RELATIONSHIP BETWEEN STUDENT'S PERCEPTIONS TOWARDS THE USE OF FIXED ORTHODONTIC APPLIANCE AND INTEREST IN MALOCCLUSION TREATMENT

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ABSTRACT

Background: The main physical appearance that can be seen from the face is inseparable from the appearance of the teeth and mouth. The teenagers realize that the first impression is greatly influenced by appearance. **Purpose:** Determine the relationship between the perception of young adults using fixed orthodontic appliance and interest towards of malocclusion treatment inclass of 2019 undergraduate students of Faculty of Dental Medicine Universitas Airlangga Surabaya. **Methods**: This research was an analytic cross-sectional study design and the sampling technique used purposive sampling. The amount of sample which met the inclusion and exclusion criteria was 87 students. Data collected by giving questionnaires to 87 students. Cross-tabulation between perception and interests showed that the most interests of the respondent were seen in the moderate category in the perception of both functional and aesthetic aspects. The data were analyzed using the chi-square test with α = 0,05. **Results:** The relationship between the perception of late adolescence using fixed orthodontic appliance and interest towards of malocclusion treatment did not show a significant result with p = 0,351. **Conclusions:** There is no relationship between the perception of young adults using fixed orthodontic appliance and interest towards of

malocclusion treatment in class of 2019 undergraduate students of Faculty of Dental Medicine Universitas Airlangga Surabaya.

Keywords: perception, interest, adolescent, fixed orthodontic appliance, malocclusion

INTRODUCTION

The main physical appearance that can be seen from the face is inseparable from the appearance of the teeth and mouth(Bishara, 2001). The teenagers realize that the first impression is greatly influenced by appearance(Hurlock, 1980). At puberty, adolescents become very concerned about body appearance(King, 2010; Santrok, 2003). Adolescents aged 17 to 20 years who is a graduate student of class 2019 Faculty of Dental Medicine, Universitas Airlangga, Surabaya, for example, has a very high interest in exploring his own potential

Adolescent's appreciation of facial appearance influences psychological development from childhood to adulthood(Ukra, Bennani, & Farella, 2012).Appearance of the face is used as a guide to infer various characteristics about a person, including personality, integrity, social competence, intellectual competence, and mental health(Sobur, 2013). This is demonstrated by the existence of better interpersonal relationships and higher self-confidence in people who love their appearance(Jeremiah, Bister, & Newton, 2011; Khan & Fida, 2008). One of the most important components of facial appearance is teeth and mouth(Jeremiah et al., 2011). According to Shaw et al. it was concluded that individuals tend to insult poor appearance of teeth than other appearances, such as clothing, weight, ears, etc(Shaw, Meek, & Jones, 1980). Individuals with poor dental structures require the use of fixed orthodontic devices as a treatment for malocclusion(Proffit, Fields, & Sarver, 2007; Rukiah, Oeripto, & Harahap, 2018; Yoana, Chemiawan, & Setiawan, 2017).

Perception is the process of organizing and interpreting sensory information to give meaning to a condition(King, 2010; Setijanto, et al. 2019). Perception about the use of fixed orthodontic devices can be seen from aesthetic and functional aspects(ARIFFIN, DIN, JAAFAR, SENAFI, & Wahab, 2017; Yamamoto, Mohamad, Rohaya, & Zarina, 2015). Perceptions about the use of fixed orthodontic devices from aesthetic aspects are usually the main motivation of individuals, especially adolescents in receiving malocclusion care(Adam & Achmad, 2018; Jeremiah et al., 2011). Most of the interest in malocclusion care among adolescents are driven by personal care about the appearance of aesthetic aspects(Hisham et al., 2011; Moura et al., 2013). Interest is a condition when someone has attention towards

something and accompanied by a desire to know and learn as well as prove further(Mappangara, Tetelepta, Adam, Oktawati, & Sulastrianah, 2018; Wicaksono, 2009).

Patients' perceptions and interests in fixed appliances need to be known by orthodontists to determine the overall treatment plan and know the patient's motivation. Dentistry students are a group of teenagers who have a better knowledge of teeth and mouth than other groups. The perception of dental students will be supported by the knowledge they have. Researchers were also interested in investigating whether or not there was a relationship between perceptions about the use of fixed orthodontic devices and interest in the treatment of malocclusion for undergraduate students of the 2019 Faculty of Dental Medicine, Universitas Airlangga, Surabaya.

