

Defense mechanisms and social mentalities in grandiose narcissism: an empirical investigation

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Citation: Tanzilli, A., Liotti, M., Guarino, D., Lo Buglio, G., Dentale, F., Vecchione, M., & Lingiardi, V., (2025). Defense mechanisms and social mentalities in grandiose narcissism: an empirical investigation. *Research in Psychotherapy: Psychopathology, Process and Outcome*, 28(3), 882. doi: 10.4081/rippo.2025.882

Contributions: AT and ML conceived the original idea, designed the study, and wrote the manuscript; AT, FD, and MV collected data; AT performed statistical analyses; DG and GLB drafted the manuscript; VL provided critical feedback and supervised the findings of this work and the final manuscript. All authors have read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors have no conflict of interest to declare.

Ethics approval and consent to participate: the study was approved by the Ethics Committee of the Department of Dynamic and Clinical Psychology, and Health Studies, Sapienza University of Rome (Prot. n. 0000369 – date 02/04/2021). Written informed consent was obtained from all participants; they received no financial compensation.

Availability of data and materials: the datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Received: 26 November 2025.

Accepted: 9 December 2025.

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Research in Psychotherapy:

Psychopathology, Process and Outcome 2025; 28:882

doi:10.4081/rippo.2025.882

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ABSTRACT

Grandiose narcissism is increasingly conceptualized as encompassing two dimensions: admiration and rivalry. Clarifying how these aspects are shaped requires attention to the intrapsychic regulators and interpersonal motivational systems that organize narcissistic functioning. A total of 478 participants completed an online survey including the Narcissistic Admiration and Rivalry Questionnaire (NARQ), the Defense Mechanisms Rating Scale-Self Report-30 (DMRS-SR-30), and the Social Mentalities Scale (SMS). Rivalry showed a stronger negative association with overall defensive functioning (ODF; $r=-0.34$, $p<.001$) compared to admiration ($r=-0.09$, $p<.05$). At the interpersonal level, rivalry was positively associated with insecurity ($r=0.25$, $p<.001$) and agonism ($r=0.48$, $p<.001$), and negatively with prosociality ($r=-0.30$, $p<.001$), belongingness ($r=-0.28$, $p<.001$), and playfulness ($r=-0.23$, $p<.001$). Admiration, in contrast, was positively associated with agonism ($r=0.42$, $p<.001$) and sexuality ($r=0.23$, $p<.001$). The mediation analysis (moderated by gender) indicated that defensive functioning impacted narcissistic expression through specific interpersonal motivational systems: insecurity ($\beta_{males}=0.036$, $p=.040$; $\beta_{females}=0.055$, $p=.009$), prosociality ($\beta_{males}=-0.033$, $p=.033$; $\beta_{females}=-0.085$, $p=.002$), and agonism ($\beta_{males}=-0.163$, $p<.001$; $\beta_{females}=-0.132$, $p=.001$). The study expands theoretical and clinical knowledge of the underlying motivations and defense mechanisms involved in grandiose narcissism, shedding light on specific intrapsychic and relational processes underpinning narcissistic dynamics.

Key words: narcissism, defense mechanisms, social mentalities, motivational systems, NARQ, DMRS, SMS.

Introduction

Narcissism is widely recognized as a multifaceted construct encompassing both adaptive and maladaptive forms of self-regulation (Kernberg, 1984; Kohut, 1971). Within the pathological spectrum, clinical and empirical contributions have suggested the existence of two subtypes of narcissistic expressions: an overt form (also referred to as grandiose, oblivious, willful, exhibitionistic, thick-skinned, or phallic), marked by self-inflation, entitlement, and fantasies of unlimited success and dominance, and a covert form (also described as vulnerable, hypervigilant, closet, thin-skinned, hypersensitive), characterized by feelings of emptiness and shame, accompanied by heightened reactivity to criticism

or humiliation (Akhtar, 1989; Gabbard, 1989; Masterson, 1993; Pincus & Lukowitsky, 2010; Ronningstam, 2005; Rosenfeld, 1987; Wink, 1991). In contemporary literature, the concepts of grandiose and vulnerable narcissism have become the most extensively used lens to capture the heterogeneity of narcissistic manifestations (e.g., Pincus *et al.*, 2014).

Based on this background, a more granular conceptualization of grandiose narcissism has been articulated in the Narcissistic Admiration and Rivalry Concept (NARC; Back *et al.*, 2013), which posits that individuals with narcissistic personalities pursue the overarching goal of maintaining a grandiose self through two specific strategies. The first, admiration, reflects a self-enhancement strategy aimed at gaining social admiration through assertive self-promotion. It is expressed across three domains: striving for uniqueness (affective-motivational), grandiose fantasies (cognitive), and charmingness (behavioral). The second, rivalry, reflects an antagonistic self-protective strategy designed to prevent social failure through self-defense. It is expressed in striving for supremacy (affective-motivational), devaluation of others (cognitive), and aggressiveness (behavioral). This conceptualization was operationalized in the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back *et al.*, 2013), which confirmed the two-dimensional structure of narcissism.

Although the motivational, cognitive, and behavioral domains of admiration and rivalry have been theoretically delineated, the regulatory processes through which these strategies sustain grandiosity call for further empirical scrutiny. Investigating these dynamics within the context of defense mechanisms and interpersonal motivational systems may help clarify how the regulatory goal of maintaining a grandiose self is achieved both at the inter- and intrapersonal level, thus offering a new perspective for distinguishing socially adaptive expressions of narcissism from those associated with psychopathological costs.

