

Original Article

Academic Stress and Achievement Motivation as Associated Factors of Burnout Among Vocational High School Students: A Cross-Sectional Study



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ABSTRACT

Background: Final-year vocational high school students are exposed to substantial academic and practical training demands that may be associated with burnout. Within the Job Demands–Resources (JD-R) framework, academic stress is an academic demand, whereas achievement motivation is a personal resource. However, limited studies have simultaneously examined the relationships among achievement motivation, academic stress, and Burnout among vocational high school students. Therefore, this study aimed to analyze these relationships using the JD-R framework.

Methods: A quantitative cross-sectional study was conducted among 115 twelfth-grade vocational high school students selected through simple random sampling. Data were collected using the AMI, ESSA, and MBI-SS questionnaires. Scores were categorized for descriptive purposes, and associations among variables were analyzed using Spearman’s rank correlation test. Ethical approval was obtained before data collection.

Results: Most participants reported moderate achievement motivation (73.9%) and moderate Burnout (62.6%), whereas 53.9% experienced high academic stress. Spearman’s correlation analysis revealed a significant negative association between achievement motivation and Burnout ($r = -0.602, p < 0.001$). In contrast, academic stress was significantly positively associated with Burnout ($r = 0.275, p = 0.003$).

Conclusion: Higher achievement motivation is linked to lower Burnout, while higher academic stress is linked to higher Burnout among final-year vocational students. Improving motivation and managing stress may help reduce Burnout.

Keywords: Academic Stress; Achievement Motivation; Burnout; Job Demands–Resources Framework; Vocational High School Students.

Implications for Practice:

- Consistent with the Job Demands–Resources (JD-R) framework, vocational schools may consider initiatives that strengthen students’ personal resources, such as achievement motivation, through goal-setting activities, self-regulated learning strategies, and academic mentoring programs.
- Schools may also provide educational support to help students recognize and manage academic stress, such as time management training, academic counseling, and peer support activities.

Implications for Practice:

- The findings may inform the development of student well-being programs in vocational education settings. However, further longitudinal and intervention studies are needed to determine whether strengthening achievement motivation and reducing academic stress can contribute to lower levels of Burnout.



Introduction

Final-year vocational high school students, characterized by increasing academic demands. They are required to complete assignments, prepare for graduation examinations, and plan for future employment or higher education. Compared with general high school students, vocational high school students are exposed to additional educational demands, including practical skills training, competency assessments, and workplace-oriented learning experiences. Within the Job Demands–Resources (JD-R) framework, these requirements may represent additional academic demands that could be associated with increased academic stress and Burnout when not balanced by adequate personal and environmental resources. These conditions may lead to academic stress, defined as feelings of pressure resulting from heavy academic workloads ([Niswatu Hasanah & Lely Ika Mariyati, 2023](#)). If such stress persists and is not properly managed, students are at risk of experiencing Burnout ([Fang Hu, Nik Rosila Nik Yaacob, 2025](#)) which is characterized by exhaustion, inadequacy, and cynicism ([Sukamto Ismu, Yulia Ayriza, Hiryanto, Rahmah Kumullah, Murjainah, Priska Efriani Luansi Ero, Septiyati Purwandari, Ranak Lince, 2026](#))

The issue of student burnout has gained increasing attention in the Indonesian educational context, particularly among vocational high school students who are expected to meet both academic and practical competency standards. National efforts to strengthen vocational education have emphasized the development of workforce-ready graduates, potentially increasing the academic and performance demands placed on students ([Imran, L. Marji, M., Suswanto, H., 2024](#)). Within the Job Demands–Resources (JD-R) framework, excessive academic demands that are not balanced by adequate personal and

environmental resources may contribute to academic stress and Burnout. Previous studies have shown that Burnout is associated with adverse educational and psychological outcomes, including reduced academic engagement, lower learning performance, and poorer psychological well-being ([Taufan, Jayanti, 2025](#))

