Influence of organizational learning, work-life balance, emotional exhaustion, and leadership style on patient safety culture among dental students

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Article Info	ABSTRACT
Keywords: Emotional Exhaustion Leadership Style Organizational Learning Patient Safety Culture Work-life Balance	The purpose of this research is to analyze and test: 1. whether: Organizational learning has a positive effect on Patient Safety Culture, 2. whether Work-life balance has a positive effect on Patient Safety Culture, 3. whether Emotional Exhaustion has a positive effect on Patient Safety Culture, 4. .Does Leadership Style have a positive effect on Patient Safety Culture. The survey method used in the research carried out was data collection using a questionnaire instrument. The target research population is all professional students at RSGM-P XYZ. The number of samples determined was 160 samples. The sampling technique was carried out using purposive sampling. The Partial Least Square-Structural Equation Modeling approach with the SmartPls program was used to analyze the data. The research results show that work-life balance does not have a positive effect on Patient Safety Culture. However, organizational learning, emotional exhaustion and leadership style have a positive effect on Patient Safety Culture.
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INTRODUCTION

Quality dental services cannot be separated from the patient safety aspect which must be prioritized. Patient safety is a global issue, especially in low and middle income countries. Patient safety is one of the priorities that is observed in the process of providing services to patients. Every year, a large number of patients are harmed or die due to unsafe health services, resulting in high rates of death and disability worldwide. Based on WHO data, 134 million adverse events due to unsafe care occur in hospitals in low and middle income countries, and contribute to around 2.6 million deaths each year (WHO, 2021). Therefore, it is very important to implement a patient safety culture to reduce medical errors, prevent harm in treating patients, and improve the overall quality of health services. This requires commitment from healthcare leaders, ongoing education and training, and a willingness to learn from mistakes and make necessary changes to improve patient safety.

A patient-centred service perspective, the quality of health services is centered on the interests and needs of patients (Prakash & Srivastava, 2019). In health services with this approach, patient safety must be prioritized so that optimal efforts need to be made from

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the hospital to protect patients from risks that may occur in the hospital as well as human errors that may occur (Johnson, Russell, & White, 2016). Patient safety culture can be defined as "the product of the values, attitudes, perceptions, competencies, and behavioral patterns of individuals and groups that determine the commitment to, and style and proficiency of, health and safety management of an organization. Organizations that have a positive safety culture are realized through communication based on mutual trust, with perceptions regarding the importance of safety and preventive measures (Seljemo, C., Viksveen P. & Ree E., 2020). Patient safety culture has become a concern in the world of health internationally in various health services. Patient safety culture is an important factor in determining a hospital's ability to handle and reduce risks to patients. Every hospital needs to pay attention to and understand the strengths and weaknesses of the organization in terms of patient safety culture, so that patient safety problems that occur can be identified (Kakemam, et al., 2021).

The basis of high-quality dental services is patient safety. Of course, several errors can also occur in dental practice, this can occur due to lack of experience, low supervision, wrong procedures, and also a low safety culture. Improving patient safety culture in health facilities can build public trust (Juliawati, 2022). Globally, it is known that dentistry is a demanding job and causes excessive stress. Chronic work-related stress can impact a person's mental health and cause emotional, behavioral and physical changes in a person. Previous research examining dental students in the United Kingdom and China stated that the main stressor was the conflict between academics and students' work-life balance (Narwal et al., 2021). Research by Yvonne Tran, et al. (2021), concluded that work-life balance is related to patient safety culture in 56 hospitals in Taiwan. There is also a growing concern about the psychosocial conditions of health workers, especially as health services are said to be at a critical point with increasing levels of burnout and dissatisfaction with work-life balance. This is also related to emotional exhaustion which is also related to patient safety culture. The burnout phenomenon among medical personnel is caused by continuous exposure to the physical and emotional needs of patients. Burnout is characterized by three symptoms, one of which is emotional exhaustion. The negative consequences that can occur can affect the efficiency of service to patients, the welfare of medical personnel, so that medical errors, depression and absenteeism can occur (Panari C, et al., 2019; Patel, et al., 2018).

