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Exploring Academic Burnout: The Interplay of Time Pressure, Poor Sleep Habits, and Jam Koma Among Undergraduate Students in East Kalimantan

Rohana Nur Aini[1], Muhammad Ramadhani Kesuma[2*], Ellen D. Oktanti Irianto[3], Margareth Henrika[4], Lusiana Desy Ariswati[5]
[1,2*,3,4,5]Management Study Program, Faculty of Economics and Business, Mulawarman University, Samarinda, Indonesia
Email: [1]rohana@feb.unmul.ac.id, [2*]ramadhani@feb.unmul.ac.id, [3]ellend@feb.unmul.ac.id, [4]margareth@feb.unmul.ac.id, [5]lusiana@feb.unmul.ac.id

Abstract

This study investigates the interplay of time pressure, poor sleep habits, and jam koma as key predictors of academic burnout among university students in East Kalimantan. Utilizing a quantitative cross-sectional design, the research investigates how time pressure and poor sleep habits contribute to burnout, with cognitive fatigue locally termed "jam koma", acting as a mediator. Data were collected from undergraduate students using instruments, including scales for time pressure, sleep quality, jam koma, and burnout, and analyzed through Structural Equation Modeling-Partial Least Squares. The findings reveal that time pressure and inadequate sleep significantly drive burnout, both directly and indirectly through jam koma, highlighting the mediating role of mental exhaustion in amplifying academic stress. These results extend the JDR model by incorporating sleep as a critical physiological resource, offering a nuanced understanding of burnout dynamics in collectivist academic settings. This study concludes the urgent need for culturally tailored interventions, such as time management training, sleep hygiene programs, and counseling services sensitive to collectivist values, to mitigate burnout and enhance student well-being. By providing localized insights into burnout mechanisms, this research informs evidence-based strategies for fostering resilient academic environments in East Kalimantan and similar collectivist contexts, contributing to global efforts to support student mental health.

Keywords: *Academic Burnout, Time Pressure, Sleep Habits, Jam Koma, Collectivist Culture.*

INTRODUCTION

Academic burnout, characterized by emotional exhaustion, cynicism toward studies, and reduced academic efficacy, has emerged as a pressing issue in higher education globally, particularly in collectivist cultures where societal expectations intensify academic demands (Sánchez-González et al., 2025). In East Kalimantan, Indonesia, university students navigate a complex landscape of rigorous academic requirements intertwined with cultural obligations to uphold familial and communal honor through scholarly achievement (Widyanti & Reyhannisa, 2020). In this context, time pressure and poor sleep habits, coupled with cognitive fatigue locally termed "jam koma," interact within the Job Demands-Resources (JDR) framework to influence academic burnout, reflecting the unique dynamics of a collectivist academic setting.

Time pressure, defined as the perceived scarcity of time to complete academic tasks, is a pervasive stressor in university settings. Nweke et al. (2024) highlight that time pressure exacerbates burnout by fostering emotional exhaustion and cynicism, particularly in collectivist cultures where academic performance is closely tied to familial expectations. In East Kalimantan, students face dense academic schedules compounded by social responsibilities, such as participating in community events or supporting family obligations, which intensify perceptions of time scarcity (Aini, et al., 2025). The relentless pressure to meet deadlines, prepare for examinations, and maintain high grades under such constraints depletes mental resources, leading to burnout symptoms, including feelings of detachment and reduced academic

motivation (Jonge & Huter, 2021). Moreover, time pressure is intricately linked to jam koma, a state of mental exhaustion characterized by lapses in attention, memory, and decision-making, which further aggravates burnout (Bauer et al., 2024). This relationship, supported by the Job Demands-Resources model and empirical studies (Bauer et al., 2024), underscores the need to address academic stress in collectivist settings where external cultural pressures, such as familial expectations, amplify internal demands and exacerbate cognitive fatigue.

Poor sleep habits significantly contribute to academic burnout by triggering emotional exhaustion, a core component of burnout, through disrupted physiological processes. Inadequate sleep quality impairs cognitive functions, such as concentration, memory consolidation, and emotional regulation, which are essential for academic success and exacerbate burnout symptoms (Grewal et al., 2024). In Southeast Asian contexts, including Indonesia, students frequently sacrifice sleep to meet academic and social demands, such as late-night study sessions or participation in extracurricular activities, creating a vicious cycle of fatigue and stress (Bapayeva et al., 2024). Poor sleep not only directly fuels burnout by increasing emotional exhaustion but also amplifies jam koma, which mediates its impact on burnout (Loch et al., 2023). Despite its critical role, sleep as a physiological resource remains underexplored in academic burnout research, particularly in collectivist cultures where academic pressures disrupt healthy sleep patterns, impairing cognitive functions like memory consolidation and emotional regulation, which exacerbate burnout (Grewal et al., 2024).