The prevalence of Burnout among students indicates a concerning trend. In Germany, Burnout among adolescents in community was 20.9% and among adolescents in clinic was 4.6% ([Schaefer, Kirsten Schuchardt, 2024](#)) The study involved 1,947 students from 27 universities in Indonesia. Findings indicated that 35.5% met the criteria for Burnout with characteristic 41.7% experienced moderate to high emotional exhaustion, 45% reported moderate to high depersonalization, and 66.7% showed low levels of personal accomplishment ([Darien, 2022](#)) These results indicate that Burnout is a serious concern within the educational context. It not only contributes to decreased academic performance but also increases the risk of psychological problems among students.

Based on the Job Demands–Resources (JD-R) Model, Burnout occurs when academic demands are higher than the resources students have to cope with them ([Bakker & Karina Mostert, 2024](#)) Academic stress reflects these excessive demands, which can lead to Burnout ([Bakker & Karina Mostert, 2024](#))

In contrast, achievement motivation acts as a personal resource that helps students handle pressure more effectively. Students with high achievement motivation tend to be more persistent, confident, and emotionally regulated, enabling them to manage academic challenges better. Moreover, strong achievement motivation helps students set clear learning goals and view academic pressure as a challenge

rather than a threat (El Barusi & Farida Kurniawati, 2024)

Previous studies have shown that academic stress is positively associated with Burnout (Kong, Yan; Somdee, Thidarat; Yangyuen, 2025) whereas achievement motivation is linked to more positive academic outcomes (El Barusi & Farida Kurniawati, 2024) However, empirical findings indicate variations in levels of motivation and stress among students. A significant difference in achievement motivation was observed among secondary school students based on their place of residence and the type of school they attend (Sarwer, Azeem, 2024) while levels of academic stress also differ across educational contexts (Kumari & Singh, 2022) These findings suggest that high academic demands are not always balanced by adequate personal resources.

Although the relationships between academic stress and Burnout, as well as between achievement motivation and Burnout, have been widely examined, studies integrating both variables simultaneously within the Job Demands-Resources (JD-R) framework (Lesener, Gusy, 2018)

to explain Burnout among final-year vocational high school students remain limited. Therefore, this study aims to analyze the relationship between achievement motivation and academic stress with Burnout among Final-year vocational high school students in Indonesia. The findings provided a basis for developing strategy to enhance achievement motivation and manage academic stress in order to reduce the risk of student burnout (Figure 1).

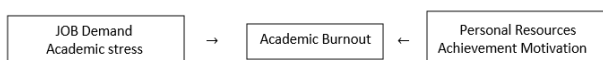


Figure 1. Conceptual framework

Methods

Study Design

This study employed a quantitative approach using a cross-sectional design following STROBE guideline. Academic Stress and Achievement Motivation were examined as the independent variable, while Burnout was the dependent variable. The gender distribution observed in the sample reflected the demographic composition of the target population. According to the official school enrollment records, female students constituted the vast majority of final-year students eligible for participation. Therefore, the predominance of female respondents was not attributable to recruitment procedures or sampling bias but rather represented the actual gender composition of the study population.

This study employed a quantitative cross-sectional design and was reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. Guided by the Job Demands-Resources (JD-R) framework, academic stress was conceptualized as an academic demand, achievement motivation as a personal resource, and Burnout as the outcome variable. The study aimed to examine the relationships among these variables among final-year vocational high school students.

The study population consisted of twelfth-grade students enrolled at SMK Sepuluh Nopember, Sidoarjo, Indonesia. The predominance of female participants reflected the actual demographic composition of the target population, as female students constituted the majority of eligible final-year students according to official school enrollment records. Therefore, the observed gender distribution was considered representative of the study population rather than a result of recruitment or sampling bias.

