Proceedings Series of Educational Studies

The 5th International Conference on Educational Management and Technology (ICEMT) 2026

School burnout across vocational tracks: A comparative study of Indonesian vocational high school students

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Abstract

School burnout is an important concern in vocational education, where students encounter diverse academic, practical, and competency-based demands. This study examined differences in school burnout across vocational tracks among Grade 11 students at a vocational high school in Indonesia. A quantitative cross-sectional comparative design was employed involving 271 students from Digital Business, Software Engineering, Banking Services, Office Management, and Accounting programs. School burnout was assessed using the nine-item Indonesian version of the School Burnout Inventory. Data were analyzed using descriptive statistics and one-way analysis of variance (ANOVA). The results revealed a significant overall difference in school burnout across vocational tracks, $F(4, 266) = 4.28$, $p = .002$, $\eta^2 = .060$. Accounting students showed the highest mean burnout score, whereas Software Engineering students showed the lowest. These findings indicate that school burnout may vary across specialization-based learning contexts within vocational education. The results highlight the importance of differentiated needs assessment and context-sensitive guidance and counseling services that consider the characteristics and demands of different vocational tracks.

Keywords: school burnout; vocational education; vocational tracks

1. Introduction

Maintaining students' psychological engagement has become an important concern as educational demands grow increasingly complex. Prolonged exposure to academic pressures may contribute to emotional exhaustion, declining motivation, reduced engagement, and diminished academic functioning (Schaufeli et al., 2002; Jacobs & Dodd, 2003). School burnout has therefore emerged as an important educational concern because it reflects persistent academic strain that may interfere with students' capacity to remain meaningfully engaged in learning. Previous evidence further suggests that academic burnout is associated with poorer learning outcomes and reduced academic performance (Schaufeli et al., 2002; Fitriyadi et al., 2023). Understanding school burnout is therefore important not only for identifying student distress, but also for examining how sustained educational demands may undermine students' engagement and adjustment within school.

School burnout is characterized by emotional exhaustion, cynicism toward school-related activities, and a declining sense of competence as a student (Schaufeli et al., 2002; Salmela-Aro & Näätänen, 2005). These dimensions should not be viewed as entirely independent experiences, as burnout has been conceptualized as a multidimensional construct

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in which its core components are interrelated (Lee & Ashforth, 1993). Rather than reflecting temporary tiredness, school burnout develops in response to prolonged academic demands and may be shaped by both personal and contextual factors, including self-efficacy, resilience, social support, and the learning environment (Jacobs & Dodd, 2003; Dunn et al., 2008). This suggests that school burnout should be understood not only as an individual psychological condition, but also as a response to the educational contexts in which students learn and perform.

Vocational education provides a distinctive context for understanding school burnout because students are expected to manage both academic learning and occupation-specific competency demands. In addition to classroom instruction, vocational students engage in practical training, project-based tasks, and work-related preparation that may create additional academic pressures. Previous research has shown that academic stress is an important factor associated with burnout among vocational high school students (Transiana et al., 2021). These characteristics suggest that vocational education may expose students to complex and sustained learning demands.

However, vocational education should not be regarded as a homogeneous learning environment. Different vocational tracks involve distinct learning activities, competency expectations, practical requirements, and task structures, which may expose students to different patterns of academic demands. Consequently, students across vocational specializations may experience school burnout differently. Treating vocational students as a single group may therefore obscure meaningful variation in burnout associated with the specific educational demands embedded within each vocational track.

Existing studies indicate that school burnout is a relevant concern across different secondary education contexts. Research among Indonesian students has documented varying levels of academic burnout in boarding schools and general secondary schools, while other studies have linked burnout to factors such as hardiness, academic self-efficacy, academic stress, achievement motivation, and perceived social support (Japeri & Hijrianti, 2022; Aypi et al., 2022; Anshorryyah & Hadinata, 2023; Transiana et al., 2021). Collectively, these findings demonstrate that burnout is shaped by students' psychological resources and educational experiences.

Despite this growing evidence, comparatively limited attention has been given to variation in school burnout within vocational education itself. Previous studies have primarily examined burnout at the individual level or treated students within the same educational level as a relatively broad group, leaving unclear whether burnout differs across vocational specializations. This gap is important because vocational tracks involve distinct learning activities, competency requirements, and academic demands. Examining school burnout across vocational tracks may therefore reveal meaningful within-school variation that would remain hidden when vocational students are considered as a single population.

