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Academic Burnout of Students Working in Metropolitan Cities: RASCH Model Analysis

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ABSTRACT

During the Covid-19 pandemic, all aspects of public life were restricted, including online learning. In the process of online learning, the high number of academic targets that had to be achieved led to burnout. This study identifies academic burnout among working students in Jakarta, Indonesia. The data used were part of a pilot study conducted by the authors to assess students' academic burnout. This research employed a survey method with Rasch model analysis, using a sample of 451 participants who completed the survey via Google Form distributed through WhatsApp messages. The instrument used was the School Burnout Inventory (SBI) (Salmela et al., 2009). The results showed that 17% of students fell into the low academic burnout category, while the remaining were in the medium (59%) and high (24%) categories. Therefore, it can be concluded that working students experience academic burnout, and counseling is needed to help reduce academic burnout among students working in metropolitan areas.

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Introduction

The Covid-19 pandemic has had a broad impact across various sectors of life, including education. The government implemented social distancing policies to curb the spread of the virus, resulting in drastic changes to the learning system in schools and universities (Yamali & Putri, 2020). Higher education institutions transitioned to online learning, requiring students to be more independent in managing their time and understanding course material (Haryadi & Selviani, 2021). In this situation, working students faced greater challenges compared to non-working students. In addition to adjusting to a new learning system, they were also required to fulfill their professional obligations at work. This dual pressure was especially felt in metropolitan cities like Jakarta, where academic and professional competition adds significant challenges for working students (Lenaghan & Sengupta, 2007).

The sudden shift in the learning system also increased the academic workload for students. Many lecturers adopted independent assignments as a form of adjustment to online learning, resulting in a higher number of academic tasks that needed to be completed in a shorter time frame (Haryadi & Selviani, 2021). This condition was worsened by the limited direct interaction between students, lecturers, and peers, which ultimately reduced social support in the learning process (Ramadhan & Rinaldi, 2022) . The inability to interact directly within the academic environment also decreased students' opportunities to engage in in-depth discussions, adding psychological stress (Ramadan et al., 2022). The increased academic workload contributed to the emergence of academic burnout, particularly among working students who had to divide their energy and attention between study and work (Oktasari et al., 2022; Orpina & Prahara, 2019).

Academic burnout is a psychological condition marked by emotional exhaustion due to excessive academic demands, cynicism or apathy towards study, and reduced academic efficacy—i.e., feelings of incompetence in completing academic tasks (Mostafavian et al., 2018; Oktasari et al., 2022; Permatasari et al., 2020). In the context of working students, academic burnout can cause an imbalance between academic and professional life, ultimately negatively affecting their academic performance and mental well-being. According to Yang (2004), academic burnout consists of three main aspects: (1) Emotional exhaustion, caused by overwhelming academic pressure and often accompanied by frustration and tension; (2) Academic cynicism, which refers to indifference or apathy toward academic tasks, even avoiding the learning process; and (3) Reduced academic efficacy, which reflects a decline in students' confidence in their academic abilities. If not addressed promptly, this condition may lead to deteriorating academic performance, prolonged stress, or even dropping out of school (Abreu Alves et al., 2022; Neumann et al., 1990).

The phenomenon of academic burnout is not limited to Indonesia; it is also a global issue among students. Several studies indicate high levels of academic stress among students in various countries. In China, 86.6% of students experienced severe academic stress that led to burnout (Rad et al., 2017), while in Iran, 76.8% of medical students experienced burnout with 71.7% reporting severe stress. In the United States, 87% of students stated that education is the main source of stress in their lives (American Psychological Association, 2020). In Indonesia, the phenomenon is also reflected in research conducted at Universitas Gadjah Mada (UGM) in 2021, which revealed that 59.36% of students experienced academic burnout (LM Psychology UGM, 2021). Data from West Java even show that over 11 million students experience academic stress, with a quarter diagnosed with psychological disorders (Tiaranissa & Rosiana, 2022). Working students are at higher risk of academic burnout compared to non-working students because they face dual pressures from both academic and professional demands.

Conditions in metropolitan cities like Jakarta further exacerbate the risk of academic burnout among working students. As the capital city and economic center, Jakarta demands a fast-paced work rhythm and intense competition in various sectors (Hairunnisa & Pungkasane, 2021). Working students in Jakarta must cope with high academic demands while also facing substantial work pressure. In addition to academic and work-related factors, lack of social support, financial demands, and time management difficulties contribute to the increased risk of burnout among working students (Sagita & Meilyawati, 2021). If not well-managed, this condition may lead to declining academic achievement, inability to graduate on time, and more serious mental health issues.

