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Burnout Profile of Indonesian Students: A Study of Measurement Tool Development and Latent Profile Analysis

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Abstract

Academic burnout among university students is a critical issue because it significantly impacts both psychological well-being and academic performance. This study aims to develop a culturally relevant academic burnout scale tailored to the higher education context in Indonesia and to identify latent student profiles based on their burnout experiences. A total of 222 active students from various universities in Indonesia participated in this study. Construct validity of the scale was tested using confirmatory factor analysis (CFA), while profile analysis was conducted through latent profile analysis (LPA). The results indicated that the academic burnout scale comprises three main dimensions (exhaustion, cynicism, and inefficacy), with a total of 12 items, and meets the goodness-of-fit criteria with RMSEA $< .08$, CFI & TLI $> .90$, and SRMR $< .08$. The measurement results also demonstrated good reliability, as indicated by McDonald's Omega ($\omega = .853$). The profile analysis identified two latent student classes: the high-burnout group and the low-burnout group. These findings highlight the importance of employing contextually appropriate measurement tools and person-centered approaches in understanding the dynamics of academic burnout among Indonesian university students.

Burnout is a psychological response to prolonged stressors, characterized by emotional exhaustion, depersonalization, and decreased personal accomplishment (Maslach et al., 1997). Burnout was initially a concept studied in the context of worker samples or in the industrial and organizational realms and defined as an emotional response arising from chronic stressors in the work environment (Freudenberger, 1975; Maslach & Leiter, 2016). Over time, studies have found that burnout is experienced not only by workers. Other samples, such as students, can also experience burnout, as academic activities are "work" for students (Lin & Huang, 2014; Schaufeli et al., 2002).

Over time, a growing body of research has explored academic burnout among students at various educational levels (e.g., high school and college students). These studies were conducted due to the impact of burnout in educational contexts, which affects student well-being (Maroco & Campos, 2012). Other impacts of burnout include school dropout (Bask & Salmela-Aro, 2012; Calcatin et al., 2022), depression and suicidal ideation (Ansert & Rushing, 2021; Seo et al., 2021; Watson et al., 2020), decreased psychological well-being, and decreased academic achievement (Cazolari et al., 2020; Özhan & Yüksel, 2022; Wei et al., 2021). Given the negative effects reported in various studies, research on academic burnout has developed specifically outside the broader construct of burnout.

Academic burnout experienced by students is characterized by exhaustion, depersonalization/cynicism, and decreased self-efficacy in academic contexts (Schaufeli et al., 2002). Theoretically, exhaustion is the first behavioral characteristic that appears in response to an overwhelming learning load or task (Kim et al., 2017; Maslach & Leiter, 2016). Depersonalization, or cynicism, is a negative attitude toward learning that manifests as a lack of interest in learning, class absences, frequent tardiness, and irresponsible behavior toward learning assignments (Fiorilli et al., 2017). Burnout is also characterized by decreased academic efficacy, which may manifest as frustration or fear of academic failure

(Fiorilli et al., 2017). Various studies show that academic burnout is not only related to excessive workloads, but is also influenced by a lack of self-control, a lack of social support, a lack of engagement with tasks, and other emotional-cognitive factors such as expectancy and outcome (Fiorilli et al., 2017; Maslach & Leiter, 2016; Oyoo et al., 2020; Singh et al., 2020). Academic burnout in students can also be influenced by psychological factors such as stress, depressive symptoms, and academic resilience, as well as demographic factors such as culture and gender (Hofstede, 2013; Palupi & Findyartini, 2019; Purvanova & Muros, 2010; Salmela-Aro & Tynkkynen, 2012).

University students are vulnerable to ongoing academic stress, which can trigger academic burnout (Ober et al., 2025; Önder et al., 2025). This is because the learning system and university learning activities in Indonesia are often perceived as intense and continuous, characterized by numerous assignments, pressure from lecturers, and individual anxiety about achieving good academic performance (Kusuma et al., 2022; Rohmani & Andriani, 2021). Additional stressors experienced by students at universities in Indonesia include responsibility for final assignments, financial problems, and environmental stressors (Mardea & Kristina, 2020). These conditions can cause psychological distress that impacts the well-being and mental health of university students (Alfiyan et al., 2021; Bima Fathoni et al., 2022; Yulianto et al., 2023).

