Social Anxiety and Its Correlates Among Lebanese Adults:
Role of Self-Esteem, Depression, Alcohol Use Disorder, Alexithymia, and Work Fatigue

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ABSTRACT

Objective: To evaluate factors associated with social anxiety disorder among the Lebanese population, construct a new model associating these factors, and compare its uniformity with a theoretical framework.

Methods: A total of 789 participants were enrolled in this cross-sectional survey study. The Liebowitz Social Anxiety Scale was used to assess fear and avoidance. The study was conducted from November 2017 to March 2018.

Results: Depression ($\beta = 0.229$, $P = .013$), emotional exhaustion/work fatigue ($\beta = 0.275$, $P = .001$), and experiencing a divorce ($\beta = 15.413$, $P < .001$) were significantly associated with higher social phobia. Higher self-esteem ($\beta = -0.427$, $P = .048$) and higher relationship management ($\beta = -0.381$, $P = .001$) were significantly associated with lower social phobia.

Conclusions: This study provides crucial information about the psychological factors of social anxiety among the Lebanese population. Divorce, depression, and emotional exhaustion/work fatigue were associated with higher social anxiety. Low self-esteem and better relationship management were associated with lower social anxiety. Psychotherapy interventions may be beneficial to reduce depression and work fatigue and improve emotional intelligence and self-esteem.

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Social anxiety disorder, or social phobia, describes overwhelming anxiety and extreme fear in everyday public or performance events.[1] Patients diagnosed with social anxiety disorder have an extreme fear of being criticized, watched by other individuals, and being humiliated or disgraced by their actions.[2] The lifetime prevalence of social anxiety disorder ranges between 12.1% and 16% in the US population.[3]

The complexity of factors known to be associated with social anxiety disorder makes it more difficult to construct a model to understand this mental disorder.[4] However, the biological, psychological, and environmental components remain the principal factors that explain the etiology of social anxiety disorder and may play a role in its development.[5] With regard to the psychological factors, traumatic experiences and negative environments such as emotional, physical, sexual, or verbal abuse; criticism; neglect; violence; and divorce often cause people to develop negative beliefs and maladaptive behaviors that may develop into social anxiety disorder.[6]

High negative emotions are connected to depression, low self-esteem, and all anxiety disorders.[7] Thus, people with low self-esteem may avoid social situations; it is not a fear of social criticism but a fear that they do not deserve the benefits of social interaction.[6] Emotional intelligence, characterized by the ability to monitor self and others' emotions, was shown to be altered in patients with social anxiety disorder.[8] These patients may lack essential abilities such as the capacity to identify a person's feelings and describe those feelings toward others and interpersonal competency skills such as decoding of other's emotional expression.[8]

Furthermore, burnout, which is a type of stressor characterized by exhaustion and overwhelming tasks, seems to be interrelated to anxiety symptoms in persistent fatigue, but the difference was found in the ability to state and show emotions and feelings.[9] Burnout is characterized by chronic fatigue syndrome that has an impact on daily functioning; this symptom is also common in depression and anxiety.

In addition, alexithymic individuals, characterized by emotional dysregulation, have impaired ability to promote feelings during internal or external events, particularly in social gatherings with high emotional consequences.[10] Thus, a determined avoidance of interpersonal actions could cause perturbations and struggles in relationships and contribute to an increase in social anxiety symptoms.[11]

Clinical Points

- Physicians should recognize potential comorbid health problems associated with social anxiety disorder at earlier stages.
- Improving underlying psychological issues such as low self-esteem, depression, and insufficient emotional skills can reduce social anxiety symptoms.

Figure 1. Framework Relating Risk Factors Associated With Social Anxiety Disorder

Alcohol use disorder (AUD) occurs among patients with social anxiety disorder.[12] Alcohol dependence is preceded by social anxiety symptoms, and alcohol may be used by some to alleviate social anxiety manifestations and enhance social skills.[13] However, some patients living with AUD may develop social anxiety symptoms due to the embarrassment of their actions.[14]

There are multiple proposed frameworks for anxiety-related factors in the literature. In 2011, Nolte and colleagues[15] demonstrated a model linking the attachment system, which joins biological, genetic, and environmental risk factors to stress and fear that develop into social anxiety. In 2016, Spence and Rapee[16] described how the interaction of multiple extrinsic and intrinsic factors develops into social anxiety disorder. Similarly, in the present study, we created a theoretical framework relating psychological, biological, and environmental risk factors that are associated with social anxiety disorder (Figure 1) to better understand these correlations among the population of Lebanon. In this framework, we hypothesized the following relationships: (1) factors such as AUD and burnout might directly cause social anxiety disorder, (2) AUD resulting from biological perturbations can also induce social anxiety disorder, (3) alexithymia is correlated with altered emotional intelligence that causes low self-esteem and therefore social anxiety disorder, and (4) AUD and depression may lead to lower self-esteem directly linked to social anxiety disorder. We chose these factors because the correlation between them and social anxiety disorder was found in previous research[6–14] to be statically significant.

