Muslim student populations—may intersect with mental health outcomes in complex ways. Therefore, the purpose of this study is to investigate the correlation between resilience, psychological well-being, and depression among Muslim students in Indonesia. The hypothesis proposed is that resilience is negatively associated with depression. Additionally, psychological well-being acts as a mediator in the relationship between resilience and depression.

Method

Participants

A total of 240 Muslim students from an Islamic college in Indonesia took part in this study. Participants were drawn from the general Muslim university student population, based on the rationale that depression is a mood disorder existing along a continuum that can affect individuals ([Ayuso-Mateos et al., 2010](#); [Tebeka et al., 2021](#)). Most of the participants were women (73.33%), which is almost three times the number of male participants. All the participants willingly participated in the study by providing their informed consent.

Materials

Depression was measured with the Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D was developed to measure depressive symptoms in the general population ([Radloff, 1977](#)). CES-D consists of twenty items with four answer choices, namely rarely or never (less than one day), some or a little of the time (1-2 days), occasionally or moderate amount of time (3-4 days), most or all of the time (5-7 days). CES-D has been used in research in Indonesia ([Seyle et al., 2013](#)).

The level of resilience was measured using the Connor-Davidson Resilience Scale (CD-RISC). This scale comprises 25 items, rated on a 5-point scale ([Connor & Davidson, 2003](#)). The CD-RISC has been found to be a valid and reliable tool for measuring resilience in Indonesian adults ([Azizah et al., 2021](#)).

Psychological well-being is measured by the Psychological Well-being Scale (PWB). PWB consists of 18 items that measure six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance ([Ryff & Keyes, 1995](#)). The PWB scale has six alternative answers: completely disagree to completely agree. PWB with 18 items is valid and reliable for measuring psychological well-being with a sample of Indonesian people ([Aryani & Umar, 2022](#)).

Data Analysis

Data analysis was conducted using Jamovi 2.3.28 software. Initially, an independent sample t-test was performed to examine gender-based differences in depression, as previous studies showed female university students exhibit higher levels of depression when compared to male students ([Haruna et al., 2025](#); [Zhu et al., 2025](#)). Subsequently, a correlation analysis with product-moment was conducted to ascertain the relationship between resilience, psychological well-being, and depression. Finally, a mediation analysis was carried out to

investigate the impact of resilience as a predictor, psychological well-being as a mediator, and depression as an outcome.

Results

The results of the independent sample t-test showed no difference in depression based on gender ($t = -1.08; p > .05$). Table 1 shows each variable's mean and standard deviation based on gender.

Table 1

Descriptive Statistic

	Male (n=64)	Female (n=176)
Resilience	75.1 + 11.8	74.8 + 10.18
Depression	38.4 + 10.38	40.0 + 10.81
Psychological Wellbeing	63.7 + 5.76	65.3 + 5.16

Product-moment correlation analysis is used to determine the correlation between variables. The analysis of the results reveals that there is a significant correlation between the variables presented in Table 2. Resilience has a significant negative correlation with depression ($r = -.22; p < .001$). Similarly, psychological well-being has a significant positive correlation with depression ($r = .48; p < .001$). Resilience and psychological well-being have a significant negative correlation ($r = -.27; p < .001$). The strongest correlation coefficient was found for the relationship between psychological well-being and depression.

Table 2

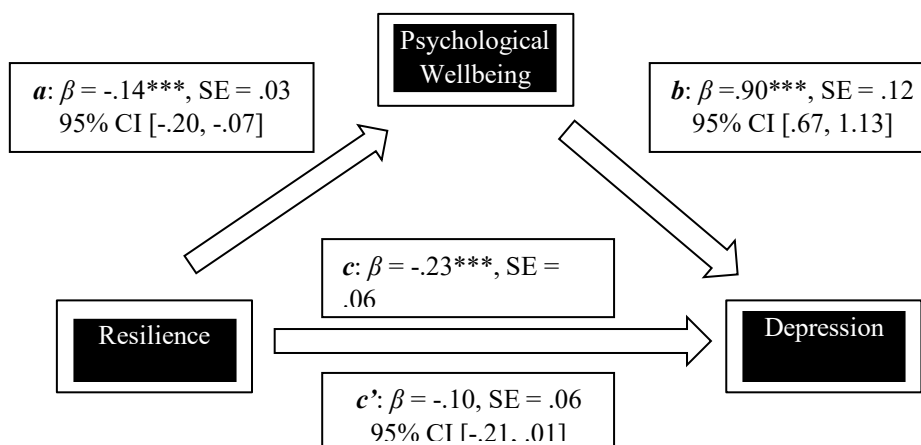
Correlation Matrix

		Resilience	Depression	Psychological Wellbeing
Resilience	Pearson's r	-		
	p	-		
Depression	Pearson's r	-.22***	-	
	p	< .001	-	
Psychological Wellbeing	Pearson's r	-.27***	.48***	-
	p	< .001	< .001	-

