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Relationships Between Personality and Work Environment Type and Work Stress Symptoms in Students of Dental Profession Education

D. N. Primasari[1], N. Hariyani[2], D. D. Zalinda[2], A. Ramadhani[2]

Abstract

Background: Stress is the body's response to represent discomfort due to various environmental factors. The stress experienced by dentists begins when they take dentistry education. The prevalence of stress reaches 89.7% in dentists in Malaysia. Personality type and work environment are important factors for identifying and approaching stress symptoms. Big five frameworks (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism) are models that are often used to describe individual personalities. **Objective**: To determine the relationship between personality and work environment types and work stress symptoms in students of the dental profession education Faculty of Dentistry, Institute of Health Sciences Bhakti Wiyata Kediri. **Method**: This type of study was cross-sectional. The sampling technique used a simple random sampling technique with a sample size of 120 people. **Results**: Data analysis used One Way Anova test found a significant relationship between personality types and work stress symptoms (P = 0.001) with Neuroticismism as the strongest predictor of work stress symptoms. The results of Pearson correlation test analysis found a significant relationship between work environment and symptoms of work stress (P = 0.000). **Conclusion**: There is a relationship between personality and work environment type and the work stress symptoms in students of the dental profession education Faculty of Dentistry, Institute of Health Sciences Bhakti Wiyata Kediri.

Keywords: personality type, work environment, work stress.

I. INTRODUCTION

Dentistry is one of the most important fields of health in which when the quality of the dental profession education is improved, it can improve the oral health of the community[1]. Universities as educational centers that produce and transfer knowledge must assess the condition of education by identifying problems and providing practical solutions to improve the quality of education[2]. Dentist education is a complex process so it is necessary to evaluate students' attitudes against the conditions of clinical education regularly [3]. Clinical education is a dynamic process in which students apply theories that have been learned during the teaching and learning process with clinical instructors and the Educational Environment[4]. Students are the main pillars in clinical education thus knowing their conditions can clarify the weaknesses and strengths of the clinical education environment to improve the planning and

[1] [1]Graduate Student of Dental Health Science, Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga
[2]Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga
Corresponding author: A. Ramadhani, Email: ramadhani.rara94@gmail.com

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quality of education[5]. Clinical education as a learning tool must strive continuously to balance between the needs of students and patients where student satisfaction very impacts patient satisfaction which is an important part of the education of medical students.

The educational process is influenced by internal factors, such as the characteristics of the students themselves and external factors including instructors, staff, interpersonal relations, learning atmosphere, facilities, equipment, and departmental structure[6]. Several studies related to psychological health have been conducted in medical and dental clinic students. The study was related to levels of depression, anxiety, stress, self-efficacy, and also job satisfaction[7]. The results of several studies have shown that stress is more often encountered during dentist education than doctor education[8–10]. Stress is defined as stress or anxiety that is caused by problems in someone's life[11,12].

The results of the study conducted by Khalid in Malaysia stated that the prevalence of stress on dentists was 89.7%. High levels of stress occur in dental practice, starting with lectures at the faculty of dentistry, their manifestations differ according to the length of the study period[13]. Three studies conducted by Ingrid in Sweden showed that the individual characteristics of Swedish dentistry students include age[14], sex, status marriage, and years of service affect stress perception[15].

Stress is a body response that represents discomfort due to various environmental factors. The study report stated that personality is an important factor for identifying, responding to, and approaching stressful events[16]. Various studies on the role of individual characteristics in stress events have been examined to identify the relationship between stressors and stress reactions[17,18].

Individual characteristics play an important role in responding to stress[19]. Psychological, physiological, and behavioral reactions to stress are the result of individual interactions with situations that trigger stress. Such individual interactions include personality traits[20], attitudes, past reasoning[21], values, and so on[22]. Costa and McCrae define that personality is a dimension of individual differences in the tendency to show patterns of consistency from one's thoughts, feelings, actions, and ways of dealing with stress[23]. Most of the study on stress has been conducted on medical, nursing[24], and dentistry students. However, there is a little study linking personality and psychological health[25,26].

Dimitri said that the basic things related to personality dimensions were studied and developed by researchers several decades ago to answer questions about personality. The study uses the Hierarchy Model which groups behavior into groups or clusters[27]. One of the well-known Hierarchy Models is Big Five[23,28,29].

