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Research Paper

The Influence of Motivation and Work Environment on Performance (Study on Dental Profession Program at RSGM UNPAD)

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Abstract

The performance of dental professional program students in dental education hospital is essential for ensuring high quality healthcare services and developing clinical competencies. Their level of performance also has direct implications for patient safety and the quality of dental care delivered. This study analyzes the level of motivation, work environment conditions, and performance of dental professional program students, as well as the partial and simultaneous effects of motivation and the work environment on their performance at the Dental and Oral Hospital, Padjadjaran University. Using a quantitative descriptive approach, data were collected through survery involving 125 respondents selected through stratified random sampling. Motivation was assessed through achievement, affiliation, and power needs, while the work environment included physical and non-physical aspects. The results show that dental professional program students demonstrated good motivation, whereas the overall work environment was rated poor, especially in physical conditions. Their performance was generally good in quality, teamwork, responsibility, and initiative, although work quantity remained low. Regression analysis revealed that motivation and work environment had a positive and significant effect on performance, jointly explaining 51.3% of its variability. These findings indicate that strengthening motivation and improving physical work conditions are essential to enhance the performance of dental professional program students, which may ultimately improve patient care quality and clinical education outcomes. Beyond these findings, the study offers broader theoretical and practical contributions by highlighting how educational environment and organizational factors shape health professional training, providing insights that can inform hospital management and the design of more effective clinical education systems.

Keywords *Motivation, Work Environment, Performance, Dental Professional Program, Dental Education Hospital*

INTRODUCTION

Effective health service delivery requires adequate medical and non-medical facilities, competent human resources, and a well-coordinated quality management system. In this context, Human Resource Management (HRM) plays a strategic role. The success of an organization, particularly hospitals, largely depends on the performance of its workforce, which serves as one of its most valuable assets (Syaputri et al., 2023). Effective HRM practices in the health sector are essential to fostering a productive work environment, supporting employee satisfaction, and ensuring optimal quality of care for patients. The health sector is closely tied to the role of medical professionals. Dental profession programs are professional students who provide clinical services in Dental Education Hospitals under the supervision of attending dentists (Sani, 2022). Their involvement in direct patient care positions them as key contributors to service quality while simultaneously undergoing clinical training. Because they participate directly in procedures and patient interactions, their performance has the potential to affect patient safety and clinical outcomes. This underscores the need for close performance monitoring and supportive educational systems. Therefore, factors influencing their performance, such as motivation and work

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environment, warrant careful attention to maintain and improve service standards.

Motivation and the work environment are key factors influencing the performance of healthcare professionals. For dental profession program students, who have limited control over their work environment and limited experience in diverse clinical settings, environmental factors are especially crucial (Fitriatin & Yustini, 2023). Several studies demonstrate that higher motivation and a supportive work environment positively affect performance in healthcare settings (Parashakti et al., 2020); (Apex-apeh et al., 2020); (Yanuari et al., 2019)). Additionally, inadequate or damaged facilities, as part of the physical work environment, can hinder healthcare workers' effectiveness, highlighting the importance of well-structured clinical learning environments for student performance (Parashakti et al., 2020).

Nevertheless, a major limitation of previous research lies in the lack of studies specifically examining how motivation and work environment interact to influence the performance of dental profession program students still undergoing clinical education. Previous studies have mainly focused on nurses or permanent staff, not professional students. This gap is notable because the performance of dental profession program students is uniquely assessed based on the completion of structured clinical requirements within a defined period; failure to meet these requirements results in extended study duration. Although some evidence exists on the relationship between motivation, work environment, and clinical performance among health professionals, such as studies on dental and oral therapists in dental hospitals that do not find significant associations between these variables (Selviasari et al., 2023), and research on medical students showing that higher motivational strength can influence clinical performance outcomes, the interaction between motivation and work environment in the specific context of dental profession education remains underexplored (e.g., motivation linked to academic and clinical performance in medical curricula). Theoretically, this study extends existing performance models in healthcare by examining motivation and work environment simultaneously in a dental professional education context. Practically, it offers evidence-based recommendations for HRM and clinical education managers in teaching hospitals. Although some studies have addressed motivation and work environment separately, none have evaluated these factors simultaneously in the context of a dental teaching hospital in Indonesia, particularly at the Padjadjaran University Dental and Oral Hospital (RSGM Unpad), which currently trains more than 300 dental profession program students. Therefore, this applied study aims to empirically examine how motivation and work environment, considered simultaneously, affect the performance of dental profession program students in a teaching hospital context

