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Personality functioning in social anxiety disorders subtypes according to DSM 5

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Abstract

The present study aims to investigate the extent to which the newly introduced concept of the Level of Personality Functioning (LPF) affects different subtypes of Social Anxiety Disorder (SAD) as classified by DSM-5. This cross-sectional study comprises a sample of twenty-six patients with SAD not meeting the "performance only" criteria, twenty-one patients with performance-only SAD (PoSAD), and twenty-five healthy controls. The Liebowitz Social Anxiety Scale was used to determine the level of social anxiety, the Short Form-36 (SF-36) was employed to assess impairment in global functioning, and the Level of Personality Functioning Scale (LPFS) was administered to evaluate the level of personality functioning among participants. There were statistically significant differences between the SAD and PoSAD groups across all sub-dimensions of the LPFS, including identity, self-management, empathy, and intimacy. PoSAD patients exhibited better levels of personality functioning compared to SAD patients. This study reveals varying degrees of impairment in personality functioning among subtypes of SAD. Taking these differences into account could be instrumental in devising more tailored treatment plans that cater to the specific needs of patients.

Keywords: social anxiety, personality, personality functioning, psychosocial functioning

1. Introduction

With the publication of the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), the most up-to-date diagnostic system for mental disorders, a "performance only" specifier was introduced in the subtyping of social anxiety disorder (SAD), representing a transition from a dimensional approach to a categorical approach. Additionally, important conceptual suggestions have been made in the field of personality disorders (1). In Chapter III of DSM-5, the Alternative Model for Personality Disorders highlights the importance of both pathological personality traits and impairments in self and interpersonal functioning as core components of personality disorders. The DSM-5 employs the Level of Personality Functioning Scale (p. 775) to assess these impairments across four dimensions, namely, identity and self-direction under 'self', and empathy and intimacy under 'interpersonal'. In a similar vein, the 11th edition of the International Classification of Diseases (ICD-11) embraces a dimensional approach, which focuses on the overall severity of personality disorders and classifies them based on five key traits (2).

Evaluating not only the presence or absence of psychopathology but also the fundamental functions of personality can provide a deeper understanding of both the patient and the disorder. Historically, concepts of personality function, as emphasized in Chapter III of DSM-5 and ICD-11, have been linked with psychoanalytic theories of personality structure and organization. Freud, for example, sought to understand psychic functioning through the lens of topographical and structural models. Otto Kernberg, on the other hand, created an alternative model to describe personality through a psychoanalytic lens. Kernberg's approach merged elements of modern object relations theory with traditional ego psychology to form a model of personality organization. Furthermore, he was instrumental in defining various levels of personality functioning and developed the Structural Interview as a clinical tool for assessing personality organization (4). The Structural Interview does not allow for reliable measurement of personality functions, so Kernberg and his colleagues developed the Structural Interview for Personality (STIPO) for research purposes (5).

In recent years, there has been a surge in studies focusing on personality functions, with the majority concentrating on

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personality disorders. However, fewer studies have delved into disorders that were previously classified under Axis-I. This burgeoning interest in personality functions stems from the observation that patients with lower levels of personality functioning tend to exhibit more severe symptoms (6).

In particular, studies examining the relationship between Social Anxiety Disorder (SAD) and personality have predominantly focused on the interrelation between SAD and Avoidant Personality Disorder (AVPD), given the high comorbidity rate and similarities in clinical manifestations. This has led to a wealth of research exploring the nexus between SAD and personality. However, it is noteworthy that there is a lack of comparative studies examining the levels of personality function in patients with newly categorized subtypes of SAD ('performance only' type and the others) according to DSM-5.

To our knowledge, this study represents the first attempt to compare the newly defined subtypes of Social Anxiety Disorder (SAD) in terms of levels of personality functioning. According to the primary hypothesis of this study, it is predicted that SAD subtypes with similar clinical manifestations have different levels of personality functioning. We believe that examining these new SAD subtypes, as defined in DSM-5, from the perspective of personality functioning will contribute to a deeper understanding of treatment-resistant patients, and could be instrumental in developing tailored treatment modalities that take into account the distinct personality functioning levels of patients.