Cognitive fatigue, or "jam koma," plays a pivotal role in mediating the effects of time pressure and poor sleep on burnout. (Misouridou et al., 2020) describe jam koma as a state of reduced mental capacity resulting from prolonged cognitive demands, manifesting as errors in memory, attention deficits, and impaired decision-making. In academic environments, jam koma is exacerbated by incessant time pressure and insufficient sleep, creating a pathway to burnout characterized by heightened emotional and physical exhaustion (Morrissey-Basler et al., 2024). In East Kalimantan, the term "jam koma" captures students' experiences of mental "blankness" or disorientation under pressure, reflecting a culturally specific manifestation of jam koma. This mediation underscores the need for interventions that target jam koma to effectively mitigate burnout, particularly in settings where cultural and academic demands converge.

The JDR model provides a robust theoretical lens for this study, positing that burnout arises from an imbalance between job demands (e.g., time pressure) and resources (e.g., sleep) (Bapayeva et al., 2024). In academic contexts, time pressure represents a demand that drains mental energy, leading to exhaustion and disengagement, while sleep serves as a physiological resource that replenishes cognitive and emotional capacity. Collectivist cultures, such as those in East Kalimantan, amplify demands through social expectations, such as the pressure to achieve academic excellence to honor family reputation, making the JDR model particularly relevant (Widyanti & Reyhannisa, 2020). However, the model's application to academic settings has largely overlooked physiological resources like sleep, which this study seeks to integrate, thereby enhancing its explanatory power.

Recent empirical studies from 2020 to 2025 underscore the complex interplay of time pressure, sleep habits, and jam koma in academic burnout. Nweke et al. (2024) found that time pressure indirectly influences burnout through jam koma in collectivist academic settings, where students internalize academic success as a communal obligation. Similarly, (Aini, et al., 2025) emphasized sleep's role in mitigating burnout, noting that poor sleep quality exacerbates jam koma, which in turn amplifies burnout symptoms. Aini, et al. (2025) and Bauer et al. (2024) confirmed jam koma's mediating role in Indonesian and other non-Western contexts, highlighting its significance as a pathway linking stressors to burnout. However, few studies have integrated time pressure, sleep, and jam koma within a single model, particularly in collectivist cultures, leaving a gap in understanding how these factors interact in localized academic settings.

The collectivist cultural context shapes burnout dynamics uniquely. Widyanti & Reyhannisa (2020) note that communal values in Indonesia internalize academic success as a collective responsibility, heightening time pressure and burnout risk. This cultural dynamic necessitates tailored interventions that account for social expectations, such as familial pressures to excel academically. Furthermore, the integration of sleep into the JDR model addresses a theoretical gap, as most studies focus on psychological or organizational resources, such as social support or flexible schedules (Bapayeva et al., 2024). By examining jam koma's mediation, this study aligns with Bauer et al. (2024), who advocate for exploring intermediary mechanisms in burnout research to develop more targeted interventions.

Despite the growing body of research on academic burnout, several gaps persist. First, while Nweke et al. (2024) and Aini, et al. (2025) have explored time pressure and jam koma, few studies incorporate sleep

habits as a physiological resource within the JDR framework. Second, the majority of burnout research focuses on Western academic contexts, with limited attention to collectivist settings like East Kalimantan, where cultural pressures uniquely shape student experiences (Widyanti & Reyhannisa, 2020). Third, the mediating role of jam koma in linking time pressure and sleep habits to burnout remains underexplored in Southeast Asian academic environments. This study addresses these gaps by integrating time pressure, sleep habits, and jam koma within a single model, applied to a collectivist academic context, offering a culturally nuanced perspective on burnout dynamics.

The novelty of this research lies in its holistic approach, combining time pressure, sleep habits, and jam koma within the JDR framework to examine academic burnout in East Kalimantan. Unlike prior studies, such as Aini, et al. (2025), which focused solely on time pressure and jam koma, this research incorporates sleep as a physiological resource, enhancing the JDR model's explanatory power. The focus on East Kalimantan provides localized insights into burnout mechanisms, addressing a paucity of research in Southeast Asian academic settings. By proposing a modified JDR model, this study contributes to both theoretical and practical efforts to mitigate academic burnout.