This research gap highlights the need for an empirical investigation to better understand how motivation and work environment contribute to the performance of dental profession program students. Such insights are essential for strengthening managerial strategies, improving clinical education processes, and enhancing service quality in teaching hospitals. The scientific merit of this study lies in its specific focus on dental profession program within a large academic hospital setting and its simultaneous examination of two key determinants of performance, motivation and work environment, which have not been comprehensively explored in prior studies (Selviasari et al., 2023; Ahmad & Omar, 2024). This study addresses the practical problem of suboptimal work environment conditions that may hinder dental professional program students' performance in providing quality dental care (Alkhateeb et al., 2023). Based on this background, this study aims to provide a concise assessment of motivation, work environment, and performance among dental profession program students at RSGM Unpad, while also examining how motivation and work environment both individually and simultaneously affect their performance through regression analysis. Accordingly, the following hypotheses are proposed: motivation and work environment simultaneously influence the performance of dental profession program students at RSGM Unpad;

motivation has a partial effect on student performance; and the work environment has a partial effect on student performance (Nwosu et al., 2023; Smith et al., 2024).

RESEARCH METHOD

Study Design

This study employs a quantitative, descriptive-explanatory, verificative research design (hypothesis-testing) cross-sectional survey. Quantitative research involves the investigation of social phenomena using statistical or numerical data, thereby requiring systematic measurement. Verificative research is defined as research aimed at establishing the validity of a theory or fact based on collected data. In this approach, the data obtained are processed and analyzed to enable hypothesis testing. The hypotheses are then examined using empirical evidence to obtain scientifically accurate conclusions. This method is utilized to verify the truth of proposed hypotheses (Hulley et al., 2021).

Participants and Sampling

Based on the research to be conducted at the Padjadjaran University Dental and Oral Hospital, the study population consists of all dental profession program students from cohorts 2022-1, 2022-2, and 2023-1 (a total of 162 students) who are present and working at the hospital during the designated data collection period and who consent to participate by completing the questionnaire. This population was selected based on the length of time the dental profession program students had been enrolled in the professional program at RSGM Unpad. The professional program spans four semesters; therefore, the study includes students in semesters 2, 3, and 4. Dental professional program students in their first semester are excluded because they have limited clinical experience and minimal direct interaction with patients, making them unsuitable for inclusion in this study, a criterion commonly applied in clinical education research to ensure adequate exposure and performance assessment validity (Creswell & Creswell, 2023; Alshahrani et al., 2022).

The sampling technique employed is probability sampling with a stratified random sampling approach. Stratified random sampling is a method in which the researcher first identifies mutually exclusive and collectively exhaustive categories, divides the sampling frame based on these categories, and then uses random selection to obtain cases from each category. This technique is particularly appropriate when the population is heterogeneous and stratification variables, such as cohort or academic semester, are expected to influence the outcome variables, thereby improving representativeness and reducing sampling bias (Etikan & Bala, 2017; Sekaran & Bougie, 2020). In this study, the stratification is based on the dental profession program cohort of entry. All eligible data collected during the predetermined period will be included in the analysis (Makwana et al., 2023). The calculation of the required sample size in this study was conducted using Cochran's formula. Based on this calculation, the initial sample size without correction was 384 individuals. Since the total population consisted of only 162 individuals, the sample size was adjusted using the Finite Population Correction (FPC) formula. After applying this correction, the recommended sample size for a population of 162 was approximately 114 individuals. To determine the number of samples for each stratum, proportional allocation was used as part of the stratified random sampling procedure. The proportional allocation for selecting 114 individuals randomly from a population of 162 produced results as shown in the table 1. Of 162 eligible students, 125 completed the questionnaire and were included in the analysis.

Table 1. Required Sample Size in the Study

Cohort/Semester	Total Population	Sample Size
2022-1/4	5	4
2022-2/3	40	28
2023-1/2	117	82
Total	162	114

Source: Primary data processed, 2025

Procedure

Data collection was conducted over two months from March to April 2025. A total of 162 dental profession program students were approached and invited to participate. Recruitment was carried out directly through program coordinators and student communication channels. Participants completed the questionnaire either online via Google Forms or offline on-site at the Padjadjaran University Dental and Oral Hospital (RSGM), depending on their availability during clinical activities.

The inclusion criteria were: (1) dental profession program students at RSGM Unpad from cohorts 2022-1, 2022-2, and 2023-1, and (2) willingness to complete the questionnaire. There were no restrictions regarding age or gender. The exclusion criterion was being a dentist at RSGM Unpad who was not enrolled as a dental profession program. Of the 162 students invited, 125 completed the questionnaire, yielding a 77.2% response rate. Before analysis, the dataset was screened for missing or incomplete responses, and entries not meeting the inclusion criteria were excluded. Cleaned data were tabulated and processed using descriptive and verification analyses. Descriptive analysis employed frequency distributions and mean scores based on a four-point Likert scale. Verification procedures included tests for normality, heteroscedasticity, multicollinearity, and linearity, followed by multiple regression analysis, coefficient of determination testing, and both F-tests and t-tests.