Big Five Framework is a powerful model for understanding the relationship of personality with some academic behavior[30]. Big Five is structured to describe personality traits that are realized by the individual himself in his daily life[31]. Big Five consists of five personality dimensions including agreeableness, Neuroticism, extraversion, openness, and conscientiousness that can give a picture of someone's personality[32].

Based on the previous background, authors are interested in seeing how the relationship between intrinsic factors including personality types and extrinsic factors includes the work environment with symptoms of work stress in clinical students at the Dental and Oral Hospital of the Bhakti Wiyata Kediri Health Sciences Institute.

II. RESEARCH METHODS

This study uses a cross-sectional study design. The results of the study will be conveyed narratively with translation through numbers and percentages. Variables were measured and observed at the same time and at a certain time[33].

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The population in this study were all professional students of the Faculty of Dentistry who had studied for more than 1 year or 2 semesters which was 192 people. The study was conducted at the Dental and Oral Hospital of the Faculty of Dentistry, Bhakti Wiyata Kediri Institute of Health Sciences, Jalan K.H Wachid Hasyim 65 Kediri.

The sample used in this study was part of the population chosen to be able to represent a population that has been determined by the characteristics of the population[34]. Gravetter and Wallnau stated that to achieve data distribution close to the normal curve, a minimum sample of 30 samples was needed[35]. The samples used in this study were 120 samples. The sampling procedure was conducted by a simple random sampling technique which was a technique by selecting random populations according to predetermined characteristics thus each member of the population has the same opportunity to become a research sample[34].

Questionnaire A is an opening instrument consisting of questions about, age, sex, marital status, and duration of clinical education. Then, an instrument to measure the symptoms of work stress on respondents. The instrument contains questions related to symptoms that arise include physical, psychological, and behavioral conditions based on the adoption of work stress[36]. Classification of symptoms of work stress was calculated based on the categorization of levels by calculating the range of theoretical minimum-maximum numbers[37]. Questionnaire B is a question related to the work environment based on the Confidential Questionnaire Stress Survey questionnaire[38]. Questionnaire C is a question about personality Big Five Inventory 30 to find out the most dominant personality type of respondents. Each questionnaire is filled in by selecting answers consisting of choices: Strongly agree = score 4, Agree = score 3, Disagree = score 2, and strongly disagree = score 1.

The data analysis was conducted, the normality test was analyzed by using the Shapiro-Wilk test. Analysis of study data used Anova parametric statistical test and Pearson correlation test (normally distributed data) or Spearman correlation test (abnormally distributed data). Anova was used to determine differences in personality types with work stress symptom scores.

III. RESULT

Demographic Profile of Respondents

Based on Table 1, as many as 120 students of the dental profession were used as respondents/subjects of this study. All respondents were dental profession students at the Bhakti Wiyata Kediri Institute of Health Sciences. Respondents consisted of men at 34.2% and women at 65.8%. Based on age showed that the most age is 24 years old which was 36.7%, then age 23 years old was 19.2%, 25 years old was 18.3%, 22 years old was 8.3%, and age 26 years was 7.5%. Based on marital status, the majority of respondents were not married as many as 91.7% and 8.3% were married. Based on the semester, 41.7% were students in semester 3, 20.8% were students in semester 4, 20.8% were students in semester 5, and 16.7% were students in semester 6.

Table 1. Demographic profile of respondents

Variable	n(%)
Sex	
Male	41(34,2)
Female	79(65,8)
Age	
21years old	2(1,7)
22 years old	10(8,3)

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23 years old	23(19,2)
24 years old	44(36,7)
25 years old	22(18,3)
26 years old	9(7,5)
27 years old	6(5,0)
28 years old	1(0,8)
29 years old	1(0,8)
30 years old	1(0,8)
38 years old	1(0,8)
Marital status	
Married	10(8,3)
Single	110(91,7)
Semester	
3	50(41,7)
4	25(20,8)
5	25(20,8)
6	20(16,7)

Descriptive Analysis of Variable Research

The results of the questionnaire calculation that 120 respondents experienced mild stress levels of 27.5% and the rest experienced moderate stress levels of 72.5%. The dominant personality type was seen from the largest total score from the sum of each of the 6 representations. The results of the questionnaire calculations 3.3% of respondents have Agreeableness personality, 12.5% Conscientiousness, 15.8% Neuroticism, 13.3% Extraversion, and 55% Openness. The results of the questionnaire calculation on the work environment with the results of 25.8% of respondents considered the work environment to be good, and 74.2 respondents considered the work environment to be moderate.