Defense mechanisms represent a core construct domain for understanding narcissism across different clinical and empirical contexts (e.g., Cruciani *et al.*, 2025; Kaufman *et al.*, 2020; Kernberg, 1984, 2014; Kohut, 1971; Perry *et al.*, 2013; Tanzilli *et al.*, 2017, 2021a). Defined as automatic psychological mechanisms that mediate reactions to emotional conflict and internal or external stressors (Di Giuseppe & Perry, 2021; Perry, 2014; Perry *et al.*, 1998), they have been ordered along a maturity-immaturity continuum within the hierarchical model of the Defense Mechanisms Rating Scale (DMRS; Perry, 1990). In this framework, mature defenses are associated with high awareness, adaptive interpersonal strategies, and low distress, whereas immature defenses are linked to reduced awareness of internal and external conflicts, maladaptive interpersonal strategies, higher distress, and more significant degrees of reality-distortion (Békés *et al.*, 2023; Di Giuseppe & Perry, 2021; Perry, 1990). The protective role of mature defensive functioning in clinical and non-clinical populations is corroborated by several empirical investigations (e.g., Conversano *et al.*, 2023; Fiorentino *et al.*, 2024; Maffei *et al.*, 1995; Tanzilli *et al.*, 2021b). However, the relationship between narcissism and defense mechanisms remains controversial, with research findings highlighting associations with both mature and immature defenses (Hilsenroth *et al.*, 1993; Kampe *et al.*, 2021; Perry *et al.*, 2013). These inconsistencies likely reflect the heterogeneity of definitions and measures of narcissism, hindering the comparability and generalizability of results. To our knowledge, no studies have examined the NARC framework (Back *et al.*, 2013) in relation to defensive functioning, leaving it unclear how admiration, rivalry, and narcissism are regulated at an intrapsychic level. Answering this question is crucial for clarifying the

processes that sustain adaptive *vs.* maladaptive expressions of narcissistic grandiosity.

Relational functioning also represents a crucial dimension for understanding the variability between (mal)adaptive expressions of narcissism, mostly associated with different degrees of impairment. In this vein, it is useful to investigate narcissistic dimensions through the lens of interpersonal motivational systems (IMSS; Gilbert, 1989, 2005; Liotti & Gilbert, 2011). They can be conceived as affective, cognitive, and behavioral regulation patterns activated by basic needs or emotions, oriented toward specific goals that promote survival and adaptation at both the individual and species level (Gilbert, 1989, 2000; Lichtenberg, 1989; Liotti *et al.*, 2017; Panksepp, 1998). From a developmental perspective, they emerge from continuous interactions between innate predispositions and the social environment (Liotti *et al.*, 2017). Evolutionary and ethological perspectives have described seven IMSS, each oriented toward a specific interpersonal aim: attachment, caregiving, the agonistic or social rank system (encompassing both dominance and submission), sexuality, group affiliation, play, and peer cooperation (Fassone *et al.*, 2012). These systems may be activated individually, but they often co-activate dynamically and can either converge or compete, thereby shaping the individual's moment-to-moment relational stance. Recently, IMSS have been operationalized as social mentalities¹ through the Social Mentalities Scale (SMS; Brasini *et al.*, 2020), which identifies six dimensions: *insecurity* (attachment and rank-submission), *prosociality* (caregiving and cooperation), *agonism* (rank-dominance), *belongingness* (group affiliation), *sexuality* (seductive and sexual behavior), and *playfulness* (joy, humor, and playful engagement). Although, to our knowledge, no studies have yet examined IMSS within the NARC framework, a recent strand of research investigated the relationship between narcissistic dimensions and prosociality. As expected, narcissistic rivalry showed negative associations with positive social dynamics, whereas narcissistic admiration is more frequently linked to prosocial behaviors such as volunteering or gift-giving (Kirk *et al.*, 2024; Martin *et al.*, 2019). Notably, these behaviors – often strategically aimed at securing relationships that support the maintenance of a grandiose self – underscore the central role of motivational dynamics in better understanding narcissistic expressions. IMSS may provide a more nuanced framework for disentangling the highly heterogeneous findings on narcissistic functioning, for example, by clarifying the specific goals of particular cognitive, affective, or behavioral patterns and their degree of adaptiveness within specific interpersonal contexts.

Taken together, defense mechanisms and interpersonal motivational systems represent complementary lenses through which to illuminate the intrapsychic and interpersonal processes that sustain grandiose narcissistic regulation, as well as the aims underpinning each strategy. Understanding the relationships between these dimensions can help differentiate narcissistic patterns that hinder adaptation from those that may foster cohesion and growth, clarify why individuals with narcissistic traits may shift from more adaptive to less adaptive modes of functioning, and refine risk assessment (Boldrini *et al.*, 2020). Such understanding can also guide the tailoring of interventions – whether defense-focused,

¹ The term “social mentalities” refers to the ways in which evolutionarily rooted human motivations direct attention, cognition, affect, and behavior. The label also emphasizes that these motivational systems only acquire meaning in social interactions, shaping distinct ways of relating to others.

aimed at reshaping dysfunctional interpersonal cycles, or a combination of both – and enable clinicians to anticipate transference-countertransference dynamics early in treatment (Lingiardi & McWilliams, 2025a; Tanzilli *et al.*, 2017). Finally, it opens the possibility of delineating more precise profiles of narcissistic functioning, moving beyond broad categories toward distinctions that are both empirically based and clinically sensitive.

Based on these premises, the present study aimed to:

- i) Examine the associations between narcissistic dimensions and defensive functioning. Consistent with clinical and empirical contributions (Kampe *et al.*, 2021; Lingiardi & McWilliams, 2025b; Perry & Presniak, 2013; Perry *et al.*, 2013), narcissistic rivalry (but not admiration) was expected to correlate strongly and negatively with mature defenses and overall defense functioning.
- ii) Explore the relationship between narcissistic dimensions and social mentalities. In line with the literature in the field (Back *et al.*, 2013; Brasini *et al.*, 2020; Martin *et al.*, 2019), admiration and rivalry were expected to show different correlations: admiration to relate positively to prosociality, agonism, sexuality, whereas rivalry to associate positively with insecurity and agonism, and negatively with prosociality, belongingness, and playfulness.
- iii) Investigate, in an exploratory analysis, whether social mentalities would mediate the relationship between defensive functioning and narcissism. Specifically, we hypothesized that higher overall defensive functioning (ODF) would be associated with lower narcissistic expression. Moreover, taking into account specific theoretical and clinical perspectives (Lichtenberg, 1992; Mitchell, 2000), social mentalities were expected to significantly mediate this association, shedding light on the processes through which defenses influence grandiose narcissism.

Materials and Methods

Procedures

The sample was recruited using the ‘snowball’ technique, where participants were approached through advertisements on social media platforms (e.g., Facebook, Instagram, Twitter), via email, and by word of mouth. The research design is cross-sectional. After providing their informed consent electronically, participants completed an online survey (hosted on SurveyMonkey). The inclusion criteria were: i) being at least 18 years old; and ii) being fluent in Italian. Participation in the study was voluntary, and the questionnaires administered were completely anonymous to ensure privacy. Participants did not receive any remuneration.

