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Self esteem, dependency, self-efficacy and self-criticism in social anxiety disorder

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Abstract

Background: Social anxiety disorder (SAD) is characterized by fear and avoidance in social situations where one perceives being in danger of scrutiny by others. Low self-esteem, low self-efficacy, high self-criticism and high dependency are additional potential features of SAD, and thus their examination is warranted, as is the elucidation of their inter-relationship.
Method: Thirty-two SAD subjects diagnosed with the Mini-International Neuropsychiatric Interview and 30 healthy controls, were administered the Liebowitz Social Anxiety Scale (LSAS), the Rosenberg Self Esteem Scale, the Depressive Experiences Questionnaire (DEQ) that assesses self-criticism, dependency and self-efficacy, and a socio-demographic questionnaire. We hypothesized that the SAD group would present higher scores of dependency and self-criticism and lower self-esteem and self-efficacy. We also hypothesized that low self-esteem, low self-efficacy, high self-criticism and high dependency will predict the severity of SAD.
Results: In line with the hypotheses, SAD patients had higher scores of self-criticism and dependency and lower scores of self-esteem. The social anxiety score correlated negatively with self-esteem and self-efficacy, and positively with dependency and self-criticism. Self-criticism, but not the other measures, predicted the total LSAS score.
Conclusions: Self-esteem, self-criticism, dependency and self-efficacy are related to SAD and their relations should be examined in future studies that will employ larger samples. It is suggested to search for ways to affect these factors through cognitive-behavioral interventions and additional psychotherapeutic treatments. Research should also focus on the specific role of self-criticism in SAD.
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1. Introduction

Social anxiety disorder (SAD) is a common anxiety disorder characterized by overwhelming anxiety and excessive self-consciousness in everyday social situations [1–3]. People with SAD have a persistent, intense, and chronic fear of being judged by others and of being embarrassed by their own actions. Their fear may be so severe that it interferes with work, school, or other activities. SAD is frequently accompanied by comorbid mental disorders, such as depression and substance abuse [2]. Cognitive factors may play a part in the etiology or maintenance of the disorder [3]. SAD subjects display thoughts and beliefs that are dysfunctional and lead to anxiety and avoidance, and experience the environment as threatening and dangerous [3]. SAD persons tend to dwell on the point of view of the other person and believe that others' gazes indicate criticism and rejection. Their mental image is usually negative; they believe that they are failing and that the results of their behavior will be disastrous. These thoughts strengthen their negative feelings, creating a vicious cycle. Following these inclinations, potential features in SAD individuals and possible etiological factors, may be low self-esteem, low self-efficacy, high dependency and high self-criticism. The jointly role of these psychological traits in SAD and their inter-relationship has not yet been examined, and this was the target of our study.

Self-esteem refers to how persons evaluate themselves and is defined as "the extent to which one prizes, values, approves of, or likes oneself" ([4], page 115). Persons with low self-esteem tend to dwell on unfavorable attributes, rather than focusing on their strengths [5]. This evaluation

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can have a huge impact on the person's psychological well-being, leading to disorders like SAD [6,7]. Indeed, highly socially anxious children exhibited low levels of self-esteem [8] and adolescents with anxiety disorder had lower self-esteem compared with healthy adolescents, with SAD having the greatest relative impact on self-esteem [9]. de Jong and colleagues [10] demonstrated that self-evaluative thoughts and actions can originate from an adolescent's self-esteem level and suggested that one's self-esteem can be an important factor for the development of SAD, and in turn, can further deflate self-esteem. Finally, SAD patients showed low implicit self-esteem compared to healthy controls, whereas panic disorder patients scored in between these groups [11].

Another important facet of SAD is self-criticism. This is the inner negative voice that attacks and judges the individual and his/her actions [12,13]. Self-criticism contributes to the vulnerability of an individual as he/she could view actions as failures, feel a failure as a whole and expect only very high and unachievable standards, and thus might withdraw from social networks [14]. This individual will not appreciate his/her efforts and the failure circle will expand, with evolving depression, despair and guilt. The National Comorbidity Survey (NCS) suggested already in 2004 that self-criticism is robustly associated with SAD and that it may represent an important core psychological process in SAD [13]. Self-criticism was elevated in SAD, even in cases of only past history of SAD, as compared to individuals with no psychiatric disorder [13]. The highest levels of self-criticism were reported by people with the complex subtype of SAD (generalized type in DSM-4), both with and without comorbid major depression. These levels were significantly greater compared to those observed in panic disorder, the pure speaking subtype SAD, and cases of major depression alone. In a regression analysis that controlled for current emotional distress, neuroticism, and lifetime histories of mood, anxiety, and substance use disorders, self-criticism remained significantly associated with lifetime prevalence of SAD [13]. Recently, Kopala-Sibley and colleagues [15] also reported increased self-criticism in SAD, with self-criticism moderating the fear-inducing effects of situational self-consciousness.

