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## INTRODUCTION

Bruxism, characterized by involuntary or habitual teeth grinding and clenching, is a multifaceted condition involving physical, psychological, and behavioral components. Psychological factors, such as anxiety, depression, and ruminative thinking, play a significant role in its etiology. Anxiety, through heightened physiological arousal, and depression, via somatic symptoms, promote muscle tension that contributes to bruxism. Ruminative thinking fosters stress that exacerbates clenching behaviors. This study aims to investigate the role of affective temperaments in the understanding of depressive rumination in an Italian-Spanish sample of individuals with bruxism.

## Method

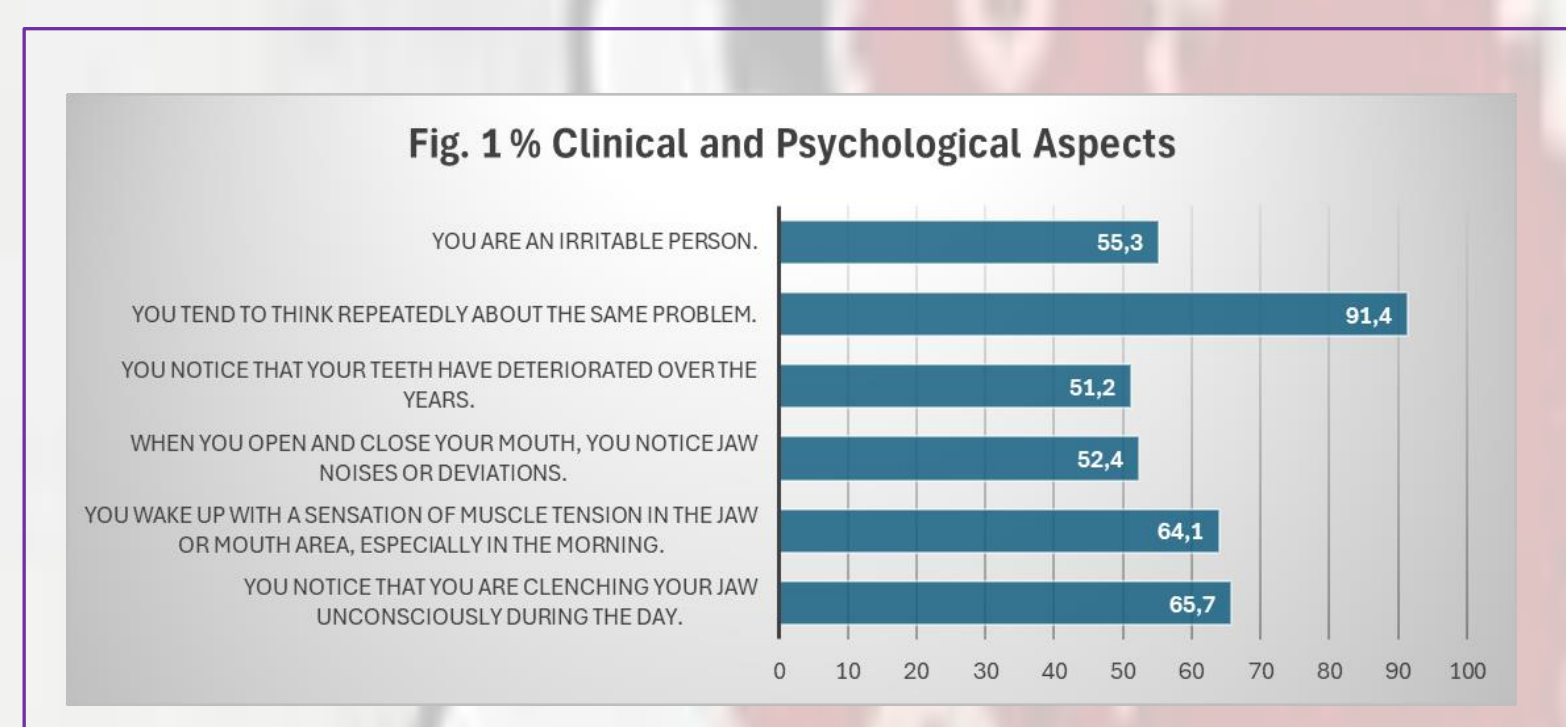
581 subjects were examined and data were collected through online survey including the Ruminative Response Scale (RRS) and the Brief Italian Version of the TEMPS-A (Temperament Evaluation of Memphis, Pisa, Paris, and San Diego Autoquestionnaire). Continuous variables are presented as the mean  $\pm$  standard deviation (SD), while non-continuous variables are represented as frequencies and percentages (%). A linear regression analysis was performed, in which the Ruminative Response Scale variable was considered the dependent variable, and all the TEMPS-A factors were included in the equation, to assess which temperamental dimensions could act as specific predictors of depressive rumination in patients with bruxism. To reduce the risk of Type 1 statistical error, p-values  $< 0.01$  were considered significant.

	N	%	M.	SD
Male/Female	156/425			
Age			33.7	5.8
Education Level				
8 years		2%		
13 years		24,3%		
>13 years		73,7%		

**Table 1 Socio-demographic feature of the sample**

Dependent variable	Predictors	Unstandardized coefficients		Standardized coefficients		
		B	S.E.	Beta	t	p
Ruminative Response Scale <sup>a</sup> (Model 1)	(Constant)	20.95	1.46		14.312	<.0001
	Cyclothymic	3.45	.292	.391	11.806	<.0001
	Depressive	2.80	.180	.492	15.604	<.0001
	Irritable	-.549	.227	-.064	-2.413	.016
	Hyperthymic	-.550	.296	-.051	-1.859	.064
	Anxious	-2.265	.222	-.262	-10.218	<.0001

<sup>a</sup> R = .651; F = 214.237; p = <.0001;



## Results

The sample consisted of 581 (M: 156; F:425) individuals with bruxism, with a mean age of 33.7 (SD:5.8) years (Tab. 1). Among them, 65.7% clenched their jaws unconsciously during the day, 64.1% woke up with muscle tension around the mouth, and 91.4% reported excessive overthinking (Fig.1). The regression analysis showed that affective temperaments predicted depressive rumination. Depressive (B = 3.452, p < .0001) and Cyclothymic temperaments (B = 2.804, p < .001) were positive predictors, linked to higher rumination levels. While Anxious temperament (B = -2.265, p < .0001) had negative associations, suggesting protective effects (Tab.2).

## Conclusions

These findings highlight the central role of Depressive and Cyclothymic temperaments in depressive rumination, reflecting their potential contribution to maladaptive cognitive processes. Conversely, Anxious temperament may exert a protective influence, mitigating the tendency to ruminate. This study underscores the importance of affective temperaments in understanding depressive rumination in patients with bruxism. Future research should explore the underlying mechanisms linking these temperaments to rumination and consider their implications for psychological treatments.

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