Data Collection and Instruments

Data were collected using a self-administered structured questionnaire, which was distributed both online via Google Forms and offline during clinical duty hours or scheduled sessions at the dental education hospital. The questionnaire consisted of three sections. The motivation section included 10 items covering the need for achievement, need for affiliation, and need for power, which are widely recognized dimensions of work motivation in organizational and healthcare research (McClelland, 1987; Robbins & Judge, 2022). The work environment section included 10 items addressing both physical and non-physical aspects of the clinical setting, consistent with prior studies examining healthcare work environments (Nwankwo et al., 2023). The performance section comprised 9 items measuring work quantity, work quality, teamwork, responsibility, and initiative, which are commonly used indicators of individual performance in health service and educational settings (Koopmans et al., 2014; Selviasari et al., 2023). All items were rated on a 4-point Likert scale ranging from “strongly disagree” to “strongly agree,” a format frequently used to reduce neutral response bias and improve response discrimination in behavioral research (Joshi et al., 2015).

The questionnaire was newly developed for this study and underwent validity and reliability testing before use. This instrument was considered appropriate for assessing motivation, work environment, and performance among dental profession program students because it captures key behavioral and environmental factors relevant to their clinical responsibilities within a hospital-based educational setting, in line with recommendations for context-specific instrument development in health education research (DeVellis, 2017; Boateng et al., 2018).

Instrument Validity and Reliability

The instrument testing in this study was carried out in two stages: a validity test and a reliability test. The validity test was conducted for the motivation, work environment, and performance variables by comparing the r-calculated value of each questionnaire item with the r-table value determined based on the sample size and the selected significance level. An item was considered valid if the r-calculated value exceeded the r-table value, indicating that the item could be used for further analysis. The results of the validity test showed that all questionnaire items in all variables met the validity criteria, demonstrating that the instrument accurately measured the intended variables. Therefore, all items were declared valid and eligible for use in subsequent analyses.

Table 2. Reliability Test Result

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Motivation	0.854	0.858	10
Work Environment	0.913	0.911	10
Performance	0.887	0.895	9

Source: Primary data processed, 2025

Reliability in this study was assessed using Cronbach's Alpha, where an instrument is considered reliable if the Cronbach's Alpha value exceeds 0.70. Based on the reliability test results presented in Table 2, all variables in this study showed high Cronbach's Alpha values, indicating strong internal consistency of the instrument. Referring to standard reliability guidelines, Cronbach's Alpha values above 0.70 signify that the instrument is dependable (Nunnally & Bernstein, 1994; Hair et al., 2019). Thus, all variables in this study were declared reliable and suitable for further analysis.

Data Analysis

Data analysis was conducted using SPSS software. Descriptive statistics, including means, frequencies, and percentages, were used to summarize respondents' motivation, work environment perceptions, and performance levels. To address the study's objectives, inferential analyses were carried out using Pearson correlation and multiple linear regression, enabling estimation of both the partial and simultaneous effects of motivation and work environment on student performance. Before regression, key statistical assumptions were examined through normality, heteroscedasticity, multicollinearity, and linearity tests to ensure the suitability and accuracy of the model. Normality testing assessed whether residuals followed a normal distribution, heteroscedasticity tests evaluated the equality of variance across observations, multicollinearity testing confirmed that the independent variables were not highly correlated, and linearity testing verified that the relationships between variables were appropriately linear. Following assumption checks, multiple regression analysis, along with the coefficient of determination (Adjusted R^2), F-tests, and t-tests, was applied to determine explanatory power and statistical significance. A significance level of $\alpha = 0.05$ was used. Multiple regression was appropriate for this study because all variables were measured on a Likert scale treated as interval data, and the research aimed to quantify the predictive influence of motivation and the work environment on performance.

Ethical Considerations

Ethical approval for this study was obtained from the appropriate institutional authorities at the Padjadjaran University Dental and Oral Hospital. All participants were informed about the purpose of the study, the procedures involved, potential risks, and their right to withdraw at any time before providing written informed consent. Confidentiality was ensured through the use of anonymized participant, removal of identifying information from all documents, and secure, restricted-access data storage.

FINDINGS AND DISCUSSION

This study obtained a total of 125 students participating. The characteristics of the respondents in this study, based on the cohort of dental professional program students, are as follows :

Table 3. Demographic Characteristics of Respondents

Cohort/Semester	Number of Respondents	Percentage
2022-1/4	5	4%
2022-2/3	29	23,2%
2023-1/2	91	72,8%
Total	125	100%

Source: Primary data processed, 2025

Descriptive Analysis

Descriptive analysis is an analysis conducted to describe each variable in this study. The calculation of the questionnaire data results will use frequency distribution and the mean or average value of the respondents' answers to the questionnaire items.