Mediation analysis was carried out to determine the mediating role of psychological well-being in the relationship between resilience and depression. Figure 1 shows that the relationship between resilience and depression is significant, as indicated by c , which is the total effect ($\beta = -.23; p < .001$). With the mediation of psychological well-being, the relationship between resilience and depression is not significant, as indicated by c' , which is a direct effect ($\beta = -.10; p > .05$). Meanwhile, the indirect effect between resilience and depression with the mediator's psychological well-being was significant ($\beta = -.12; p < .001$), with a mediation percentage of 55.1%. The indirect effect results from the significant relationship between resilience and psychological well-being ($\beta = -.14; p < .001$) and the significant relationship between psychological well-being and depression ($\beta = .90; p < .001$). These results indicate that the relationship between resilience and depression is fully mediated by psychological well-being.

Figure 1

Mediation Model with Resilience (Predictor), Psychological Wellbeing (Mediator) and Depression (Outcome)



Discussion

The findings of this study indicate that there is no significant difference in depression levels between male and female students. This result contrasts with several previous studies (Dita & Nopiyanto, 2023; Haruna et al., 2025; Zhu et al., 2025); however, it aligns with other research conducted among university students in Indonesia, which likewise reported no gender-based differences in depression (Sa'adah et al., 2024). Based on these findings, the mediating role of psychological well-being in the relationship between resilience and depression appears consistent across genders, suggesting that separate gender-based analyses are not required in this context.

The research findings indicate a significant negative correlation between resilience and depression among Indonesian Muslim students. This means that when resilience is high, depression is low and vice versa. These findings align with the diathesis-stress model proposed by Broerman (2020), which suggests that individuals who can overcome challenges in their lives are less likely to experience psychological problems such as depression. As resilience refers to a person's ability to bounce back from life's difficulties, it can act as a protective factor against depression among students.

The results of the mediation analysis indicate that psychological factors play a significant role in mediating the relationship between resilience and depression. Initially, the correlation test revealed that resilience was negatively correlated with depression. However, when psychological well-being was factored in as a mediator between resilience and depression, the direct effect of resilience on depression became insignificant. These findings suggest that resilience does not directly impact depression but rather does so indirectly through psychological well-being.

The mediation analysis results show a significant indirect effect of resilience on depression through psychological well-being. Resilience is negatively correlated with psychological well-being, while psychological well-being is positively related to depression. Although previous research shows a positive correlation between resilience and psychological well-being (Yu & Chae, 2020), a negative relationship between resilience and psychological well-being was also obtained in research conducted on students in China (Smith & Yang, 2017).

The results of this study suggest that there is a positive correlation between psychological well-being and depression. According to the dual continua model theory, mental health and mental illness are two distinct yet interrelated concepts (Keyes, 2005). The

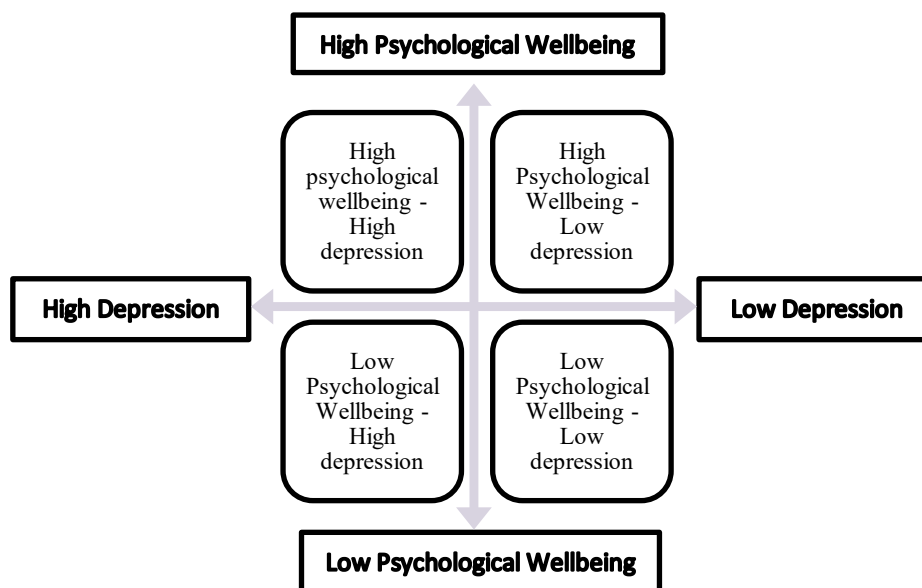
relationship between mental health and mental illness is presented in a quadrant model with four categories: complete mental health, vulnerable, symptomatic but content, and struggling (Iasiello et al., 2020). The complete mental health category, located in the upper right quadrant, describes individuals who experience high mental health and no mental illness. The vulnerable category, located in the lower right quadrant, describes individuals who experience low mental health but no mental illness. The symptomatic but content category, located in the upper left quadrant, describes individuals who experience mental illness but high mental health. Finally, the struggling category, located in the lower left quadrant, describes individuals who experience both mental illness and low mental health.