From a methodological perspective, recent studies indicate that academic burnout among students should be examined using a person-oriented approach such as profiling (Lee et al., 2010). Profiling is important because academic burnout is a multidimensional construct, with individuals exhibiting different combinations of burnout symptoms (Asikainen et al., 2022; Salmela-Aro & Read, 2017). Previous research has shown that when burnout is analyzed across its three components (exhaustion, cynicism, and inefficacy), a profile pattern emerges reflecting varying levels of burnout, such as low, medium, and high.

For example, a study of undergraduate students in the United States identified four main profiles of burnout: low burnout (13%), below average (25%), above average (48%), and high burnout (14%) (May et al., 2020). Similar findings emerged in a sample of Korean students, with more detailed profiles: a distress group (25%), a laissez-faire group indicating low efficacy (33%), a persevering group with low levels of exhaustion and cynicism (14%), and a well-functioning group (28%) (Lee et al., 2010). These findings suggest that academic burnout profiles exhibit heterogeneity that varies across studies. Such heterogeneity can be examined using the latent profile analysis (LPA) (Collins & Lanza, 2013). The application of LPA can provide information on the number of profiles (classifications or classes) in the data, the percentage of respondents who fall into each class, and the class fit within the data (Spurk et al., 2020). Therefore, LPA provides information that can serve as a basis for developing academic burnout interventions tailored to the specific needs of each class.

To this day, several burnout measurement tools have been developed specifically for student samples. One of these is the Maslach Burnout Inventory–Student Survey (MBI-SS), developed by Schaufeli and a modification of the Maslach Burnout Inventory–General Survey (MBI-GS) (Schaufeli et al., 2002). This instrument is widely used to identify the characteristics and risks of burnout among students in the context of their learning activities (Galán et al., 2011; Schaufeli et al., 2002; Yavuz & Dogan, 2014). There is also a burnout measurement tool designed for high school students, namely, the School Burnout Inventory, a modification of the Bergen Burnout Inventory (Salmela-Aro et al., 2009, 2010).

Research and measurement of academic burnout in Indonesia generally uses the MBI-SS and SBI adapted into Indonesian (Auliannisa, 2023; Mawadah et al., 2022; Rahman, 2020). However, academic burnout is a culturally charged construct, with individual experiences, perceptions, and responses to academic stress varying across countries (Cabras et al., 2023; Zhou et al., 2024). Therefore, developing an academic burnout measurement tool designed for and sensitive to the Indonesian cultural context is crucial to more accurately and relevantly describing students' burnout experiences.

To date, several contextual instrument developments for student populations have been conducted, such as those by Setyaputri et al. (2022), who developed a burnout scale for thesis completion. Furthermore, Permatasari et al. (2021) developed a student burnout scale for descriptive analysis of student academic burnout. In this study, the novelty lies in a more comprehensive item analysis, using a confirmatory factor analysis (CFA) approach to test the internal structure of the measurement instrument for confirmatory purposes, and latent profile analysis (LPA) as an additional means of data analysis to examine the latent profile within the measurement instrument.

This study aims to analyze academic burnout among college students in Indonesia by identifying variations in patterns and tendencies in students' experiences of academic stress. To support this analysis, this study also includes the development of an Indonesian-language version of an academic burnout measurement tool appropriate to the national cultural context and education system. The development of this measurement tool is expected to capture the dynamics of burnout more accurately and representatively, so that the results can be used as a basis for understanding different forms of burnout among college students. Therefore, this study is expected to enrich the literature and provide practical benefits in the field of psychology, particularly regarding the measurement and research of academic burnout among college students in Indonesia.