Table 4. Range of Descriptive Analysis Scale

Likert Scale	Score Interpretation Categories
1.00 - <1.75	Very low or very poor
1.75 - <2.50	Low or poor
2.50 – 3.25	High or good
3.25 - <4.00	Very high or very good

Source: Primary data processed, 2025

Descriptive Analysis of Dental Profession Program Students Motivation at RSGM Unpad

A total of 125 students participated in this study. Descriptive analysis was conducted to provide an overview of respondents' motivation levels, presented in frequency and percentage distributions. Table 5 summarizes the descriptive findings of the motivation variable.

Table 5. Mean Dental Profession Program Students' Motivation at RSGM Unpad (1-4 Likert Scale)

Need for Achievement	Need for Affiliation	Need for Power
3.28 (Very Good)	3.51 (Very Good)	2.93 (Good)

Source: Primary data processed, 2025

Need for Achievement

The Need for Achievement dimension yielded a total mean score of 13.12, with an item mean of 3.28. These results indicate that the students perception of their achievement motivation is in the very good category. Most respondents reported positive perceptions; however, a small proportion indicated that their need for achievement was not yet fully experienced during their

work as dental profession students at RSGM Unpad.

The Need for Achievement dimension reflects an individual's internal drive to attain high standards, continuously improve skills, and achieve the best possible outcomes. Dental profession program students with a strong need for achievement tend to seek out and learn new techniques that enhance the efficiency and quality of patient care. This dimension is important because it highlights that these students are not only learning clinically but also developing the foundations of professionalism and a commitment to service quality. Cultivating this need for achievement helps shape them into competent, reflective professionals who consistently strive to deliver the best for their patients and their profession.

Need for Affiliation

The total scoring of the Need for Affiliation dimension in the motivation variable showed a total mean of 10.52 across three indicators, with an item mean of 3.51, indicating that respondents' perception of their need for affiliation while performing their duties as dental profession program students at RSGM Unpad falls within the very good category. The majority of respondents provided positive feedback; however, a small proportion indicated that their need for affiliation was not yet fully realized in their work.

The Need for Affiliation dimension, or the need to build social connections and feel accepted within a group, is an important aspect of the professional development of dental profession program students. Positive interpersonal relationships support smooth coordination and collaboration in patient care, while workplace conflict especially within medical teams can create stress and hinder service effectiveness. Therefore, the need for affiliation plays a key role in fostering a harmonious work atmosphere, supporting professional growth, and ultimately improving the quality of oral health services.

Need for Power

The total scoring of the Need for Power dimension in the motivation variable showed a total mean of 8.8 across three indicators, with an item mean of 2.93, indicating that respondents' perception of their need for power while performing their duties as dental profession program at RSGM Unpad falls within the good category. While the majority of respondents provided positive feedback, a considerable proportion reported that their need for power was not yet fully present during their work.

The Need for Power dimension, or the need to influence, guide, and lead others, is an important aspect in developing leadership qualities and professional responsibility among dental profession program students. More broadly, a well-developed need for power contributes to shaping proactive and accountable professionals who have the capacity to lead medical teams in the future. When managed appropriately, this drive not only strengthens an individual's role within the work environment but also enhances team efficiency, service quality, and interprofessional coordination.

Overall Motivation

Overall, the motivation variable obtained an average mean score of 3.24, indicating that dental profession program students at RSGM Unpad generally demonstrate good levels of motivation. This suggests that although most students already demonstrate good motivation dimension need for achievement and need for affiliation, there remains significant room to further improve and strengthen motivation among dental professional program students at RSGM Unpad. One indicator of recognition of their contribution as leaders in the workplace received a lower mean score of 2.60, with 46.4% of respondents disagreeing with the statement. This suggests that aspects

within the Need for Power dimension remain a challenge for some students. In summary, the students display good overall motivation, with certain dimensions, particularly Need for Achievement and Need for Affiliation, showing very good results. However, areas within the Need for Power dimension present opportunities for improvement.

Descriptive Analysis of Dental Profession Program Students' Work Environment at RSGM Unpad

Descriptive analysis was conducted to provide an overview of the working environment for dental profession program students at RSGM Unpad. In addition to motivation, the work environment plays a crucial role in supporting the performance of students. This analysis aims to evaluate the extent to which the work environment is available and capable of facilitating healthcare activities, particularly in enabling students to deliver more effective and efficient services.

