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ORIGINAL ARTICLE

Association between Oral Parafunctional Habits with Personality Type in Individuals

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ABSTRACT

Objective: To find the association between oral parafunctional habits and personality traits in individuals.

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. 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).

Results: The association between personality traits and oral parafunctional habits was not statistically significant. The association between extraversion personality trait and nail-biting (p=0.267), teeth grinding (p=00754), teeth clenching (p=0.450) and biting hard objects (p=0.582) was not significant. The association between agreeableness and nail-biting (p=0.112), teeth grinding (p=0.612), teeth clenching (p=0.430), biting hard objects (p=0.639) and chewing gum (p=1.000) was not significant. The association between conscientiousness and nail-biting (p=0.588), teeth grinding (p=0.588), teeth clenching (p=0.325), biting hard objects(p=1.000) and chewing gum (p=1.000) was non-significant. Similarly, the association between personality traits of emotional stability and openness to experience with nail-biting (p=0.138, p=0.594 respectively), Teeth grinding (p=0.586,0.594 respectively), teeth clenching (p=0.813, p=1.000 respectively), biting hard objects (p=0.075, p= 0.347 respectively) and chewing gum (p=0.585, p=0.556 respectively) was non-significant.

Conclusion: The majority of individuals from all personality types had a habit of teeth clenching followed by biting on hard objects. The least prevalent parafunctional habit reported by them was the parafunctional habit of chewing gum.

Keywords: Extraversion, Agreeableness, Conscientiousness, Openness to experience, Emotional stability, Oral parafunctional habits

INTRODUCTION

Oral parafunctional habits are correlated to any abnormal activity of the oral cavity structure, which is predominant in all societies in varying intensity and has possible physical and psychological consequences[1]. Parafunctional habits are often observed in the overall population and can damage dentition, masticatory system and/or joints when they surpass the individual's physiological tolerance and the structural tolerance of the masticatory system[2]. These habits are considered abnormal motor activities of the masticatory system that vary from its normal functions qualitatively and quantitatively[3].

The oral parafunctional habits include nail biting[4], tooth grinding and clenching[5], lip biting or biting hard objects and chewing gum[6]. The oral parafunctional habits have been caused by stress, anxiety, mental and emotional stress and personality type[7]. In a study based on the relationship between anxiety and depression with bruxism, it was reported that individuals with a high score of anxiety and depression had the habit of tooth grinding, while those who did not have the habit of bruxism had a lower score for the same[8]. Hermesh et al. reported that patients with higher social phobias were more likely to have oral parafunctional habits[9].

A study on the association of bruxism with personality traits in children reported the traits of masculinity/femininity, maturity, aggression, inhibition, and activity level with the development of bruxism. It was seen that the boys from the group of individuals with a habit of bruxism had a high score of aggression and somatization in comparison to the control group. In contrast, the boys who did not have a habit of bruxism had a high score of personality traits of masculinity, maturity, inhibition, activity level and sleep disturbance[10]. The same study also reported that the females in the groups with the habit of bruxism had a higher score for the personality trait of femininity, aggression, inhibition, activity level, sleep disturbance, and somatization than the group that did not have the habit[10]. Although many studies have been conducted in the past regarding the association of oral parafunctional habits with various personality traits, there are not many based on big five personality traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. Our study aimed to find out the association between oral parafunctional habits and personality type in individuals.

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. The sampling technique used was Convenience sampling. Ethical approval was obtained from Sharif Medical Research Center (SMRC) (No. SMDC/SMRC/205-21). 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 an absolute precision of 0.07 %[11]. Individuals with any systemic illness, history of alcohol consumption, or smoking will be excluded from the study, while individuals of all ages, genders and oral parafunctional habits were included. Data was collected using a parafunctional habits questionnaire and a ten-item personality inventory scale (TIPI). A pre-validated parafunctional habits questionnaire with a Cronbach alpha value of 0.7[12]. 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. All numerical data were presented as mean and its respective standard deviation, while all nominal data were presented as frequency and percentages. Chi-square test was used to find the association between personality traits of extraversion and emotional stability with parafunctional habits of nail-biting, teeth grinding, teeth clenching and biting on hard objects. Fisher's exact test was used to find the association between the personality traits of agreeableness, conscientiousness and openness to experience and the oral parafunctional habits of nail-biting, teeth grinding, teeth clenching, biting on hard objects and chewing gum. Fisher's exact test was also used to find the association between personality traits of extraversion and emotional stability with chewing gum. Phi-coefficient was used to

determine the strength of association between the personality traits and oral parafunctional habits.

RESULTS

A cross-sectional descriptive study was conducted on 200 individuals with a mean age of 24.93±6.759 years; 29% were males while 71% were females. It was seen that 18% reported having the habit of nail-biting, 18 % had the habit of tooth grinding, 30 % had the habit of tooth clenching, 21% reported biting on hard objects, and 12.5% reported a habit of chewing gum.

Table 1 shows that there was no significant association between personality types and oral parafunctional habits. The majority of individuals from all personality types had a habit of teeth clenching followed by biting on hard objects. The least prevalent parafunctional habit reported by them was the parafunctional habit of chewing gum.