The research problem examines how time pressure and poor sleep habits drive academic burnout among university students in East Kalimantan, with jam koma as a mediator, framed within the Job Demands-Resources (JDR) model where time pressure and inadequate sleep act as demands depleting cognitive resources, while jam koma amplifies their effects on burnout. The hypotheses are: (1) Time pressure positively affects academic burnout (H1); (2) Poor sleep habits positively affect academic burnout (H2); (3) Jam koma mediates the relationship between time pressure and academic burnout (H3); and (4) Jam koma mediates the relationship between poor sleep habits and academic burnout (H4).

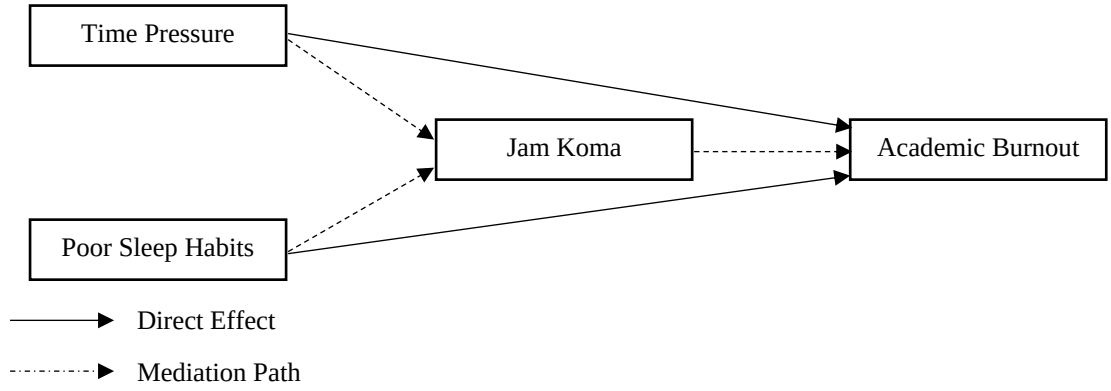

Figure 1. Conceptual Framework

The objectives are to: (1) investigate the direct effects of time pressure and sleep habits on academic burnout; (2) analyze the mediating role of jam koma; and (3) propose culturally relevant interventions to mitigate burnout in collectivist academic settings. This study contributes to the literature by offering a nuanced understanding of burnout mechanisms and informing evidence-based strategies to support student well-being. Its significance extends to university policymakers, providing insights into managing academic workloads and enhancing student support services in collectivist contexts. The modified JDR model proposed here can guide future research on burnout across diverse academic environments, fostering global efforts to promote student resilience.

The collectivist culture of East Kalimantan shapes the academic experiences of students, where academic success is not merely an individual achievement but a collective endeavor reflecting family and community pride (Widyanti & Reyhannisa, 2020). This cultural dynamic amplifies time pressure, as students strive to meet societal expectations while balancing academic and social responsibilities. The integration of sleep as a resource addresses the physiological toll of these pressures, offering a comprehensive approach to understanding burnout in this context. By situating the study in East Kalimantan, this research provides a model for other collectivist regions facing similar challenges, contributing to the global discourse on academic well-being.

This study addresses a critical gap in academic burnout research by integrating time pressure, sleep habits, and jam koma within a collectivist academic context. By extending the JDR model and providing localized insights, it offers a foundation for theoretical advancements and practical interventions to mitigate burnout, ensuring students thrive in demanding educational environments.

RESEARCH METHODS

This study utilized a quantitative cross-sectional design to examine the relationships between time pressure, sleep habits, jam koma, and academic burnout among university students in East Kalimantan, Indonesia. The design was selected for its efficiency in capturing variable relationships at a single point in time, suitable for the dynamic academic context and resource constraints. Structural Equation Modeling-Partial Least Squares (SEM-PLS) was employed as the primary analytical technique, chosen for its robustness in handling non-normal data and complex predictive models, particularly in social science research (Hair et al., 2019).

The population comprised active undergraduate students aged 18-25 years from public and private universities across East Kalimantan. A sample size of 200 respondents was targeted, adhering to (Hair et al., 2019) recommendation of at least 10 responses per indicator. With 20 indicators (5 each for time pressure, sleep habits, jam koma, and burnout), as explained in Table 1, and 5 structural paths (time pressure → jam koma, sleep habits → jam koma, jam koma → burnout, time pressure → burnout, sleep habits → burnout), as illustrated in Figure 1, the sample size ensured robust estimation. Purposive sampling was utilized, with inclusion criteria: (1) active undergraduate status; (2) age 18–25 years; and (3) willingness to provide informed consent. This approach guaranteed respondents' relevance to the study's focus on academic stressors and burnout, ensuring data quality and contextual alignment.