Participants

The study population consisted of final-year vocational high school students enrolled at SMK Sepuluh Nopember, Sidoarjo, Indonesia. Eligible participants were final-year students who were actively enrolled and agreed to participate by providing informed consent and completing the questionnaire. Students who declined to participate, withdrew their consent during the study, or submitted incomplete questionnaires were excluded from the study. The target population consisted of 162 students. The minimum sample size was initially estimated using the Slovin formula with a 5% margin of error, resulting in a required sample size of 113 participants. Given the limited and relatively small population size, the Slovin approach was used as a pragmatic method to determine the minimum number of respondents required for survey implementation. To account for potential non-response and incomplete data, the target sample size was increased to 115 participants. A simple random sampling technique was used to select participants, where each eligible student had an equal chance of being selected through a lottery-based procedure. A total of 115 students were successfully recruited and included in the final analysis.

It should be noted that the Slovin formula provides a simplified population-based estimate and does not explicitly consider statistical power, effect size, or the complexity of the analytical model. Contemporary quantitative research generally recommends power analysis for sample size determination, particularly in correlational and regression studies. Therefore, although the sample size obtained exceeds the minimum requirement estimated by the Slovin formula, the statistical robustness of the findings should be interpreted with this methodological limitation in mind. Future

studies are encouraged to use a priori power analysis to determine sample size and enhance the accuracy and generalizability of the results.

Instruments

Achievement Motivation

Achievement motivation was measured using the Achievement Motivation Inventory (AMI), adapted from the instrument developed by Schuler and Prochaska and previously applied in Indonesian educational settings (Rodi, 2024). The instrument consists of 32 items covering six dimensions: competitiveness, self-confidence, personal diplomacy, planning, independence, and self-regulation. Each item is rated on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Higher total scores indicate higher levels of achievement motivation.

Prior to data collection, the Indonesian version of the instrument was reviewed for suitability in the study context. Item analysis demonstrated corrected item-total correlation coefficients ranging from 0.42 to 0.78, indicating acceptable item discrimination. Reliability testing showed excellent internal consistency, with a Cronbach's alpha coefficient of 0.942. The validity test showed that the item-total correlation ranged from 0.42 to 0.78, indicating acceptable item validity. The reliability analysis demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of 0.942 (Schuler, H., & Prochaska, 2004).

Academic Stress

Academic stress was assessed using the Educational Stress Scale for Adolescents (ESSA), which had previously been adapted for use among Indonesian adolescents (Kusuma Dewi, Agindaris, Susanto, 2025). The instrument consists of 13 items rated on a five-point Likert scale,

with higher scores indicating higher levels of academic stress. Previous studies reported satisfactory psychometric properties for the Indonesian version of the ESSA. In the present study, item analysis demonstrated corrected item-total correlation coefficients ranging from 0.40 to 0.80, while internal consistency reliability was acceptable, with a Cronbach's alpha coefficient of 0.82.

Burnout

Burnout was measured using the Maslach Burnout Inventory–Student Survey (MBI-SS), a standardized instrument developed to assess academic Burnout among students (Schaufeli, Leiter, 2009)

The Indonesian version of the MBI-SS used in this study consisted of 15 items covering three dimensions: emotional exhaustion, cynicism, and reduced academic efficacy. Items were presented in both favorable and unfavorable forms. Favorable items were scored from 5 (strongly agree) to 1 (strongly disagree), whereas unfavorable items were reverse-scored. Higher total scores indicate higher levels of academic Burnout. Previous studies have demonstrated acceptable psychometric properties of the MBI-SS. In the present study, item analysis showed corrected item-total correlation coefficients ranging from 0.30 to 0.80, indicating acceptable item discrimination. Internal consistency reliability was satisfactory, with Cronbach's alpha coefficients of 0.85 for emotional exhaustion, 0.78 for cynicism, and 0.73 for reduced academic efficacy

Burnout was measured using the Maslach Burnout Inventory–Student Survey (MBI-SS). The instrument includes 15 items covering three dimensions: emotional exhaustion, cynicism, and reduced academic efficacy. The items are presented in both favorable and unfavorable forms. For favorable items, responses are scored from 5 (strongly agree) to 1 (strongly

disagree), while for unfavorable items the scoring is reversed. This questionnaire had good validity with item-total correlation between 0.3 – 0.8. The Cronbach alpha for each subscale was 0.85 for emotional exhaustion, 0.78 for cynicism, and 0.73 for reduced academic efficacy, indicating acceptable internal consistency.