Previous research (Zahrah, et al, 2021) has identified variables that can influence patient safety culture in dental and oral hospitals. In this research, it was concluded that there was a significant relationship between organizational learning and patient safety culture. The leader of an organization is one of the important aspects in an organization being able to have good performance. The leader's role cannot be separated from providing potential motivation to increase efficiency and fulfill the need to achieve organizational goals (Lee and Chuang, 2009). Hospital managers need to provide input and support so that organizational policies and systems improve the patient safety culture within the institution. The quality of service to patients and managerial attitudes play an important

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role in the development of a mature safety culture in hospitals (Pierre, 2013). Stakeholders or hospital leaders play a role in the first step of identifying dimensions of patient safety culture that still need to be improved (Yansane, et al, 2020). Previous research at a hospital in Jakarta, hospital managers were faced with various challenges in implementing a patient safety culture. However, health workers often have the perception that "non-punitive response to errors" by hospital leaders is an aspect that will influence other aspects of patient safety culture (Jardali, et al., 2011). One way to build the psychological safety of medical personnel in a hospital is by having leaders who are approachable and open (Jaffar T, Samy NK, 2023).

The phenomenon raised through this research is the perception and attitude of health workers towards patient safety culture. The understanding, perceptions and attitudes of health workers towards patient safety culture plays an important role, considering that patient safety culture is the basis of hospital health services. A solution to this phenomenon is needed so that the implementation of patient safety culture will be more optimal, so that the quality of services provided will increase. This is the basis for the need to increase the perception of the importance of patient safety culture for professional students at RSGM-P XYZ. The better organizational learning possessed by members can improve the patient safety culture in the hospital. This research aim to test and analyze the impact of Organizational learning, Work-life balance, Emotional Exhaustion, Leadership Style towards Patient Safety Culture among dental clinical students at RSGM-P XYZ.

METHOD
Independent variables of this study consists of Emotional Exhaustion, Leadership Style, Learning Organization, Work-life Balance, and Patient Safety Culture is the subjects of this study. Target population of this study is dental clinical students in RSGM-P XYZ. This study had a total of 160 respondents, with purposive sampling method used. The type of research used is quantitive. Data collected by distributing questionnaires to each respondents. PLS-SEM is in accordance with research orientation, namely to test whether the research model prepared has explanation and predictive capabilities. For research with a prediction orientation from the proposed modeling, the PLS-SEM method is the recommended choice (Hair et al., 2017). The inferential data analysis carried out in this research was using a multivariate method, the Partial Least Square - Structural Equation Model (PLS-SEM) approach. The software used is Smart PLS (MacOS) version 3.3.3. First, inferential statistical analysis is carried out using an outer model to test the reliability and validity of the indicators in a model. Construct reliability test as measured by composite reliability and Cronbach's alpha. A variable construct is declared reliable if it has a composite reliability value above 0.70 and Cronbach's alpha above 0.70 (Hair et al., 2022). Second, testing the explanatory and predictive capabilities of the model as well as the significance of the influence between variables in the research model through the inner model.

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RESULTS AND DISCUSSION

Demographic Profile Respondent

Table 1 shows dental clinical students respondents at RSGMP XYZ in the research conducted consisted of 122 people (76.8%) female and 38 people (23.2%) male. The profile of dental clinical students respondents at RSGMP XYZ in the research consisted of several year of study. The The year of study involved as respondents were five study groups consisting of KBK 19 (5 people), KBK 20 (13 people), KBK 21 (76 people), KBK 22 (30 people), and KBK 23 (36 people) . dental Clinical students at RSGMP XYZ in the research were between 20 years old and the oldest was 24 years old. There are 9 dental clinical students aged 20 years (5.5%); 21 years old totaling 12 people (7.3%), 22 years old totaling 60 people (37.2%); 23 years old totaling 69 people (37.2%); and 24 years amounted to 10 people (6.1%).