Data were collected via an online questionnaire distributed through Google Forms, selected for its accessibility, cost-effectiveness, and ability to manage large-scale responses efficiently. To enhance response quality, attention-check items (e.g., "Select 'agree' for this item") were embedded to filter out careless or inattentive responses. The data collection process spanned three weeks in early 2025, with reminders disseminated through student social media groups and university networks to boost participation rates. Prior to completing the questionnaire, respondents reviewed and agreed to an electronic informed consent form, which outlined the study's purpose, their right to withdraw at any time, and assurances of anonymity and confidentiality. Data were stored on a secure, encrypted server with restricted access, complying with ethical research standards to protect respondent privacy (Palalas & Doran, 2024).

The measurement instruments were adapted from validated international scales, with cultural modifications to ensure relevance in the Indonesian context. Table 1 details the indicators for each construct, including descriptions and sources.

Table 1. Measurement Indicators for Study Variables

Construct	Indicator	Description	Source
Time Pressure	TP.1	I feel there is never enough time to complete academic tasks.	Aini, et al. (2025); Nweke et al. (2024)
	TP.2	I often rush to meet academic deadlines.	
	TP.3	I feel pressured by the pace of academic work.	
	TP.4	I struggle to balance academic and personal responsibilities.	
	TP.5	I feel time constraints hinder my academic performance.	
Sleep Habits	SH.1	I have trouble sleeping due to academic worries.	Grewal et al. (2024)
	SH.2	I wake up feeling unrested after sleeping.	
	SH.3	I experience frequent sleep disturbances.	
	SH.4	I have irregular sleep schedules due to academic demands.	
	SH.5	I feel sleepy during academic activities.	
Jam koma	CH.1	I forget what I just read while studying.	Qiang et al. (2024)
	CH.2	I struggle to focus during academic tasks.	
	CH.3	I make careless mistakes due to mental exhaustion.	
	CH.4	I feel mentally "blank" during academic work.	
	CH.5	I have difficulty recalling academic material.	

Construct	Indicator	Description	Source
Burnout	BO.1	I feel emotionally drained by my studies.	Sánchez-González et al. (2025)
	BO.2	I feel cynical about the value of my studies.	
	BO.3	I doubt my ability to succeed academically.	
	BO.4	I feel exhausted by academic demands.	
	BO.5	I lack motivation for academic tasks.	

All instruments utilized a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) to capture respondents' perceptions. The Perceived Time Pressure Scale (PTPS) (Nweke et al., 2024) demonstrated high reliability (Cronbach's alpha > 0.80) in non-Western academic settings, as validated by Lunt et al. (2022). The adapted Pittsburgh Sleep Quality Index (PSQI) (Grewal et al., 2024) showed strong reliability (Cronbach's alpha 0.75–0.87) in collectivist cultures, as confirmed by Sánchez-González et al. (2025). The Cognitive Failure Questionnaire (CFQ) (Qiang et al., 2024) exhibited excellent reliability (Cronbach's alpha > 0.90) in academic contexts, as reported by Misouridou et al. (2020). The Maslach Burnout Inventory-Student Survey (MBI-SS) (Sánchez-González et al., 2025) had high reliability (Cronbach's alpha ≈ 0.87) in collectivist settings, as validated by Morrissey-Basler et al. (2024). All instruments were translated into Indonesian using a back-translation process to ensure semantic accuracy, minor phrasing adjustments were made to enhance cultural relevance, such as simplifying terms to align with local academic jargon.

Data analysis was conducted using SmartPLS 3, leveraging SEM-PLS for its flexibility in handling non-normal data and complex predictive models, which is particularly suitable for exploratory research in social sciences (Bapayeva et al., 2024). The analysis procedure included the model testing, using bootstrapping (500 samples, Bias-Corrected and Accelerated method) to assess path coefficients for direct and indirect effects. This rigorous methodological approach ensured valid, reliable, and generalizable findings, providing a solid foundation for generating evidence-based insights into academic burnout mechanisms in a collectivist academic context.