2. Materials and Methods

2.1. Study Sample

The study group was comprised of patients who sought treatment at the Anxiety Disorders Outpatient Clinic of a local Training and Research Hospital for Psychiatry and Neurological Diseases in Turkey between 2016 and 2017, and were diagnosed with Social Anxiety Disorder (SAD) according to DSM-5. Candidates for the study were evaluated by two independent psychiatrists to ensure accurate subtyping. The subtyping was performed in consensus by these psychiatrists. Patients with Performance-Only SAD (PoSAD) were specifically selected from those who experienced clinical anxiety symptoms exclusively during public speaking. This selection criteria aimed at creating a more homogeneous group and to avoid classification ambiguities. Additionally, a healthy control group was recruited from the general community. The study included 26 patients with SAD, 21 with PoSAD, and 25 healthy controls. In this study, the term "SAD" refers to patients who did not meet the "performance only" criterion.

After collecting demographic data, all participants underwent the Level of Personality Functioning Scale (LPFS) interview. Both case groups were also assessed using the Liebowitz Social Anxiety Scale (LSAS) and the SF-36 global functionality scale.

The study was conducted with adherence to ethical standards and received approval from the local ethics committee on June 15, 2015, under the reference number 20150121. Participants were provided with comprehensive information regarding the study, and informed consent was obtained from each participant. Throughout the research, all internationally recognized ethical guidelines were followed. Inclusion criteria for the study were being above 18 years of age, literacy sufficient for self-report scales, and for the case group, a diagnosis of social anxiety disorder. Participants were excluded if they had an organic brain disease, mental disorder with cognitive impairment such as dementia, acute psychosis, severe depression, substance dependence with acute intoxication, or comorbidity with another anxiety disorder.

2.2. Materials

Sociodemographic Data

The researchers created this form to record the socio-demographic data of the participants.

Level of Personality Functioning Scale (LPFS)

Disturbances in self and interpersonal functioning constitute the core of personality psychopathology (7); these characteristics are continuously assessed with this alternative diagnostic model. For assessment purposes, self-functioning incorporates identity and self-direction, whereas interpersonal functioning involves empathy and intimacy. The LPFS assesses each of these variables on a scale of severity that ranges from "no" to "extreme" to distinguish the level of impairment of a patient (i.e., 0: no impairment, 1: mild impairment, 2: moderate impairment, 3: serious impairment, 4: extreme impairment). When using this scale, a clinician determines the level that is closest to the overall level of impairment for any particular patient. This score is essential for diagnosing a moderate or advanced personality disorder and is also used to determine the current severity of any existing personality disorder. Furthermore, the LPFS can be used as a global indicator of the level of personal functioning without reference to any diagnosis of a personality disorder or in cases of subthreshold disorders. A preliminary report investigating the validity and reliability of the Turkish version of the LPFS demonstrated that this scale is sufficiently valid and reliable (8).

Short Form-36 (SF-36)

It was developed and used by Rand Corporation to evaluate the quality of life and functionality. It was translated into Turkish, and its validity and reliability study was done (9). It is a self-report scale. It consists of 36 items that measure eight dimensions: physical function, social function, physical role difficulty, emotional role difficulty, mental health, energy, pain, and general perception of health. Subscales evaluate health between 0-100 points, and 0 points indicate bad health, 100 points indicate good health.

Liebowitz Social Anxiety Scale (LSAS)

This scale was developed by Liebowitz to evaluate the severity

of fear and avoidance in social environments and situations requiring performance. The adaptation of the Liebowitz Social Anxiety Scale in Turkish and its validity and reliability studies were performed (10). It consists of 24 questions, 11 evaluating social situations, and 13 questions evaluating performance situations. The scale applied by the clinician provides six subscale scores showing the severity of fear experienced in social situations, the severity of fear experienced in situations requiring performance, the severity of avoiding social situations, the severity of avoiding situations requiring performance, total fear severity, and total avoidance severity.

2.3. Statistical analysis

Statistical analyses were performed using the SPSS software version 25. While evaluating the study data, in addition to descriptive statistical methods (Mean, Standard deviation, Frequency, Percentage), considering the sample size of the groups, the Mann-Whitney U test, and Kruskal Wallis analyzes were used as nonparametric methods in comparison of the quantitative data. Bonferroni correction was made to prevent the increase of type I error, and the significance level was determined as p <.017 for three comparisons. In addition, the Chi-square test was used to examine the differences between categories of qualitative variables. Values of p less than .05 were regarded as significant for all tests.