Understanding variation in school burnout across vocational tracks is also relevant to guidance and counseling practice. Differences in students' academic experiences may require more differentiated approaches to identifying psychological needs and providing preventive support. Rather than applying uniform services across all students, school counselors may benefit from considering the specific learning demands associated with each vocational track

when designing interventions to reduce burnout and strengthen students' coping with academic pressures.

The Indonesian vocational high school context provides a relevant setting for examining this issue because students are formally organized into specialization-based programs with different competency orientations and learning requirements. Examining burnout within this structure allows vocational education to be viewed not as a single homogeneous setting, but as a collection of distinct learning environments. Such a perspective can provide a more context-sensitive understanding of how school burnout may vary within vocational education.

This study contributes to the literature by examining school burnout from the perspective of within-school vocational heterogeneity. Rather than treating vocational students as a homogeneous group, it considers vocational specialization as a potentially meaningful context in which students encounter different learning demands and competency expectations. This perspective may also provide a more differentiated basis for identifying student needs and developing context-sensitive guidance and counseling services. Accordingly, this study aimed to examine differences in school burnout across vocational tracks among Grade 11 students in an Indonesian vocational high school. Specifically, school burnout was compared across Digital Business, Software Engineering, Banking Services, Office Management, and Accounting programs. By examining variation across these vocational tracks, the study seeks to provide a more differentiated understanding of school burnout within vocational education and to inform guidance and counseling practices that are responsive to students' educational contexts.

2. Method

This study employed a quantitative cross-sectional comparative design to examine differences in school burnout across vocational tracks. Participants were Grade 11 students enrolled at a public vocational high school in Probolinggo, East Java, Indonesia. A purposive sampling strategy was used to recruit students from five vocational tracks: Digital Business, Software Engineering, Banking Services, Office Management, and Accounting. The final sample comprised 271 students, including 73 students from Digital Business, 65 from Software Engineering, 62 from Banking Services, 36 from Office Management, and 35 from Accounting. Participants were included if they were actively enrolled in Grade 11 and belonged to one of the five vocational tracks examined in the study. This sampling structure enabled direct comparison of school burnout across distinct vocational learning contexts within the same school environment.

School burnout was assessed using the Indonesian version of the School Burnout Inventory (SBI), adapted and validated by Rahman (2020) from the original instrument developed by Salmela-Aro and Näätänen (2005). The inventory consists of nine items and, based on the Indonesian validation study, is represented by two dimensions: **emotional exhaustion** (Items 1, 3, 4, 7, and 9) and **cynicism** (Items 2, 5, 6, and 8). The personal inadequacy dimension proposed in the original structure was not retained as a separate factor because it lacked sufficient empirical support in the Indonesian validation. Rahman (2020) reported satisfactory internal consistency for the Indonesian SBI (Cronbach's $\alpha = .831$). In the present sample, the nine-item scale demonstrated good reliability, with Cronbach's $\alpha = .867$ and item-total correlations ranging from .606 to .816.

Data were collected by administering the Indonesian version of the School Burnout Inventory to Grade 11 students across the five vocational tracks included in the study. The questionnaire was distributed to students in each program to obtain comparable information on their experiences of school burnout. Completed responses were subsequently compiled and screened before statistical analysis, resulting in a final analytic sample of 271 students. The data collection procedure was designed to ensure that all participating vocational tracks were represented in the comparison of school burnout levels.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including means and standard deviations, were calculated to summarize school burnout scores across the five vocational tracks. Prior to the main analysis, the distribution of the data was examined using the Kolmogorov–Smirnov test, while homogeneity of variance was assessed using Levene's test. Differences in mean school burnout scores across vocational tracks were then examined using a one-way analysis of variance (ANOVA). Statistical significance was determined at $p < .05$.

3. Results and Discussion

3.1 Result

Preliminary analyses were conducted to assess the reliability of the Indonesian School Burnout Inventory and the statistical assumptions for subsequent group comparisons. The nine-item SBI demonstrated good internal consistency, with a Cronbach's alpha of .867 and item-total correlations ranging from .606 to .816. As presented in Table 1, the Kolmogorov–Smirnov test indicated that school burnout scores did not significantly deviate from normality in the Software Engineering, Banking Services, Office Management, and Accounting groups, whereas the Digital Business group showed a significant deviation ($p = .001$). Levene's test was non-significant ($p = .647$), indicating that the assumption of homogeneity of variance across the five vocational tracks was satisfied.