Measures

Sociodemographic Questionnaire. Participants’ socio-demographic information (such as age, gender, education level, etc.) was collected.

Narcissistic Admiration and Rivalry Questionnaire (Back *et al.*, 2013; Vecchione *et al.*, 2018). The NARQ is an 18-item self-report questionnaire developed for the assessment of grandiose narcissism (Back *et al.*, 2013). Respondents are asked to rate items on a 6-point Likert scale ranging from 1 (*not agree at all*) to 6 (*agree completely*). This questionnaire provides distinctive quantitative scores for the global level of narcissism, as well as two higher-order dimensions (*i.e.*, admiration and rivalry), and six

lower-order dimensions. Admiration encompasses the assertive aspects of grandiose narcissism, including the subscales of grandiosity, uniqueness, and charmingness, whereas rivalry refers to the antagonistic aspects of narcissism, including the subscales of devaluation, supremacy, and aggressiveness. The Italian validation of the NARQ (Vecchione *et al.*, 2018) confirmed the original factor structure (Back *et al.*, 2013) and demonstrated construct validity, with reliability levels ranging from adequate to optimal. In this study, Cronbach’s alpha values for the NARQ global narcissism index, as well as the admiration and rivalry subscales, were 0.81, 0.74, and 0.78, respectively, reflecting adequate to good internal consistency (Streiner, 2003).

Defense Mechanisms Rating Scale-Self Report-30 (Di Giuseppe *et al.*, 2020). The DMRS-SR-30 evaluates defense mechanisms according to Perry’s (1990) hierarchical model of defense. It consists of 30 items assessed on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*very often/much*). Items were selected and adapted from the DMRS Q-sort to be self-administered (DMRS-Q; Di Giuseppe *et al.*, 2014). The DMRS-SR-30 provides distinctive quantitative scores: i) a global index of the ODF; ii) three higher-ordered categories; iii) seven levels; and iv) 28 individual defense mechanisms. Levels are ordered from the most to the least mature: i) *high-adaptive or mature* (affiliation, altruism, anticipation, humor, self-assertion, self-observation, sublimation, and suppression); ii) *obsessive* (undoing, intellectualization, and isolation of affects); iii) *neurotic* (repression, dissociation, reaction formation, and displacement); iv) *major image-distorting* (idealization of self and others’ images, devaluation of self and others’ images, and omnipotence); v) *disavowal* (denial, rationalization, projection, and autistic fantasy); vi) *minor image-distorting* (splitting of self and others’ images, and projective identification); and vii) *action defenses* (acting out, passive aggression, and help-rejecting complaining). Consistent with the DMRS-SR-30 validation study (Di Giuseppe *et al.*, 2020), in the present study the ODF showed excellent reliability ($\alpha=0.91$), while the reliabilities of defense levels were lower (*i.e.*, high-adaptive [$\alpha=0.71$], obsessional [$\alpha=0.60$], neurotic [$\alpha=0.65$], minor image distorting [$\alpha=0.61$], disavowal [$\alpha=0.64$], major image distorting [$\alpha=0.60$], action [$\alpha=0.61$]), ranging from acceptable to good levels of internal consistency (Streiner, 2003).

Social Mentalities Scale (Brasini *et al.*, 2020). The SMS is a 75-item self-report questionnaire that assesses the cognitive, affective, and behavioral patterns linked to motivational systems that modulate social relationships. It is grounded in Liotti’s theoretical model and derived from the Assessing Interpersonal Motivations in Transcripts (AIMIT; Italian Group for the Study of Interpersonal Motivation, 2008). Respondents are asked to rate items on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). The questionnaire provides a quantitative score for six social mentalities rooted in the seven motivational systems described in the AIMIT manual: i) *insecurity*, that describes feelings and action tendencies related to loneliness, vulnerability and neediness (attachment system), as well as to self-criticism, self-devaluation, shame (submissive ranking system); ii) *prosociality*, that indicates a tendency toward compassion, protection and concern over others (caregiving system), as well as openness and commitment towards others (peer cooperation system); iii) *agonism*, that indicates feelings, thoughts and behaviors of supremacy, dominance and challenge against others (ranking system); iv) *belongingness*, that describes emotions, thoughts and behaviors related to the experience of feeling part of a group (affiliation system), as well as a sense of fellowship and communality (peer cooperation system); e) *sexuality*, that includes

feelings, thoughts and behaviors related to sexual attraction and desire (sexual system); f) *playfulness*, that describes an ironic, light-hearted and imaginative attitude (play system). In the present study, the SMS subscales showed good internal consistency (Streiner, 2003): $\alpha=0.89$ for insecurity; $\alpha=0.87$ for prosociality; $\alpha=0.86$ for agonism; $\alpha=0.84$ for belongingness; $\alpha=0.83$ for sexuality, and $\alpha=0.81$ for playfulness.

Statistical analysis

All statistical analyses were conducted using JAMOVI version 2.6.23, with the application of the Jamovi Advanced Mediation Models (jAMM) statistical package (including the General Linear Model [GLM] mediation model module) (Gallucci, 2021).

Preliminarily, bivariate correlations (Pearson's r , two-tailed) were performed to explore significant associations between narcissistic dimensions (evaluated with the NARQ) and age. Moreover, a multivariate analysis of variance (MANOVA) was used to investigate differences between gender groups in all the NARQ dimensions. Subsequently, partial correlations were used to explore the associations between narcissistic dimensions and ODF and the seven defensive levels (evaluated using the DMRS-SR-30), as well as social mentalities (evaluated using the SMS), while controlling for demographic variables. Finally, following the approach of Baron and Kenny (1986), a moderated mediation analysis was performed to verify the mediating role of social mentalities in the relationship between ODF and the overall index of NARQ, taking into account the potential moderating effect of demographics (specifically, gender).

Results

Preliminary analyses

The study involved 478 Italian participants (64.64% female and 35.36% male) with a mean age of 24 years (standard deviation [SD]=2.55, range=18-30). Educational levels ranged from upper secondary school (43.53%) to higher education (56.47%). Most participants reported a heterosexual orientation (83.4%), whereas the remaining participants identified as homosexual – comprising 6.3% lesbians and 4.2% gay men – or as bisexual (6.1%). The majority of participants had a middle socioeconomic status (71.6%).