Method

Participant Characteristics

The sample in this study consisted of active students from various regions in Indonesia, aged 18–24 years (Mean = 20.48; *SD* = 1.38). The sample consisted of 22.1%

males and 77.9% females. The sample was selected using a non-probability sampling technique, which is a sampling technique carried out without knowing the p size with specific criteria (Etikan, 2016). Participant data were collected using a Google form designed in accordance with research ethics, starting from filling out informed consent, participant demographics, and measurement instruments, along with guidelines to facilitate completion. This study received research ethics approval from the Faculty of Psychology, UGM (Number: 3284/UN1/FPSi.1.3/SD/PT.01.04/2024).

Measurement

The measurement in this study relied on a student academic burnout scale developed by the researcher. The student academic burnout scale was developed based on the burnout theory by Maslach et al. (1997). Items were written according to dimensions and indicators tailored to students' academic conditions. In compiling the items, the researcher established the context of academic activities through discussions with students and the research team, thereby identifying the forms of activity most relevant to students' actual experiences. Furthermore, the researcher consulted existing literature and academic burnout measurement tools to ensure that the developed items maintained a strong theoretical foundation and were relevant to students' actual conditions in Indonesia.

Based on the theory, burnout is divided into 3 dimensions: exhaustion, cynicism, and inefficacy. The scale is a Likert scale with 5 score categories: strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5). In the trial, the items were divided into two types: favorable and unfavorable. For favorable items, the higher the response score, the higher the tendency to experience burnout. Conversely, for unfavorable items, the higher the response score, the lower the tendency to experience burnout. Table 1 offers a blueprint of the burnout scale. See Table 1

Data Analysis

The measurement data were analyzed statistically using descriptive analysis, validity testing, and reliability testing. The validity and latent structure of each factor in the measurement instrument were tested using confirmatory factor analysis (CFA) with the maximum likelihood (ML) estimation method in JASP software. Analysis using a person-oriented approach was conducted using LPA (Raufelder et al., 2013; Williams & Kibowski, 2015) in Jamovi software. LPA was conducted based on the factor score of the academic burnout scale, which consists of three dimensions/factors: exhaustion, cynicism, and inefficacy.

Results

Assumption Test

Before analyzing the items, an assumption test was conducted to eliminate outliers and assess multivariate normality. Outlier elimination used the Mahalanobis distance test to identify items with extreme scores (Cabana et al., 2019). Of the 239 samples, 17 were eliminated due to their extreme scores (Mahalanobis score greater than chi-square), leaving 222 samples. A normality test was then performed by observing the skewness value, which was outside the range of ±2.00 (Matore & Khairani, 2020). Based on the normality test, it can be concluded that all items exhibit a normal score distribution.

CFA Analysis of the Academic Burnout Scale Model of Students

After the assumption test, a confirmatory factor analysis (CFA) was conducted to assess the model's goodness-of-fit. The model is said to fit the data if the CFI and TLI values are above .90, the RMSEA is below .08, the p-value of the RMSEA is above .05, and the SRMR is less than or equal to .08 (Brown, 2015). The model suitability test through the goodness-of-fit indices values in the initial and final models are shown in Table 2.

The data above indicate that the 60-item model does not fit, as it shows CFI and TLI values below .90, RMSEA values above .08, SRMR values above .08, and an RMSEA *p*-value below .05. Therefore, modifications were made by eliminating items based on the factor loading value. If the factor loading value of an item is greater than .50, it is considered to have practical significance, so items with a factor loading less than .50 are eliminated (Hair et al., 2019). At this stage, 30 inappropriate items were eliminated, leaving 30 items. The items eliminated were Exh11 - Exh20, Cyn11 - Cyn20, and Inf11 - Inf20.

If, after elimination based on factor loadings, the model still does not fit, it is modified again by examining cross-loadings. Items that have significant loadings on more than one factor (cross-loadings) can cause interpretation problems and confusion in the model. Eleven items—Exh2, Exh7, Exh8, Cyn1, Cyn2, Cyn3, Cyn6, Cyn7, Cyn8, Inf3, and Inf6—were eliminated because they had cross-loading values of more than one factor. After that, if the model is still not said to be fit, further modification is carried out by examining the modification indices. High modification indices indicate the potential for increasing model fit if certain items are changed or removed. Based on the residual covariance matrix on the modification indices, 7 items were eliminated, leaving 12 items in the final model with CFI, TLI, RMSEA, and SRMR values as in Table 2. A fit or appropriate model is obtained. The final student academic burnout scale is presented in Table 3. The final model in Figure 1 shows that all dimension items have factor loading values above .50, indicating that the items can be considered good (Hair et al., 2019; Saptono, 2017). All three dimensions have high factor loadings. The exhaustion dimension has a factor loading value of .61 to .78; the cynicism dimension has a factor loading value of .51 to .61; and the inefficacy dimension has a factor loading value of .54 to .91.