Table 1. Table of validity indicators (Outer loadings) and Convergent Validity (AVE)

		Frequency	Percentage
Gender	Female	122	76.8%
	Male	38	23.2%
Year of Study	KBK 19	5	3.0%
	KBK 20	13	7.9%
	KBK 21	76	47.6%
	KBK 22	30	18.9%
	KBK 23	36	22.6%
Age	20	9	5.5%
	21	12	7.3%
	22	60	37.2%
	23	69	43.3%
	24	10	6.1%

Outer Model

Based on the Table 2, it can be seen that the outer loading value is below 0.70. The Average Variance Extracted (AVE) value is also still below 0.50. Based on the calculation results, the factor loading values do not meet the minimum criteria and the Average Variance Extracted (AVE) does not meet the minimum criteria and construct elimination must be carried out until all variables have an Outer Loading value greater than 0.50 (>0.50). If in the test there is an outer loading value below 0.70, the indicator can still be used provided that the minimum loading value is greater than 0.40 (Loading > 40) and the AVE value is more than 0.50 (AVE > 0.5) so that the variable can be said to be valid.

Table 2. Table of validity indicators (Outer loadings) and Convergent Validity (AVE)

Construct	Indicator	Outer Loading (>0.70)	AVE(>0,5)
Emotional Exhaustion	EE1	0.721	0.498
	EE2	0.749	
	EE3	0.515	

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Construct	Indicator	Outer Loading (>0.70)	AVE(>0,5)
	EE4	0.661	
	EE5	0.674	
	EE6	0.730	
	EE7	0.809	
	EE8	0.737	
	EE9	0.717	
Learning Organization	LO1	0.527	0.385
	LO2	0.449	
	LO3	0.482	
	LO4	0.786	
	LO5	0.770	
Leadership Style	LS1	0.728	0.576
	LS2	0.751	
	LS3	0.676	
	LS4	0.750	
	LS5	0.846	
	LS6	0.790	
Patient Safety Culture	PS1	0.590	0.345
	PS10	0.315	
	PS11	0.672	
	PS12	0.519	
	PS13	0.563	
	PS14	0.619	
	PS15	0.549	
	PS16	0.354	
	PS17	0.554	
	PS18	0.676	
	PS19	0.765	
	PS2	0.657	
	PS20	0.732	
	PS21	0.705	
	PS22	0.735	
	PS23	0.608	
	PS24	0.603	
	PS25	0.586	
	PS26	0.552	
	PS27	0.684	
	PS28	0.658	
	PS29	0.629	

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Construct	Indicator	Outer Loading (>0.70)	AVE(>0,5)
	PS3	0.488	
	PS30	0.573	
	PS31	0.617	
	PS32	0.515	
	PS33	0.469	
	PS34	0.479	
	PS4	0.373	
	PS5	0.512	
	PS6	0.479	
	PS7	0.667	
	PS8	0.543	
	PS9	0.602	
Work-life Balance	WL1	0.583	0.453
	WL2	0.741	
	WL3	0.567	
	WL4	0.741	
	WL5	0.754	
	WL6	0.697	
	WL7	**0.594**	

Construct reliability test as measured by composite reliability and Cronbach's alpha. A variable construct is declared reliable if it has a composite reliability value above 0.70 and Cronbach's alpha above 0.70 (Hair et al., 2022). The results of the reliability test are presented in Table 3. The results presented show that the Cronbach's Alpha value for all variables is greater than 0.70. except for the Learning Organization variable. The Composite Reliability value for all variables is greater than 0.70. Based on the results of the Construct Reliability calculation (Cronbach's Alpha and Composite Reliability) in the Cronbach's Alpha calculation, all variables meet the criteria, the calculation results. Outer loading, AVE and Composite Reliability all meet the criteria. Based on these considerations, the research model can be used for further testing.