Perceived self-efficacy describes the individual's belief in his/her resources and capabilities, according to goal-oriented strivings, in various life domains, including the social domain [16]. Self-efficacy beliefs have been linked to motivation and behavioral change and to enhanced affect regulation and psychosocial functioning [17]. They are strongly connected to SAD both among children [18] and adults [19]. Furthermore, general self-efficacy has been reported to mediate the link between negative self-statements and SAD [18]. In a similar manner, low self-efficacy was associated with the severity of social anxiety and related impairment, and this relationship was partly mediated by dysfunctional coping strategies [20]. Low self-efficacy may increase an individual's tendency to rely on dysfunctional coping strategies for dealing with anxiety in social situations [20]. In turn, these dysfunctional coping strategies exacerbate the experience of impairment from social anxiety.

SAD patients are more dependent and dependent individuals are characterized by both excessive preoccupations with the possibility that they are not loved or cared for, as well as by feelings of helplessness, weakness, and abandonment fears [15]. SAD persons fear rejection, and might be dependent on their families. Kopala-Sibley et al [15] reported that highly dependent SAD patients are more likely to feel fear during interpersonal situations when they feel less emotionally secure. Additional studies demonstrated that people who report high levels of social anxiety have only few social connections and therefore exhibit a tendency for overdependence on these relations [21–24].

In the present study, we examined the relationship between social anxiety, self-criticism, self-esteem, self-efficacy and dependency among SAD subjects and healthy controls, with the Depressive Experiences Questionnaire that comprises of three factors: dependency, self-criticism and self-efficacy. Our study is the first study to examine the jointly role of these psychological traits in SAD and their inter-relationship, aiming to elucidate which of the variables contributes the most to social anxiety scores.

2. Study hypotheses

Our hypotheses relate to two main domains in the lives of patients with SAD, that is, their interpersonal relations (their dependency needs) and their general self-perception (self-criticism, self-efficacy, and self-esteem):

(1) In the domain of interpersonal relations we hypothesized that SAD subjects will display more dependency than healthy controls.
(2) In the domain of general self-perception we followed numerous studies showing that persons with SAD have a negative bias [3] and also lack the positive bias of non-anxious persons [25–27]. We hypothesized that patients with SAD would be characterized by lower self-efficacy and self-esteem scores, and by higher scores of self-criticism.
(3) Dependency, low self-efficacy, low self-esteem and self-criticism will predict the social anxiety score.

3. Materials and methods

3.1. Participants

Our sample included 62 participants, 26 males and 36 females, average age 31.26 (*SD* = 9.08), range: 18–61 years, average years of education 14.48 (*SD* = 2.31), range: 10–20, mostly secular (62.9%), and about a half married (53.2%). The inclusion criteria were MINI-diagnosed social anxiety disorder [28] and giving informed consent. Exclusion criteria included severe cognitive impairment, current alcohol or drug abuse, health conditions characterized by body

disfigurement, stuttering or Parkinson's disease, and active psychiatric disorders (e.g., schizophrenia, major depressive disorder, OCD, etc.). The SAD sample met past but not current criteria for various conditions such as major depression (16%), bipolar disorder (3%), specific phobia (10%) and obsessive compulsive disorder (3%). Seven participants in the SAD group used psychotropic medications (2 sertraline, 1 citalopram, 3 escitalopram and 1 calmanervin). Personality disorders were not examined in this study.

The SAD participants were recruited consecutively during their first visit at a community mental health clinic and were all seeking treatment. Screening interviews were carried out by the first author. Out of 33 participants with SAD who agreed to be interviewed, 32 were selected. One subject had difficulty in Hebrew, the language by which the therapy was conducted. Thirty healthy controls were recruited from the administrative and technical staff of our clinic. These subjects had no psychiatric diagnosis and were not in treatment. As shown in Table 1, there were no significant differences between the SAD group and the healthy control group in the distribution of age, but the healthy control group had more females, more years of education and a higher rate of married persons. These differences will be controlled for.

Table 1
Background and interpersonal characteristics of the study groups.