METHODS

This type of research is analytic research. The study was conducted in March 2020 at the Faculty of Dental Medicine, Universitas Airlangga, Surabaya with a sample of undergraduate students in the second year totaling 87 people. This study was approved by the Ethics Commission of the Faculty of Dental Medicine, Universitas Airlangga, Surabaya, with ethics number 191 / HRECC.FODM / IV / 2020. The sampling method uses a purposive sampling technique. The inclusion criteria for this study were the age of students (17-20 years), with the diagnosis of class I, II and III malocclusions, male or female, and willing to be the subject of research (the respondent signed written informed consent). Whereas the exclusion criteria are students who are not cooperative.

The questionnaire as a research instrument was used to measure the perception variables of twenty statements. The questions in the questionnaire were divided into two aspects, namely the aesthetic and functional aspects with each aspect consisting of ten statements compiled by the researcher based on the Proffit et al., (2007) theory (Table 1). The questions on the questionnaire to measure interest consisted of ten statements compiled by researchers based on Walgito's theory(Wicaksono, 2009) (Table 2). The questions in the questionnaire are arranged based on a Likert scale with a choice of four answers, which are very appropriate, appropriate, not appropriate, and very inappropriate.

The statements consist of positive (favorable) and negative (unfavorable) items. The lowest score obtained for the perception variable is 10 and the highest score is 40 for each aspect. The variables of interest are divided into three categories, namely low, medium, and

high. The score intervals for the low category are 10-20, the medium category 21-30, and the high category 31-40.

Table 1. Perception Measuring Instrument(Proffit et al., 2007)

Aspect	Indicator	Item	*Favorable / Unfavorable*
Aesthetic	Improvement of dentofacial deviation	The use of fixed orthodontic devices for me can improve the appearance that is less attractive on the teeth, mouth, and face.	*Favorable*
		The use of fixed orthodontic devices earned me a nickname that insulted my teeth and mouth.	*Unfavorable*
	Social interest	The meaning of using fixed orthodontic devices for me can reduce the quality of social life.	*Unfavorable*
		I appreciate the use of fixed orthodontic devices that can improve my interpersonal relationships.	*Favorable*
		The use of fixed orthodontic devices for me can improve social class in the environment.	*Favorable*
		I appreciate the use of fixed orthodontic devices that can change people's negative views of me.	*Favorable*
	Self Confidence	The use of fixed orthodontic devices increased my confidence in my teeth and mouth	*Favorable*
		The use of fixed orthodontic devices for me can reduce my confidence	*Unfavorable*
		I appreciate the use of fixed orthodontic devices that can increase my popularity in the environment	*Favorable*
		The meaning of using fixed orthodontic devices for me can increase satisfaction with the condition of my teeth and mouth	*Favorable*
Functional Normal Jaw Movement	a. Good muscle coordination	The use of fixed orthodontic devices for me can increase the problem of muscle movement when moving the jaw due to the irregular arrangement of teeth.	*Unfavorable*

	b. Pain is absent	I appreciate the use of fixed orthodontic appliances that can reduce pain when moving the jaw due to the irregular arrangement of teeth.	*Favorable*
	Normal Temporo Mandibular Joint(TMJ)	The meaning of the use of fixed orthodontic devices for me can correct abnormalities in the jaw joints that interfere with the activity due to the irregular arrangement of the teeth	*Favorable*
	Good mastication	The use of fixed orthodontic devices for me can worsen the problem of mastication due to the irregular arrangement of teeth	*Unfavorable*
	Good ingestion	The meaning of using fixed orthodontic devices for me can correct the problem of ingestion due to the irregular arrangement of teeth	*Favorable*
	Good speech function	I appreciate the use of fixed orthodontic devices that can improve speech function problems due to the irregular arrangement of teeth	*Favorable*
	Trauma Prevention	The meaning of using fixed orthodontic devices for me can reduce the possibility of collisions on the teeth that can cause more damage	*Favorable*
	Dental caries prevention	The use of fixed orthodontic devices for me can reduce the possibility of cavities due to the irregular arrangement of teeth.	*Favorable*
	Gingivitis prevention	The meaning of using fixed orthodontic devices for me can increase the chance of bleeding gums due to the irregular arrangement of teeth.	*Unfavorable*
	Periodontal disease prevention	I appreciate the use of fixed orthodontic devices which can reduce the likelihood of tooth swaying due to irregular arrangement of teeth.	*Favorable*

Table 2. Interest Measurement Tools(Wicaksono, 2009)