Table 1: Association of Oral Parafunctional Habits with Personality Traits

Personality trait		Oral Parafunctional Habits				
		Nail-biting	Teeth grinding	Teeth clenching	Biting hard objects	Chewing gum
Extraversion	Yes n(%)	27(13.5%)	30 (15%)	47 (23.5%)	33 (16.5%)	20 (10%)
	No n(%)	9(4.5%)	6 (3%)	13(6.5%)	9 (4.5%)	5 (2.5%)
	P value	0.267	0.754	0.450	0.582	0.787
	Phi-coefficient	-0.078	0.022	-0.053	-0.039	-0.015
Agreeableness	Yes n(%)	33 (16.5%)	34(17%)	57 (28.5%)	40 (20%)	24(12%)
	No n(%)	3 (1.5%)	2(1%)	3(1.5%)	2(1%)	1(0.5%)
	P value	0.112	0.612	0.430	0.639	1.000
	Phi-coefficient	-0.123	-0.052	-0.053	-0.035	-0.010
Conscientiousness	Yes n(%)	36 (18%)	36 (18%)	60(30%)	41 (20.5%)	25(12.5%)
	No n(%)	0(0%)	0(0%)	0(0%)	1(0.5%)	0(0%)
	P value	0.588	0.588	0.325	1.000	1.000
	Phi- coefficient	0.075	0.075	0.105	0.004	0.061
Emotional stability	Yes n(%)	26(13%)	28(14%)	48(24%)	30(15%)	19 (9.5%)
	No n(%)	10(5%)	8(4%)	12(6%)	12(6%)	6(3%)
	P value	0.138	0.586	0.813	0.075	0.585
	Phi- coefficient	-0.105	-0.038	-0.017	-0.126	-0.048
Openness to experience	Yes n(%)	36(18%)	36(18%)	58(29%)	42(21%)	24(12%)
	No n(%)	0(0%)	0(0%)	2(1%)	0(0%)	1(0.5%)
	P value	0.594	0.594	1.000	0.347	0.556
	Phi- coefficient	0.082	0.082	-0.013	0.091	-0.022

Table 1 shows a relationship of negligible strength between the personality traits extraversion, agreeableness, conscientiousness, emotional stability and openness to experience with the oral parafunction habits of nail-biting, teeth grinding, teeth clenching, biting hard objects and chewing gum as demonstrated by Phi –coefficient.

DISCUSSION

There can be innumerable causes for oral parafunctional habits, including depression, anxiety, neurological dysfunctions, personality disorders, and many others[8]. Personality traits play an individual's ability to cope with emotional and mental stress, anxiety, and depression is of immense importance[14,15].

According to our study, the individuals with the extraversion personality trait had teeth clenching (23.5%) followed by biting hard objects (16.5%) as their predominant parafunctional habit, whereas the least percentage reported having a habit of chewing gum (10%). Contrary results were reported by another study where it was seen that most individuals with extraversion personality reported chewing gum habit (81.4%) as their main parafunctional habit, followed by biting objects or lip (56.1%) while the least reported tooth grinding (32.4%)[1]. It has been reported previously that individuals with a predominant personality trait of neuroticism were found to have a habit of bruxism[16]. It has also been reported that extroverts have a more prevalent habit of tooth clenching (16.4%) compared to introverts (15.1%), while the contrary was true for tooth grinding habits, where the 21.8% of introverts while 21.4% of extroverts reported to have the habit[17].

It has been reported that the parafunctional habit of bruxism and tooth grinding was seen most commonly in individuals with traits of neuroticism and extraversion[18]. Our study reported that the maximum number of individuals with agreeableness as their predominant personality trait also reported having teeth clenching habit (28.5%) followed by biting on hard objects (20%), while the least percentage was reported to be for chewing gum (12%). Almutairi et al. reported different results, with the greatest percentage of individuals having the habit of chewing gum (78.2%) followed by biting hard objects (52.5%) while the least having the habit of teeth grinding (28.4%)[1].

According to our study, the majority of individuals with conscientiousness as their predominant personality trait had teeth clenching (30%) as their predominant parafunctional habit, followed by biting on hard objects (20.5%), while the least percentage had the habit of chewing gum (12.5%). These results were very different from another study where it was seen that a maximum number of individuals with conscientiousness as the predominant personality trait had the habit of chewing gum (78.1%) followed by biting hard objects or lips (52.9%) while the least reported having tooth grinding habit(27.8%)[1]. The association of personality traits with oral parafunctional habits can be explained by the anxiety and stress coping mechanisms that different personality traits precipitate in individuals[14].

It has been reported previously that emotional stress can alter muscle tension and affect parafunctional habits like tooth grinding[17]. According to our study, most individuals with emotional stability as their predominant trait reported having teeth clenching (24%) followed by biting on hard objects (15%) as the parafunctional habits they had. In contrast, the leas reported having a habit of chewing gum (9.5%). Contrary results were seen in another study where most individuals with emotional stability as their predominant personality trait had the habit of chewing gum (80%) followed by biting lips or objects while the least reported having a tooth grinding habit (24.9%)[1]. Literature supports that parafunctional habits of tooth clenching and grinding have been more frequently observed in individuals who are sensitive by nature and are nervous[17]. According to our study majority of the individuals with openness to experience as their predominant personality trait had the habit of teeth clenching (29%) followed by biting on hard objects (21%), whereas the least reported having chewing gum (12%) as their predominant parafunctional habit. Different results were seen in another study that the most prevalent parafunctional habit in individuals with openness to experience as their predominant personality trait was chewing gum (78.8%), followed by 55.4%), while the least prevalent was tooth grinding[1].

Limitation: Larger sample size and a multicenter study could have helped us unravel more findings.

CONCLUSION

The majority of individuals from all personality types had a habit of teeth clenching followed by biting on hard objects. The least prevalent parafunctional habit reported by them was the parafunctional habit of chewing gum. A relationship of negligible strength between the personality traits extraversion, agreeableness, conscientiousness, emotional stability and openness to experience with the oral parafunction habits of nail-biting, teeth grinding, teeth clenching, biting hard objects and chewing gum.

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