Table 6. Mean Dental Profession Program Students Work Environment at RSGM Unpad (1-4 Likert Scale)

Physical	Non-physical
2.20 (Poor)	3.03 (Good)

Source: Primary data processed, 2025

Physical Work Environment

The total weighted score for the physical dimension of the work environment variable was 15.4 across seven indicators, with a mean score of 2.20. This indicates that respondents' perception of the available physical work environment to support their duties as dental profession program students at RSGM Unpad falls into the "poor" category. The majority of respondents provided negative feedback, suggesting that the current physical work environment is insufficiently supportive. These low scores may reflect organizational constraints commonly found in teaching hospitals, such as high patient load, limited funding for facility renewal, and the need to share clinical spaces among multiple student cohorts. Additionally, outdated or insufficient equipment and space limitations can hinder efficiency, contributing to students' negative evaluations of the physical environment. This highlights significant room for improvement to enhance the physical work environment and better facilitate all students in performing their clinical duties at RSGM Unpad.

Non-physical Work Environment

The total weighted score for the non-physical dimension of the work environment variable was 9.09 across three indicators, with a mean score of 3.03. This indicates that respondents' perception of the available non-physical work environment for performing their duties as dental profession program students at RSGM Unpad falls into the "good" category. While the majority of respondents provided positive feedback, some still disagreed with the statements. This generally favorable assessment may reflect organizational strengths typical of teaching hospitals, such as structured supervision, clear clinical protocols, and supportive academic–clinical integration. However, the remaining dissatisfaction among some students could stem from variation in supervisory styles, communication gaps between staff and students, or inconsistent workload distribution across clinical units. This suggests that the non-physical work environment is generally adequate, though there remains room for improvement to further support all students in carrying out their work effectively.

Overall Work Environment

The work environment available for dental profession program students at RSGM Unpad is still categorized as "poor or not good," although some aspects show positive results. Maintaining, improving, and enhancing both the physical and non-physical aspects of the work environment is essential to support students in performing their duties effectively and achieving optimal outcomes.

Descriptive Analysis of Dental Profession Program Students' Performance at RSGM Unpad

Descriptive analysis was conducted to provide an overview of the performance of dental profession program students at RSGM Unpad, encompassing work quantity, work quality, responsibility, teamwork, and initiative. The results of this analysis are intended to illustrate the extent to which students perform their duties in providing dental services. The following presents the descriptive analysis results for the work quantity of students in carrying out their tasks at RSGM Unpad.

Table 7. Mean Dental Profession Program Students' Performance at RSGM Unpad (1-4 Likert Scale)

Work Quantity	Work Quality	Teamwork	Responsibility	Initiative
2.47 (Poor)	3.08 (Good)	3.08 (Good)	3.18 (Good)	3.18 (Good)

Source: Primary data processed, 2025

Work Quantity

The total weighted score for the Work Quantity dimension within the performance variable showed a total mean of 7.41 across three indicators, with an item mean of 2.47. This indicates that respondents' perception of their work quantity as dental profession program students at RSGM Unpad falls into the poor category. The majority of respondents provided negative feedback, suggesting that the students have not been able to meet the expected work quantity. This lower output may reflect the realities of clinical training, where strict supervision, limited patient availability, and mandatory adherence to procedural steps can slow down the pace of service. Additionally, the dual demands of learning and providing patient care often require students to prioritize accuracy and safety over speed, which naturally reduces work quantity compared with fully licensed clinicians. These results indicate that there is significant room for improvement in work quantity among all students at RSGM Unpad to enhance their overall performance.

Work Quality

The total weighted score for the Work Quality dimension within the performance variable showed a total mean of 6.15 across two indicators, with an item mean of 3.08. This indicates that respondents' perception of the quality of work produced while performing their duties at RSGM UNPAD falls into the good category. The majority of respondents provided positive feedback; however, some indicated that the quality of their work was not fully satisfactory. The generally high work quality may reflect the nature of clinical education, where procedures are closely supervised, and students are required to follow strict clinical protocols to ensure patient safety. This environment encourages careful, detail-oriented work, even if it slows overall productivity. At the same time, variations in case complexity, supervision styles, and students' experience levels may explain why some respondents still feel their work quality needs improvement. These results suggest that although most students demonstrate good work quality, there is still room for improvement to further enhance the performance of all students at RSGM Unpad.

Teamwork

The total weighted score for the teamwork dimension within the performance variable showed a total mean of 6.15 across two indicators, with an item mean of 3.08. This indicates that respondents' perception of their cooperation while performing duties at RSGM UNPAD falls into the good category. While the majority of respondents provided positive feedback, some indicated that their level of cooperation was not fully satisfactory. This generally strong teamwork may reflect the collaborative nature of clinical training, where students frequently assist one another in patient management and clinical procedures. However, variations in clinical workload and differences in experience among students can sometimes hinder smooth coordination, explaining why not all respondents rated teamwork highly. This suggests that although most students demonstrate good cooperation, there is still room for improvement to further enhance teamwork and overall performance at RSGM Unpad.