Data Collection

Data collection was conducted in December 2025 after obtaining ethical approval and permission from SMK Sepuluh Nopember Sidoarjo. Eligible participants were identified from the official list of twelfth-grade students and selected through simple random sampling. Prior to data collection, trained research assistants received instructions regarding study procedures, ethical considerations, and questionnaire administration.

Data were collected during scheduled school hours in designated classrooms under the supervision of the research team. Students were informed about the study objectives, voluntary participation, confidentiality, and their right to withdraw at any time without academic consequences. Written informed consent was obtained from all participants before questionnaire administration.

Participants completed self-administered questionnaires consisting of demographic information, the Achievement Motivation Inventory (AMI), the Educational Stress Scale for Adolescents (ESSA), and the Maslach Burnout Inventory–Student Survey (MBI-SS). Completed questionnaires were checked immediately for completeness by the research assistants. No personally identifiable information was collected, and all responses were anonymized prior to data entry and analysis.

Data Analysis

Data were analyzed using IBM SPSS Statistics. Descriptive statistics were used to summarize the demographic characteristics of participants and the distribution of achievement motivation, academic stress, and Burnout among students of SMK Sepuluh Nopember Sidoarjo. Frequencies and percentages were reported for variable categories. Prior to inferential analysis, a normality test was conducted to assess the distribution of the study variables. The results indicated that the data were not normally distributed ($p < 0.05$). Therefore, Spearman's rank correlation was used to examine the relationship between achievement motivation, academic stress, and Burnout. Correlation coefficients (r) and p values were reported, with statistical significance set at $p < 0.05$.

Ethical Considerations

This research has received ethical approval from the Research Ethics Committee of Hang Tuah Health College, Surabaya, No. PE/281/XII/2025/KEP/SHT, and SMK Sepuluh Nopember, Sidoarjo, to obtain approval for data collection access.

Results

Table 1 illustrates the demographic characteristics of the respondents and the distribution of the study variables. More than half of the participants were aged 17–18 years (55.7%, $n = 64$), and the sample was predominantly female (98.3%, $n = 113$). Most respondents lived with their parents (97.4%, $n = 112$). Regarding parental occupation, employees constituted the largest group (60.9%, $n = 70$), followed by self-employed workers (15.7%, $n = 18$) and entrepreneurs (13.0%, $n = 15$).

In terms of the study variables, most students reported moderate achievement motivation (73.9%, $n = 85$) and moderate

Burnout (62.6%, $n = 72$), while more than half experienced high academic stress (53.9%, $n = 62$). Only one participant (0.9%, $n = 1$) had high achievement motivation, and no participants were categorized as having low academic stress.

Table 1. Respondent Characteristics and Study Variables (N = 115)

Variable	Category	n (%)
Age (years)	16–17	51 (44.3)
	17–18	64 (55.7)
Gender	Male	2 (1.7)
	Female	113 (98.3)
Living with	Parents	112 (97.4)
	Guardian	2 (1.7)
	Dormitory	1 (0.9)
Parental occupation	Employee	70 (60.9)
	Self-employed	18 (15.7)
	Entrepreneur	15 (13.0)
	Civil servant	5 (4.3)
	Military/Police personnel	4 (3.5)
Achievement Motivation	High	1 (0.9)
	Moderate	85 (73.9)
	Low	29 (25.2)
Academic Stress	High	62 (53.9)
	Moderate	53 (46.1)
	Low	0 (0.0)
Burnout	High	21 (18.3)
	Moderate	72 (62.6)
	Low	22 (19.1)

Shows that moderate Burnout was the most common category among students with both moderate (61.2%) and low (69.0%) achievement motivation. Spearman's rank correlation analysis demonstrated a statistically significant negative association between achievement motivation and Burnout ($r = -0.602$, $p <$

0.001), indicating a moderate-to-strong inverse relationship.