Table 1. Preliminary analyses of school burnout scores across vocational tracks

Analysis	Vocational Track / Indicator	Statistic
Internal consistency	Cronbach's α	.867
Item analysis	Item-total correlation	.606–.816
Normality	Digital Business	$p = .001$
	Software Engineering	$p = .467$
	Banking Services	$p = .160$
	Office Management	$p = .110$
	Accounting	$p = .119$
Homogeneity of variance	Levene's test	$p = .647$

Descriptive statistics revealed variation in mean school burnout scores across the five vocational tracks (Table 2). Accounting students showed the highest mean score ($M = 40.31$, $SD = 7.34$), followed by Office Management ($M = 39.47$, $SD = 8.66$), Digital Business ($M = 37.74$, $SD = 8.66$), and Banking Services ($M = 36.37$, $SD = 8.86$). Software Engineering students had the lowest mean school burnout score ($M = 34.03$, $SD = 8.50$). Across the full sample, the mean school burnout score was 37.10 ($SD = 8.72$).

Table 2. Descriptive statistics of school burnout across vocational tracks

Vocational Track	*n*	*M*	*SD*
Digital Business	73	37.74	8.66
Software Engineering	65	34.03	8.50
Banking Services	62	36.37	8.86
Office Management	36	39.47	8.66
Accounting	35	40.31	7.34
Total	271	37.10	8.72

A one-way ANOVA was conducted to examine whether school burnout differed across the five vocational tracks. As shown in Table 3, the analysis revealed a statistically significant overall difference in school burnout, $F(4, 266) = 4.28$, $p = .002$. The estimated effect size was $\eta^2 = .060$, indicating that approximately 6% of the variance in school burnout scores was associated with differences among vocational tracks. Because no post-hoc comparisons were conducted, the analysis does not establish which specific pairs of vocational tracks differed significantly.

Table 3. One-way ANOVA for school burnout across vocational tracks

Source	SS	df	MS	*F*	*p*	η^2
Between groups	1239.334	4	309.833	4.277	.002	.060
Within groups	19270.976	266	72.447			
Total	20510.310	270				

3.2 Discussion

The The present study found a significant overall difference in school burnout across the five vocational tracks, indicating that students' burnout experiences may vary according to the educational contexts in which they are enrolled. This finding supports the view that vocational education should not be treated as a psychologically homogeneous setting, as different tracks are characterized by distinct learning activities, academic demands, practical requirements, and competency expectations. Rather than implying that vocational specialization directly causes burnout, the result suggests that specialization may represent a meaningful contextual factor associated with variations in students' academic strain. Accordingly, understanding school burnout within vocational education requires attention not only to individual characteristics but also to the differentiated learning environments embedded within vocational tracks.

The observed variation across vocational tracks may be understood in relation to the differentiated learning demands embedded within vocational education. Unlike general academic pathways, vocational programs combine classroom-based instruction with practical activities, project assignments, field-based learning, and competency-oriented tasks that require students to manage multiple forms of academic and performance expectations. Within vocational education itself, these demands are not necessarily uniform. Each specialization involves different learning characteristics, practical workloads, task structures, and expectations regarding the mastery of occupational competencies, creating distinct educational environments for students. Such differences are theoretically relevant because

school burnout is not shaped exclusively by individual characteristics, but may also emerge from prolonged exposure to academic demands and learning conditions that exceed or strain students' psychological resources. Previous literature cited in the present study has similarly emphasized the roles of the learning environment, self-efficacy, resilience, and social support in students' vulnerability to burnout (Jacobs & Dodd, 2003; Dunn et al., 2008). From this perspective, vocational specialization may function as a contextual marker of different academic experiences rather than as a direct causal factor. The significant overall difference found in this study therefore suggests that the structure of vocational learning deserves greater attention when explaining why school burnout may be experienced unevenly among students within the same educational institution.

The descriptive pattern further illustrates the heterogeneity of school burnout across vocational tracks. Accounting students recorded the highest mean burnout score (M = 40.31), followed by Office Management (M = 39.47), Digital Business (M = 37.74), Banking Services (M = 36.37), and Software Engineering (M = 34.03). The 6.28-point difference between the highest and lowest group means suggests that students enrolled in different vocational specializations may encounter school-related demands with differing levels of psychological strain. However, these mean differences should be interpreted cautiously. Because the present study did not conduct post-hoc comparisons, the results do not establish which specific pairs of vocational tracks differed significantly. Thus, the higher mean observed in Accounting and the lower mean observed in Software Engineering should be understood as descriptive patterns rather than evidence of statistically significant pairwise differences. Nevertheless, the distribution of mean scores reinforces the broader finding that school burnout is not uniformly experienced across vocational tracks and supports the need to examine specialization-specific learning conditions more closely in future research.