Respondents stress level based on the characteristics can be seen in Table 2:

Table 2. Respondents stress level based on the characteristics

Variable	Stress level n(%)	
	Mild	Moderate
Sex		
Male	14(34,1)	27(65,9)
Female	19(24,1)	60(75,9)
Age		
21years old	1(50,0)	1(50,0)
22 years old	2(25,0)	8(75,0)
23 years old	5(21,7)	18(77,3)
24 years old	14(31,8)	30(68,2)
25 years old	7(31,8)	15(68,2)
26 years old	2(22,2)	7(77,8)
27 years old	2(33,3)	4(66,7)

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28 years old	0	1
29 years old	0	1
30 years old	0	1
38 years old	0	1
Marital status		
Marriage	3(30,0)	7(70,0)
Single	30(27,3)	80(72,7)
Semester		
3	12(24,0)	38(76,0)
4	7(28,0)	18(72,0)
5	8(32,0)	17(68,0)
6	6(30,0)	14(70,0)
Personality Type		
Agreeableness	1(25,0)	3(75,0)
Conscientiousness	4(26,7)	11(73,3)
Neuroticism	2(10,5)	17(89,5)
Extraversion	4(25,0)	12(75,0)
Openness	22(33,3)	44(66,7)
Work Environment		
Good	15(48,4)	16(51,6)
Sufficient	18(20,2)	71(79,8)

The women were more susceptible to work stress than men with a percentage of 75.9 /% experiencing moderate levels of work stress. Meanwhile, based on age, students aged 24 years old and 26 years old have the highest percentage of moderate stress levels. The level of work stress based on marital status has almost the same level. Based on the semester, semester 3 students have the highest percentage of moderate work stress which was 76.0%. Based on personality types, students with Neuroticism personality types have the highest level of work stress. The work environment was causing stress levels higher than a good work environment.

Average Work Stress Score and Work Environment according to Personality Type

Work stress and work environment scores were obtained by summing the scores of each statement from the instruments that have been used. Classification of work stress scores can be divided into 3 namely mild (score <30), moderate (score 30-42), and severe (score <42). As for the work environment, a score <32 is good, a score of 32-46 is sufficient, and the score> 46 was bad. Personality type classification was obtained from the highest score of respondents' answers on the questionnaire. Each respondent has five personality types, but only one personality type tendency in each respondent. The highest score was a reference to classify the most dominant respondent's personality. The type of personality that has the highest average value on the score of symptoms of work stress and work environment is Neuroticism which was 33.42 and 35.81. While the type of personality that has the lowest average score of symptoms of work stress and work environment was Conscientiousness which was 29.80 and 32.13.

Relationship between Personality Types and Work Stress

Personality types have nominal data types and work stress level scores have interval data types, so the relationship between personality types and work stress levels was tested differently with One Way Anova parametric test. There was a significant relationship between personality types and work stress with a significance of 0.001 (H0 rejected). These results explain that differences in personality types can cause differences in work stress score values.

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Relationship between Work Environment and Work Stress

Normality test results showed that work stress data and work environment were normally distributed. The relationship between work environment and work stress was tested by parametric test, Pearson correlation test. There was a significant relationship between work environment and work stress with a significance of 0,000 (H0 rejected). The correlation coefficient showed the number 1 which means the relationship between work environment and work stress was directly proportional. The higher the score in the work environment, the higher the work stress score.

IV. DISCUSSION

Relationship between Personality Types and Symptoms of Work Stress

Based on data, it is known that personality types have a significant relationship between symptoms of work stress with a significance of 0.001. Personality has an important role in responding to the environment, where individual interactions include personality traits, attitudes, past experiences, values, etc. affect how individuals respond to stressors[17,22,39]. Stress does not always adversely affect individuals, it means that in certain situations or conditions stress experienced by an individual will have a positive effect that requires that the individual performs better. However, at a higher level of stress or prolonged mild stress will cause a decrease in a person's performance[40]. Big Five Personality types are used to examine personality types for perceptions of work, work climate, stress, fatigue, and also satisfaction[17]. Neuroticism has the highest average score in work stress symptoms. Neuroticism is the type of personality that is most prone to experiencing symptoms of stress. These results are in line with several studies which stated that a person with a Neuroticism personality type is more prone to stress because of Neuroticism with negative emotions such as being prone to nervousness, sensitivity, tension, and anxiety. Easy to get angry in dealing with problems or situations that according to most people are just small problems. Generally, Neuroticism is a personality type that lacks tolerance for disappointment and conflict so it is less persistent in facing difficulties[32,41].