Table 2 illustrates that the associations between achievement motivation, academic stress, and burnout levels. Among students with moderate achievement motivation, most experienced moderate Burnout (61.2%, n = 52), while the only student with high achievement motivation reported low Burnout (100%, n = 1). Spearman's rank correlation analysis showed a statistically significant negative correlation between achievement motivation and Burnout ($r =$

-0.602 , $p < 0.001$), indicating that higher achievement motivation was associated with lower burnout levels.

Regarding academic stress, students with high academic stress predominantly experienced moderate Burnout (69.4%, n = 43). Spearman's rank correlation analysis revealed a statistically significant positive correlation between academic stress and Burnout ($r = 0.275$, $p = 0.003$), indicating that higher academic stress was associated with higher burnout levels.

Table 2. Association of Achievement Motivation and Academic Stress with Burnout (N = 115)

Variable	Low Burnout n (%)	Moderate Burnout n (%)	High Burnout n (%)	r	p-value
Achievement Motivation				-0.602	<0.001
High (n = 1)	1 (100.0)	0 (0.0)	0 (0.0)		
Moderate (n = 85)	16 (18.8)	52 (61.2)	17 (20.0)		
Low (n = 29)	5 (17.2)	20 (69.0)	4 (13.8)		
Academic Stress				0.275	0.003
High (n = 62)	7 (11.3)	43 (69.4)	12 (19.4)		
Moderate (n = 53)	15 (28.3)	29 (54.7)	9 (17.0)		
Low (n = 0)	0 (0.0)	0 (0.0)	0 (0.0)		

Note: Spearman rank correlation test. A significant negative correlation was found between achievement motivation and Burnout ($r = -0.602$, $p < 0.001$), while academic stress showed a significant positive correlation with Burnout ($r = 0.275$, $p = 0.003$).

Discussion

This study examined the associations between achievement motivation, academic stress, and Burnout among final-year vocational high school students. The findings indicated that both achievement motivation and academic stress were significantly associated with Burnout. Achievement motivation showed a significant negative association with Burnout, indicating that students with higher levels of achievement motivation tended to report lower levels of Burnout. Conversely, academic stress was positively associated with Burnout, suggesting that students who reported higher academic stress also tended to report higher levels of Burnout.

These findings can be interpreted within the Job Demands-Resources (JD-R)

framework. In this model, academic stress represents an academic demand that may contribute to strain and Burnout when demands exceed available resources. In contrast, achievement motivation may function as a personal resource that helps students maintain engagement and cope with academic challenges. The significant negative association between achievement motivation and Burnout, together with the positive association between academic stress and Burnout, supports the JD-R proposition that the balance between demands and resources is important in understanding Burnout among vocational high school students.

Compared with general high school students, vocational students may face additional educational demands related to practical competency requirements,



internship preparation, certification assessments, and industry-oriented performance standards. Within the Job Demands–Resources (JD-R) framework, these characteristics may represent additional academic demands that are associated with higher levels of academic stress and greater vulnerability to Burnout when not balanced by adequate resources. A critical limitation of this study is that the sample was drawn from a single vocational high school in Sidoarjo, Indonesia. Vocational schools vary considerably in curriculum intensity, industry partnerships, academic culture, institutional support systems, and students' socioeconomic backgrounds. From a JD-R perspective, these contextual differences may influence both the academic demands placed on students and the availability of personal and environmental resources that help prevent Burnout. Therefore, the observed associations between achievement motivation, academic stress, and Burnout may not fully represent students from other vocational schools, regions, or educational settings.

Consequently, the external validity and generalizability of the findings should be interpreted with caution. Future studies should involve multiple vocational schools with diverse institutional and geographical characteristics to better capture contextual variability and further evaluate the applicability of the JD-R framework in vocational education settings.