Indicator	Item	*Favorable / Unfavorable*
Attention	I often pay attention to my friends who use fixed orthodontic appliance	*Favorable*
	I am indifferent to fixed orthodontic devices used by my friends.	*Unfavorable*

Desire to know	I want to know more about fixed orthodontic appliance	Favorable
	I'm looking for information on the fixed orthodontic appliance	Favorable
	I rarely ask about fixed orthodontic devices with friends who use them	Unfavorable
Desire to learn	I try to understand the benefits of fixed orthodontic devices	Favorable
	I am not interested in understanding things related to the fixed orthodontic appliance	Unfavorable
The desire to prove further	I am not interested in treating with the fixed orthodontic appliance	Unfavorable
	I tried to seek treatment with the fixed orthodontic appliance	Favorable
	I want to use fixed orthodontic appliances	Favorable

The data collection procedure is done by making statements in the questionnaire and then testing the validity and reliability. The validity test uses the Product Moment correlation (Pearson) and Cronbach Alpha to calculate the reliability coefficient. The questionnaire that has been tested for validity and reliability is then used on several samples that have been determined.

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RESULTS

Table 3. Frequency Distribution of Perceptions toward the use of orthodontic appliance and Interest in malocclusion treatment.

Perception Category	Interest (%)			Total
	Low	Moderate	High	

Low (%)	3 (7,1)	39 (92,9)	0 (0)	42
High(%)	1 (2,2)	43 (95,6)	1 (2,2)	45
Total	4	81	1	87

Based on the results of the frequency distribution of perceptions about the use of fixed orthodontic devices and interest in malocclusion treatment, (Table 3) it is known as many as 7.1% of respondents with low interest and perception values, 92.9% of respondents with moderate interest and aesthetic perception, and 0% of respondents with high interest and aesthetic perception. As for the perception of high scores, as many as 2.2% of respondents had a low interest, 95.6% of respondents had a moderate interest, and 2.2% of respondents included high interest.

Data analysis used the chi-square test with a significance level of α = 0.05. Statistical analysis showed that the p-value of 0.351 then H1 was rejected, the conclusion of H1 was rejected, which means that there was no relationship between perceptions about the use of fixed orthodontic appliances and interest in malocclusion treatment (Table 4).

Table 4. Relationship between Perceptions about the Use of Fixed Orthodontic Appliances
and Interest in Malocclusion Treatment

Variables	P-Value
Relationship between perceptions about the use of fixed orthodontic devices and interest in the treatment of malocclusion	0,351

DISCUSSION

The results of research conducted on 87 undergraduate students of the 2019 Force Faculty of Dental Medicine, Universitas Airlangga, Surabaya showed that there was no significant relationship between perceptions about the use of fixed orthodontic appliances and interest in malocclusion treatment. Research subjects who have perceptions about the use of fixed orthodontic devices from aesthetic and functional aspects have the most moderate interest in malocclusion treatment, which means that respondents have an interest in using fixed orthodontic appliances and have enough desire to know and learn and further prove treatment for a malocclusion.

According to Sujanto, interest can be influenced by several factors, including knowledge, observations, responses, perceptions, and attitudes. Perceptions received through the senses will be processed, assessed, and then interpreted in the brain as information. If the assessment and interpretation process results in a positive assessment, then the assessment will continue to be interesting and enjoyable so that it becomes permanent information that increases one's interest. Conversely, if the assessment and interpretation process produces a negative assessment, then the assessment will continue to be unattractive so that information will be ignored(Ardi & Aryani, 2011). Knowledge, observations, responses, and attitudes are other factors that influence interest so that it can influence the results of the research conducted. Knowledge of the benefits of using fixed orthodontic devices can influence respondents' interest in malocclusion treatment. Lack of knowledge about the benefits of using fixed orthodontic devices causes low interest in the treatment of malocclusion. Observations, responses, and negative attitudes towards the use of fixed orthodontic devices can influence the interest of respondents to perform malocclusion treatments so that respondents have less attention to the use of fixed orthodontic devices and lack the desire to know and learn or further prove treatment for a malocclusion.

The severity of malocclusion as a confounding variable can also affect the results of the study because not all study subjects have the same severity. Different severity of malocclusion can cause different interests in the treatment of malocclusion, depending on the need for malocclusion treatment from the study subjects.

CONCLUSION

There is no significant relationship between perceptions about the use of fixed orthodontic appliances and interest in malocclusion treatment in undergraduate students of the Faculty of Dental Medicine, Universitas Airlangga, Surabaya class of 2019.

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