3. Results

A total of twenty-six SAD, twenty-one PoSAD, and twenty-five healthy controls were included in the study at the mean age 27,6 ± 5,4, 26,7 ± 5,3 and 27,4 ± 4,1, respectively.

The Chi-Square analysis was used to determine whether there was a significant difference among SAD patients, PoSAD patients, and the control group in terms of age, gender, education level, and financial status. No value below five was found in the distributions for expected values. According to the analysis results, the groups showed a balanced distribution in terms of age, gender, education level, and income level (p> 0.05). Descriptive statistics and chi-square analysis results are shown in Table 1.

Table 1: Sociodemographic characteristics of the groups

	SAD (N=26)	PoSAD (N=21)	HC (N=25)	Total (N=72)		
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	X^2/H	p
Age	27,61 ± 5,4	26,71 ± 5,3	27,44 ± 4,1	27,29 ± 4,9	.534**	.46
Year of education	14,42 ± 3,5	15,62 ± 2,2	14,96 ± 3,0	14,96 ± 3,0	1,59**	.45
	N (%)	N (%)	N (%)	N (%)	X^2/H	p
Gender					.888*	.64
Male	12 (16.7)	9 (12.5)	14 (19.4)	35 (48.6)		
Female	14 (19.4)	12 (16.7)	11 (15.3)	37 (51.4)		
Marital status					10.85*	.004
Married	3 (4,2)	3 (4,2)	12 (16.7)	18 (25.0)		
Single	23 (31,9)	18 (25)	13 (18,1)	54 (75.0)		
Working status					1.18*	.55
Unemployed	15 (20.8)	12 (16.7)	11 (15.3)	38 (52.8)		
Employed	11 (15.3)	9 (12.5)	14 (19.4)	34 (47.2)		
Graduate					.32*	.85
High school	9 (12.5)	6 (8.3)	7 (9.7)	22 (30.6)		
Collage	17 (23.6)	15 (20.8)	18 (25)	50 (69.4)		
Financial status					4.41*	.35
Low	15 (20.8)	7 (9.7)	8 (11.1)	30 (41.7)		
Medium	7 (9.7)	8 (11.1)	10 (13.9)	25 (34.7)		
High	4 (5.6)	6 (8.3)	7 (9.7)	17 (23.6)		

The significance level is p <0.05; *X^2: Chi-square test; **H = Kruskal-Wallis Test Value; SAD: Social anxiety disorder patients who do not meet the performance only indicator; PoSAD: Social anxiety disorder patients with performance only subtype; HC: Healthy controls.

The study found a difference in marital status among the SAD, PoSAD, and control groups. A post hoc Chi-square z-test was performed to identify the source of this difference. The analysis revealed that the difference in marital status was primarily due to the lower prevalence of marriage among the SAD and PoSAD patients compared to the control group (X^2 (2) = 10.85, p <0.05).

Kruskal-Wallis tests were applied to determine whether there was a significant difference between SAD, PoSAD patients, and control groups in terms of age and total years of education. There was no significant difference between the groups in terms of age (H = .534, p <0.05) and total years of education (H = 1.58, p <0.05). It was found that SAD, PoSAD patients, and control groups also showed a balanced distribution in terms of age and total years of education (Table 1).

Using the Liebowitz Social Anxiety Scale, a significant difference was found between the SAD and PoSAD groups in terms of social anxiety levels. The SAD group exhibited higher scores than the PoSAD group in performance anxiety (U = 29.5, p < 0.05), social interaction anxiety (U = 3.5, p < 0.05), total anxiety (U = 5.5, p < 0.05), performance avoidance (U =

6, p < 0.05), social interaction avoidance (U = 0, p < 0.05), and total avoidance (U = 0, p < 0.05) (Table 2).

Table 2: Descriptive Statistical Values of Liebowitz Social Anxiety Scale Scores of SAD and PoSAD Groups and Mann-Whitney U Test Results

	SAD (N=26)	PoSAD (N=21)	
	Mean ± SD		p
Performance Anxiety Score	26,6 ± 5,6	15,8 ± 3,6	0,000*
Social Interaction Anxiety Score	22,1 ± 3,5	9,9 ± 3,7	0,000*
Total Anxiety Score	48,7 ± 8,4	25,6 ± 6,3	0,000*
Performance Avoidance Score	25,2 ± 5,3	12,1 ± 4,2	0,000*
Social Interaction Avoidance Score	21,3 ± 3,07	7,7 ± 3,6	0,000*
Total Avoidance Score	46,6 ± 7,6	19,4 ± 7,04	0,000*

*Significant results (p<0.05), SAD: Social anxiety disorder patients who do not meet the performance only indicator; PoSAD: Social anxiety disorder patients with performance only subtype.