In Lebanon, the economic state has always been fragile due to multiple reasons. Besides the political and religious conflicts, Lebanon shelters refugees of different nationalities, mainly Syrians and Palestinians. On the other hand, the long history of world and civil wars, famine, poverty, and epidemics has also had a harmful effect on the psychological health of the Lebanese population. More than half of the Lebanese population (adolescents and adults) were shown to have mental health issues, yet cases are not adequately reported.[17–23] The Lebanese still feel ashamed to visit clinicians and seek treatment due to cultural reasons and social fears,[24] which also worsens their social insecurities. Previously, the Institute for Development, Research, Advocacy and Applied Care reported that 1.9% of the Lebanese population, both male and female, have social anxiety disorder.[24] Additional information concerning factors associated with social anxiety disorder might
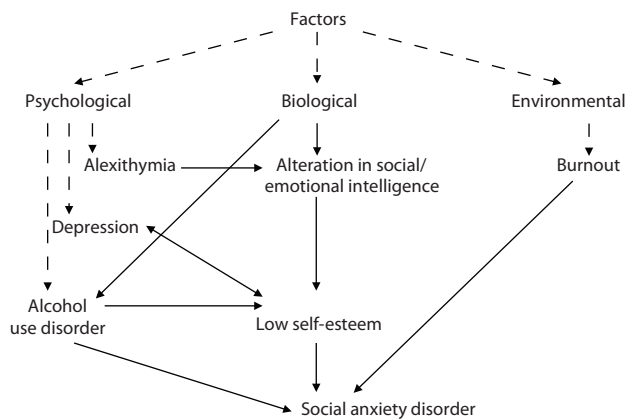
improve the skills of Lebanese physicians when caring for these patients.

Southeast Asian countries have more behavioral rules regarding social engagements compared to Western countries. Therefore, those from Eastern countries are more prone to embarrassment and guilt when breaking these rules, particularly in collectivistic countries that embrace group harmony and in individualistic countries that reward personal achievements.[25] For example, Asia, South Europe, and the US have strict values and norms, which affect the mental health of individuals.[26] Another aspect of the Western culture is the independent self-construal, wherein people tend to be distant from others and are autonomous. Asian and Eastern groups tend to maintain the integrity of the group and live in interdependent relationships.[26] However, most reports on the impact of cultural norms on social anxiety expression have not shown statistical significance.[27] The objective of this study was to evaluate factors associated with social anxiety disorder, mainly emotional intelligence, alexithymia, alcohol consumption, depression, anxiety, stress, and self-regard, among a Lebanese sample.

METHODS

Sampling and Data Collection

This cross-sectional survey spanned 6 months (November 2017 to March 2018), with 789 Lebanese residents joining the study from each governorate and region through a proportional arbitrary sampling. Of 950 questionnaires distributed, 789 (83.05%) were completed and collected. In Lebanon, multiple villages are joined together to form a Caza, which forms a governorate. Lebanon is divided into 8 governorates, and each governorate is allocated into districts (24 districts) and divided into villages. The sample was randomly chosen at a proportionate rate from Lebanon's governorates. Two villages and the enrolled participants living there were chosen randomly. Simple randomization was used to pick the villages. Participants were enrolled

proportionately according to the number of persons living in each region based on the Lebanon Central Agency of Statistics. All adults (>18 years old) living in a household were eligible to participate if they met the inclusion criteria. No age/sex adjustment was made during the data collection process. The exclusion criteria included individuals with intellectual disability and dementia as reported by a family member. Personnel were trained to perform data collection with minimum interrater lack of consistency during interviews and with assurance of research quality. Each household was visited, and a face-to-face interview using a direct approach between the interviewer and the participant was conducted with those who agreed to take part in the study. Participants were free to accept or refuse to participate in the study; no financial reward was offered in exchange for participation. Previous studies from this project used the same methodology.[23] The protocol of this study was approved by the Psychiatric Hospital of the Cross Ethics and Research Committee (HPC-013-2018). Written informed consent was signed by each participant.

Minimal Sample Size Calculation

Based on a study[28] conducted in 2005, the predicted prevalence of social phobia among the population, in general, was set at 12.1%. A confidence level of 95% and a design effect of 2 required a minimum of 326 participants. The population survey calculation was performed with Epi Info (version 7.2).

Instruments and Procedures

The interview was centered around an Arabic questionnaire given that is the native language of the Lebanese. One section focused on the participants' sociodemographic characteristics such as age, sex, household monthly income, marital status, education level, and the type of alcohol they usually drink. Another section covered different scales.

Liebowitz Social Anxiety Scale (LSAS). This self-administered scale comprises 24 items divided into 2 groups linked to performance anxiety (13 questions) and social situations (11 questions),[29] with higher points showing higher social distress and social phobia.[30] Research suggests that scores of 30 or less indicate an absence of social anxiety, 31–60 indicate probable social anxiety, 61–90 indicate very probable social anxiety, and 91 or more indicate highly probable social anxiety. According to this scoring, the LSAS total scale was categorized into 2 groups, absence of social anxiety (<30) and presence of social anxiety (>30) (Cronbach α for the total score is 0.954, for the fear subscale is 0.945, and for the avoidance subscale is 0.953).