A bivariate correlational analysis examined the relationship

between narcissistic dimensions and participants' age. The results indicated no significant correlations: admiration, $r=-.014$, $p=.760$; rivalry, $r=-.074$, $p=.106$; NARQ total score, $r=-.049$, $p=.282$. A MANOVA also investigated possible differences related to gender on NARQ scales. The results indicated a significant multivariate effect of this variable (Wilks's $\lambda=.886$, $F_{(2,475)}=30.69$, $p<.001$, $\eta^2=.11$). Analyzing the univariate effects, we found significant effects of gender on all narcissistic dimensions: admiration ($F_{(1,476)}=61.09$, $p<.001$, $\eta^2=.11$), rivalry ($F_{(1,476)}=20.07$, $p<.001$, $\eta^2=.04$), and NARQ total score ($F_{(1,476)}=50.58$, $p<.001$, $\eta^2=.09$). More specifically, male participants scored higher than female participants across all NARQ scales. In light of these preliminary results, subsequent statistical analyses were controlled for gender to account for its potential confounding effect.

Relationship between narcissism and defensive functioning

The first aim of the study was to investigate the relationship between narcissistic dimensions and defenses, net of the gender effect. As depicted in Table 1, admiration showed a significant positive correlation with the minor image-distorting defense level and a negative association with the neurotic level and ODF. Rivalry, instead, was significantly and positively correlated with all immature defense levels, and negatively related to the high-adaptive defense level and ODF. Lastly, the NARQ total score was positively associated with minor image-distorting, major image-distorting, and action defense levels, while showing a negative and significant correlation with high-adaptive and neurotic defense levels, as well as ODF.

Relationship between narcissism and social mentalities

The second aim of this research was to explore associations between narcissistic dimensions and social mentalities, controlling for gender effects. The results shown in Table 2 reveal significant correlations. In more detail, admiration was positively correlated with agonism and sexuality, while rivalry was positively correlated with insecurity and agonism, and negatively related to prosociality, belongingness, and playfulness. Finally, the NARQ total score showed significant correlations with every social mentality (positive with insecurity, agonism, and sexuality; negative with prosociality, belongingness, and playfulness).

Table 1. Partial correlations between narcissistic dimensions (NARQ) and defense levels (DMRS-SR-30), controlling for gender (N=478).

	M \pm SD	Admiration	NARQ Rivalry	NARQ total score
DMRS-SR-30		3.07 \pm .68	2.72 \pm .64	2.90 \pm .57
ODF	4.78 \pm .22	-0.09*	-0.34***	-0.25***
Defense Levels				
7. High-adaptive defenses	33.99 \pm 5.16	-0.08	-0.31***	-0.22***
6. Obsessional defenses	10.26 \pm 2.03	0.01	0.06	0.04
5. Neurotic defenses	14.13 \pm 2.14	-0.13**	-0.06	-0.11*
4. Minor image-distorting defenses	9.90 \pm 2.07	0.26***	0.18***	0.25***
3. Disavowal defenses	13.52 \pm 2.42	-0.02	0.12*	0.06
2. Major image-distorting defenses	9.57 \pm 2.24	0.04	0.20***	0.14**
1. Action defenses	8.62 \pm 2.01	0.06	0.25***	0.18***

M, mean; SD, standard deviation; DMRS-SR-30, Defense Mechanism Rating Scales-Self-Report-30; ODF, overall defensive functioning; NARQ, Narcissistic Admiration and Rivalry Questionnaire; * $p\leq.05$; ** $p\leq.01$; *** $p\leq.001$.

Narcissism, defensive functioning, and social mentalities: a moderated mediation model

The third and final aim of this study was to verify if social mentalities played a mediation role in the relationship between global defensive functioning and overall narcissism. A mediation analysis (moderated by gender) was performed to examine the indirect effects of ODF on NARQ total score through the pathways of social mentalities. The results reported in Table 3 showed that the total effects were significant for both males ($\beta=-0.228$, $p<.001$) and females ($\beta=-0.251$, $p<.001$). However, the direct effects of ODF on NARQ total score were not significant (respectively, $\beta=-0.049$, $p=.335$; $\beta=-0.113$, $p=.062$), revealing the total mediation of social mentalities. These findings demonstrated that defensive functioning had significant indirect effects on NARQ total score through the pathways insecurity ($\beta_{males}=0.036$, $p=.040$;

$\beta_{females}=0.055$, $p=.009$), prosociality ($\beta_{males}=-0.033$, $p=.033$; $\beta_{females}=-0.085$, $p=.002$), and agonism ($\beta_{males}=-0.163$, $p<.001$; $\beta_{females}=-0.132$, $p=.001$) (Figure 1).

Discussion

The present study examined the associations between defensive functioning, social mentalities, and narcissism within the NARC framework (Back *et al.*, 2013) in order to clarify the intrapsychic and interpersonal processes underlying the maintenance of expressions of grandiose narcissism.

More in detail, the first aim of the study was to examine the relationship between narcissistic dimensions and defenses. Admiration showed a strong correlation with the minor image-distorting level (Table 1). This defense level encompasses the so-called “nar-

Table 2. Partial correlations between narcissistic dimensions (NARQ) and social mentalities (SMS), controlling for gender (N=478).

SMS	M±SD	Admiration	NARQ		Total score
			Rivalry		
Insecurity	2.80±.66	-0.07	0.25***		0.10*
Prosociality	3.69±.60	0.03	-0.30***		-0.15***
Agonism	2.20±.53	0.42***	0.48***		0.52***
Belongingness	3.60±.68	0.07	-0.28***		-0.11*
Sexuality	3.41±.75	0.23***	-0.01		-0.13**
Playfulness	3.76±.63	0.05	-0.23***		-0.10*

M, mean; SD, standard deviation; SMS, Social Mentalities Scale; NARQ, Narcissistic Admiration and Rivalry Questionnaire; * $p\le.05$; ** $p\le.01$; *** $p\le.001$.

Table 3. Indirect, direct, and total effects of the mediation analysis with social mentalities (SMS) as mediators of the relationship between overall defensive functioning (DMRS-SR-30) and narcissism (NARQ), moderated by gender (N=478).