Table 3 displays the SF-36 scores for the SAD and PoSAD groups. The analysis revealed no significant differences between these groups across various domains, including physical function (U = 267, p > 0.05), physical role difficulty (U = 261.5, p > 0.05), emotional role difficulty (U = 245, p > 0.05), energy (U = 244.5, p > 0.05), mental health (U = 260, p > 0.05), social function (U = 199, p > 0.05), pain (U = 187.5, p > 0.05), and general health perception (U = 239.5, p > 0.05).

Kruskal-Wallis tests were used to assess whether there were significant differences in personality function levels (identity, self-direction, empathy, intimacy) among the SAD, PoSAD, and control groups. To identify the sources of differences between groups, Mann-Whitney U tests were conducted. A Bonferroni correction was applied to control for Type I error, setting the significance threshold at p<.017 for the three comparisons. Table 4 summarizes the mean scores, standard deviations, and significance values obtained from the analyses.

Table 3: Descriptive Statistical Values of the SF-36 Scores of SAD and PoSAD Groups and Mann-Whitney U Test Results

	SAD (N=26)	PoSAD (N=21)	
	Mean ± SD		p
Physical Function	79,2 ± 24,9	85,4 ± 12,6	0,897
Physical Role Difficulty	54,8 ± 40,6	60,7 ± 47,8	0,817
Emotional Role Difficulty	30,7 ± 29,6	38,06 ± 36,9	0,526
Energy	35,7 ± 18,08	39,2 ± 20,8	0,539
Mental Health	49,5 ± 17,1	50,8 ± 17,5	0,788
Social Function	48,07 ± 25,9	62,5 ± 23,7	0,109
Pain	68,7 ± 27,4	82,7 ± 27,4	0,055
General Perception of Health	49 ± 20,1	53,8 ±2 3,1	0,470

The significance level is p <0.05, SAD: Social anxiety disorder patients who do not meet the performance only indicator; PoSAD: Social anxiety disorder patients with performance only subtype.

A significant difference was observed in the impairment of functionality in the identity sub-dimension across the three groups (H = 18.05, p < 0.05). Pairwise comparison analysis was conducted to pinpoint the source of this difference. No significant difference in impairment scores in the identity sub-dimension was found between the SAD and control group (U = 229, p > 0.017), or between the PoSAD and control group (U = 181.5, p > 0.017). However, a significant difference was observed between the SAD and PoSAD patient groups (U = 93, p < 0.017). Essentially, while no significant difference was found between the control group and either patient group, a notable difference was found between the PoSAD and SAD patient groups. The impairment in the identity sub-dimension was significantly more pronounced in SAD patients compared to PoSAD patients. Specifically, SAD patients demonstrated moderate impairment (2.0 ± 0.4) in the identity sub-dimension, while PoSAD patients (1.28 ± 0.46) and the healthy control (HC) group (1.68 ± 0.69) exhibited mild impairment.

In the self-management sub-dimension, a significant difference in the level of functional impairment was observed among the three groups (H = 17.54, p < 0.05). Pairwise comparisons revealed no significant difference between the SAD group and the control group (U = 277, p > 0.017). However, the PoSAD group significantly differed from both the control group (U = 154.5, p < 0.017) and the SAD group (U = 93, p < 0.017). The PoSAD group displayed a lower level of functional impairment in self-management (1.2 ± 0.4) compared to the SAD (2.0 ± 0.4) and control groups (1.84 ± 0.7).

In the empathy sub-dimension, a significant difference in the level of functional impairment was also found among the three groups (H = 12.32, p < 0.05). Pairwise comparisons showed significant differences between the SAD group and the control group (U = 199.5, p < 0.017), as well as between the SAD and PoSAD groups (U = 93, p < 0.017). There was no significant difference between the PoSAD group and the control group (U = 245, p > 0.017). The SAD group exhibited a higher level of impairment in empathy (2.42 ± 0.76)

compared to the PoSAD (1.62 ± 0.59) and control groups (1.76 ± 1.01).