The Relationship between Achievement Motivation and Burnout

The findings of this study indicated that achievement motivation was associated with Burnout among final-year vocational high school students. Most students in this study demonstrated a moderate level of achievement motivation, and within this group, moderate Burnout was the most commonly observed condition. This

suggests that moderate level of achievement motivation may still be accompanied by academic Burnout among students.

Although achievement motivation was negatively associated with Burnout, the cross-tabulation results showed that most students with moderate achievement motivation still reported moderate levels of Burnout. This finding indicates that achievement motivation should not be viewed as a deterministic protective factor. Within the JD-R framework, achievement motivation may serve as a personal resource that helps students manage academic demands; however, Burnout may still occur when academic demands exceed the resources available to students. (Kong, Yan; Somdee, Thidarat; Yangyuen, 2025). These conditions indicate that motivation is effective coping resources to face academic challenges. These findings were also consistent with previous research examining learning motivation, self-regulation, and social support as predictors of academic Burnout among high school students (Chunmei Chen, Yujie Zhu, Fanghao Xiao, 2023). Motivation is negatively associated with academic Burnout, indicating that students with lower motivation tend to experience higher levels of Burnout (Bo Zhang, 2024). This highlights the important role of motivation in influencing students' psychological well-being in academic settings.

This finding indicated that higher levels of achievement motivation are associated with lower levels of Burnout. Therefore, achievement motivation may function as a protective factor against academic Burnout. Students with strong achievement motivation typically have clearer goals, greater persistence when facing difficulties, and a more positive perspective toward academic challenges. As a result, they tend to perceive academic tasks as opportunities

for growth rather than as burdens that create psychological pressure.

The Relationship between Academic Stress and Burnout

The findings of this study indicated that academic stress is associated with Burnout among final-year vocational high school students. In this study, many students experienced high and moderate levels of academic stress, and within this group, moderate to high levels of Burnout were commonly observed. This suggests that high academic stress may increase the risk of academic Burnout among students.

Academic stress among students may arise from various demands encountered during the learning process. Pressure to achieve good academic performance, the need to complete multiple assignments within limited time, as well as the requirements to participate in practical activities and examinations can become significant sources of stress for students. In the present study, the occurrence of Burnout among students experiencing high academic stress may be related to heavy academic workloads and the complex practical skill requirements in vocational education. These findings were consistent with previous research which examined the influence of academic stress, achievement motivation, and perceived social support on academic Burnout. The study found that academic stress had a significant effect on Burnout ([Shan Jiang, Qiang Ren, Chaoxin Jiang, 2021](#)), indicating that higher levels of academic stress were associated with higher levels of academic Burnout. Previous study also identified academic stress as one of the main predictors of academic Burnout among students. The positive association between academic stress and Burnout suggests that students experiencing greater academic demands may also report higher levels of Burnout. According to the Job Demands–Resources (JD-R) framework,

prolonged exposure to academic demands without adequate resources may contribute to strain and exhaustion. Although the present study did not assess coping mechanisms or emotional regulation directly, the findings support previous evidence indicating that academic stress is closely related to Burnout among students

This finding indicated that higher levels of academic stress were associated with higher levels of Burnout. Academic stress experienced by final-year students may contribute to Burnout because they were in the final stage of education in high school, which is often characterized by multiple academic demands. Students must cope with intensive study schedules, complete various assignments and prepare for final examinations ([Michaela C. Pascoe, 2020](#)). Prolonged exposure to such stress may lead to physical and emotional exhaustion, reduced motivation to study, and feelings of helplessness toward their academic situation.