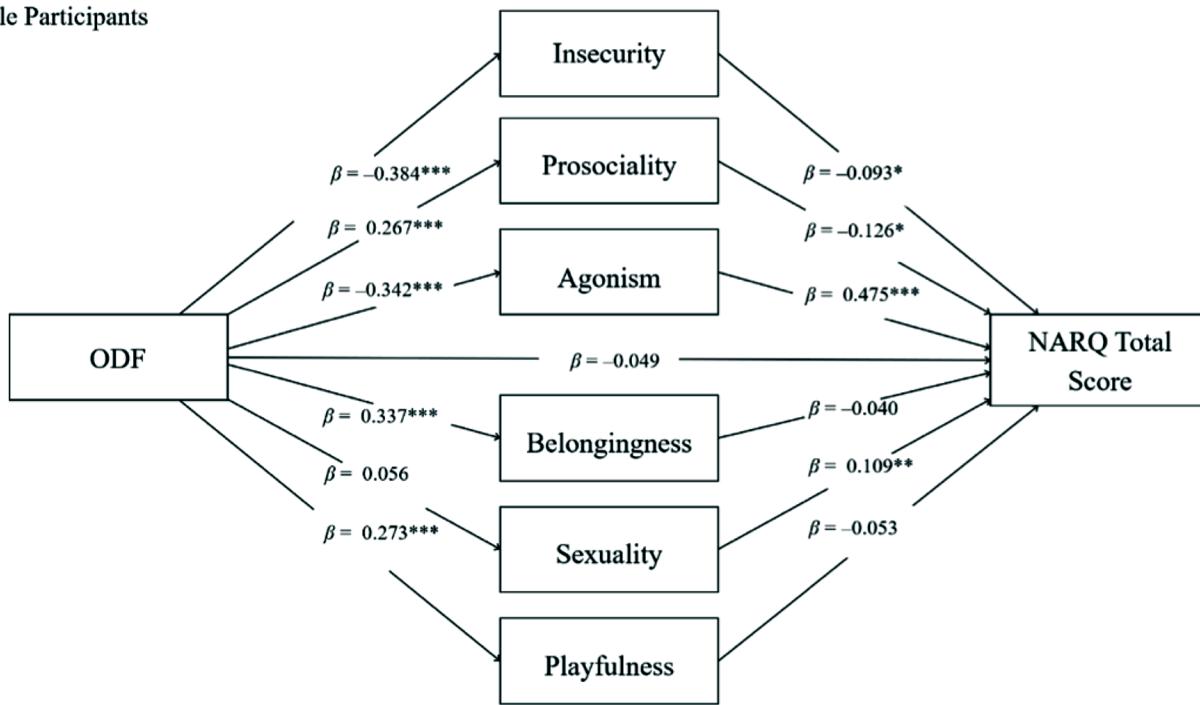
Moderator	Levels	Gender	Type	Effect	95% CI				
					Estimate	SE	Lower	Upper	β
Average			Indirect	ODF \Rightarrow Insecurity \Rightarrow NARQ_Total_Score	0.124	0.052	0.023	0.225	0.046
				ODF \Rightarrow Prosociality \Rightarrow NARQ_Total_Score	-0.167	0.047	-0.259	-0.075	-0.061
				ODF \Rightarrow Agonism \Rightarrow NARQ_Total_Score	-0.412	0.071	-0.552	-0.273	-0.152
				ODF \Rightarrow Belongingness \Rightarrow NARQ_Total_Score	0.017	0.042	-0.066	0.099	0.006
				ODF \Rightarrow Sexuality \Rightarrow NARQ_Total_Score	0.021	0.018	-0.014	0.055	0.008
				ODF \Rightarrow Playfulness \Rightarrow NARQ_Total_Score	-0.001	0.039	-0.079	0.076	-0.001
Average			Direct	ODF \Rightarrow NARQ_Total_Score	-0.227	0.119	-0.461	0.007	-0.083
				Total	-0.638	0.118	-0.868	-0.407	-0.239
									-5.422 <0.001
1			Indirect	ODF \Rightarrow Insecurity \Rightarrow NARQ_Total_Score	0.093	0.045	0.004	0.182	0.036
				ODF \Rightarrow Prosociality \Rightarrow NARQ_Total_Score	-0.088	0.041	-0.169	-0.007	-0.033
				ODF \Rightarrow Agonism \Rightarrow NARQ_Total_Score	-0.426	0.076	-0.574	-0.278	-0.163
				ODF \Rightarrow Belongingness \Rightarrow NARQ_Total_Score	-0.036	0.050	-0.134	0.063	-0.014
				ODF \Rightarrow Sexuality \Rightarrow NARQ_Total_Score	0.016	0.017	-0.018	0.050	0.006
				ODF \Rightarrow Playfulness \Rightarrow NARQ_Total_Score	-0.038	0.036	-0.109	0.033	-0.014
			Direct	ODF \Rightarrow NARQ_Total_Score	-0.129	0.133	-0.390	0.133	-0.049
2			Indirect	Total	-0.606	0.140	-0.881	-0.332	-0.228
									-4.323 <0.001
2			Indirect	ODF \Rightarrow Insecurity \Rightarrow NARQ_Total_Score	0.159	0.061	0.040	0.278	0.055
				ODF \Rightarrow Prosociality \Rightarrow NARQ_Total_Score	-0.245	0.077	-0.397	-0.094	-0.085
				ODF \Rightarrow Agonism \Rightarrow NARQ_Total_Score	-0.379	0.119	-0.612	-0.146	-0.132
				ODF \Rightarrow Belongingness \Rightarrow NARQ_Total_Score	0.051	0.037	-0.023	0.124	0.018
				ODF \Rightarrow Sexuality \Rightarrow NARQ_Total_Score	0.026	0.032	-0.036	0.088	0.009
				ODF \Rightarrow Playfulness \Rightarrow NARQ_Total_Score	0.043	0.044	-0.044	0.130	0.015
Direct			ODF \Rightarrow NARQ_Total_Score	-0.325	0.174	-0.665	0.016	-0.113	
				Total	-0.669	0.189	-1.039	-0.299	-0.251
									-3.544 <0.001

CI, confidence interval; SE, standard error; DMRS-SR-30, Defense Mechanism Rating Scales-Self-Report-30; ODF, Overall Defensive Functioning; SMS, Social Mentalities Scale; NARQ, Narcissistic Admiration and Rivalry Questionnaire.

cissistic" defenses (*i.e.*, idealization, devaluation, omnipotence), which protect the self from experiences that threaten self-esteem and thus operate in the service of both self-enhancement (*e.g.*, through idealization of self-image) and self-protection (*e.g.*,

through devaluation of others' image; Békés *et al.*, 2018; Clemence *et al.*, 2009; Perry & Perry, 2004; Perry & Presniak, 2013; Perry *et al.*, 2013). The greater association of admiration, relative to rivalry, with minor image-distorting defenses suggests

