

ORAL PARAFUNCTIONAL HABITS IN INDIVIDUALS WITH THE EXTRAVERT PERSONALITY TYPE

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ABSTRACT

OBJECTIVES

To find the association of extraversion personality traits with oral parafunctional habits.

METHODOLOGY

A Cross-sectional descriptive study was conducted on 200 individuals in the College of Dentistry, Sharif Medical and Dental College, Lahore, over 5 months from July to November 2021. Data was collected using a pre-validated medical questionnaire and a ten-item personality inventory scale (TIPI). The sampling technique used was Convenience sampling. A sample size of 200 was calculated with the help of WHO sample size determination software.

RESULTS

There was a statistically significant difference in the scores of extraversion personality traits across the oral parafunctional habit group of nail-biting ($p= 0.007$). In contrast, that for tooth grinding (0.114), tooth clenching (0.076), biting hard objects (0.74) and chewing gum ($p= 0.659$) was non-significant. The highest mean rank score for the personality trait of extraversion was found in individuals who strongly agreed to have a habit of nail-biting (129.23), tooth grinding (153.63), and tooth clenching (142.61) and biting hard objects (12.07). The highest mean rank score for the parafunctional habit of chewing gum (107.28) was found in individuals who strongly disagreed with having the habit.

CONCLUSION

The highest mean rank score for the personality trait of extraversion was found in individuals who strongly agreed to have a habit of nail-biting, tooth grinding, tooth clenching and biting hard objects. The highest mean rank score for the parafunctional habit of chewing gum was found in individuals who strongly disagreed with having the habit.

KEYWORDS: *Extraversion Personality Type, Nail biting, Tooth Clenching, Tooth Grinding, Chewing Gum, Parafunctional Habits*

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INTRODUCTION

A habit refers to an action repeatedly practiced deliberately or unintentionally by individuals during their daily activities.^{1,2} Oral habits are recurrent functions that comprise a masticatory system and are not physiologically explained.^{3,4} They consist of biting activities (e.g., nail-biting), a bruxism (teeth clenching) activities, and soft tissue activities (e.g. thumb sucking or finger sucking, pacifier sucking, tongue thrusting and lip biting). They may be also classified into occlusal (including contacts of opposing teeth) and non-occlusal (biting of labial and buccal mucosa).⁵ Multiple factors including parasomnia, traumatic brain injury and neurological disabilities can cause oral parafunction. Additionally, emotional stress and anxiety are also linked.⁶ These harmful habits are assessed clinically by parafunction signs in the oral cavity, such as gingival recession, tooth wear, linea Alba & crenated tongue. Bruxism is a greatly pervasive and complicated parafunctional habit. Linea Alba and tongue indentations in association with maxillo-mandibular clenching characterize centric bruxism. Teeth grinding & wear facets, specifically on incisal edges of anterior teeth, indicate eccentric bruxism.⁷ Previous research has illustrated that the development of temporomandibular disorders (TMD) signs and symptoms is highly dependent on parafunctional activities.⁸ Personality can be described as the progressive grouping of the psychobiological systems that regulate adjustment to altering environments through various personality attributes, which are lifelong patterns of recognizing, connecting, and assuming about oneself, other persons, and the world altogether.⁹ Personality factors affect the psychological condition of an individual and how that person counters to and recoups from a stressor. Psychological problems could cause oral parafunction and temporomandibular disorders.¹⁰

The Ten-Item Personality Inventory-(TIPI) is a reputable and authentic tool for measuring the Big Five Personality traits, which consists of five core personality traits (extraversion, agreeableness, conscientiousness, neuroticism & openness).¹¹ It has turned into one of the most broadly used measures of Big Five Personality in the public realm.¹² Studies on oral parafunctional habits and temporomandibular disorders show that neuroticism and conscientiousness strongly correlate with most oral habits. In contrast, the openness trait is not significantly associated with any oral parafunction.¹³ Bruxism is mainly prevalent in individuals with openness, extraversion & neuroticism and lowers conscientiousness as a personality factors. Temporomandibular disorders are common in individuals with neuroticism and reduce extraversion, and are open to experience groups.¹³ But the results are few and contradictory. Much research is still required to evaluate significant personality traits about oral parafunctional habits to alleviate the ailment and prevent this complex disorder. Literature supports that the personality type of individuals is a determinant of the presence or absence of the oral parafunctional habits in them. While many other personality types and their association with parafunctional patterns have been studied, there is not enough information about the extrovert personality type regarding this matter. Therefore, our study specifically evaluated the extraversion personality type. This study aims to find the association of extraversion personality traits with oral parafunctional habits.

METHODOLOGY

A Cross-sectional descriptive study was conducted at the College of Dentistry, Sharif Medical and Dental College, Lahore, over 5 months, from July to November 2021. Ethical approval was obtained from Sharif Medical Research Center (SMRC) (No. SMDC/SMRC/205-21). The sampling technique used was Convenience sampling. A sample size of 200 was calculated with the help of WHO sample size determination software, keeping the confidence level of 95% with an anticipated population proportion of 52.86% with teeth clenching and absolute precision of 0.07 %.⁷ All individuals, irrespective of their age and gender and those who reported having oral parafunctional habits, were included. Individuals with a history of smoking and those with any systemic illness were excluded. Data was collected using a medical questionnaire and a ten-item personality inventory scale (TIPI). The medical questionnaire comprised

of 2 sections with 11 items. The first section had six demographic statements, including age, gender, marital status, occupation, educational level and medical condition. The second section consisted of a pre-validated parafunctional habits questionnaire with a Cronbach alpha value of 0.7. The Ten Item Personality Inventory scale consisted of a pre-validated self-reported questionnaire.¹³ SPSS 23 was used for statistical analysis. P values less than equal to 0.05 were considered significant. Kruskal Wallis test was used to find the statistical difference in the score of extraversion personality traits among the groups of oral parafunctional habits.