Implications and limitations

This study examined the relationship between achievement motivation, academic stress, and Burnout among final-year vocational high school students. The findings indicate that both achievement motivation and academic stress were significantly associated with Burnout. Achievement motivation was negatively related to Burnout, suggesting that students with stronger motivation tend to experience lower levels of Burnout. Motivation may help students maintain persistence and interpret academic challenges as opportunities for growth. In contrast, academic stress was positively associated with Burnout. Students who experienced higher levels of academic stress were more likely to report higher levels of Burnout. The multiple academic demands faced by final-year students, including assignments, practical activities, and preparation for final

examinations, may contribute to emotional exhaustion and decreased motivation for learning. Overall, these findings highlight the importance of strengthening achievement motivation and implementing effective stress management strategies to reduce the risk of Burnout among vocational high school students.

This study has several limitations that should be considered when interpreting the findings. First, the study used a cross-sectional design, which limits the ability to determine causal relationships between achievement motivation, academic stress, and Burnout. Second, the sample was drawn from a single vocational high school in Sidoarjo, Indonesia. From the perspective of the Job Demands–Resources (JD-R) framework, vocational schools may differ substantially in the academic demands placed on students and the resources available to support them. Consequently, the associations observed in this study may not fully reflect those found in other vocational schools or educational settings, and the findings should be generalized with caution. Third, the data were collected using self-report questionnaires, which may be influenced by Future studies should examine potential mediating and moderating factors within the JD-R framework to better understand how academic demands and personal resources are associated with Burnout among vocational high school students. Fourth, A highly skewed gender distribution in the sample, with female students comprising 98.3% of participants. This distribution reflects the demographic characteristics of the target population at the study site, not recruitment or sampling bias.

Relevance to Practice

The findings of this study provide important implications for educational and school health practice, particularly in vocational high school settings. First,

strengthening achievement motivation should be a priority, as it serves as a protective factor against Burnout. Consistent with the Job Demands–Resources (JD-R) framework, teachers and school counselors may consider initiatives that strengthen students' personal resources, including achievement motivation, through goal-setting activities, constructive feedback, and self-regulated learning approaches, to support students in managing academic demands more effectively. Second, the relatively high level of academic stress observed among students suggests that academic stress management may be an important consideration in vocational education settings. Schools may consider providing supportive resources, such as time-management training, academic counseling, and student support activities, to help students manage academic demands. Third, school nurses and mental health professionals play a crucial role in early identification and prevention of Burnout. Routine psychological screening and supportive interventions can help detect students at risk and provide timely assistance. By addressing both motivational and stress-related factors, educational institutions can promote students' psychological well-being and improve academic outcomes.

Conclusion

This study demonstrated that achievement motivation and academic stress are significantly associated with Burnout among final-year vocational high school students. Achievement motivation was negatively correlated with Burnout, indicating its role as a protective personal resource, whereas academic stress was positively associated with Burnout, suggesting its contribution as a risk factor for Burnout. These findings suggest that, among predominantly female vocational

high school students, higher achievement motivation may support students in coping more effectively with academic demands, while elevated academic stress may increase vulnerability to Burnout. The results further highlight the importance of balancing academic demands with adequate personal and institutional support to promote student well-being and reduce the risk of Burnout. However, the findings should be interpreted in light of the study's contextual limitations, including the recruitment of participants from a single vocational high school and the highly skewed gender distribution of the sample. Consequently, the results may not be directly generalizable to male students, vocational schools with different demographic compositions, or other educational settings. Future research should employ longitudinal designs and include larger, more diverse samples across multiple schools and regions. Studies involving more balanced gender representation are particularly needed to examine whether the relationships between achievement motivation, academic stress, and Burnout differ across gender groups and educational contexts.

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CrediT Authorship Contributions Statement

Dya Sustrami and A.V Sri Suhardiningsih: Conceptualization, Methodology, Supervision

Ardin Putra Widianto: Investigation, Resources, Data Curation, Project Administration, Writing - Original Draft

Sri Anik Rustini: Writing - Original Draft, Review & Editing, Visualization

Conflicts of Interest

There is no conflict of interest.

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Supplementary Materials

Supplementary File S1: Research Instrument contains the full questionnaire used for data collection.

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