Note. Exh = exhaustion; Cyn = cynicism; Inf = inefficacy.

Table 1
Blueprint for Testing the Student Academic Burnout Scale

Dimensions	Indicator	Item		
		F	UF	Number of Items
Exhaustion	Physical Exhaustion	10	10	20
	Emotional Exhaustion			
	Cognitive Fatigue			
Cynicism	General Aversion to Duty	10	10	20
	Declining Interest in Classroom Learning Activities			
	Avoidance of Academic Responsibility			
Inefficacy	Feeling Incompetent as a Learner	10	10	20
	Decreased Ability to Be Productive			
	Attitude of Fear of Facing Learning Failure			
Total				60

Table 2
Goodness of Fit Indices, Academic Burnout in College Students

Model	χ^2	p	CFI	TLI	RMSEA	RMSEA p-value	SRMR
60 items	5446.321	<.001	.531	.514	.099	.000	.115
12 items	104.318	<.001	.933	.914	.067	.053	.050

The final measurement model is multidimensional, with intercorrelated dimensions. The results of the correlation analysis between factors are summarized in Table 4. Based on the explanation in Table 4, a significant p-value ($p < .001$) indicates a significant correlation between exhaustion (Exh) and cynicism (Cyn), exhaustion (Exh) and inefficacy (Inf), and cynicism (Cyn) and inefficacy (Inf). The highest inter-factor correlation is between the exhaustion (Exh) dimension and the inefficacy (Inf) dimension, at .779. Additional testing of the second-order hierarchical model was conducted, showing the same goodness-of-fit indicators and, thus, indicating that the three dimensions can reflect the latent construct of student academic burnout. However, because this study aims to identify variations in patterns between dimensions, further analysis still uses a multidimensional approach.

Construct Reliability

In the multidimensional model, the reliability of each dimension is assessed to determine the internal consistency of the instrument being developed. The Omega coefficient is used to assess the extent to which reliability standards are met, with calculations depending on parameter estimates in the CFA model (Ziegler & Brunner, 2016). Good construct reliability occurs when the McDonald's Omega reliability coefficient value is closer to 1. The exhaustion dimension has the highest alpha value (ω = .778), followed by the inefficacy dimension (ω = .69), and finally the cynicism dimension (ω = .758). The McDonald's Omega reliability value (ω) in the second-order hierarchy of academic burnout measurement results is .767. Reliability per dimension is shown in Table 5.

Latent Profile Analysis

This study employed a person-oriented approach, latent profile analysis, to identify latent groups in the data. This analysis technique can be used to group individuals into latent classes based on response patterns. The analysis results in Table 6 show that model 6 with two classes had the best overall statistical fit in terms of model fit. This is indicated by the highest log-likelihood value of -1538 and the lowest AIC value of 3115, indicating that this model best explains the data with the most efficient complexity. Furthermore, although the BIC (3193) and CAIC (3212) values are not the lowest, the differences are relatively small and still acceptable. However, the six-class model has the lowest entropy value of .529, indicating that the classification of individuals into each class is less clear than in the other models, especially compared with the entropy of the third model, which reached .784.