Variable	Social anxiety (N = 32)	Healthy controls (N = 30)	Difference test
Background variables			
Age, M (SD)	30.51 (9.60)	31.78 (8.74)	$t(60)$ = −0.54, *ns*
Range	18–55	24–37	
Gender, N (%)			χ^2 (1) = 11.49**
Female	12 (37.5)	24 (80.0)	
Male	20 (62.5)	6 (20.0)	
Education, years	13.91 (2.62)	15.10 (1.77)	$t(60)$ = −2.09*
Range	10-20	10-18	
Religiosity, N, (%)			χ^2 (1) = 2.03, *ns*
Religious	6 (18.8)	2 (6.6)	
Traditional	7 (21.98)	8 (26.7)	
Secular	19 (59.4)	20 (66.7)	
Marital status, N (%)			χ^2 (1) = 12.59**
Single	24 (75.0)	9 (30.0)	
Married	8 (25.0)	21 (70.0)	
Interpersonal variables			
Two friends or more			χ^2 (1) = 9.60**
Yes	21 (66.0)	29 (97.0)	
No	11 (34.0)	1 (3.0)	
History of psychotherapy			χ^2 (1) = 7.90**
Yes	25 (78.0)	13 (43.0)	
No	7 (22.0)	17 (57.0)	
Over protective parents			χ^2 (1) = 3.38, *ns*
Yes	12 (38.0)	5 (17.0)	
No	20 (62.0)	25 (83.0)	
Over demanding parents			χ^2 (1) = 0.14, *ns*
Yes	11 (34.0)	9 (30.0)	
No	21 (66.0)	21 (70.0)	
Over critical parents			χ^2 (1) = 1.26, *ns*
Yes	14 (44.0)	9 (30.0)	
No	18 (66.0)	21 (70.0)	
Divorced parents			χ^2 (1) = 0.60, *ns*
Yes	4 (13.0)	2 (7.0)	
No	28 (87.0)	28 (93.0)	
Preference of Internet connections parents			χ^2 (1) = 12.54***
Yes	11 (34.0)	0 (0.0)	
No	21 (66.0)	30 (100.0)	

ns = non-significant.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

3.2. Measures

3.2.1. Liebowitz Social Anxiety Scale (LSAS) [29]

This questionaire provides a total score which is the sum of two subscales measuring social fear and social avoidance. The scale consists of 24 items that refer to performances in social settings (e.g. "participating in a small group") and to social interactions (e.g. "going to a party"). Respondents are asked to rate both their level of anxiety when they experience the situation (0 = "none" to 3 = "severe") and the frequency of their avoidance of the situation [0 = "never" to 3 = "usually (67-100%)"]. The LSAS has very good internal consistency (Chronbach's α ranging from 0.81 to 0.92), and good convergent validity [30]. It was translated to Hebrew and demonstrated strong test–retest reliability, internal consistency, and discriminant validity [31]. Participants with scores of 30–40 on the LSAS are considered as having mild SAD, whereas those that score between 50 and 80 are considered to have moderate to severe SAD. In the current study, the average total score for participants diagnosed by the MINI as suffering from SAD was between moderate and severe (M = 67.38, SD = 22.14) and differed significantly from the average score of the healthy controls (M = 26.97, SD = 11.45). Our alpha reliability coefficient for the LSAS was very high, Chronbach's α = 0.96.

3.2.2. Self-Esteem Scale (SES [32])

This inventory measures overall self-esteem and is considered a reliable and valid quantitative tool for self-esteem assessment. Higher scores indicate high self-esteem. Respondents score their level of agreement with 10 statements (e.g., "I take a positive attitude toward myself") on a scale ranging from 1 (strongly disagree) to 4 (strongly agree), with five reversed items. The SES was translated into Hebrew and validated [33]. In our study, the Cronbach's alpha was .93.

3.2.3. The Depressive Experiences Questionnaire (DEQ [34])

This 66-item questionnaire consists of items representing a broad range of phenomenological experiences associated with negative self-evaluations (e.g., statements reflecting a depreciated evaluation of self and others, dependency, helplessness, distortions in family relations, self-blame, loss of autonomy, etc.). These are associated with a depressive state of mind and are frequent among depressive patients. Participants are asked to rate their level of agreement with each item on a scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire is indexed according to three factors: dependency, self-criticism, and self-efficacy (goal-oriented strivings). Higher scores reflect stronger traits. Dependency reflects wishes to be cared for and protected, as well as fear of being abandoned. Self-criticism taps preoccupation with achievement, inferiority and guilt in the face of perceived failure. Self-efficacy represents personal resilience and inner strength. In our study the Cronbach's alphas were .83, .94, and .65.

