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**COMPARISON OF AESTHETIC SMILE PERCEPTIONS BETWEEN  
DENTISTRY AND ECONOMICS BUSINESS STUDENTS IN LAMBUNG  
MANGKURAT UNIVERSITY**

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**ABSTRACT**

**Background:** Smile is one of the aesthetic components that contribute to person's attractiveness. The aesthetic smile is obtained from orthodontic treatment. The standard of orthodontic aesthetic smile is from the evaluation between smile arch and lower lip border, number of gaps, and amount of gingival, when smiling. Aesthetic concepts can be different because of perception. The difference in perception may be generated by a variety of variables. One of which is educational background. **Purpose:** This study aims to analyze the difference in perception of the aesthetic smile between dentistry students and economic business students at Lambung Mangkurat University. **Method:** This study used an analytic observational method with a cross-sectional approach. The sample was calculated using the Slovin formula and obtained 88 respondents who were taken using a simple random sampling technique. The questionnaire was measured on an ordinal scale using a visual analogue scale from 0-100. Before being distributed to respondents, the questionnaire was first tested for validity and reliability. Then, the results were analyzed using the Mann-Whitney test. **Results:** The significance of the Mann-Whitney test obtained a consonant smile of 0.000; a narrow buccal corridor of 0,000; a gingival display of a non-gummy smile of 0.006, and a symmetrical smile of 0.000. The four variables had a significance value of less than 0.05. It means that there was a difference between the two groups. **Conclusion:** There is a difference in perception of an aesthetic smile between dentistry students and economic business students at Lambung Mangkurat University.

**Keywords:** Aesthetic Smile, College Student Perceptions, Smile Perceptions

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**INTRODUCTION**

Beauty is a human condition that includes all measurements obtained from body measurements (physical), mental, and personality, and one of the influential elements is a smile.<sup>1</sup> Smile is one of the facial expressions that shows joy and as a way to communicate.<sup>2</sup> Smile as one an aesthetic component of the face that plays an important role in assessing a person's attractiveness and can increase self-confidence.<sup>3</sup> Attractive smile is obtained from orthodontic treatment. Then, an aesthetic smile is formed.<sup>4</sup> An aesthetic smile is a smile defined by the alignment of teeth, gums, number of gaps, and spaces.<sup>5</sup> The standard of an orthodontic aesthetic smile is seen from the

evaluation between the smile arch and the lower lip border, the number of gaps, and the number of gingiva visible when smiling.<sup>6</sup>

Orthodontic treatment which includes evaluation of the teeth, lips and soft tissue or gingiva that can create an aesthetic smile.<sup>2</sup> One aspect of orthodontic treatment is to restore an aesthetic smile that is in harmony with facial beauty and self-image.<sup>7</sup> The aesthetic function of orthodontic treatment aims to make a person's appearance look more attractive.<sup>8</sup> Aesthetics is something about the nature of beauty, art and taste, and the assessment of beauty.<sup>9</sup> The aesthetic concept is tied to the very subjective concept of beauty because it is influenced by perception.<sup>10</sup>

Perception is a picture or a person's perspective on something through the five senses.<sup>11</sup> This can be different for each individual because it is influenced by factors, such as age, gender, education, occupation, the influence of family, peers, coworkers, socio-cultural aspects, and mass media.<sup>10</sup> Perceptions of an aesthetic smile are still different, Al Shahrani's research in 2017 found that dental students were better able to recognize standardized smile arches than medical students and informatics engineering students.<sup>12</sup> Research by Khosarani 2017 that research conducted on dental students, art students, and lay people, the results of the research showed that dental students and art students had the same perception, but in lay people the results were much different perceptions.<sup>13</sup>

Dentistry students and economic business students have different scientific branches and differences in education and knowledge affect one's satisfaction with aesthetic appearance.<sup>14</sup> Educational background, can affect the assessment of the aesthetic smile. Perceptions of dentistry students can be different from others because they have received education about facial aesthetics, including smiles. Perceptions of an aesthetic smile can change over time in line with the social environment. Social influence provides a stimulus to individuals in displaying aesthetics.<sup>15</sup> The social environment influences the individual in responding to an object or stimulus. The environment is dynamic, which means it can change at any time according to the times and information received. Someone who learns or knows something can provide information to other people in their environment.<sup>16</sup> Everyone has a tendency to see the same thing in different ways because of knowledge. Knowledge results from knowledge which can later be in the form of information. The process of knowledge through seeing, hearing and thinking is the basis for humans to react to something.<sup>11</sup>

Based on the description above, the writers are interested in comparing the perception of the aesthetic smile between the students at the Faculty of Dentistry and the students at the Faculty of Economics and Business, University of Lambung Mangkurat. Moreover, this kind of research has never been conducted before. Therefore, it is important to do a comparison of the two groups with educational backgrounds and different knowledge.