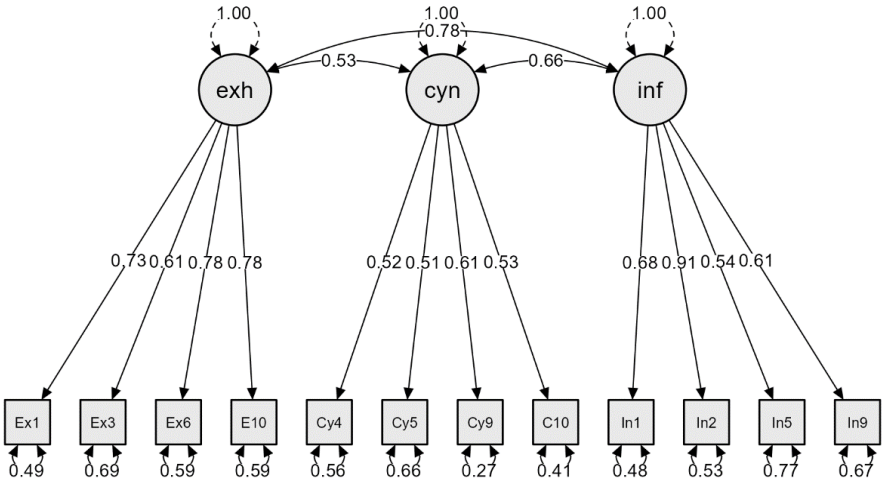
After determining the most appropriate class model, the next step was to analyze the profiles of both classes. The results of the profile analysis using the 2-class model are shown in Table 7. Latent profile analysis identified two classes of students based on three dimensions of academic burnout: exhaustion, cynicism, and inefficacy. Class 1 showed a significantly higher average burnout score, with positive mean scores on all three dimensions: exhaustion (.825), cynicism (.592), and inefficacy (1.013) (all $p < .001$). This indicates that students in this class experienced academic burnout with higher intensity across all dimensions.

low mean burnout score, with a negative mean across all dimensions: exhaustion (-.339, p = .004), cynicism (-.243, p = .001), and inefficacy (-.417, $p < .001$). These results indicate that students in this class tended to have mild levels of exhaustion, cynicism, and inefficacy. The variance in scores within this class was moderate, with val-

Table 3
Final Scale of Student Academic Burnout

Code	Item
Exh1	*Saya merasa kurang berstamina dalam belajar*
Exh3	*Badan saya terasa sakit saat mengerjakan tugas belajar*
Exh6	*Saya sulit memotivasi diri untuk menyelesaikan tugas*
Exh10	*Saya tidak mampu fokus saat belajar*
Cyn4	*Saya tidak menyimak materi yang diajarkan di kelas*
Cyn5	*Saya merasa pembelajaran di kelas tidak menarik*
Cyn9	*Saya menghindari tugas-tugas penting dalam kegiatan belajar.*
Cyn10	*Saya sering tidak masuk kelas tanpa alasan yang jelas*
Inf1	*Saya tidak yakin mampu menyelesaikan studi saya*
Inf2	*Saya tidak percaya diri saat mengerjakan tugas atau ujian.*
Inf5	*Saya menunggu untuk diberikan arahan dibandingkan berinisiatif pada proses pembelajaran*
Inf9	*Saya menghindari tugas karena takut tidak memenuhi ekspektasi dosen atau guru saya*

Figure 1
Multidimensional Model of Academic Burnout in Students



ues of .503 for exhaustion, .578 for cynicism, and .373 for inefficacy (all $p < .001$), indicating diversity in burnout experiences, although they remained in the low category.

Figure **??** shows the visualization results of the latent profile analysis as a line plot, depicting differences in academic burnout score patterns between the two classes. Class 2 (shown by the blue line) had lower scores across all three measured dimensions: exhaustion, cynicism, and inefficacy. In contrast, class 1 (shown by the red line) had consistently higher burnout scores across all three measured dimensions: exhaustion, cynicism, and inefficacy. The line pattern tends to be flat and is below the midline, indicating that students in this class experienced relatively high and stable levels of burnout across all dimensions.

Table 8 shows the distribution of the number of students based on the results of the latent profile analysis classification into two classes of academic burnout. In total, 61 students (27.5%) were classified into Class 1, while the majority, 161 students (72.5%), were classified into Class 2. The cumulative percentage shows that all participants (100%) were successfully classified into two classes. This distribution indicates that more than two-thirds of the participants were in the group with lower burnout characteristics (Class 2), while only about one-quarter were in the group with higher burnout characteristics (Class 1). A visual depiction of the distribution of these class percentages can be seen in Figure 3, which presents the number of participants in the form of a bar graph.