Male Participants



Female Participants

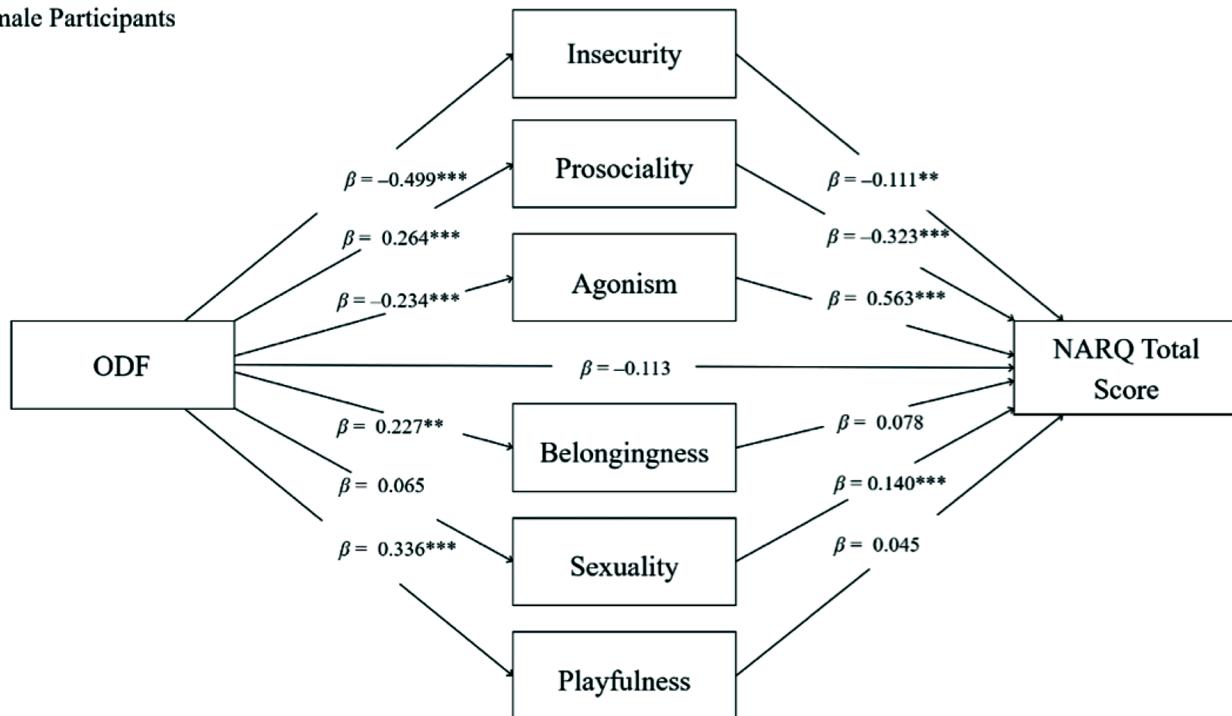


Figure 1. Indirect, direct, and total effects of the mediation analysis with social mentalities (SMS) as mediators of the relationship between overall defensive functioning (DMRS-SR-30) and narcissism (NARQ), moderated by gender (N=478).

that this dimension, although involving less severe impairment, still implies a difficulty in integrating contradictory representations. This association thus exposes the structural fragility inherent in narcissistic self-enhancement. It is worth noting, however, that the different correlations between the two NARC dimensions and the minor image-distorting level may be due to the operationalization of defense levels in the DMRS framework (Di Giuseppe *et al.*, 2020, 2021; Perry, 1990). Specifically, this level primarily captures "overt" self-enhancing defenses (more closely related to admiration), while lower levels are better suited to capture antagonistic and aggressive self-protecting mechanisms (more closely characterizing rivalry).

Narcissistic rivalry was associated with poorer defensive functioning (cf., Grapsas *et al.*, 2020; Grove *et al.*, 2019). This dimension has been related to the most vulnerable and maladaptive facet of narcissism, both at the intrapersonal and interpersonal level (Back *et al.*, 2013). Previous research (e.g., Kampe *et al.*, 2021; Perry *et al.*, 2013) has revealed that immature defense mechanisms are more frequently mobilized to protect the narcissistic core. Disavowal defenses can suppress intolerable aspects of internal experience or external reality, such as feelings of inadequacy or critiques and rejections, while major image-distorting defenses can keep separated devalued and vulnerable self-representations from more grandiose ones. Action defenses, in turn, could allow the individual to discharge internal sources of stress or conflict behaviorally rather than process them, thus fueling the antagonistic and aggressive dynamics characteristic of narcissistic rivalry. This mechanism may serve to temporarily shield the grandiose self from experiences of vulnerability or dependency (Perry, 2014), but can also leave the individual vulnerable to a collapse in functioning (Kernberg, 1975). Such reliance on low-functioning defensive operations has been linked to a broad spectrum of negative outcomes, including affective dysregulation, impulsivity, and unstable interpersonal functioning (Zanarini *et al.*, 2009), all of which are consistent with the maladaptive dynamics (impulsivity, anger reactivity, social conflict, rejection sensitivity, etc.) of narcissistic rivalry described in the literature (Back *et al.*, 2013). Our results corroborate this view, suggesting that this dimension carries the greatest psychopathological burden. The rivalrous individual appears to be organized around defensive operations that aim to maintain a sense of self-strength despite the substantial costs of integrative capacities, flexibility, and behavioral regulation.

Overall, our findings on global narcissism are consistent with the NARC model (Back *et al.*, 2013) and prior research on defense mechanisms related to this psychopathological dimension (Gholami Zarch *et al.*, 2024; Kampe *et al.*, 2021; Lenzenwenger, 2022). They suggest that the self-protective behaviors characteristic of narcissistic rivalry are likely rooted in a maladaptive defensive system. Contrary to our initial hypothesis, they also indicate that the self-enhancing dynamics of admiration – although linked to less impaired functioning – are nonetheless underpinned by defensive mechanisms that may heighten vulnerability to pathological outcomes. The defensive profile associated with admiration could shed light on why some individuals with narcissistic traits shift from more adaptive self-enhancing dynamics to more pathological ones. When self-esteem is relatively preserved, reliance on idealization and omnipotence can sustain the grandiose self. However, when these defenses fail to contain negative experiences (e.g., of failure or rejection), more immature ones may be recruited, fostering the antagonism, devaluation, and hostility characteristic of rivalry. In other words, fluctuations between admiration and rivalry strategies seem to reflect, at least in part,

changes in defensive mechanisms mobilized to protect the fragile sense of self.