RESULT AND DISCUSSIONS

This study examined the effects of time pressure, sleep habits, and jam koma on academic burnout among 200 undergraduate students in East Kalimantan, Indonesia, using Structural Equation Modeling-Partial Least Squares (SEM-PLS). All indicators exhibited outer loadings greater than 0.5 and were statistically significant ($p < 0.05$), confirming convergent validity of the measurement model. Bootstrapping with 500 samples and the Bias-Corrected and Accelerated (BCa) method was employed to test the significance of direct and indirect effects. The results of hypothesis testing are presented in Table 2 for direct effects and Table 3 for indirect effects.

Table 2. Direct Effects

Relationship	Path Coefficient	T-Statistic	P-Value	Confidence Interval (BCa)	Hypothesis Status
Time Pressure → Burnout	0.249	3.725	0.000	[0.109, 0.383]	H1: Supported
Sleep Habits → Burnout	0.245	3.949	0.000	[0.107, 0.359]	H2: Supported
Time Pressure → Jam koma	0.489	7.704	0.000	[0.346, 0.608]	Supports H3
Sleep Habits → Jam koma	0.220	3.044	0.002	[0.077, 0.356]	Supports H4
Jam koma → Burnout	0.422	7.930	0.000	[0.324, 0.524]	Supports H3 & H4

All direct effects were statistically significant ($p < 0.05$). Time pressure exerted a moderate positive effect on academic burnout ($\beta = 0.249$) and a strong positive effect on jam koma ($\beta = 0.489$). Poor sleep habits had a moderate positive effect on burnout ($\beta = 0.245$) and a weak positive effect on jam koma ($\beta = 0.220$). Jam koma demonstrated a strong positive effect on burnout ($\beta = 0.422$), underscoring its critical role in the model.

Table 3. Indirect Effects (Mediation)

Relationship	Path Coefficient	T-Statistic	P-Value	Confidence Interval	Hypothesis Status
Time Pressure → Jam koma → Burnout	0.207	5.237	0.000	[0.134, 0.292]	H3: Supported
Sleep Habits → Jam koma → Burnout	0.093	2.723	0.007	[0.034, 0.171]	H4: Supported

Indirect effects were also significant ($p < 0.05$), confirming the mediating role of jam koma. Time pressure influenced burnout through jam koma with a moderate effect ($\beta = 0.207$), while sleep habits had a weaker indirect effect ($\beta = 0.093$). The total effect of time pressure on burnout was 0.456 (direct: 0.249, indirect: 0.207), and for sleep habits, it was 0.338 (direct: 0.245, indirect: 0.093). All hypotheses (H1, H2, H3, H4) were supported, validating the proposed model.

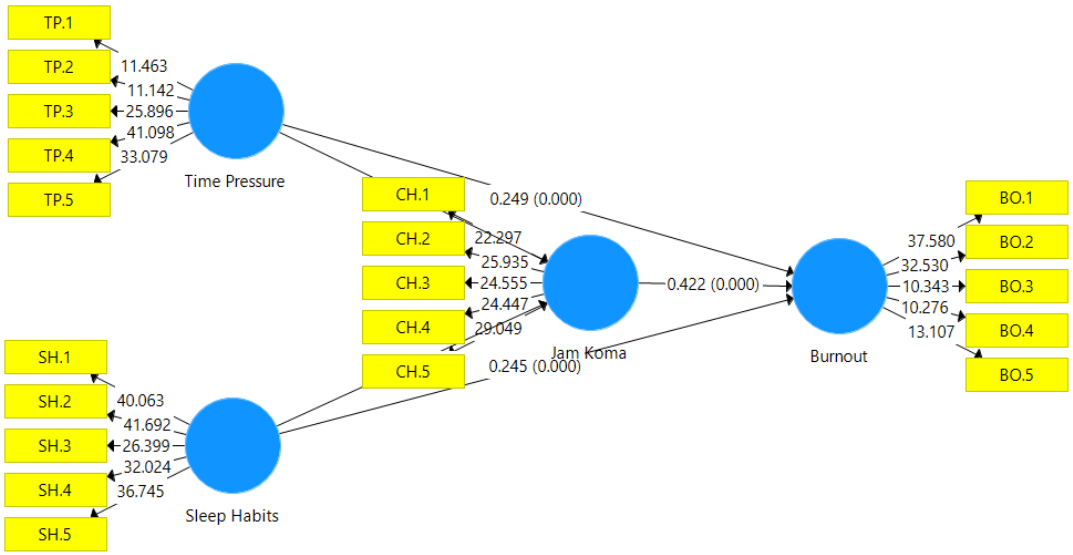

Figure 2. PLS' Result

This study provides a comprehensive examination of how time pressure and poor sleep habits contribute to academic burnout among university students in East Kalimantan, Indonesia, with jam koma serving as a pivotal mediator. The findings address the research problem by demonstrating significant direct and indirect effects, offering a nuanced understanding of burnout dynamics in a collectivist academic context. By extending the Job Demands-Resources (JDR) model to incorporate sleep as a physiological resource, this study contributes to both theoretical and practical efforts to mitigate academic burnout. The discussion interprets the findings in detail, integrates them with existing literature, explores their implications across multiple dimensions, and proposes a modified JDR framework tailored to collectivist academic settings.