Discussion

Culturally relevant academic burnout measurement tool for Indonesian students, while analyzing latent profiles to identify emerging patterns based on their burnout experiences. The first stage involved developing and testing the construct validity of the Indonesian version of the academic burnout measurement tool. Validity testing

Figure 2
Latent Profile: Line Plot

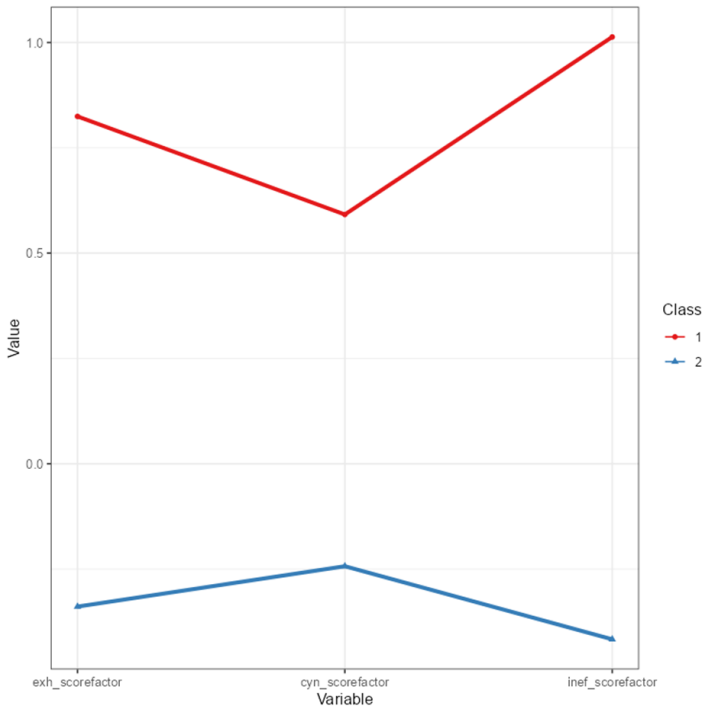


Figure 3
Percentage of Latent Classes

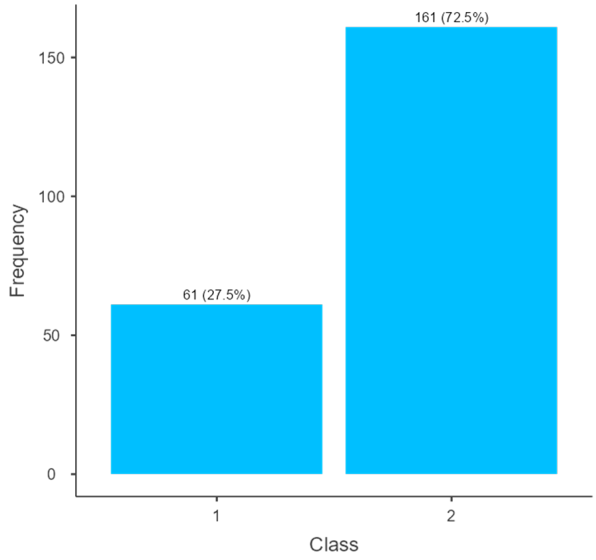


Table 4
Correlation Analysis Between Factors

Correlation Between Factors	Estimate	Std. Error	z-value	p (Sig.)
Exh ↔ Cyn	.525	.072	7.326	$< .001$
Exh ↔ Inf	.779	.050	15.617	$< .001$
Cyn ↔ Inf	.663	.063	10.501	$< .001$

Table 5
Construct Reliability of the Student Academic Burnout Scale

Scale	McDonald's Omega (ω)
Exhaustion	.778
Cynicism	.697
Inefficacy	.758

Table 6
LPA Model Analysis

Model	Classes	LogLik	AIC	BIC	CAIC	Entropy
1	2	-1644	3307	3348	3358	.765
2	2	-1612	3250	3304	3317	.687
3	2	-1572	3169	3223	3236	.784
6	2	-1538	3115	3193	3212	.529

was conducted using CFA. Based on the CFA, a fit instrument model was obtained for measuring student academic burnout, namely, a multidimensional scale comprising three dimensions with a total of 12 items.