The second aim of the present study was to investigate the relationship between narcissism and social mentalities, a relatively underexplored area of research. In line with theoretical conceptualizations (e.g., Back *et al.*, 2013; Gilbert, 2014; Lichtenberg *et al.*, 1992) and our hypothesis, the results revealed significant and clinically meaningful associations (Table 2). Unsurprisingly, individuals with heightened interpersonal agonism and competitiveness are also more likely to exhibit narcissistic tendencies and vice versa. Within the evolutionary perspective of IMSSs (Liotti & Gilbert, 2011), the social mentality of agonism reflects a proneness to activate the social ranking system, which orients attention, emotion, cognition, and behavior around themes of dominance and challenge (Brasini *et al.*, 2020; Fassone *et al.*, 2012). While this system serves an adaptive role in regulating social hierarchies and allocating resources in competitive contexts, its chronic or hypertrophic activation can distort interpersonal functioning and contribute to the development of personality pathology. Meta-analytic evidence indicates that narcissism is consistently linked with aggression in different contexts (Kjærviik & Bushman, 2021). An important conceptual question for future research is whether heightened agonism predisposes individuals to develop narcissistic traits or if these lead to a more frequent and/or rigid activation of the ranking system. Clarifying this could be crucial for understanding how agonism operates as the core motivation underneath narcissists' pursuit of social status (Grapsas *et al.*, 2019; Zeigler-Hill *et al.*, 2018). Our data, however, highlight that this specific social mentality is inherently intertwined with both grandiose self-enhancement (admiration) and antagonistic self-protection (rivalry), representing the main motivational underpinning of the grandiose narcissistic social behaviors. Nonetheless, it must be noted that although both draw on agonism as a primary source, admiration and rivalry diverge markedly in their association with other social mentalities.

Contrary to our hypothesis, admiration was not found to be associated with prosociality. Although previous studies found links between admiration and positive social behaviors (Kirk *et al.*, 2024; Martin *et al.*, 2019), our results suggest that such actions may not stem from genuinely altruistic, collaborative motives. The prosociality factor represents the convergent activation of caregiving and peer cooperation systems, encompassing compassion and concern for others, as well as openness and commitment in relationships (Brasini *et al.*, 2020; Fassone *et al.*, 2012). It entails a broad spectrum of adaptive psychological processes such as empathic concern, perspective-taking, reciprocity, and sensitivity to fairness (Brosnan & de Waal, 2014; Hrdy, 2014; Vaish & Tomasello, 2012), all capacities that sustain healthy, mutual, trusting human relationships. The seemingly prosocial behaviors described in the literature may, according to our results, emerge from egotistical needs rather than for affiliative purposes. Moreover, in the present research, admiration was also associated with sexuality, suggesting a dynamic in which competitiveness is coupled with a seductive attitude. These correlations challenge the assumption that admiration reflects a "healthier" facet of grandiose narcissism: while it may support social attractiveness and short-term status gains, its motivational underpinnings suggest a reliance on patterns that could predispose individuals to relational exploitativeness and difficulties in sustaining reciprocity. They also highlight a vulnerability to fluctuations in self-esteem when charm and striving for approval fail to elicit validation.

By contrast, in this research, narcissistic rivalry was positively associated with agonism and insecurity, and negatively linked

with prosociality, belongingness, and playfulness. These patterns align with Back and colleagues' (2013) conceptualization of this dimension as an antagonistic self-protective stance. Insecurity reflects the co-activation of the attachment and ranking-submission motivational systems, typically associated with feelings of shame, guilt, humiliation, and social anxiety. This suggests that beneath the striving for supremacy lies a core of vulnerability, distress, and fear of others' rejection – to which the rivalrous individuals may react hyperactivating competitive and a(nts)agonistic behaviors in an effort to ward off experiences of "defeat" (Kernberg, 1975). Yet, these enactments are likely to elicit rejection, criticism, and a lack of trust from others (*i.e.*, confirming the very fears that prompted them). Such negative social outcomes could intensify the narcissistic individual's antagonistic attitude, perpetuating a maladaptive interpersonal cycle (Back *et al.*, 2013; Brandts *et al.*, 2009). Moreover, the negative associations between rivalry, belongingness, and playfulness suggest a fundamental weakness in affiliative motives in this dimension. Belongingness refers to the capacity to experience oneself as part of a community, deriving security from shared identification and the pursuit of common goals; in contrast, playfulness reflects the ability to engage in spontaneous and humorous exchanges (Brasini *et al.*, 2020). Within an interpersonal motivational framework (Liotti *et al.*, 2017), their absence suggests a chronic activation of competitive rank motives at the expense of affiliative ones, depriving individuals of a sense of "we-ness". This may help explain why rivalry is associated with hostility, isolation, and negative interpersonal outcomes (*e.g.*, Benson *et al.*, 2019). In other words, individuals higher in rivalry appear to be unable to compensate for their striving for status and grandiose self-protection by activating motivational systems that support a sense of belonging and relational flexibility. This likely will exacerbate their narcissistic vulnerabilities, amplifying fear of exclusion and reducing the capacity to regulate interpersonal tensions. Taken together, our findings indicate that admiration and rivalry share a common root in status-oriented, competitive motivation, yet substantially diverge in their motivational architecture. Being aware of these differences can help clinicians tailor interventions more effectively, given that systematic monitoring of patients' motivational activations may help prevent or repair alliance ruptures (Monticelli & Liotti, 2021) – a process that is notoriously challenging in the treatment of narcissistic patients (*e.g.*, Ronningstam, 2012; Tanzilli *et al.*, 2017).