For the intimacy sub-dimension, a significant difference in the level of functional impairment was observed among the three groups (H = 31.95, p < 0.05). Pairwise comparisons indicated a significant difference between the SAD group and the control group (U = 90.5, p < 0.017), and between the PoSAD and SAD groups (U = 76.5, p < 0.017), while no significant difference was found between the PoSAD and the control group (U = 203.5, p > 0.017). The SAD group displayed a higher impairment score in the intimacy sub-dimension (2.88 ± 0.51) compared to the PoSAD (2.1 ± 0.3) and control groups (1.84 ± 0.69).

Table 4: Comparison of personality functioning level sub-dimensions between SAD, PoSAD and healthy control groups

	SAD (N=26)	PoSAD (N=21)	HC (N=25)	
	Mean ± SD			p
Identity	2,00 ± 0,4	1,28 ± 0,46	1,68 ± 0,69	0,000*
Self-direction	2,0 ± 0,4	1,2 ± 0,4	1,84 ± 0,7	0,000*
Empathy	2,42 ± 0,76	1,62 ± 0,59	1,76 ± 1,01	0,000*
Intimacy	2,88 ± 0,51	2,1 ± 0,3	1,84 ± 0,69	0,000*

*Significant results (p<0.05), SAD: Social anxiety disorder patients who do not meet the performance only indicator; PoSAD: Social anxiety disorder patients with performance only subtype; HC: Healthy controls.

4. Discussion

Personality functioning level and functionality in subtypes of social anxiety disorder were investigated in our study, and findings were compared between SAD, PoSAD and the control group. Despite the abundance of studies in the literature that explore the relationship between Social Anxiety Disorder (SAD) and personality disorders, our study holds significance. It contributes to the literature by being the first to investigate the relationship between levels of personality functioning and subtypes of SAD, introducing a novel concept for understanding personality structure.

In our study, as expected, all subscale scores and total scores of LSAS were found to be significantly higher in the SAD group compared to the PoSAD group. At first glance, it seems a paradoxical finding that the performance anxiety and performance avoidance scores of LSAS were higher in the SAD group compared to the PoSAD group. However, this result can be attributed to social anxiety manifesting in performance situations, with public speaking being the most prevalent among all SAD cases.

In the present study, the SF-36 scale was used to evaluate the degree of global functionality impairment and the participants' quality of life. Subscale scores were obtained in eight different areas: physical function, social function, physical role difficulty, emotional role difficulty, mental health, energy, pain, and general health perception. Although all subscale scores are higher in the group with Persistent Social Anxiety Disorder (PoSAD), this difference is not statistically significant. We observed that the impairment in functionality was not different between the Social Anxiety Disorder (SAD) and PoSAD groups, and the SF-36 scale scores remained below the normative scores established for the Turkish population in all subscales, indicating impaired functionality. Since the SF-36 scale was not administered to the healthy control group in our study, the degree of impairment could not be analyzed. This is one of the limitations of our study.

Previous reports have indicated that Social Anxiety Disorder (SAD) is significantly associated with decreased functionality and quality of life compared to healthy controls (12,13). Many studies have focused on the impact of SAD subtypes on global functionality, but these have mostly considered classifications prior to DSM-5. Evidence suggests that patients with the generalized SAD subtype experience greater functional impairment than other subtypes, especially in the workplace, global activities, interpersonal relationships, and schooling (13–15). In particular, individuals with the General SAD subtype report more functional impairment in the workplace, other global activities, interpersonal relationships, and school than the other subtype (16). Some studies have shown that the general SAD subtype is more linked to fear of interpersonal interaction, whereas another type of SAD is more connected to performance anxiety (17). Before the introduction of the DSM-5 classification, studies indicated that the 'generalized' SAD subtype, characterized by anxiety symptoms manifesting in various social situations, was associated with a higher prevalence of social impairment. In contrast, it was suggested that the SAD subtype, which is characterized by anxiety occurring exclusively during performance situations, was more likely to be associated with unemployment and mental impairments (18). In our study, we compared the SAD and Persistent Social Anxiety Disorder (PoSAD) groups classified according to DSM-5 and found no distinguishable difference in global functionality impairment across all areas. As there is no existing literature on the impact of the PoSAD subtype (as defined by DSM-5) on global functionality, our findings were compared to the results of current studies. Some researchers believe that diagnostic subtypes represent varying degrees of social anxiety severity