Based on these issues, this study is highly urgent in identifying the level of academic burnout among working students in Jakarta. This analysis employs the Rasch model to understand the distribution of academic burnout based on severity levels and to uncover contributing factors to the condition. This study also aims to provide insights for educational institutions and academic counselors in developing appropriate intervention strategies to help working students manage academic and professional pressures. With effective interventions, working students are expected to achieve a balance between study and work while enhancing their academic and mental well-being.

From the various previous findings, it can be concluded that academic burnout is a complex issue that requires greater attention, especially for students working in metropolitan cities. High academic pressure, increasing work demands, and the impact of the Covid-19 pandemic are major factors that aggravate this condition. Therefore, this study serves as an initial step in understanding the complexity of academic burnout and finding applicable solutions to mitigate its negative effects. The results of this research are expected to serve as a foundation for developing more adaptive academic policies and psychological interventions that support the well-being of working students.

Methods

This research employed a survey method involving 451 student respondents from a private university in Jakarta, Indonesia. The sampling technique used was incidental sampling. The research instrument was developed based on Salmela (2009) theory and consisted of 15 Likert-scale items with response options ranging from “strongly agree,” “agree,” “somewhat agree,” “disagree,” to “strongly disagree”. The instrument was distributed using Google Forms. To ensure that respondents completed the instrument seriously and accurately, several measures were implemented during data collection. An informed consent statement was provided at the beginning of the

online form, emphasizing the voluntary nature of participation, the confidentiality of responses, and the importance of honest and thoughtful answers. The form was distributed selectively to working students in Jakarta through academic WhatsApp groups and institutional contacts to ensure the relevance of the sample. Internal validation was conducted using Rasch Model analysis, where infit and outfit mean square values were examined to detect inconsistent or extreme response patterns. Any responses that showed irregularities or lacked coherence were excluded from the final analysis. Additionally, submission times were monitored to identify and remove entries that were completed too quickly or appeared duplicated. These steps were taken to enhance the reliability and validity of the collected data. The data were analyzed using Rasch modeling analysis (Sumintono dan Widhiarso, 2014). The psychometric properties of the instrument are presented in Table 1.

Results and Discussion

Tabel 1 Summary statistic of person and items

Psychometric properties	Person	Item
N	451	15
Measures		
Mean	0.11	0.00
SD	0.93	0.48
Separation	1.51	0.48
Reability	0.70	1.00
Alpa Cronbach	0.73	
Raw Variance Explained by measure	57.6%	

Result

RQ1: How is the level of academic burnout among students working?

The analysis of academic burnout among working students was conducted first. Table 4 indicates that the average individual measure (logit) was 0.11 logit, reflecting variations in the levels of academic burnout experienced by each student. The significant differences in burnout levels among working students are evident from the standard deviation of 0.93.

Additionally, the mean measure (logit) for the items was 0.00 logit, with a standard deviation of 0.48, suggesting a broad distribution of item difficulty levels across the logit scale.

Tabel 1 Summary Statistic of Person and Items

Statistik deskriptif	Person	Item
N	451	15
Measures		
Mean	0.11	0.00
SD	0.93	0.48
Standard Eror	0.04	0.48

The research findings on the level of academic burnout among working students are presented in Table. The results indicate that the distribution of academic burnout among working students is generally classified into three categories: high, moderate, and low. Overall, the distribution shows that the majority of working students experience academic burnout at a moderate level.

Tabel 2 Logit Value of Person (LVP) of Academic Burnout (N=451)

	High-Level Academic Burnout +1.04 ≥ LVP	Moderate Level Academic Burnout +1.04 <LVP> -0.82	Low Level Academic Resilience -0.82 ≤ LVP
Student Working Academic Burnout	89 (19.73%)	302(66.96%)	60 (13.30%)

The left section illustrates the distribution of working students' responses based on their logit scores, ranging from high academic burnout (logit score > +1.04) to low academic burnout (logit score -0.82) on the far-left side.

Based on the mean and standard deviation in the assessment of academic burnout, the distribution of individual respondents' logit scores is divided into three categories, from high academic burnout in the upper left section to low career adaptability in the lower left section (as shown in Figure 1).