Table 3. Construct Reliability Table (Cronbach's Alpha and Composite Reliability)

Variable	Cronbach's Alpha	Composite Reliability	Model Evaluation
Emotional Exhaustion	0.874	0.898	Reliable
Leadership Style	0.857	0.889	Reliable
Learning Organization	0.504	0.796	Not Reliablel
Patient Safety Culture	0.912	0.925	Reliable
Work-life Balance	0.764	0.841	Reliable

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Based on Table 4, it can be seen that the overall HTMT calculation results are smaller than 0.90. Based on these values, it can be decided that each construct variable can form its own latent variable and has met the Heterotrait Monotrait criteria. All research variables can be used for further testing.

Table 4. Heterotrait Monotrait Table (HTMT)

Variable	EE	LS	LO	PS	WL
Emotional Exhaustion					
Leadership Style	0.461				
Learning Organization	0.426	0.270			
Patient Safety Culture	0.550	0.549	0.650		
Work-life Balance	0.448	0.422	0.269	0.418	

Inner Model

Multicollinearity assessment in the structural model has the same concept as the formative measurement model, namely by considering the VIF (variance inflation factor) value. The VIF value must be less than 5.0, this indicates that the model is free from symptoms of multicollinearity in all predictors for all responses, so that testing can be carried out to the next stage (Hair et al., 2022). Based on table 4, the following information can be seen, namely the VIF value for each construct variable is smaller than 5.0 (<5.0). Based on the results of calculating the VIF value, all variables do not have symptoms of multicollinearity and can be used in further analysis showed in Table 5.

Table 5. Collinearity Assesment Table

Variable	Patient Safety Culture
Emotional Exhaustion	1.380
Leadership Style	1.278
Learning Organization	1.107
Work-life Balance	1.231

Assessment of the quality of the research model in inner model analysis by looking at the R-squared value. The R-squared value or determinant coefficient can be seen from two aspects, the first is explanatory power. The ability of the independent variables in the research model to explain the dependent variable is assessed from this. The coefficient of determination is used to measure the accuracy of predictions (estimates). In general, an R2 value of 0.75 is considered to have high estimation accuracy, an R2 of 0.50 has moderate estimation accuracy, and an R2 value of 0.25 has low estimation accuracy (Hair et al., 2022). The results of the coefficient of determination can be seen in Table 6. Based on Table 4.13, it can be seen that the accuracy of the R2 Patient Safety Culture model estimation is 0.494. Based on this value, it has a moderate accuracy estimate. In other words, Emotional Exhaustion, Leadership Style, Learning Organization, Work-life Balance,

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amounted to 49.4% while the remaining 50.6% was influenced by other factors outside the research model.

Table 6. Coefficient of determination table (R2)

Variabel	R Square	R Square Adjusted
Patient Safety Culture	0.494	0.481

Based on Table 7, the F2 effect size value for the constructive model. The Emotional Exhaustion variable influences the Patient Safety Culture variable by 0.100 and is classified as having a small estimation value. The F2 effect size value for the constructive model. The Leadership Style variable influences the Patient Safety Culture variable by 0.182 and is classified as having a moderate estimation value. The F2 affect size value for the constructive model. The Learning Organization variable influences the Patient Safety Culture variable by 0.154 and is classified as having a moderate estimation value. The F2 affect size value for the constructive model. The Work-life Balance variable influences the Patient Safety Culture variable by 0.014 and is classified as having a small estimation value.

Table 7. Effect Size

Variable	f-Squared
Emotional Exhaustion → Patient Safety Culture	0.100
Leadership Style → Patient Safety Culture	0.182
Learning Organization → Patient Safety Culture	0.154
Work-life Balance → Patient Safety Culture	0.014

Based on the test results in Table 8, the Q2 value of predictive relevance for the constructive model of the Patient Safety Culture variable is influenced by Emotional Exhaustion, Leadership Style, Learning Organization, Work-life Balance, amounting to 0.238 and is classified as having moderate predictive relevance.