The findings of this study indicate that the developed academic burnout scale has an adequate construct structure. The 12-item measurement model demonstrated goodness of fit (Brown, 2015; Hair et al., 2019; Hox, 2021). This indicates that the developed instrument captures, in a valid and reliable manner, the main characteristics of burnout in the student context.

In addition, the three dimensions of academic burnout, namely, exhaustion, cynicism, and inefficacy, have been proven. significantly and positively correlated. In the context of CFA, when a model consists of two or more factors, the relationship between factors is usually estimated using covariance or factor correlation to assess the interrelationships between latent dimensions (Brown, 2015). The findings from the development of this scale are consistent with the theoretical model for developing measurement tools developed by Maslach et al. (1996), which views burnout as a multidimensional construct with interrelated dimensions that form a unified psychological experience. The positive correlation between the dimensions of academic burnout in this study indicates that increasing academic burnout tends to be followed by increasing cynicism toward learning and increasing feelings of incompetence in carrying out academic tasks.

In terms of measurement reliability, the scale reliability based on each dimension showed good reliability coefficient values. The reliability test results showed McDonald's Omega coefficient values above the recommended limit (Hayes & Coutts, 2020; Kalkbrenner, 2021). Thus, these results indicate that the developed instrument has adequate internal consistency for measuring academic burnout.

After ensuring that the academic burnout measurement tool had adequate construct validity, the next step in this study was to identify variations in students' burnout experiences through latent profile analysis (LPA). The analysis revealed two latent classes representing different patterns of academic burnout experiences among students. Based on the profile analysis, two categories of responses were identified. The first category, high burnout, tended to score high on each dimension. The second category, low burnout, tended to experience low levels of exhaustion, cynicism, and feelings of inadequacy.

The findings of this study support the theoretical framework of burnout developed by Maslach et al. (1996), which posits two levels of burnout: high burnout and low burnout. This study identified two main student profiles: those with high burnout and those with low burnout. Students in the high-burnout category tend to exhibit fatigue, negativity, and insecurity about their ability to complete academic tasks. Students in the low-burnout category exhibit positive attitudes, enthusiasm, and confidence in completing tasks and academic demands (Oyoo et al., 2020; Robins et al., 2017).

In the first year, approximately 27.5% of students in the class scored high across all dimensions, particularly the inefficacy dimension. This profile can be described as a high-risk group for burnout, or as previously termed, a distressed profile (May et al., 2020). These findings indicate that a significant proportion of students experience severe academic stress, which has the potential to disrupt their psychological well-being and academic performance. High levels of academic burnout are associated with decreased academic performance and cognitive functioning (May et al., 2015), increased depressive symptoms (Fitzpatrick et al., 2019), sleep disturbances, decreased quality of life (Pagnin & de Queiroz, 2015; Ríos-Risquez et al., 2018), and even the risk of dropping out (Nicita et al., 2025). Thus, the identification of this group is an important finding that requires further attention.

In the second class, the majority of students (67.5%) scored low on all three dimensions of academic burnout (exhaustion, cynicism, and inefficacy). Students in this class tended to have good levels of well-being, good academic performance, and relatively positive academic engagement (Afshar et al., 2025; Sepdila & Magistarina, 2024). This profile aligns with the group referred to in previous literature as well-functioning students (Lee et

Table 7
Latent Profile Analysis

	Class 1				Class 2			
Dimensions	Mean	*p*	Variances	*p*	Mean	*p*	Variances	*p*
Exhaustion	.825	<.001	.503	<.001	-.339	.004	.503	<.001
Cynicism	.592	<.001	.578	<.001	-.243	.001	.578	<.001
Inefficacy	1.013	<.001	.373	<.001				