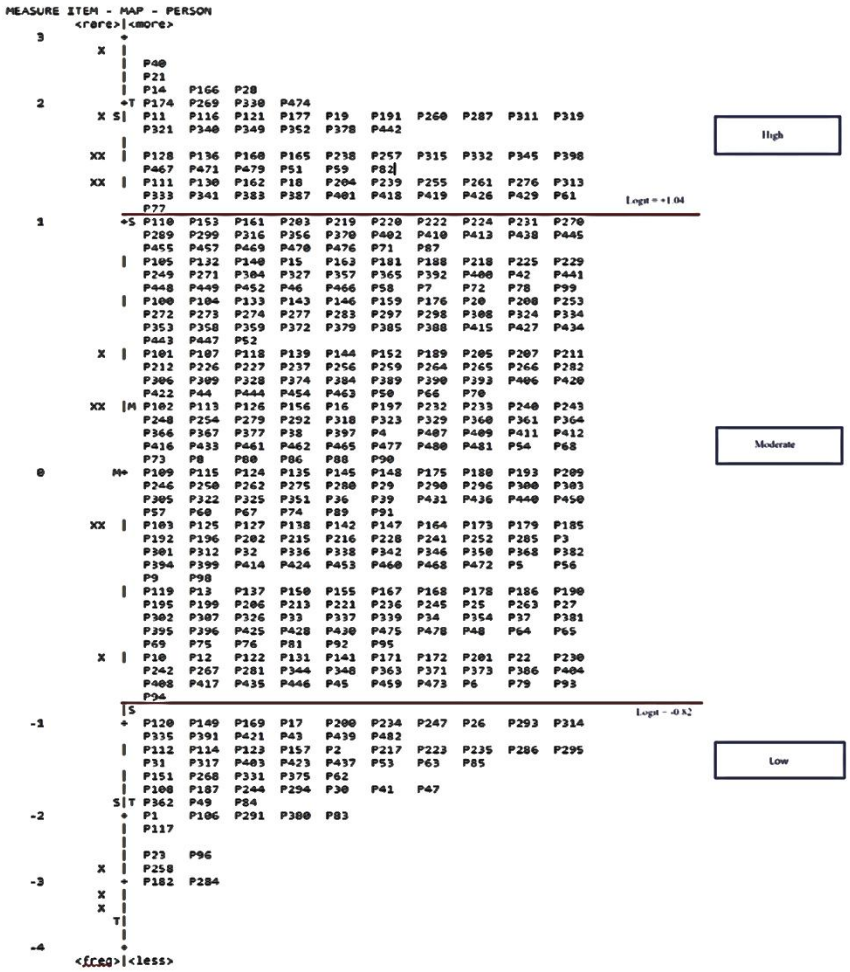

Figure 1 Person Wrigth Map (N-451)

RQ2: What Are the Key Challenges in Reducing Academic Burnout Among Working Students?

Table 3 classifies the items based on their difficulty level or logit value. This classification was carried out by dividing the distribution of item logit scores based on mean and standard deviation values. The results show that: 6 items (40%) fall into the very difficult category (LVI > 0.48), 5 items (33%) fall

into the difficult category (+0.48 ≥ LVI > 0.00) and 4 items (27%) fall into the easy category (LVI ≤ -0.48 logit).

Tabel 3 Respondents Academic Burnout on Indicator (N=451)

Construct/ Dimension	Difficulty Level		
	Very Difficult	**Difficult**	**Easy**
Exhaustion at school	Item B4	Item B2	Item B1, Item B3, Item B5
Lack of the meaning	Item B6, Item B10	Item B7, Item B8	Item B9
Sense of inadequacy at school	Item B12, Item B14, Item B 15	Item B11, Item B13	

Overall, students rated all dimensions in the **difficult** category, with **6 out of 15 items** falling into this category. Based on the dimensions, the results indicate that:

1) Exhaustion at School: Very Difficult: Item B4 – This suggests that respondents found it challenging to agree with this item, indicating that extreme exhaustion at school is not a common experience for most students. Difficult: Item B2 – Students found this somewhat challenging, meaning some experience exhaustion but not at an extreme level. Easy: Items B1, B3, and B5 – These were the easiest for respondents to agree with, indicating that mild exhaustion at school is a common experience among students.

2) Lack of Meaning: Very Difficult: Items B6 and B10 – Few students reported experiencing a strong sense of meaninglessness, suggesting that most students do not strongly struggle with this issue. Difficult: Items B7 and B8 – Some students do experience a lack of meaning, but it is not as severe as those in the "Very Difficult" category. Easy: Item B9 – This was easy to agree with, meaning many students experience at least some degree of feeling that their academic work lacks meaning.

3) Sense of Inadequacy at School: Very Difficult: Items B12, B14, and B15 – Few students strongly feel completely inadequate at school, meaning most students do not perceive themselves as entirely inadequate. Difficult: Items B11 and B13 – Some students experience mild inadequacy, but it is not as severe as those in the "Very Difficult" category. Easy: No items in this category, which suggests that feelings of inadequacy are not widespread or easily acknowledged by students.