The moderate direct effect of time pressure on academic burnout ($\beta = 0.249$, $p < 0.001$) aligns closely with the findings of Nweke et al. (2024), who demonstrated that tight academic deadlines and dense course schedules increase emotional exhaustion and cynicism among students in collectivist cultures. In East Kalimantan, time pressure is amplified by cultural expectations that tie academic success to familial and communal honor, creating a pervasive sense of urgency that erodes students' emotional resilience (Widyanti & Reyhannisa, 2020). The strong direct effect of time pressure on jam koma ($\beta = 0.489$, $p < 0.001$) further corroborates Bauer et al. (2024), who argue that relentless academic demands deplete cognitive resources, leading to mental lapses such as forgetfulness and difficulty concentrating—phenomena locally described as "jam koma" (Aini, et al., 2025). This relationship suggests that time pressure not only directly contributes to burnout but also triggers a cascade of cognitive impairments that exacerbate its impact.

The significant indirect effect of time pressure on burnout through jam koma ($\beta = 0.207$, $p < 0.001$) underscores the mediating role of jam koma as a critical pathway. Jonge & Huter (2021) note that jam koma amplifies the effects of stressors by reducing students' capacity to cope with academic demands, leading to heightened emotional exhaustion and disengagement. In the context of East Kalimantan, where students often juggle academic tasks with social obligations, such as attending community events or supporting family responsibilities, jam koma manifests as a state of mental overload, impairing academic performance and intensifying burnout symptoms. The total effect of time pressure on burnout ($\beta = 0.456$) highlights its dominant role as a predictor, suggesting that interventions targeting time management could significantly alleviate burnout in collectivist academic settings.

Poor sleep habits also exerted a moderate direct effect on academic burnout ($\beta = 0.245$, $p < 0.001$), consistent with Grewal et al. (2024), who found that inadequate sleep quality impairs cognitive and emotional functions, increasing vulnerability to burnout. In East Kalimantan, students frequently sacrifice sleep to meet academic deadlines or engage in social activities, such as late-night study groups or cultural events, which are integral to collectivist communities (Bapayeva et al., 2024). This sleep deprivation creates a feedback loop of fatigue, stress, and reduced academic efficacy, contributing to burnout. The weak direct effect of poor sleep habits on jam koma ($\beta = 0.220$, $p = 0.002$) suggests that while sleep deprivation contributes to mental exhaustion, other factors, such as technology use before bedtime or academic stress, may also play a role in jam koma, as noted by Loch et al. (2023). The indirect effect of sleep habits on burnout through jam koma ($\beta = 0.093$, $p = 0.007$) further supports this mediation, though its smaller magnitude indicates that sleep's impact is more pronounced directly than through jam koma.

Jam koma's strong direct effect on burnout ($\beta = 0.422$, $p < 0.001$) highlights its central role in the burnout process. Misouridou et al. (2020) describe jam koma as a state of diminished mental capacity that hinders students' ability to manage academic demands, leading to emotional exhaustion and cynicism. In East Kalimantan, the culturally specific term "jam koma" vividly captures students' experiences of mental "blankness" or disorientation under pressure, resonating with Aini, et al. (2025) findings. This strong effect suggests that jam koma is not merely a byproduct of stressors but a critical driver of burnout, amplifying the impact of time pressure and poor sleep habits. The mediation effects of jam koma in both pathways (H3 and H4) emphasize its role as a linchpin in the burnout process, necessitating targeted interventions to restore cognitive capacity.

The findings significantly enrich the literature on academic burnout in collectivist cultures, building on and extending prior research. Nweke et al. (2024) and Widyanti & Reyhannisa (2020) have highlighted that collectivist expectations, such as the pressure to uphold familial honor, amplify time pressure, a phenomenon vividly illustrated in East Kalimantan. This study advances these insights by demonstrating that poor sleep habits exacerbate burnout through jam koma, aligning with Grewal et al. (2024), who emphasize sleep's role in cognitive and emotional regulation. The mediation of jam koma supports Bauer et al. (2024) and Morrissey-Basler et al. (2024), who underscore its role in amplifying the effects of academic stressors. By integrating time pressure, sleep habits, and jam koma within a single model, this study addresses a gap in prior research, such as , which overlooked sleep's physiological contributions to burnout dynamics.