The present findings extend previous research showing that school burnout is a meaningful psychological concern across different secondary education contexts. Earlier studies cited in this article have examined academic burnout among students in boarding schools and general secondary education, while recent research has also documented burnout among Indonesian senior high school students (Japeri & Hijrianti, 2022; Aypi et al., 2022; Anshorryyah & Hadinata, 2023; Maysarah et al., 2024). Other studies have further linked burnout to individual and contextual factors such as hardiness, academic self-efficacy, academic stress, achievement motivation, and perceived social support (Transiana et al., 2021). However, much of this literature has focused on the occurrence, level, or individual correlates of burnout rather than on variation within vocational education itself. The present study contributes to this literature by showing that school burnout may also vary across specialization-based learning contexts within the same vocational school. This shifts attention from viewing vocational students as a broadly uniform population toward recognizing that different vocational tracks may represent distinct educational environments in which students experience academic demands differently. In this sense, the contribution of the study lies not merely in confirming the presence of school burnout, but in highlighting vocational specialization as a relevant contextual dimension for understanding variation in students' burnout experiences.

The findings also have practical implications for guidance and counseling services in vocational schools. If school burnout varies across vocational tracks, students' psychological and academic support needs may likewise differ across learning contexts. Rather than relying

exclusively on uniform, school-wide interventions, counselors may benefit from incorporating vocational-track characteristics into needs assessment and early identification of burnout symptoms. This perspective is consistent with the broader burnout literature emphasizing early recognition, preventive efforts, coping strategies, and context-sensitive interventions in addressing burnout (Bährer-Kohler, 2012). The original study highlights several forms of support that may be relevant, including individual counseling, group counseling, academic stress-management training, coping-skills development, and time-management support. However, the present findings do not justify assuming that students in a particular track necessarily require more intensive counseling solely because their mean burnout score is higher. Instead, track-level differences can serve as an initial indicator for more targeted assessment of students' needs. From this perspective, a differentiated and context-sensitive counseling approach may help schools align preventive services more closely with the academic demands and learning experiences associated with different vocational specializations.

Several limitations should be considered when interpreting these findings. First, the study was conducted within a single vocational high school, which limits the extent to which the observed pattern can be generalized to vocational students in other schools, regions, or educational contexts. Second, school burnout was assessed using a self-report questionnaire, meaning that the findings reflect students' perceptions and may not fully capture the complexity of their academic experiences. Third, the study focused specifically on differences across vocational tracks without directly examining other factors that may contribute to burnout, such as social support, self-efficacy, learning motivation, family environment, and academic workload. In addition, because no post-hoc comparisons were conducted, the significant omnibus difference cannot identify which specific vocational tracks differed from one another. Future studies should therefore involve more diverse samples across multiple vocational schools, incorporate relevant individual and contextual predictors, and consider mixed-method or longitudinal approaches to clarify the mechanisms underlying variation in school burnout. Pairwise comparisons may also provide a more precise understanding of where differences between vocational tracks occur. Overall, the findings suggest that vocational specialization represents a potentially meaningful context for understanding school burnout, while further research is needed to explain why these differences emerge and how they develop over time.

4. Conclusion

This study demonstrates that school burnout varies across vocational tracks among Grade 11 students in vocational education. The findings suggest that vocational students should not be viewed as a psychologically homogeneous group, as different specialization-based learning contexts may be associated with different levels of academic strain. Although Accounting students showed the highest mean school burnout and Software Engineering students the lowest, these patterns should be interpreted descriptively because specific pairwise differences were not examined. Overall, vocational specialization appears to represent a meaningful contextual dimension for understanding school burnout within vocational education.

These findings highlight the importance of developing more differentiated and context-sensitive guidance and counseling services in vocational schools. School counselors are encouraged to consider the characteristics and academic demands of individual vocational

tracks when conducting needs assessments, identifying students at risk of burnout, and designing preventive support. Future research should extend these findings across multiple vocational schools and regions, examine individual and contextual factors that may explain differences in burnout, and employ longitudinal or mixed-method approaches to clarify how school burnout develops within different vocational learning environments. Such efforts may contribute to more responsive counseling practices and a more comprehensive understanding of student well-being in vocational education.

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