The findings suggest that **mild exhaustion** is a common experience among students, whereas **extreme exhaustion** is relatively rare. Additionally, while many students report experiencing a **lack of meaning** in their academic journey, **severe feelings of meaninglessness** are less frequent. Furthermore, **feelings of inadequacy at school** appear to be **more difficult to acknowledge**, as no items in this category were classified as "Easy." This indicates that while students may struggle with their sense of competence, they do not easily express or admit to these feelings.

The result suggests that interventions to reduce burnout should focus on helping students find meaning in their studies and improving their sense of competence, rather than just addressing exhaustion.

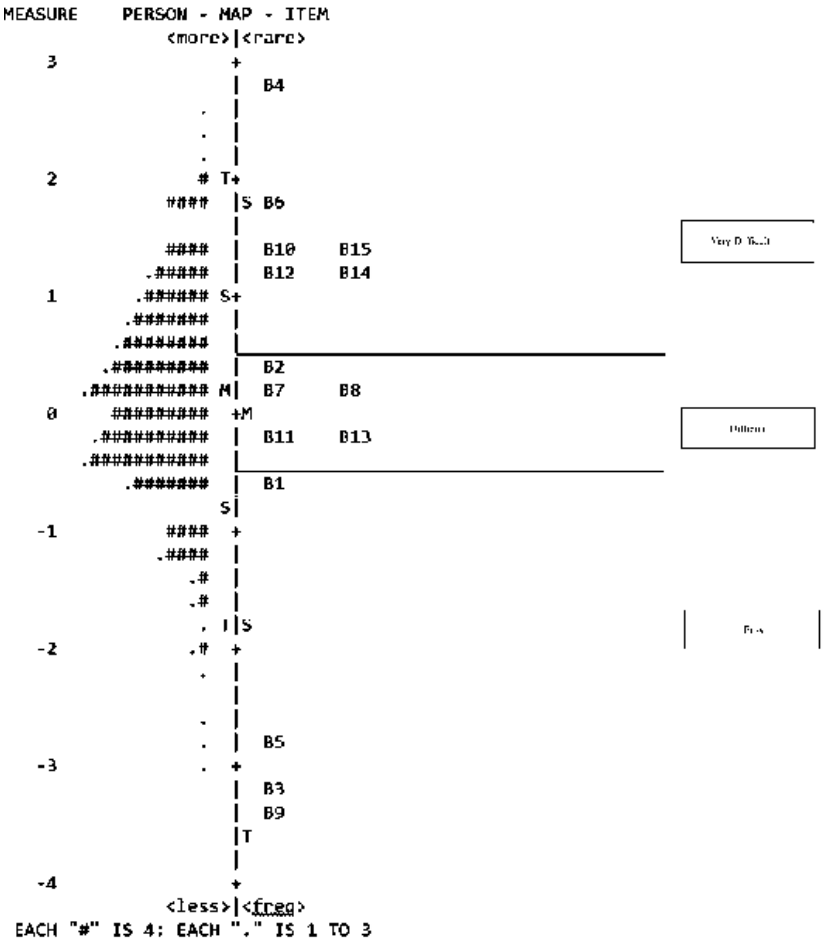

Figure 2 Item Wright Map (N=15)

Discussion

Interpreting the Levels of Academic Burnout Among Working Students

The results of the study indicate that the majority of working students in metropolitan cities, specifically Jakarta, experience academic burnout at a moderate level, with 66.96% of respondents falling into this category, while 19.73% were classified as high and only 13.30% as low (Table 2; Figure 1). These findings align with global data highlighting a widespread incidence of academic burnout among university students during the Covid-19 pandemic (Rad et al., 2017; American Psychological Association, 2020). The concentration of responses in the moderate range may reflect the dual burden of academic demands and professional obligations, consistent with what Lenaghan and Sengupta (2007) describe as role conflict and role overload in student-workers.

Moreover, the Rasch person measure analysis (mean logit = 0.11, SD = 0.93) reflects substantial variability in burnout experience among individual students (Table 1). This dispersion supports the notion that while burnout is prevalent, its intensity varies significantly depending on individual context and resilience. Prior studies(Maslach et al., 2001; Orpina & Prahara, 2019) suggest that academic

burnout is not solely a product of workload but also related to emotional regulation, coping strategies, and personal expectations, which likely contribute to this variation.