The psychometric findings, particularly the lower outer loadings for indicators BO.3, BO.4, TP.1, and TP.2 (< 0.7), align with Jonge & Huter (2021), who advocate for refining measurement instruments to enhance construct validity. These weaker indicators suggest potential challenges in capturing the full spectrum of burnout and time pressure experiences, possibly due to cultural nuances in how students express exhaustion or perceive time constraints. For instance, BO.3 ("I doubt my ability to succeed academically") and BO.4 ("I feel exhausted by academic demands") may not fully resonate with collectivist students who prioritize communal success over individual self-efficacy, as noted by Widyanti & Reyhannisa (2020). Similarly, TP.1 and TP.2, which focus on general time scarcity, may not capture the culturally specific pressures of balancing academic and social duties. Future research should refine these indicators to better reflect collectivist academic contexts, ensuring more robust measurement models.

The cross-sectional design of this study, while efficient, limits the ability to establish causal relationships, a limitation echoed by Daly et al. (2022), who advocate for longitudinal studies to capture the temporal dynamics of burnout. For example, longitudinal data could reveal whether time pressure leads to sustained jam koma over semesters or whether poor sleep habits progressively worsen burnout symptoms. Despite this limitation, the use of SEM-PLS and bootstrapping enhances the robustness of the findings, providing a reliable snapshot of burnout mechanisms in a collectivist academic setting.

This study proposes a significant modification to the JDR model by incorporating sleep as a physiological resource, addressing a critical gap in its application to academic contexts. Traditionally, the JDR model emphasizes psychological resources (e.g., social support) and organizational resources (e.g., flexible schedules) to counter demands like time pressure (Bapayeva et al., 2024). However, the findings demonstrate that sleep plays a crucial role in mitigating burnout by reducing jam koma, suggesting that physiological resources are equally vital in academic settings (Grewal et al., 2024). This modification is particularly relevant in collectivist cultures, where social demands, such as familial expectations, intensify academic pressures, and sleep serves as a universal resource to bolster cognitive and emotional resilience (Widyanti & Reyhannisa, 2020).

The modified JDR model posits that academic burnout results from an imbalance between demands (time pressure) and resources (sleep), with jam koma acting as a mediator that amplifies the impact of demands when resources are depleted. By integrating sleep, the model accounts for the physiological toll of academic stressors, offering a more holistic framework for understanding burnout. This theoretical advancement aligns with Bauer et al. (2024), who call for incorporating intermediary mechanisms into burnout models to enhance their explanatory power. The modified JDR model can guide future research by providing a framework to test the interplay of physiological, psychological, and organizational resources in diverse academic contexts, fostering a deeper understanding of burnout prevention strategies.

The findings offer a range of actionable implications for universities in East Kalimantan and other collectivist academic settings. First, to address time pressure, universities should implement flexible assignment deadlines and offer time management workshops to equip students with strategies to prioritize tasks effectively, as recommended by Nweke et al. (2024). For example, staggered submission dates for major assignments could reduce the perception of time scarcity, allowing students to balance academic and social responsibilities more effectively. Additionally, academic advisors could provide personalized guidance on workload management, helping students navigate the pressures of collectivist expectations.

Second, to improve sleep habits and reduce jam koma, universities should launch sleep hygiene programs, such as awareness campaigns promoting regular sleep schedules and reduced screen time before bedtime, as suggested by Grewal et al. (2024). These programs could include workshops on mindfulness techniques to alleviate academic worries that disrupt sleep, tailored to the collectivist context where social obligations often extend into late hours. Partnerships with health services could provide sleep tracking tools or counseling to support students in maintaining healthy sleep patterns, directly addressing the physiological resource deficit identified in this study.

Third, to mitigate jam koma and its impact on burnout, universities should integrate cognitive rest strategies into academic programs. For instance, incorporating short breaks during lectures or encouraging micro-breaks between study sessions could help restore cognitive capacity, as supported by Bauer et al. (2024). Additionally, academic curricula could include training on metacognitive strategies, such as self-monitoring and task prioritization, to reduce mental overload and prevent "jam koma" episodes. These strategies would empower students to manage cognitive demands more effectively, particularly in high-pressure academic environments.