Responsibility

The responsibility dimension within the performance variable assesses respondents' perceptions of how they fulfill their duties as dental profession program at RSGM UNPAD. For the indicators of decision-making ability and accountability, the responsibility dimension yielded a total weighted score of 398, resulting in a mean value of 3.18, which falls into the good category. The majority of respondents provided positive responses; however, 3 respondents (2.4%) disagreed with the statements. High responsibility scores likely reflect structured supervision and clear expectations in clinical training, which guide students to make careful decisions. Yet, heavy clinical workloads and simultaneous academic demands may occasionally reduce accountability for some students. This suggests that while most students demonstrate good responsibility, there is still room for improvement to further enhance accountability and overall performance at RSGM Unpad.

Initiative

The initiative dimension within the performance variable evaluates respondents' perceptions of their ability to develop ideas and solve problems encountered in their work as students at RSGM UNPAD. For the indicator assessing the ability to independently complete assigned tasks, the initiative dimension obtained a total weighted score of 397, resulting in a mean value of 3.18, which falls into the good category. The majority of respondents provided positive responses; however, 5 respondents (4%) disagreed with the statement. This indicates that while most students demonstrate good initiative, there is still room for improvement to further enhance initiative and overall performance at RSGM Unpad. These findings may reflect the demanding clinical environment where students balance learning with patient care, requiring both creativity and adherence to protocols. Limited opportunities for independent decision-making in a supervised setting could explain why some students feel less confident in taking initiative. Enhancing mentorship and creating supportive spaces for problem-solving could further foster this critical competency.

Overall Performance

The analysis results indicate that most aspects of performance fall into the good category, with an overall mean score of 2.90. These findings suggest that, overall, the performance of dental profession program students at RSGM Unpad is generally good. However, one dimension of work quantity remains in the poor or not good category, with a mean score of 2.47. Specific indicators in this dimension that scored lower include the ability to meet all required targets (2.31) and the ability to complete requirements within the designated timeframe (2.41). This indicates that the work quantity dimension remains a significant challenge in enhancing the overall performance of

students at RSGM Unpad.

Verification Analysis

Normality Test

Table 8. Normality Test

Variable	Kolmogorov-Smirnov			Interpretation (∝ = 0.05)
	Statistic	df	Sig.	
Motivation	0.111	125	0.062	Normally distributed
Work Environment	0.06	125	0.691	Normally distributed
Performance	0.99	125	0.160	Normally distributed

From the results of the one-sample Kolmogorov–Smirnov normality test, it can be seen that the Asymp. Sig. (2-tailed) values are 0.062 > 0.05, 0.691 > 0.05, and 0.1602 > 0.05. Therefore, it can be concluded that in this study, the data are normally distributed.

Heteroscedasticity Test

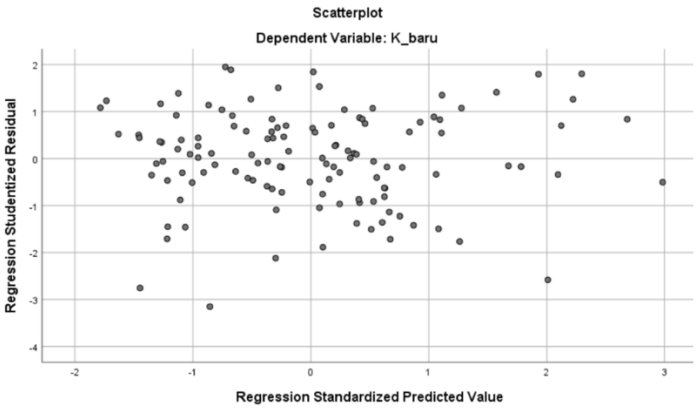

Figure 1. Heteroscedasticity Test

The results in Figure 1 show the heteroscedasticity test displayed in the scatterplot between the Regression Standardized Predicted Value and the Regression Studentized Residual. The points in the scatterplot are randomly distributed without any specific pattern, neither converging nor spreading out. This random distribution pattern indicates that there is no heteroscedasticity problem in the regression model. In other words, the residual variance is constant across the range of predictor variable values, meaning that the assumption of homoscedasticity in the regression model has been met. This supports the validity of the regression model used in the study.

Multicollinearity Test and Multiple Regression Analysis

Table 9. Multicollinearity Test

Model	Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B		Collinearity Statistic	
						Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	7.119	1.820		3.912	.000	3.516	10.721		
M	.441	.051	.567	8.690	.000	.341	.542	.923	1.084
WE	.227	.047	.317	4.853	.000	.134	.319	.923	1.084

The results of the multicollinearity test in Table 9 show that the tolerance value for the motivation and work environment variables is 0.923. The Variance Inflation Factor (VIF) value for both variables is 1.084. A tolerance value greater than 0.1 and a VIF value less than 10 indicate that there is no multicollinearity among the independent variables in the regression model. Therefore, this regression model meets the assumption of being free from multicollinearity, allowing the results of the regression analysis to be considered valid.