3.2.4. Background and interpersonal data

Background data included age, gender, years of education, marital status and number of children. Additional data included the existence of two friends or more, history of psychotherapy, report of over-protective parents, over-demanding parents, over-critical parents, divorced parents and preference for internet connections. Medical conditions and medications were also monitored.

3.3. Procedure

The study was approved by our institutional's review board. Questionnaires were administered individually in the clinic by the first author as a part of the intake procedure. The participants were asked to participate and to sign informed consent forms, after receiving information on the study. They were provided with the research instruments and filled out the questionnaires in the presence of the first author.

3.4. Data analysis

In order to examine the distribution of background and interpersonal variables in the two study groups (SAD group/healthy control group), t-tests for independent samples and chi-square analyses for independent groups were conducted. In order to understand the associations between the study variables, we computed Pearson and Spearman's correlations between all study variables. To examine hypotheses 1 and 2, we compared the two groups (SAD/healthy controls) by univariate analyses of covariance (ANCOVAs) in which dependency, self-criticism, self-efficacy, and self-esteem, were the dependent variables. Finally, to check hypothesis 3, we used a linear stepwise regression with the above-mentioned variables on the entire sample in order to predict the LSAS score. As there is a continuum of the above-mentioned psychological features, we examined the relations between variables and performed a regression analysis on the whole sample. In order to address differences between the groups with regard to sex, education, and marital status (see Table 1) we controlled for these variables and entered them to all subsequent analyses.

4. Results

As shown in Table 1, in addition to the differences in gender, years of education and marrital status already reported in the methods section, there were significant differences between the two groups: (1) sixty-six percent of the SAD group reported of having two or more friends in comparison to 97% of the healthy control group; (2) thirty-four percent of the SAD group reported of preference for internet connections, whereas none of the healthy control group reported of such preference; (3) seventy-eight percent of the SAD group reported a history of psychotherapy in comparison to 43% of the healthy control group.

As shown in Table 2, the LSAS score negatively correlated with self-esteem and with self-efficacy, and positively correlated with dependency and self-criticism. The LSAS score also correlated positively with being a male, correlated negatively with being married and with having two or more friends. It also correlated positively with receiving psychotherapy, and with a preference for internet relationships.

4.1. Study hypotheses

As demonstrated in Table 3, the ANCOVAs revealed main effects for group so that in comparison to the healthy control group, the SAD group reported significantly higher dependency ($p < 0.001$).

As demonstrated in Table 3, the ANCOVAs revealed main effects for group so that in accordance with this hypothesis, in comparison to the healthy control group, the SAD group reported significantly higher self-criticism ($p < .001$) and less self-esteem ($p \leq .001$).

As seen in Table 4, after controlling for background variables (age, gender and marital status), a stepwise linear regression found that only self-criticism predicted the total LSAS score ($\beta = 0.452$, $p < .001$, $t = 3.781$, $R^2 = .741$), while the other variables (except for marital status) did not add any significant effect for the total model.

5. Discussion

Our study is the first to assess the DEQ factors together with self-esteem in a group of SAD patients, and to study the potential contributions of these factors to social anxiety. In line with our first two hypotheses, SAD patients had higher scores of self-criticism and dependency and lower scores of self-esteem. The LSAS score correlated across the whole sample negatively with self-esteem and self-efficacy, and positively with dependency and self-criticism. Contrary to our third hypothesis, self-criticism alone predicted the LSAS score, while the other DEQ scores and self-esteem did not add to the

Table 2
Descriptive statistics for the study variables.

	M/%	*SD*	1	2	3	4	5
1. LSAS	47.82	26.94	-				
2. Self esteem	2.91	0.67	−0.65***	-			
3. DeQ – Efficacy	4.67	0.65	−047***	0.63***	-		
4. DeQ – Dependency	3.88	0.90	0.63***	−0.72***	−0.40***	-	
5. DeQ – Self-criticism	3.89	1.07	0.69***	−0.83***	−0.46***	0.84***	-
6. Age	30.97	9.37	−0.06	0.09	−0.08	−0.05	−0.09
7. Gender[a]	41.9%	-	−0.40***	0.31*	0.25*	−0.36**	−0.48***
8. Education (years)	14.48	2.31	−0.24	0.19	0.21	−0.13	−0.15
9. Marital status[b]	64.5%		−0.63***	0.62***	0.40***	−0.59***	−0.66***
10. Religiosity[c]	62.9%		−0.09	0.14	0.00	−0.07	−0.09
11. Two or more close friends[d]	80.6%		−0.45***	0.53***	0.45***	−0.38**	−0.53***
12. History of being in psychotherapy[e]	61.3%		0.36**	−0.38**	−0.21	0.39**	0.47***
13. Over protective parents[f]	27.4%		0.25	−0.15	0.5	0.32**	0.30*
14. Over demanding parents[g]	32.3%		0.08	0.02	0.15	0.26*	0.21
15. Over critical parents[h]	37.1%		0.21	−0.34**	−0.12	0.30*	0.42***
16. Divorced parents[i]	9.7%		0.13	−0.07	−0.17	0.22	0.12
17. Internet[j]	17.7%		0.44***	−0.36**	−0.23	0.41***	0.53***