## MATERIAL AND METHODS

This research was conducted after obtaining ethical approval from the Ethical Committee of the Dentistry Faculty, Lambung Mangkurat University with No. 011/KEPKG-FKGULM/EC/III/2022. This research was quantitative research using cross-sectional and analytical observational methods. This is done by collecting data simultaneously at

one time by comparing the same variable for different samples. The aims to compare the perception of the aesthetic smile of students from the Faculty of Dentistry and students from the Faculty of Economics and Business. The sampling technique used was simple random sampling, with simple and random sampling, each population has the same opportunity to be sampled according to the research criteria. The research criteria were all students from the Faculty of Dentistry and the Faculty of Economics and Business, Lambung Mangkurat University batch 2018, bachelor 1, aged 20-24 years, and had never been on leave from college. The Slovin formula was used to determine the sample size of 88 respondents. Aesthetic smile consisting of smile arch, buccal corridor, gingival appearance, and smile symmetry were independent variables of this study. The dependent variable is the perception of the aesthetic smile of the students at the Faculty of Dentistry and the students at the Faculty of Economics and Business. The questionnaire and the informed consent sheets were distributed via a google form. Before being given to the respondents, the questionnaire was tested for validity and reliability. The first part of the questionnaire included socio-demographic questions, such as name, age, gender, faculty, and telephone number. The second part was 11 questions containing 11 photos from the four components of the aesthetic smile according to the classification of indicators, which were 3 types of smile curves (consonant, flat and inverted), 3 types of buccal corridor (narrow, medium, and width), 2 types of gingival display (non-gummy smile and gummy smile), and 3 types of smile symmetry (symmetric smile, asymmetric smile because transverse cant of the maxillary occlusal plane, and asymmetric smile curtain). The research was conducted from January to April 2022. Collecting data in this study using primary data obtained directly from the research sample through a questionnaire. The data obtained will be processed through the process of editing, coding, entry, cleaning and tabulated data. The questionnaire was tested for validity and reliability with the Pearson correlation coefficient and Cronbach's alpha which obtained a value of 0.963. Then, it was analyzed using the Mann-Whitney test.

## RESULT

**Table 1.** Characteristics of Respondents by Gender

Gender	Dentistry	Percentage	Economic Business	Percentage
Male	7	15.91%	16	36.36%
Female	37	84.09%	24	63.64%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>44</b>	<b>100%</b>

Table 1 shows that the most male respondents in economic business students were 16 people (36.36%). Meanwhile, the most female respondents in dentistry students were 37 people (84.09%). The research sample was 88 people taken from 44 dentistry students and 44 economic business students.

**Table 2.** Characteristics of Respondents by Age

Age	Dentistry	Percentage	Economic Business	Percentage
20	1	2.27%	3	6.82%
21	10	22.73%	23	52.27%
22	27	61.36%	18	40.91%
23	6	13.64%	0	0%
24	0	0%	0	0%
<b>Total</b>	<b>44</b>	<b>100%</b>	<b>44</b>	<b>100%</b>

Table 2 shows that the most dentistry students were 22 years old of 27 people (61.36%) and the most economic business students were 21 years old of 23 people (52.27%)

**Table 3.** Distribution of Mean Results of Aesthetic Smile Perception

No	Aesthetic Smile	Dentistry	Category	Economic Business	Category
1	1a. Consonant Smile Curve	80	Very Aesthetic	56.82	Fairly Aesthetic
	1b. Straight Smile Curve	67.95	Aesthetic	50.58	Fairly Aesthetic
	1c. Reverse Smile Curve	55	Fairly Aesthetic	48.41	Fairly Aesthetic
2	2a. Narrow Buccal Corridor	80.45	Very Aesthetic	60.45	Aesthetic
	2b. Medium Buccal Corridor	75	Aesthetic	56.59	Fairly Aesthetic
	2c. Wide Buccal Corridor	68.41	Aesthetic	53.64	Fairly Aesthetic
3	3a. Non-Gummy Smile Gingival Display	62.05	Aesthetic	45.23	Fairly Aesthetic
	3b. Gummy Smile Gingival Display	46.59	Fairly Aesthetic	37.95	Non-Aesthetic
4	4a. Symmetrical Smile	71.14	Aesthetic	46.82	Fairly Aesthetic
	4b. Smile Symmetry, Asymmetric Smile Transverse Cant of the Maxillary	41.36	Fairly Aesthetic	38.86	Non-Aesthetic
	4c. Smile Symmetry, Asymmetric Smile Curtain	47.73	Fairly Aesthetic	48.86	Fairly Aesthetic

Table 3 shows that the perception of dentistry students was better than the perception of economic students. This can be seen from the assessment

category. The overall rating of business economics students is lower than that of dentistry students for an aesthetically appropriate smile.