The regression coefficient values of the variables above indicate the magnitude of the influence of the independent variables on the dependent variable. The larger the coefficient value of an independent variable, motivation and work environment, the greater its influence on the dependent variable performance.

The coefficient for the Motivation variableis 0.441. This indicates that Motivation is positively related to Performance. Every 1-unit increase in the Motivation variable will increase Performance by 0.441 units. The coefficient for the Work Environment variable is 0.227. This indicates that the Work Environment is positively related to Performance. Every 1-unit increase in the Work Environment variable will increase Performance by 0.227 units.

Partial and Simultaneous Effects of Motivation and Work Environment on Performance

To evaluate the impact of motivation and work environment on the performance of dental profession program students at Padjadjaran University Dental and Oral Hospital (RSGM Unpad), both partial (individual) and simultaneous (combined) effects were analyzed using multiple regression. This analysis allows for an understanding of how each factor contributes to performance independently, as well as how they work together to explain variations in performance outcomes.

Partial Effects (t-Test)

Partial effects were assessed to determine the independent influence of motivation and work environment on the performance of dental profession program students.

1. Motivation

The analysis yielded a significance value (p-value) <0.001. Since the p-value is below the 0.05 threshold, H_0 is rejected. This indicates that motivation has a statistically significant effect on performance. The positive regression coefficient (0.441) demonstrates that higher levels of motivation are associated with improved performance. In practical terms, for every one-unit increase in motivation, the performance of dental profession program students increases by 0.441

units. This finding is consistent with the theoretical understanding that motivation drives goal-oriented behavior, encourages perseverance, and enhances professional engagement. Motivated students are more likely to actively participate in clinical tasks, maintain higher standards of care, and demonstrate a stronger commitment to achieving learning and professional objectives.

2. Work Environment

The analysis also yielded a significance value (p-value) <0.001, leading to rejection of H_0. This indicates that work environment has a significant positive influence on performance. The regression coefficient of 0.227 suggests that a one-unit improvement in work environment contributes to a 0.227 unit increase in performance. The work environment encompasses both physical and non-physical factors, such as the availability of clinical facilities, collaborative culture, supervisory support, and organizational climate. A supportive environment enables students to perform clinical tasks efficiently, reduces stress, facilitates teamwork, and encourages learning, all of which enhance overall performance.

Analysis of the Coefficient of Determination

Table 10. Analysis of The Coefficient of Determination

R	R Square	Adjusted R-Square	Std. Error of the Estimate
.722[a]	.521	.513	2.76601

Source: Primary data processed, 2025

Based on Table 10 above, the value of the coefficient of determination or Adjusted R-Square can be identified. The results of the multiple linear regression analysis show an adjusted R^2 value of 0.513, indicating that the variables Motivation and Work Environment together influence Performance (Y) by 51.3%. Meanwhile, the remaining 48.7% is influenced by other independent variables outside Motivation and Work Environment.

Simultaneous Effects (F-Test)

The F-test was performed to assess the combined effect of motivation and work environment on performance. The results show a significance value of <0.001, indicating that the combination of motivation and work environment has a statistically significant simultaneous effect on performance. The adjusted R^2 value of 0.513 further reveals that 51.3% of the variation in student performance is explained by these two factors, while the remaining 48.7% is influenced by other unmeasured variables.

This combined effect highlights the synergistic nature of motivation and work environment: while motivation drives individual effort and engagement, a supportive environment enables students to apply their motivation effectively. The interaction between these factors is crucial in optimizing performance outcomes. Students who are highly motivated but work in a poor environment may underperform, whereas a positive work environment can enhance the effect of motivation on performance. By addressing both motivation and work environment, it is possible to maximize the performance potential of dental profession program students, leading to higher quality patient care, better clinical outcomes, and more effective professional development.

DISCUSSION

The findings of this study demonstrate that the performance of dental profession program students at RSGM Unpad is significantly influenced by two primary factors: motivation and the work environment. While most performance dimensions such as work quality, cooperation, responsibility, and initiative, are rated as good, the quantity of work remains notably low,

highlighting areas in need of improvement. Our finding that motivation significantly influences dental students' performance aligns with previous studies in healthcare settings. Consistent with (Parashakti et al., 2020) who found that motivation strongly impacts healthcare workers' enthusiasm, focus, and pride in their achievements, our study confirms that motivation, particularly the need for achievement, affiliation, and power, is crucial for maintaining good performance in clinical education.