on a continuum (16,19). In contrast, others argue that the subtypes are qualitatively distinct, associated with different symptoms and impairments, and that the degree of functionality impairment is not tied to the subtype of the disorder (20). Those who view SAD subtypes as points on a spectrum with varying intensities suggest that the differences in functionality will correlate with these intensity variations (18). Interpreting our study's results from this viewpoint, the lack of a significant difference between the SAD and PoSAD groups in terms of global functionality impairment supports the literature that advocates for a categorical distinction between the two subtypes (20). This outcome was unexpected at the hypothesis stage of our study and lends support to the clinical relevance of transitioning from a dimensional to a categorical approach in the shift from DSM-IV to DSM-5 regarding SAD.

It's important to note that our study was conducted with participants seeking treatment, and the impairment in functionality could be a factor that prompted them to seek help. Consequently, the functionality levels in our sample may not be representative of the general population of individuals with SAD.

Studies have shown that the level of personality functioning is strongly associated with the course and prognosis of psychiatric diseases (21). In two studies employing the Operationalized Psychodynamic Diagnosis (OPD) axis, which originates from psychodynamic theories, it was observed that an impaired personality structure predicted poor treatment outcomes (22). In our study, the personality functioning levels of the participants were evaluated using the Level of Personality Functioning Scale (LPFS). LPFS includes subscales for self-functioning, identity, self-direction, while interpersonal functioning encompasses empathy and intimacy. Impairment is evaluated on a 5-point scale ranging from 0 to 4 (i.e., 0: no impairment, 1: mild impairment, 2: moderate impairment, 3: serious impairment, 4: extreme impairment).

Though the concept of personality functioning has recently been introduced in the current versions of DSM and ICD, its basic components have been studied for some time. Attachment and mentalization are considered foundational elements of personality functioning. Attachment theory primarily offers a model for the quality of interpersonal relationships that are shaped by early childhood experiences with primary caregivers, while mentalization or reflective functions pertain to the capacity to understand one's own and others' mental states. Given this context, it is appropriate to compare the results of our study, which had only a limited number of studies previously, with a broader range of literature.

Manes et al. found that there was an association between attachment security and reduced social anxiety among patients SAD (23). In a review by Manning et al. concerning adult attachment and social anxiety, a consistent relationship between attachment insecurity and social anxiety was reported across twenty-eight publications (24). However, two studies concluded that there was no such relationship between SAD and attachment style (25). Additionally, another study involving healthy participants found that an ambivalent and less secure attachment style was associated with higher levels of social anxiety (26). The majority of the literature that examines the relationship between attachment style and SAD, which is indicative of the state of interpersonal relationships, aligns with the findings of our study. It is noteworthy that these studies predominantly focused on the generalized subtype of SAD. In our study, while no significant impairment in self-functioning was observed in the SAD group compared to the healthy control (HC) group, the SAD group exhibited severe impairment in the empathy and intimacy sub-dimensions of personality functioning, which evaluate interpersonal relations, and significantly differed from the other two groups in this regard.

Eikenas et al., in their study comparing patients with SAD without AVPD to those with SAD and co-occurring AVPD, concluded that the latter group exhibited greater personality dysfunction with regard to self-esteem, identity, and relational problems. (27). The study by Doering et al. confirmed that an anxiety disorder combined with personality disorder goes along with an impaired personality functioning (28). Given the phenomenological similarity between SAD and AVPD, it is consistent with these findings that the impairment in personality function in the SAD group in our study was more severe than in the PoSAD group, which is characterized by symptoms in a limited area.

An interesting, yet seemingly paradoxical finding of our study is that the PoSAD group showed less impairment in the self-direction sub-dimension of personality than the healthy control (HC) group. In other words, the PoSAD group exhibited better personality functioning in this area than the HC group. This contrasts with the study by Wiedemann et al., which demonstrated an association between a positive self-image and lower music performance anxiety, and between a negative self-image and higher music performance anxiety (29).