When applied to the relationship between well-being and depression, the dual continua model theory produces quadrants, as in Figure 2. Based on the model, psychological well-being and depression may correlate negatively, as shown in the upper right quadrant, which shows the group of individuals who have high psychological well-being with low depression. And also the lower left quadrant shows a group of individuals who have low psychological well-being with high depression. Previous studies found a negative correlation between psychological well-being and depression among Japanese university students (Liu et al., 2009) and healthcare professionals and non-healthcare professionals in Turkey (Ceri & Cicek, 2021).

On the contrary, psychological well-being and depression may also correlate positively. As depicted in Figure 2, the upper left quadrant shows a group of individuals who have high psychological well-being and depression. In contrast, the lower right quadrant shows a group of individuals who have low psychological well-being and depression. The positive relationship between psychological well-being and depression results found in this study can be explained using the dual continuity model theory, which was also used in a previous study on mental well-being and psychological distress (Stephens et al., 2023).

Figure 2

The Relation between Psychological Wellbeing and Depression based on Dual Continua Model



One of the most critical aspects of psychological well-being is purpose in life (Azañedo et al., 2021). The Muslim students who are the subjects of this research are those who, apart from carrying out academic activities, also carry out religious activities. For example, they must be able to read the Qur'an well to graduate. In addition, the curriculum has teaching and learning activities related to moral ethics. These activities have the potential to enrich

students' understanding, which in turn may influence their psychological well-being. From an Islamic perspective, the initial step toward achieving psychological well-being is grounded in knowledge—encompassing self-awareness, vices and virtues, understanding of human nature, worldly life, common psychological challenges, as well as foundational knowledge of Islamic beliefs and moral principles (Aycan, 2024).

Muslim virtues based on Islamic values, narrated in the hadith Sahih Muslim Number 2999, are gratitude and patience. Suhaib bin Sinan RA reported that the Messenger of Allah SWT said: How wonderful is the affair of the believer, for his affairs are all good, and this applies to no one but the believer. If something good happens to him, he is grateful for it, and that is good for him. If something bad happens to him, he bears it with patience, which is good for him.

A Muslim can experience high psychological well-being and high depression at the same time, and this can be described as a state of being thankful. This state of thankfulness may help Muslims maintain their psychological well-being. Thankfulness can enhance several dimensions of psychological well-being, including personal growth, positive relationships with others, purpose in life, and environmental mastery (Czyżowska & Gurba, 2022; Nawa & Yamagishi, 2024). This condition describes high psychological well-being and high depression in the upper left quadrant of the dual continua model of mental health theory. Conversely, a Muslim experiencing diminished psychological well-being may still maintain a low level of depression by embodying the virtue of patience. While meaning in life can indeed be constructed apart from religious frameworks (Schweiker, 2009), Islamic teachings view hardships as spiritual opportunities—means of drawing nearer to Allah and avenues for the purification of sins (Ibn al-Jawzi, 2018). The cultivation of patience and gratitude during times of difficulty serves both as a coping mechanism and a path toward spiritual proximity to God (Al-Jawziyya, 1997). For many Muslim students, life becomes meaningful through a deep connection with the Divine, fulfilling spiritual purposes, and living in alignment with ethical principles (Mohamad et al., 2011). As such, it is possible for individuals to experience both low psychological well-being and low depression simultaneously—corresponding to the lower-right quadrant in the conceptual framework.

The present research study has some limitations that need to be acknowledged. Firstly, the sample size and characteristics were limited as only two hundred and forty Muslim students participated. Therefore, future studies should aim to expand the number of participants and the population. Secondly, the Psychological Well-being Scale, which has 18 items, was used despite having some psychometric limitations (Ryff & Keyes, 1995). However, previous research conducted on Indonesian respondents has validated and established the reliability of the 18-item Psychological Well-being Scale for measuring psychological well-being (Aryani & Umar, 2022).

Conclusion

Psychological well-being fully mediated the relationship between resilience and depression among Muslim university students. With the dual continuity model of mental health, the positive relationship between psychological well-being and depression in Muslim university students can be interpreted as the presence of Muslim morals, including gratitude and patience, which may open possibilities for study participants to have high psychological well-being and high depression at the same time, as well as low psychological well-being and low depression.

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Declarations

Author contribution. AMD: Conceptualization; Grant Acquisition; Data Collection; Writing (Original Draft), Writing (Review & Editing). HSW: Conceptualization; Methodology; Data Analysis; Writing (Original Draft), Writing (Review & Editing).

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