One plausible explanation for the pattern of high motivation but poor work quantity lies in the clinical training context. Despite dental students' strong intrinsic drive to achieve, as indicated by a high mean score in the need for achievement dimension, the demanding clinical requirements and limited resources may restrict their ability to complete the expected volume of work. Specifically, the insufficient number and quality of dental chairs, along with other physical limitations of the facility, impose bottlenecks that directly affect throughput and clinical productivity. This constraint forces students to work within limited time frames and resource availability, thereby limiting work quantity despite their motivation to perform well. Conversely, the relatively good scores on work quality and initiative suggest that when students can engage with patients, they focus on delivering high-standard care and independently solving clinical problems, even if the volume of cases they handle is limited.

This apparent contradiction high quality and responsibility maintained alongside low work quantity and poor physical environment can be understood by considering the students' adaptive behaviors and institutional context. Students may prioritize clinical precision and learning outcomes over sheer quantity to meet educational standards and supervisor expectations. The strong need for affiliation also contributes to maintaining cooperative and harmonious interactions with supervisors and peers, fostering an environment that encourages quality work despite physical shortcomings. Moreover, the presence of a supportive non-physical work environment, such as good communication and professional support, might mitigate some negative effects of the inadequate physical environment.

Organizational and educational factors further clarify these findings. The limited number of dental chairs and patient availability, strict appointment systems, and intensive supervision and assessment requirements inherently limit the number of patients each student can see within their clinical rotations. The complexity of dental procedures and the requirement to meet specific competency targets also slow down the quantity of cases handled. Additionally, supervision by dental professionals ensures that students maintain high standards but may reduce throughput as students learn under guidance. These systemic constraints create a natural ceiling for work quantity, regardless of individual motivation levels.

This study uniquely contributes to health professional education by focusing on dental profession students within a teaching hospital context, a setting where educational, clinical, and organizational factors intersect to shape performance outcomes. Our findings highlight the importance of balancing motivational and environmental support with tangible improvements in clinical infrastructure to optimize both learning and service delivery. For hospital management, the research provides evidence that investments in physical resources, particularly key equipment like dental chairs, are critical complements to initiatives aimed at boosting motivation and workplace culture. By integrating these dimensions, teaching hospitals can more effectively nurture competent, motivated dental professionals prepared to meet clinical demands.

It is also important to acknowledge the limitations of this study, which could have influenced the results. The reliance on self-assessment data introduces the possibility of response bias, as students might overestimate their motivation and performance due to social desirability or perceived expectations. The cross-sectional design restricts causal inferences, limiting our understanding of how motivation and work environment interact with performance over time.

Furthermore, contextual factors unique to RSGM Unpad might limit the generalizability of the findings to other institutions with different resources and educational models.

In summary, this study highlights that while motivation and a supportive non-physical work environment sustain good work quality, initiative, and cooperation, physical constraints within the clinical training setting primarily limit work quantity. Strategic investments in improving physical infrastructure, such as increasing and upgrading dental chairs and enhancing clinic facilities, coupled with programs to further strengthen motivation, particularly in leadership and initiative, could significantly enhance overall performance. Addressing these factors holistically will better equip dental students to meet clinical requirements and professional standards, ultimately improving dental healthcare delivery at RSGM Unpad.

CONCLUSION

This study aimed to analyze (1) the levels of motivation, work environment, and performance, and (2) the partial and simultaneous effects of motivation and work environment on performance among dental profession program students at RSGM Unpad. The findings indicate that motivation and work environment are key determinants of student performance, although systemic and physical constraints limit certain outcomes.

Overall, the students demonstrated a generally positive profile: high levels of intrinsic motivation, particularly in the dimensions of need for achievement and affiliation, supported strong work quality, responsibility, initiative, and cooperation. The work environment presented a mixed picture: non-physical aspects such as professional support and communication were rated positively, while physical facilities, including the availability and quality of dental chairs, were insufficient. These infrastructural limitations were reflected in the consistently low quantity of work, despite students' high motivation and engagement. Together, these findings suggest that while supportive non-physical conditions and motivation can sustain high-quality performance, they are insufficient alone to overcome physical and organizational constraints on clinical throughput.

Theoretically, these results support and extend motivation theories, including the need for achievement, affiliation, and power, in the context of dental professional education by demonstrating that motivated students prioritize quality and learning outcomes even under constrained conditions. Furthermore, the findings refine human resource management and learning environment frameworks by showing that strong non-physical support can partly compensate for poor physical environments, but cannot fully resolve limitations in work quantity. By providing evidence from a dental teaching hospital in Indonesia, a context still underrepresented in the healthcare education literature, this study contributes to understanding how motivation and environment interact to shape trainee performance in resource-limited educational healthcare settings.

From a healthcare perspective, enhancing both motivation and work environment among dental profession students, who function as dentists in clinical care at the dental education hospital, is likely to improve not only student performance but also the quality of dental services, patient experiences, and the effectiveness of training future dentists.

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