**Table 4.** Data analysis using Mann-Whitney Test of Comparative Results of Aesthetic Smile Perception.

No	Aesthetic Smile	Significance
1	1a. Consonant Smile Curve	0.000
	1b. Flat Smile Curve	0.001
	1c. Inverted Smile Curve	0.198
2	2a. Narrow Buccal Corridor	0.000
	2b. Medium Buccal Corridor	0.000
	2c. Width Buccal Corridor	0.004
3	3a. Non-Gummy Smile Gingival Display	0.006
	3b. Gingival Display Gummy Smile	0.097
4	4a. Symmetrical Smile	0.000
	4b. Smile Symmetry, Asymmetric Smile Transverse Cant of the Maxillary	0.545
	4c. Smile Symmetry, Asymmetric Smile Curtain	0.814

Table 4 shows the results of statistical analysis using the SPSS application with the Mann-Whitney test. It obtained a consonant smile arch significance of 0.000, a narrow buccal corridor of 0.000, a non-gummy smile gingival display of 0.006, and a symmetric smile of 0.000. It means that there is a difference in the average perception of the aesthetic smile between the two groups. The results of the four components of the aesthetic smile obtained a significance of less than 0.05. It means that there are differences in the perception of the aesthetic smile between dentistry students and economic business students at Lambung Mangkurat University.

## DISCUSSION

Smile is one of the facial expressions that supports beauty so that it looks more attractive, and can create better interpersonal relationships.<sup>17</sup> Aesthetic smile is a smile that is formed by the symmetry and harmony of several components such as the smile arch, buccal corridor, gingival appearance and the position and proportion of teeth.<sup>18</sup> A person's face can look more attractive when they have an aesthetic smile. Orthodontic treatment can create an aesthetic smile because it affects the aesthetics of speaking and smiling.<sup>2</sup>

Aesthetic smile perception was assessed with a visual analogue scale with a score of 0-100. The visual analogue scale is on a straight line from 0-100, with a value of 0 being very unaesthetic to 100 being very aesthetic.<sup>19</sup> It was based on 11 photos assessed from four components of an aesthetic smile including smile arch, buccal corridor, gingival display, and smile symmetry. Dentistry students assessed that the aesthetic smile curve was the consonant smile curve. These results are in accordance with the ideal smile curvature theory which has a parallel curvature between the edges of incisal upper jaws with the upper edge of the lower lip.<sup>20</sup> Narrow buccal corridor, non-gummy smile gingival display, and symmetrical smile chose by dentistry students were in accordance with the theory because they have studied the science of growth and the development of dentocraniofacial including deviations. One of which can be seen from the smile.<sup>21</sup>

The perception of economic business students in choosing an aesthetic smile was different from the perception of dentistry students, due to the differences in educational background. This difference is because economic business students or ordinary people are less aware of errors or irregularities in smiles and are more accepting of these deviations.<sup>22</sup>

The analysis results that have been conducted using the SPSS test showed that there were differences in the perception of an aesthetic smile between students of the Faculty of Dentistry and

students of the Faculty of Economics and Business. Similar to research by Al Shahrani in 2017, dentistry students were better able to recognize smiles that conformed to orthodontic standards than students from other faculties.<sup>12</sup> The factors that can cause perceptions to differ include age, gender, education, and social conditions.<sup>23</sup>

A process by which a person selects, organizes, and interprets received stimuli is called perception. This process involves a person interpreting a particular object, influenced by consciousness, memory, thought, and language. Therefore, even though they are from the same object, individuals can perceive differently.<sup>23</sup> Education with knowledge can change perception. dentistry students who have studied the material about the oral cavity and its aesthetics, in which a smile is included, can have different perceptions from economic business students.<sup>15</sup>

Economic business students or people with non-dentistry backgrounds often pay attention to the overall smile and focus more on the surrounding soft tissues that make up the smile. This is shown in table 3 of the distribution of the mean perception results which shows that economic business students tend to be similar in assessing the aesthetic smile for each indicator. In contrast to dentistry students, they pay attention to both soft tissue and teeth because of their educational background. Based on table 3, the distribution of the mean perception results shows that dentistry students on each indicator gave the correct assessment for an aesthetic smile. Meanwhile, according to theory and deviations, it gave a lower assessment. It was influenced by knowledge and understanding of the aesthetic smile.<sup>20</sup>

Perception is a person's opinion or response to an object that is strongly influenced by the character and behavior in relation to the object, which is subjective, so that it can cause differences between individuals.<sup>23</sup> Perception is influenced by many factors. In this study, there are factors that are not determined, customs or culture related to one's habits. Culture in society can build understanding and influence individual perceptions that have an impact on the assessment of an object, such as an aesthetic smile. The research subjects have studied from the previous semester about growth and development, facial profile, tooth shape, and its relation to smiling. This knowledge affects the subject's perception and assessment of the aesthetic smile.<sup>21</sup>

The limitations of this study are that conducted online. There are perceptual factors that cannot be controlled, which are gender and social, such as local customs or culture, which can affect a person's aesthetic perception. In addition, the presentation of images that only smile of women, it is hoped that

similar research can be conducted again by future researchers in better circumstances that allow for offline and the presentation of images that are more varied.

The aesthetic smile perception of the students at the Faculty of Dentistry is in accordance with the aesthetic smile theory and is included in the very aesthetic category (60-100). The perception of the aesthetic smile of the students at the Faculty of Economics and Business is in the fairly aesthetic category (40-<60). There are differences in the perception of an aesthetic smile between students at the Faculty of Dentistry and students at the Faculty of Economics and Business.

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