RESULTS

A cross-sectional descriptive study was conducted on 200 participants with a mean age of

24.93±6.759; 29% were males while 71% were females. It was seen that there was a statistically significant difference in the scores of extraversion for the oral parafunctional habit of nail-biting ($p=0.007$). In contrast, the parafunctional practices of tooth grinding, tooth clenching, biting on complex objects, and chewing gum were non-significant. The highest mean rank score for the personality trait of extraversion was found in individuals who strongly agreed to have a habit of nail-biting, tooth grinding, tooth clenching and biting hard objects. The highest mean rank score for the parafunctional habit of chewing gum was found in individuals who strongly disagreed with having the habit. The lowest mean rank scores for extraversion were seen in individuals who neither agreed nor disagreed with having the habit of tooth clenching, biting hard objects and chewing gum, as shown in table 1.

Table 2: Kruskal Wallis Test Demonstrating the Difference in the Score of Extraversion Personality Trait among Categories of Oral Parafunctional Habits

Personality Trait	Parafunctional Habit	N	Mean Rank	Chi-Square	Df	P-Value	
Extraversion	Nail-biting	strongly disagree	113	97.37	14.24	4	0.007
		disagree	33	119.35			
		neither agree nor disagree	18	98.97			
		agree	21	68.50			
		strongly agree	15	129.23			
	Tooth grinding	strongly disagree	102	96.53	7.449	4	0.114
		disagree	50	98.62			
		neither agree nor disagree	12	102.88			
		agree	28	102.13			
		strongly agree	8	153.63			
	Tooth clenching	strongly disagree	83	102.80	8.449	4	0.076
		disagree	41	104.27			
		neither agree nor disagree	16	77.78			
		agree	51	93.42			
		strongly agree	9	142.61			
	Biting hard objects	strongly disagree	93	97.52	1.979	4	0.74
		disagree	41	99.99			
		neither agree nor disagree	24	96.25			
		agree	35	107.41			
		strongly agree	7	123.07			
Chewing gum	strongly disagree	81	107.28	2.422	4	0.659	
	disagree	56	99.44				
	neither agree nor disagree	38	91.07				
	agree	20	94.23				
	strongly agree	5	99.30				

DISCUSSION

The prevalence of parafunctional habits varies among different personality traits. Other parafunctional habits include biting habits (nail biting), clenching, and soft tissue activities (thumb sucking, tongue thrusting).¹⁴ Specific personality factors were significantly associated with parafunctional habits. The causes of parafunctional habits include emotional stress, anxiety, traumatic

brain injury and neurological disability. There is a strong association between personality type and oral parafunctional habits.^{15,16} The highest mean rank score for the personality trait of extraversion was found in individuals who strongly agreed to have a habit of nail-biting (129.23), tooth grinding (153.63), and tooth clenching (142.61) and biting hard objects (12.07). The highest mean rank score for the parafunctional habit of chewing gum (107.28) was found in individuals who strongly

disagreed with having the habit. A study conducted on Saudi population reported that the highest percentage of extraverts had a habit of chewing gum (81.4%), followed by lip biting (56.1%), clenching (46.4%), and nail-biting (34.7%) and then grinding (32.4%).¹⁷ Nail-biting is a prevalent medical condition among children. This problem is a reaction to psychological disorders, and some children will shift their habits from thumb sucking to nail-biting. Bruxism is one of the most common parafunctional habits. A study in Brazil conducted with high-school students reported the prevalence of oral parafunctional habits of adolescents as 75% and 79% in another study, with nail-biting the most prevalent practice (16.4%).¹⁸ The present study evaluated a significant association between extraversion personality type and oral parafunctional habits – tooth grinding, tooth clenching and biting hard objects. The masticatory system's actions have two types: chewing, speaking and swallowing, and parafunctional actions like teeth clenching and bruxism. Functional activities are controllable and occur daily. Parafunctional measures may be consciously or unconsciously and are generally without sound.¹⁹ Evidence shows that chewing gum improves mood and enhances cognitive function by reducing stress. In this study, the highest mean rank score for the parafunctional habit of chewing gum was found in individuals who strongly disagreed with having the habit. Extraversion personality types are more likely to take risks, including health risk behaviours. Extraversion personality types have been correlated with a number of different outcomes. Researchers have also suggested that extroverts are less prone to psychological disorders than other personality types. It is highly crucial to understand the association of oral parafunctional habits with the personality traits of individuals in the general population. This will help increase awareness among dentists regarding a consultation to facilitate the patients with specific personality types.

LIMITATION

A larger sample size could have unravelled more findings regarding the extraversion personality trait and parafunctional habits.

CONCLUSION

The highest mean rank score for the personality trait of extraversion was found in individuals who strongly agreed to have a habit of nail-biting, tooth grinding, tooth clenching and biting hard objects.

The highest mean rank score for the parafunctional habit of chewing gum was found in individuals who strongly disagreed with having the habit. The lowest mean rank scores for extraversion were seen in individuals who neither agreed nor disagreed with having the habit of tooth clenching, biting hard objects and chewing gum.

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