Our third and final aim was to verify through an exploratory analysis whether social mentalities mediated the relation between global defensive functioning and an overall narcissistic dimension. Despite the paucity of empirical research on this topic, our results partially support our hypotheses. The moderated mediation analyses demonstrated that the association between defensive functioning and narcissism is fully mediated by social mentalities (Table 3 and *Supplementaly Table 1*). While higher ODF was associated with lower narcissism at the total level, the direct effect of ODF on NARQ scores was no longer significant once social mentalities were introduced into the model. This suggests that defensive functioning affects the expression of narcissistic traits primarily through the activation of different IMSs. Higher ODF was associated with lower agonism (IMS of rank-dominance) and insecurity (IMSs of attachment and rank-submission) and with greater prosociality (IMSs of caregiving and cooperation), which in turn showed theoretically consistent and predictable associations with narcissism. It must be noted that a mature defensive style sustains the integration of a wide range of ideas and affects (that can thus be better tolerated and regulated), supports direct yet non-coercive expression of one's thoughts and needs, and fa-

cilitates adaptive seeking and using of interpersonal support (Di Giuseppe & Perry, 2021). Such mechanisms promote a more stable and continuous sense of self and one's value (*i.e.*, self-esteem), higher tolerance of frustration, greater awareness of others as separate subjects with distinct mental states underlying their behaviors, and a greater capacity for intimacy (McWilliams, 2011). They can modulate the activation of hostile and/or insecure tendencies during interpersonal exchanges and the behavioral discharge of anger, reducing the need to engage in power struggles or seek praise. By supporting a more balanced representation of self and others and greater affect regulation, higher ODF levels could render frustration, criticism (real or perceived), and failure more tolerable without resorting to revenge, retaliation, or other aggressive behaviors or fantasies. Self-worth and self-esteem are more likely to be sustained through adaptive internal regulation processes (*e.g.*, self-observation and the anticipation of potentially negative experiences) rather than through the pursuit of dominance over others. Moreover, individuals with higher ODF are more capable of accurately perceiving external cues without the distortions typically introduced by immature defenses. As a result, they may be less prone to misinterpret others' behaviors as hostile or threatening, thus diminishing the likelihood of agonistic activation. A more mature defensive functioning also allows for the gratification of personal needs through helping others, better negotiation abilities, and higher adaptive humor – all aspects that de-potentiate the tendency to construe interpersonal exchanges as a "zero-sum game". Complementarily, individuals will also be more prone to turn to others for support in an adaptive and flexible way. This enables the establishment of healthy (inter)dependence. When dependency can be experienced as safe and not as a threat to autonomy, there is no need to hyperactivate the attachment system because of fear of abandonment, nor to mobilize the rank-submission system because one fears losing status or being overwhelmed. In this context, the individual can sustain exchanges characterized by a more stable sense of self in relation to others and by less severe defensive distortions. Although beyond the scope of the present study, it is worth noting that mentalization may represent a "bridge" construct linking defensive functioning with the activation of specific interpersonal motivational systems. Empirical findings suggest that more mature defenses are associated with higher mentalizing capacities, whereas immature ones tend to undermine the ability to understand and regulate one's own and others' mental states (*e.g.*, Tanzilli *et al.*, 2021b). In parallel, disruptions in epistemic trust – closely intertwined with social cognition and mentalization – are linked to poorer defensive functioning, more severe interpersonal problems, and more psychological symptoms, further underscoring the role of mentalization in shaping how individuals construe and respond to their interpersonal reality (Fiorini Bincoletto *et al.*, 2025).

Clinically, these findings suggest that therapeutic work with narcissistic patients might benefit from a dual focus: fostering more mature defensive functioning while simultaneously reshaping the dysfunctional interpersonal motivational systems activated by patients both inside and outside the therapeutic room. At the defensive level, this involves strengthening patients' capacity to modulate affect, tolerate distress, and employ more adaptive regulatory strategies (*cf.*, Di Giuseppe *et al.*, 2014). At the interpersonal level, treatment needs to address the relational patterns that organize patients' subjective experience and emerge in the relationship with clinicians (especially in transference-countertransference interactions; *e.g.*, Tanzilli *et al.*, 2017; Tanzilli *et al.*, 2018): attenuating agonistic dominance, reducing attachment-related insecurity, and fostering prosocial cooperation appear as cen-

tral pathways toward more adaptive functioning. This may involve helping patients notice when they position themselves and the therapist in agonistic, ranking dynamics, identifying their underlying fears, and co-constructing alternative relational dynamics. A particularly relevant implication concerns the role of cooperation within the therapeutic relationship. Research suggests that the activation of the cooperative system is associated with enhanced metacognitive functioning during sessions and may help mitigate the decline of reflective capacities typically observed in vulnerable patients when attachment- and rank-based motivations are activated (Farina *et al.*, 2023). Particularly, when working with narcissistic individuals, who often oscillate between agonistic dominance and attachment-related insecurity, cultivating a cooperative stance can function as an interpersonal “regulator”, facilitating mentalization, epistemic openness, and the employment of more mature defenses (cf., Liotti *et al.*, 2025). Clinically, this implies deliberately favoring therapeutic interactions that foreground shared goals, joint attention, negotiation, and collaborative problem-solving, thus increasing the patient’s tolerance for reciprocity and healthy dependency. Finally, systematic monitoring of patients’ motivational activations and changes in the defenses they can help clinicians anticipate, name, and repair alliance ruptures, a central challenge in the treatment of narcissistic patients (Tanzilli *et al.*, 2017).

This research presents some limitations that should be addressed. First, the present study focuses only on grandiose narcissism, excluding the exploration of vulnerable narcissism, which might offer a more holistic understanding of this personality construct. A task for future research will be to examine the distinct and overlapping interactions with intrapersonal and interpersonal processes for these two heterogeneous facets of narcissism. Secondly, the data collection method from a single informant might be vulnerable to biases. Self-report instruments carry the risk of collecting distorted responses, either due to social desirability or because participants may misinterpret the questions and statements presented (Westen & Weinberger, 2004). Further research should consider other perspectives, such as external observers. Third, the cross-sectional nature of the research design limits causal inferences about the relationships among the examined variables. Different study designs, for example, longitudinal ones, should be employed to overcome this limitation and verify the stability of the findings. Finally, the study’s sample, recruited via convenience methods, may lack diversity and generalizability to broader populations. Despite these limitations, the present study sought to fill a gap in the literature, offering new insight into the interpersonal motivations and defensive processes that sustain narcissistic functioning.

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Online supplementary material:

Supplementary Table 1. Indirect (including component), direct, and total effects of the mediation analysis with social mentalities (SMS) as mediators of the relationship between overall defensive functioning (DMRS-SR-30) and narcissism (NARQ), moderated by gender (N=478).