Fourth, counseling services should be tailored to address the cultural nuances of collectivist societies, as emphasized by Widyanti & Reyhannisa (2020). Counselors should be trained to recognize the impact of familial and communal expectations on students' mental health, offering support that respects these cultural values while addressing burnout symptoms. Group counseling sessions could foster a sense of community, aligning with collectivist principles, and provide a safe space for students to share strategies for coping with academic stress. These culturally sensitive interventions could significantly reduce burnout prevalence, enhancing student well-being.

The findings have broader implications for collectivist academic settings beyond East Kalimantan, such as other Southeast Asian countries or regions with similar cultural values, such as Malaysia, Thailand, or the Philippines. Widyanti & Reyhannisa (2020) note that collectivist cultures share common pressures, such as the emphasis on communal success, which amplify academic stressors. The modified JDR model proposed here, with its inclusion of sleep as a physiological resource, can be applied to these contexts to develop region-specific interventions. For example, universities in Malaysia could adopt similar sleep hygiene programs, while those in Thailand might focus on community-based stress management initiatives to align with local cultural practices. Comparative studies across these regions could further validate the model's generalizability, contributing to a global understanding of academic burnout.

Despite its contributions, this study has several limitations that provide opportunities for future research. First, the sample size of 200 respondents, while adequate for SEM-PLS, may limit the generalizability of findings to other collectivist contexts. Larger, more diverse samples could enhance the robustness of the model and allow for cross-regional comparisons. Second, the cross-sectional design precludes causal inferences, as noted by Daly et al. (2022). Longitudinal studies tracking students over multiple semesters could elucidate the temporal dynamics of time pressure, sleep habits, jam koma, and burnout, providing stronger evidence of causality.

Third, the study focused on time pressure and sleep habits as primary antecedents of burnout, but other factors, such as technology use, academic culture, or peer relationships, may also influence jam koma and burnout, as suggested by Loch et al. (2023). Future research could expand the model to include these variables, providing a more comprehensive understanding of burnout mechanisms. Additionally, exploring moderating factors, such as resilience or social support, could reveal protective mechanisms that mitigate burnout in collectivist contexts.

Finally, the study's focus on East Kalimantan limits its generalizability to other Indonesian regions or collectivist cultures. Comparative studies across urban and rural areas or between different collectivist societies could uncover contextual variations in burnout dynamics. Such research would strengthen the modified JDR model's applicability and inform tailored interventions for diverse academic environments.

This study provides a detailed and comprehensive analysis of academic burnout in a collectivist academic context, demonstrating that time pressure and poor sleep habits significantly contribute to burnout, with jam koma as a critical mediator. The findings extend the JDR model by incorporating sleep as a physiological resource, offering a robust framework for understanding and addressing burnout. The culturally nuanced insights from East Kalimantan highlight the importance of tailored interventions that account for collectivist values, paving the way for healthier academic environments. By addressing theoretical, practical, and cross-cultural implications, this study contributes to global efforts to mitigate academic burnout and support student well-being.

CONCLUSION

This study confirmed that time pressure and poor sleep habits significantly contribute to academic burnout among university students in East Kalimantan, Indonesia, with jam koma serving as a key mediator. Time pressure emerged as a primary driver, exerting a substantial total effect on burnout, while poor sleep habits also played a critical role, albeit with a lesser indirect effect through jam koma. These findings validate the hypothesized relationships, demonstrating that both stressors directly and indirectly fuel burnout, with jam koma amplifying their impact. The culturally nuanced concept of "jam koma" underscores the relevance of jam koma in collectivist academic contexts, enriching the understanding of burnout dynamics.

The research achieved its objectives by elucidating the direct and indirect pathways to burnout, proposing a modified Job Demands-Resources (JDR) model that incorporates sleep as a physiological resource, and offering culturally relevant interventions. This modified model enhances the JDR framework's applicability to academic contexts, particularly in collectivist cultures where social expectations amplify demands. The study provides a foundation for evidence-based strategies, including time management training, sleep hygiene programs, and culturally sensitive counseling, to mitigate burnout and foster student resilience.

Future research should adopt longitudinal designs to establish causality and explore additional antecedents of jam koma, such as digital device usage or institutional policies. Refining measurement instruments to address weaker indicators will strengthen model validity. Expanding the study to other collectivist regions, such as Malaysia or Thailand, can validate the modified JDR model's generalizability, contributing to global efforts to address academic burnout. These endeavors will support the development of robust, culturally tailored strategies to ensure students thrive in demanding educational environments, promoting sustainable academic success and well-being.

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