Additionally, 'stage fright,' as discussed in psychoanalytic literature and considered part of the social anxiety spectrum, is defined as anxiety experienced immediately before a performance (30). This is phenomenologically similar to PoSAD. Taking into account that concepts like anal eroticism, infantile exhibitionism, castration anxiety, and fear of losing control are associated with a neurotic personality in psychoanalytic literature, it might be plausible for the PoSAD group to exhibit a higher level of self-direction compared to the general population. However, this interpretation is speculative and not based on empirical evidence. This particular finding from our study does not align with current literature and requires further validation through more specific studies with larger samples.

In the literature review, we found studies examining the relationship between the level of personality functioning and anxiety disorders, but none included social anxiety disorder (SAD), which is the focus of our study (28). Our study is potentially the first to investigate the relationship between levels of personality functioning - a relatively new concept - and the new subtypes of SAD, making it a critical contribution to the literature.

Our results indicate that levels of personality functioning differ between the SAD and PoSAD groups across all sub-dimensions, including identity, self-direction, empathy, and intimacy, with the PoSAD patients exhibiting a better level of personality functioning than those with SAD.

To summarize, neither SAD subtype showed a difference from the healthy control (HC) group in terms of identity. However, the PoSAD group displayed better self-direction compared to both the SAD and HC groups. While there were no significant differences in empathy and intimacy between the HC and PoSAD groups, the SAD group exhibited greater impairment in these domains.

Interestingly, global dysfunction in SAD and PoSAD patients did not differ, which supports the notion that there are qualitative differences between these conditions beyond just differences in clinical severity. This presents a seeming contradiction: while personality functioning differed between the subtypes, global functionality did not. One might expect that impairment in personality functioning would be mirrored in global functionality. We utilized the SF-36 scales for measuring global functioning (self-reported) and the LPFS scales for assessing personality function (clinician-rated). The discordance in results could be attributed to the fact that patients might assess their own functionality more favorably than clinicians. This intriguing finding warrants further investigation with larger samples.

The results of this study underscore the importance of considering personality functioning in the assessment and treatment planning for individuals with SAD. Tailored interventions that address the specific impairments in identity, self-management, empathy, and intimacy dimensions can potentially enhance treatment outcomes and improve overall functioning. For instance, interventions targeting self-identity and self-direction difficulties can help individuals develop a stronger sense of self and increase their ability to make autonomous choices. Similarly, interventions focused on improving empathic abilities and enhancing interpersonal skills can promote more fulfilling social relationships.

It is noteworthy that this study is the first to compare the newly formed subtypes of SAD in terms of personality functioning levels according to DSM-5. The findings provide novel insights into the heterogeneity within SAD and highlight the need for personalized approaches to treatment. By considering the variability in personality functioning, clinicians can better tailor interventions to address the specific needs and challenges of each individual.

However, several limitations should be acknowledged. First, the sample size in this study was relatively small, which may limit the generalizability of the findings. Future research with larger and more diverse samples is needed to confirm and extend these results. Additionally, the cross-sectional design of the study restricts our ability to draw causal conclusions about the relationship between personality functioning and SAD subtypes. Longitudinal studies could provide more robust evidence regarding the stability and developmental trajectories of personality functioning in individuals with SAD.

In conclusion, this study highlights the significance of considering personality functioning in different subtypes of SAD. The findings suggest that individuals with SAD and PoSAD exhibit distinct levels of impairment in identity, self-management, empathy, and intimacy dimensions. Understanding these differences can guide the development of more tailored treatment strategies to address the specific needs of individuals with different personality functioning levels. Further research is warranted to elucidate the underlying mechanisms and explore the long-term implications of personality functioning in SAD subtypes.

Conflict of interest

Authors state that there is no conflict of interests.

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None to declare.

Ethical Statement

This study was approved by the ethics committee of Istanbul Erenkoy Training and Research Hospital for Psychiatry and Neurological Diseases (15.06.2015 / 20150121). Detailed information about the study were given and informed consent was obtained from all patients.

Authors' contributions

Concept: A.K.D., Y.Y., G.G., E.E.B., Design: A.K.D., Y.Y., G.G., E.E.B., Data Collection or Processing: A.K.D., Y.Y., E.E.B., Analysis or Interpretation: A.K.D., Y.Y., E.E.B., Literature Search: A.K.D., Y.Y., G.G., E.E.B.,Writing: A.K.D., Y.Y., G.G.

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