Table 8. Predictive Relevance

Variable	SSO	SSE	Q² (=1-SSE/SSO)
Emotional Exhaustion	1280	1280	
Leadership Style	960	960	
Learning Organization	320	320	
Patient Safety Culture	1920	1463.767	0.238
Work-life Balance	800	800	

Structural model coefficient analysis is used to test the hypothesis by finding out which relationships have a significant influence. If the p-value < a (0.05) then the relationship is significant, conversely if the p-value > a (0.05) then the relationship is not significant (Hair et al., 2022). From Table 9 above, it can be seen that for three of the four hypotheses proposed in this research, the results are supported.

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Table 9. Hypothesis

Hypothesis		T-Statistics	P-Values	Result
H1	Emotional Exhaustion influence positively to Patient Safety Culture	4.076	0.000	Supported
H2	Leadership Style influence positively to Patient Safety Culture	5.069	0.000	Supported
H3	Work-life Balance influence positively to Patient Safety Culture	1.350	0.178	Not Supported
H4	Learning Organization influence positively to Patient Safety Culture	4.699	0.000	Supported

The first hypothesis in this research is regarding the relationship between emotional exhaustion and patient safety culture. It can be seen that there is a significant positive influence. Therefore, in this research, there is confirmation of the theory that increasing emotional exhaustion has a positive impact on increasing patient safety culture. The second hypothesis of this study discusses the relationship between leadership style and patient safety culture. It can be seen that there is a leadership style relationship that has a significant positive effect on patient safety culture. The third hypothesis of of this study discusses the relationship between work-life balance and patient safety culture, it can be seen that there is a positive and insignificant influence of work-life balance on patient safety culture. The fourth hypothesis in this research is the relationship between learning organization and patient safety culture. Based on these values, it can be seen that there is a significant positive influence of learning organization on patient safety culture.

Based on Figure 1, it can be seen that quadrant 1 consists of the variables Leadership Style, Learning Organization, which are factors that are considered important and the company is obliged to maintain this performance. In quadrant 3, it consists of Work-life Balance, which is a factor that is considered to have low or not very important levels of perception and actual performance, meaning that factors in quadrant III are not very desirable. Companies are advised not to prioritize paying more attention to factors in this quadrant. Meanwhile, quadrant 4 consists of the Emotional Exhaustion variable which is an important factor and is expected by customers, but its performance is considered unsatisfactory. Companies need to concentrate on allocating their resources to improve the performance of the factors contained in this quadrant.
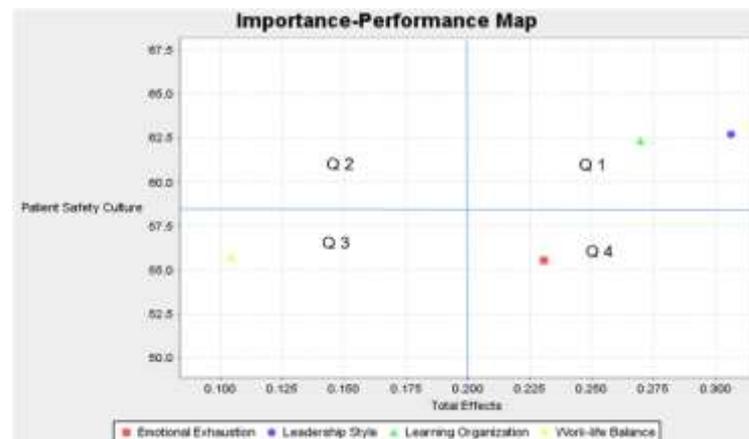
Figure 1. Importance-Performance Map Analysis.

CONCLUSION

Emotional exhaustion, Leadership style, and Learning Organization has a positive effect on improving patient safety culture. If the perception of emotional exhaustion increases, the patient safety culture of dental clinical students at RSGM-P XYZ will also increase. On the other side, Work-life balance does not have a significant effect on improving patient safety culture. Perception of work-life balance does not significantly influence patient safety culture among professional students at RSGM-P XYZ.

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