Dimensions of Burnout: Emotional Exhaustion, Loss of Meaning, and Inadequacy

A deeper understanding of student burnout emerges through item-level Rasch analysis. The analysis categorized six items (40%) as "very difficult" for students to endorse, which suggests that only a small group of students experienced the most severe symptoms. Items in the exhaustion dimension, such as B4 ("I feel totally exhausted at school"), were rated as very difficult, while others like B1 and B3 were considered easy. This indicates that mild exhaustion is relatively common but extreme fatigue remains less acknowledged—possibly due to students' normalization of stress or fear of stigmatization (Salmela-Aro et al., 2009).

In terms of meaninglessness, items B6 and B10 were very difficult to endorse, while B9 was relatively easy. These findings are important because they imply that while many students occasionally question the value of their academic efforts, only a few internalize a complete loss of meaning. This supports Oktasari et al. (2022), who found that students often express dissatisfaction with academic routines but stop short of rejecting the value of education outright. This aligns with the partial disengagement phenomenon described in Leiter & Maslach (2016) extension of burnout theory.

The third component—academic inadequacy—was particularly telling. No items in this domain were rated as easy, and three (B12, B14, B15) were classified as very difficult, implying reluctance among students to admit incompetence. This could reflect social desirability bias or internalized expectations of success, as discussed by Yang (2004) and Neumann et al. (1990). Acknowledging one's own academic limitations is psychologically uncomfortable and may be suppressed, even in anonymous assessments.

Implications for Intervention and Support Strategies

The findings underscore the need for targeted interventions. Given that moderate burnout is the most prevalent category, efforts should be preventive and developmental rather than solely remedial. As suggested by Maslach et al. (2001), interventions must address emotional and cognitive dimensions—particularly the enhancement of meaning-making and academic self-efficacy, not just stress reduction. Educational institutions could implement workshops that focus on reflective learning, time management, and self-compassion to mitigate feelings of inadequacy (Orpina & Prahara, 2019).

Furthermore, the invisibility of extreme exhaustion and inadequacy in student self-reports signals a need for proactive counselor engagement. Faculty and counseling services should be trained to recognize subtle indicators of burnout and initiate early conversations. Salmela-Aro et al. (2009) emphasize the benefit of integrating regular burnout assessments in academic settings to identify at-risk students and normalize help-seeking behaviors.

The applicability of Rasch analysis in this study also provides methodological implications. The use of logit-based categorization allows for more nuanced profiling of student burnout levels and supports individualized response strategies. Unlike traditional methods that might mask individual struggles, Rasch analysis offers a psychometrically valid approach to differentiating support needs. As shown in Figure 2, the Wright item map highlights a clustering of difficult items in the affective and identity-related dimensions of burnout, which suggests where institutional resources may be most effectively directed.

Contextual Factors and Future Research Directions

Jakarta, as a fast-paced metropolitan center, amplifies the contextual pressure faced by working students (Hairunnisa & Pungkasane, 2021). The dual burden of academic performance and job responsibilities may be more pronounced in such urban settings, where competition and cost of living are high. Future research could compare burnout profiles across geographic regions to explore how urban density, institutional culture, and access to support services influence burnout dynamics.

Moreover, integrating qualitative methods could enrich understanding by capturing the lived experiences behind the logit scores.

The differential response patterns also warrant investigation into cultural attitudes toward mental health and academic identity. In Indonesian academic culture, admitting to burnout or seeking psychological help may still be stigmatized (Tiaranissa & Rosiana, 2022). Therefore, future research should examine not only the structural predictors of burnout but also the socio-cultural inhibitors to recognition and recovery. This aligns with the recommendations of the **American Psychological Association (2020)** for developing culturally sensitive mental health interventions in academic settings. In conclusion, the discussion of academic burnout among working students requires a multifaceted lens that incorporates statistical insight, psychological theory, and contextual understanding. The Rasch model proves particularly adept at identifying subtle but critical variations in student experiences, which can inform tailored interventions that go beyond general stress management.

Conclusion

This study revealed that the majority of working students in metropolitan cities, particularly Jakarta, experience academic burnout at moderate to high levels. Only a small portion of students reported low levels of burnout. Using Rasch analysis, the study successfully mapped the distribution of burnout levels and identified the most challenging dimensions, such as emotional exhaustion, loss of meaning in learning, and feelings of academic incompetence. Mild exhaustion was found to be more common, while feelings of inadequacy and loss of meaning tended to be more difficult for students to express.

These findings indicate that academic burnout is not merely a matter of physical fatigue or academic workload, but also involves deeper psychological aspects. Therefore, effective interventions should not only focus on managing academic demands but also on enhancing students' sense of meaning and self-efficacy. The results are expected to serve as a foundation for developing contextual and adaptive counseling and support strategies to improve academic well-being and prevent the long-term impacts of academic burnout among working students.

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