Someone who lacks self-confidence, low independence, easily offended and irritable, do not want to budge, lack tolerance, lack of empathy, and low work orientation are some of the symptoms that are closely related to stress. As a result of stress, a person can become nervous, feel chronic anxiety, and increase tension in emotions, thought processes, and physical conditions. Besides that, as a result of stressors that can threaten and interfere with work performance such as irritability and aggression, being unable to relax, unstable emotions, uncooperative attitudes, feelings of being unable to get involved, and difficulty in sleeping problems[42]. The type of personality that has the lowest average stress symptom score is Conscientiousness. Conscientiousness is an identic personality by seriously completing the task, responsible, reliable, also like regularity and discipline. Conscientiousness is closely related to regularity, compliance, and sincerity in carrying out tasks. Every day, someone with a dominant personality type Conscientiousness appears as an individual who is present on time, obedient to the rules, achievers, conscientious, and likes to do work to the end[17,32,41]. These results are consistent with studies that have stated that Conscientiousness is a type of personality that is the best predictor of academic success in medical students and also a negative predictor of stress compared to other personality types[26,30,32,43].

A study conducted by Doherty and Nugent argued that Conscientiousness is the best predictor of medical students because Conscientiousness is identic with an organized, reliable, hard-working, self-disciplined, self-disciplined, timely, conscientious, diligent, and ambitious predictor and this is appropriate with what is needed in the field of medical science[44]. In contrast to the results of a study conducted by Dimitri related to the correlation of big five on work, stating that the type of personality that has the best performance is agreeable then followed by conscientiousness. Agreeableness is described as a personality that has the characteristics of sincerity in sharing, the subtlety of feelings, and focus on the positive things that exist in others. A daily agreeableness personality appears as a kind-hearted, cooperative, and trustworthy individual. Personality is an important factor in determining stress responses to be able to explain how someone can deal with stressors when others have failed to overcome them.

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However, several studies stated that the occurrence of stress can be influenced by many factors other than personality type, several factors including the relationship between parents and children, socioeconomic conditions, life planning, the tendency to behave towards situations / coping with individual stress, life management, and also medical symptoms[17,26].

Relationship between Work Environment and Symptoms of Work Stress

The results are obtained that the work environment has a significant relationship between the symptoms of work stress and a significance of $p < 0.05$ thus the condition of the work environment can cause symptoms of work stress. Stress is a condition of tension that affects one's emotions, thought processes, and conditions in which the person is forced to respond beyond his ability to adapt to an external (environmental) demand. Working conditions, interactions at work, work facilities, workload, responsibility are stresses that can cause stress when individuals are not biased to adjust themselves[15,38,45,46].

A study conducted by Mirsaifi on stress levels in dentistry students at Yazd University stated that five stressors that play an important role include living conditions, educational environmental conditions, academic conditions, and clinical factors[47]. Pressure caused by stressors in various occupations affects unpleasant to individuals and organizations alike. Low motivation and job satisfaction and easy. Tired is a natural consequence of the stress response in the workplace[48,49].

Stress on dental students has a dangerous impact on relationships between themselves, especially with patients. Several studies have been conducted to reduce the occurrence of stress. One implementation that can minimize stress in dentistry education in Saudi Arabia is the Dental Education Stress Management Program (DESMP). DESMP is a program with a psychoeducation approach consisting of 3 sessions in 90 minutes. The first session is an exercise to be more sensitive to the signs and symptoms of stress and deep breathing exercises to reduce stress. The second session has explained the steps of the cognitive-behavioral approach to overcome negative thoughts. The third session is for participants to apply these steps thus the instructor knows how they can manage their time and practice with new techniques and skills while learning, and how they can also have time for relaxation activities[50].

V. CONCLUSION

The results of this study indicate that the level of work stress is influenced by the personality types of students, it is shown from the relationship between personality types and the stress levels of dental profession students. Neuroticism personality type is the most dominant personality type experiencing work stress. Besides personality types, the work environment also influences the level of student work stress, due to there is a relationship between the work environment and work stress. The worse the working environment, the higher the level of work stress experienced by dental profession students. It is expected that the organizers of dental education to make preventive efforts in minimizing the occurrence of work stress in dental profession students by creating a good work environment. Providers of the dental profession education are also expected to provide counseling services to manage student work stress, especially students with Neuroticism personality types.

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