$N = 62$. Correlation values represent Pearson coefficients except for coefficients for gender and marital status that represent point-biserial coefficients and those for education that represent Spearman's rank coefficients.

[a] Coded 1 = female, 2 = male, man percent is reported.
[b] 1 = currently unmarried, 2 = currently married, percent of married is reported.
[c] 1 = religious, 2 = secular; percent of secular is reported.
[d] 1 = not having friends, 2 = having friends; percent of having friends is reported.
[e] 1 = no psychotherapy today/in the past, 2 = psychotherapy today/in the past; percent of being in psychotherapy is reported.
[f] 1 = not having overprotective parents, 2 = having overprotective parents; percent of having overprotective parents is reported.
[g] 1 = not having over-demanding parents, 2 = having over-demanding parents; percent of having over-demanding parents is reported.
[h] 1 = not having overcritical parents, 2 = having overcritical parents, percent of having overcritical parents is reported.
[i] 1 = not having divorced parents, 2 = having divorced parents; percent of having divorced parents is reported.
[j] 1 = non-preference for Internet connections, 2 = preference for internet connections; percent of preference is reported.

* $p < .05$.
** $p < .01$.
*** $p \leq .001$.

variance predicted. All the abovementioned differences were found after controlling for differences between the study groups in sex, education, and marital status.

The DEQ has been used extensively in depression [34,35]. Its factors have been considered to convey vulnerability to depression, but they are also important in SAD. However, the DEQ has not been used in SAD, except for one study that used only a shortened and partial version of the DEQ [36]. Our findings demonstrate the advantages of the DEQ as an inventory dealing with three important constructs in SAD and especially stress the role of self-criticism in predicting SAD.

Our findings on low self-esteem and high self-criticism are in line with the presumed disturbance in self-image in SAD [10,11,13,37]. According to the cognitive models of SAD [3,37], dysfunctional self-views play an important role in the maintenance of the disorder. Specifically, negative self-views contribute to a discrepancy between perceptions of the self and of others' standards, ultimately leading to an increased fear of negative evaluation. When faced with a social threat, individuals with SAD shift their attention inward and engage in a process of detailed self-monitoring, during which they experience excessively negative self-images that they perceive as being accurate [37].

Our findings on high self-criticism in SAD also support the literature [13,36,38]. The level of self-criticism in SAD patients was almost three times greater than the level reported in a group of panic disorder patients, with Cox and colleagues [13] suggesting that self-criticism may be of value in understanding the psychological basis in SAD. Self-criticism might be even more influential in SAD than in depression [13]. Indeed, self-criticism is a pernicious vulnerability factor to a host of psychopathological conditions [35]. Our finding that self-criticism is the strongest predictor of social anxiety

Table 3
ANCOVA results of dependent variables by groups.

Scores	Group	*M*[a]	*SD*	*F*	η^2
Self esteem	Social anxiety	2.62	0.67	13.18***	0.19
	Healthy controls	3.23	0.38		
Dependency	Social anxiety	4.35	0.72	19.53***	0.26
	Healthy controls	3.39	0.70		
Self-criticism	Social anxiety	4.41	0.89	21.88***	0.28
	Healthy controls	3.33	0.68		
Self-efficacy	Social anxiety	4.51	0.72	3.08, *ns*	0.05
	Healthy controls	4.84	0.45		

ns = non-significant.
[a] Reported means are adjusted means, due to covariates.
*** $p \leq .001$.

Table 4
Stepwise regression predicting social anxiety by dependency, self-criticism, self-esteem, and self-efficacy.

