

# ASSESSMENT OF SMILE INDEX VARIATION ACROSS DIFFERENT MALOCCLUSIONS



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*The smile index is a valuable characteristic for comparing smiles between individuals or tracking changes over time in the same person.*

**The aim of this study was to assess the smile index in untreated patients with different types of malocclusions**

## Materials and Methods

60 participants  
(25 male, 35 female)



Standardized extraoral photographs with a posed smile

16 to 35 years

A photogrammetric analysis was performed using Olympus cellSens Standard software



Type of malocclusion - three groups - 20 participants



The smile index was determined for all participants

## Results

Groups	Smile index (%)			
	N	Mean	SD	p
Class I	20	7,44	3,27	F=0,441; df=2; p=0,646
Class II	20	6,89	1,64	
Class III	20	6,83	1,51	

Mean; SD - Standard deviation; Std. Error – Standard error; CI – Confidence interval;  
 \*t = Independent t-test F=One way ANOVA  
 \*Significant at p<0,05

The overall mean value for smile index was  $7.05 \pm 2.26$ mm. For  $p > 0.05$ , no significant differences were observed between the three classes of malocclusion. The highest average smile index value was observed in Class I ( $7.44 \pm 3.27$ mm), while the lowest was found in Class III ( $6.83 \pm 1.51$ mm), with  $F=0.441$ ;  $df = 2$ ;  $p=0.646$ . The smile index for Class II was  $6.89 \pm 1.64$ mm. The smile index was significantly higher in males compared to females in Class I ( $t(18) = 3.275$ ;  $p = 0.004$ ). In Class II, the difference was not statistically significant, with females showing a slightly higher value than males ( $t(18) = 0.710$ ;  $p = 0.487$ ), and in Class III, no significant difference was observed ( $t(18) = 0.041$ ;  $p = 0.968$ ).

Groups	Smile index (%)				p
	Male		Female		
	N	Mean±SD	N	Mean±SD	
Class I	5	10,82±5,30	15	6,32±1,04	p=0,004*
Class II	9	6,60±1,23	11	7,13±1,94	p=0,487
Class III	11	6,81±1,26	9	6,84±1,86	p=0,968

Mean; SD - Standard deviation; CI – Confidence interval;  
 \*t = Independent t-test \*Significant at p<0,05

## Conclusion

Statistical analysis - SPSS version 26.0 - One-Way ANOVA - Independent t-test.

**ORTHODONTISTS SHOULD CONSIDER SMILE AESTHETICS DURING DIAGNOSIS, TREATMENT PLANNING, AND THE SELECTION OF TREATMENT METHODS BEFORE INITIATING ORTHODONTIC THERAPY.**