Table 8
Class Percentage Frequency

Membership	N	% Total	Cumulative %
1	61	27.5%	27.5%
2	161	72.5%	100%

al., 2010), namely, individuals who can maintain motivation and a sense of competence despite academic demands. In several studies, lower levels of academic burnout have been linked to improved academic performance and emotional well-being (Yeom et al., 2020). This condition is likely supported by several protective factors, such as strong social support (Kim et al., 2017), adaptive emotion regulation strategies (Iuga & David, 2024; Merino-Soto et al., 2024), resilience (Wang et al., 2022), the ability to manage time and task load effectively (Kordzanganeh et al., 2021; Sharififard et al., 2020), high intrinsic motivation (Felaza et al., 2020), and active involvement in academic activities (Calcatin et al., 2022; Salmela-Aro & Read, 2017).

These findings have important practical implications. The identification of two academic burnout profiles in this study suggests the need for preventive and curative interventions at the university level. Universities can design effective strategies to foster positive learning environments and support students' mental well-being, such as establishing psychological help centers and mental health support groups and adapting academic curricula (Amelia, 2022; Griffith, 2021; Husna et al., 2025). By fostering a more positive learning environment responsive to students' psychological needs, universities can help prevent academic burnout among vulnerable student groups.

Limitations

This study also has several limitations that must be considered. The cross-sectional design limits the ability to draw causal conclusions or understand the dynamics of academic burnout development over time. The limited sample size at a few institutions also affects the generalizability of the findings to the entire Indonesian student population. Furthermore, the entropy of the LPA results is moderate, so the separation between classes is not fully optimal. Thus, it is recommended that future research employ more supportive research designs and more representative sampling techniques, thereby strengthening the generalizability and accuracy of the interpretation of the findings.

Conclusion

This study successfully developed an Indonesian version of an academic burnout measurement tool with valid and reliable scale results and cultural relevance. The scale, consisting of three main dimensions—namely, exhaustion, cynicism, and inefficacy—underwent a construct validity test using CFA and showed adequate results based on model suitability indicators (goodness-of-fit) such as CFI, TLI, RMSEA, and SRMR. In addition, this measurement tool has good internal reliability, as indicated by the McDonald's Omega value. Thus, based on the measurement results, the 12-item student academic burnout scale is valid and reliable.

Using latent profile analysis (LPA), this study identified two classes of student burnout profiles: a high-burnout group (27.5%) and a low-burnout group (67.5%). Students in the high-burnout category showed high scores across all dimensions, particularly feelings of ineffectiveness, and were at risk of impaired mental well-being and decreased academic performance. Conversely, students in the low burnout category tended to have more positive academic engagement, better well-being, and adaptive abilities in dealing with academic demands. These findings demonstrate the importance of a person-oriented approach to understanding variations in burnout experiences, as well as the need for campus policies that are responsive to students' psychological conditions. However, this study has several limitations. The limited sample size at a few institutions affects the generalizability of the findings to the entire Indonesian student population. Furthermore, the entropy of the LPA results was moderate, so the separation between classes was not fully optimal.

Implications

These findings have important practical implications. The identification of two academic burnout profiles in this study suggests the need for preventive and curative interventions at the university level. Universities can design effective strategies to create positive learning environments and support student mental well-being, such as providing psychological help centers, mental health support groups, and adapting academic curricula. By fostering a more positive learning environment that is responsive to students' psychological needs, universities can help prevent the development of academic burnout in vulnerable student groups.

Recommendation

Future research is recommended to employ longitudinal or experimental designs to identify the direction of relationships and possible causal relationships between variables in academic burnout. Furthermore, using more representative sampling techniques that encompass a wider range of institutions and diverse regions in Indonesia is necessary to increase the generalizability of the findings. Future research could consider larger sample sizes, the addition of relevant indicators, or the exploration of the optimal number of classes to achieve clearer and more stable profile separation.

Declarations

Acknowledment

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Author Contribution

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Conflict of Interest

The authors hereby declare that they have no conflict of interest in the research, writing of the research manuscript, and/or publication of this research.

Declaration of Generative AI in Scientific Writing

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