	β	t
Age	.233*	2.145
Gender[a]	−.169	−1.710
Marital status[b]	−.607***	4.472
Dependency	.156	.930
Self-criticism	.452***	3.781
Self-esteem	−.178	−1.061
Self-efficacy	−.153	−1.488

Regressions were run after a listwise deletion of cases with missing data. Entries for the predicting variables are standardized regression coefficients (βs).

[a] Coded as 1 = female and 2 = male.

[b] Coded 1 = currently unmarried, 2 = currently married.

* $p < .05$.

*** $p \leq .001$.

symptoms is a further contribution to the area and suggests that therapeutic interventions should focus on this variable. The other findings of high dependency and low self-efficacy also support the literature [15,20].

We should remember however that SAD is a heterogeneous condition. Highly dependent SAD patients are more likely to feel fear during interpersonal situations when they feel less emotionally secure. Highly self-critical SAD patients are more likely to feel fear during interpersonal situations when they are self-conscious. It is proposed to understand the heterogeneity in SAD according to interpersonal cues [15]: some SAD patients are more self-critical and less dependent, whereas others are mainly dependent and less self-critical. In therapy, it may be important to identify these specific combinations, so as to use efficient interventions according to the patient's characteristics.

Although our study corroborates findings from studies in various samples of students or community adults, it is the first study to assess these variables in a clinical sample of SAD subjects. In a non-clinical sample of 69 students, self-criticism predicted elevated levels of social anxiety, with dependency also predicting social anxiety, although marginally [35]. The authors found an opposite effect of self-criticism and efficacy on social anxiety and proposed that this provides further support for the conceptualization of self-criticism and self-efficacy as representing adaptive and maladaptive manifestations of self-definition. Wiseman and colleagues [16] examined 141 students with/without difficulty in having long-term romantic relationships. Although the issue of SAD was not mentioned in the paper, we consider this study as an additional and parallel endeavor on the boundaries of SAD. Self-criticism and dependency contributed to greater self-reported inter-personal distress, while efficacy moderated the effects of these vulnerabilities [16]. Taken together, as in our study with SAD subjects, adjacent samples show that these personality styles are related to anxiety.

Our study's limitations include the following: First, our sample was rather small. Second, the self-report questionnaires lead to a potential self-report bias. Third, the use of a treatment-seeking sample holds the possibility that not all SAD subjects would respond similarly to our questionnaires. Fourth, we did not control for depression levels, a relevant variable in SAD. However, Cox et al [36] found that self-criticism predicted social anxiety even after controlling for depression levels. We used a diagnosis of depression as an exclusion criterion and we also wanted to lessen the number of questionnaires used. Finally, the cross-sectional design of the study does not permit causal inferences, so we do not know whether our variables (i.e. low self-esteem and self-criticism) result from SAD or cause it.

The question what came first, the chicken or the egg, SAD or low self-esteem (and the other three variables alike), remains to be explored in large longitudinal studies. Several studies are worth mentioning. In a cross-sectional study with 5607 adolescents in Taiwan, a low level of self-esteem was found to be associated with increased social anxiety [39], and self-esteem was also a mediator of the relationship between family adversity and social anxiety. In this study, social anxiety did not lead to decreased self-esteem. Similarly, in a recent longitudinal study, self-esteem at baseline was associated with symptoms of SAD at follow-up in a sample of 1641 Dutch pupils [6]. Baseline symptomatology was not associated with self-esteem at follow-up and the authors concluded that their findings support the vulnerability effect (low self-esteem leads to anxiety), and not the scarring effect (anxiety leads to low self-esteem) [6]. We agree that self-criticism and low self-esteem are important psychological vulnerabilities for the development and maintenance of SAD (the vulnerability effect), although this cannot be deducted from our study's findings.

6. Conclusions

Our study may enhance the understanding of cognitive and emotional processes that underlie SAD. It is important to raise self-esteem and to lower self-criticism in subjects with SAD. Cox et al [36] reported that over the course of treatment, self-criticism was significantly associated with improvement in SAD symptoms, even after controlling for baseline symptoms severity and change in depression. We recommend that therapists use questionnaires that examine these psychological traits, in addition to SAD questionnaires [40]. Cognitive treatment and also psychodynamic therapy have been reported to similarly improve self-esteem in SAD [41], as well as to decrease SAD symptoms. Deliberate retrieval of positive self-images facilitates access to a healthy positive bias and improves self-esteem [42]. Targeting change in self-efficacy may increase confidence and lead to better treatment outcomes [18]. Finally, it can also be useful to enhance self-esteem among patients with low self-esteem who had not as yet developed SAD, as low self-esteem may function as a possible precursor of SAD.

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