Alcohol Use Disorders Identification Test (AUDIT). This self-administered scale comprises 10 items used to evaluate alcohol consumption.[31] A score ≥8 classifies alcohol intake as dangerous (Cronbach α = 0.885).

Toronto Alexithymia Scale. This 20-item scale assesses alexithymia on a scale from 1 (strongly disagree) to 5 (strongly agree).[32] Higher scores indicate a higher level of alexithymia (Cronbach α = 0.778).

Rosenberg Self-Esteem Scale. This 10-part scale evaluates the self-worth of an individual by considering both negative and positive feelings.[33] Answers are graded from 1 (strongly agree) to 4 (strongly disagree). A high score indicates high self-esteem (Cronbach α = 0.733).

Hamilton Depression Rating Scale. The Hamilton Depression Rating Scale was translated into the Arabic language and proven to be valid.[34] Higher scores indicate higher levels of depression (Cronbach α = 0.890).

Hamilton Anxiety Rating Scale. An Arabic version of the Hamilton Anxiety Rating Scale was validated[35] and consists of 14 items. A score of 0 represents no present symptoms, while a score of 4 represents extremely severe symptoms. Anxiety severity increases as the score increases (Cronbach α = 0.898).

3-Dimensional Work Fatigue Inventory. Three types of work fatigue were evaluated via 6 questions each (18 questions total) with this instrument. Higher scores indicate greater fatigue. Scores of mental, emotional, and physical work fatigue[36] range from 0 (never) to 4 (every day). In our study, the Cronbach α for those scores was 0.667, 0.909, and 0.823, respectively.

Beirut Distress Scale. This is a validated scale that assesses stress in the last month.[37] Answers to 10 questions are graded from 0 (never) to 4 (very often); higher scores indicate higher stress (Cronbach α = 0.667).

Quick Emotional Intelligence Self-Assessment. This instrument comprises 4 domains: socioemotional awareness, emotional awareness, emotional management, and relationship management. In each part, 10 items are measured from 0 to 4 (0 = never and 4 = always). Higher scores indicate higher emotional intelligence.[38] Here, the Cronbach α for the 4 domains (socioemotional awareness, emotional awareness, emotional management, and relationship management) was 0.902, 0.823, 0.888, and 0.908, respectively.

A mental health expert translated the original scale from English to Arabic, while a second specialist translated it back to English. The 2 English versions of this scale were compared; the initial version compared to the back-translated version showed no significant differences.

Statistical Analyses

To perform the data analysis, we used SPSS software version 23. Weighting to the general population was conducted using the variables sex, age, and governorate of dwelling. The official numbers of the Lebanese Ministry of Public Health were used.[39] The independent-sample *t* test served as a method to compare 2 means, and analysis of variance was used to compare 3 or more means. Pearson correlation test was used to evaluate the association between the LSAS scores and other continuous variables. The LSAS score was set as the dependent variable, allowing us to conduct 4 stepwise linear regressions and a general linear model. Independent variables in all multivariable models were those with *P* values <.1 according to the bivariate analysis. A logistic regression was conducted using the LSAS dichotomy variable as the dependent variable.

Table 1. Sociodemographic Characteristics of the Sample Population

Characteristic	Sample
Age, mean ± SD, y	30.30 ± 12.52
Sex, n (%)	
Male	423 (54.8)
Female	349 (45.2)
Education level, n (%)	
Illiterate	12 (1.6)
Primary	39 (5.3)
Complementary	52 (7.0)
Secondary	113 (15.2)
University	462 (62.3)
Higher education	64 (8.6)
Household monthly income, n (%), US$	
<1,000	376 (50.7)
1,000–,2000	260 (35.1)
>2000	105 (14.2)
Marital status, n (%)	
Single	488 (63.1)
Married	236 (30.5)
Widowed	19 (2.5)
Divorced	30 (3.9)

Table 2. Pattern Loading of the Major Factor Solutions After Promax Rotation, Including the Social Phobia Score Among These Factors[a]

	Factor 1	Factor 2	Factor 3
High socioemotional awareness	0.865		
High relationship management	0.861		
High emotional management	0.807		
High emotional awareness	0.799		
Low work fatigue emotional fatigue	0.746		
High self-esteem	0.418		
High depression		0.817	
High alcohol dependence		0.686	
High anxiety		0.542	
High perceived stress			0.858
High work fatigue mental exhaustion			0.797
High alexithymia			0.765
High work fatigue physical fatigue			0.445

[a]Factor 1 = high emotional intelligence and self-esteem and low emotional fatigue; factor 2 = high depression, anxiety, and alcohol dependence; factor 3 = high work fatigue, high stress, and high alexithymia.

Table 3. Classification of Participants in the Study Sample by Cluster Analysis Using the Category Factor Scoring

	Cluster 1 (n = 247)[a]	Cluster 2 (n = 187)[b]	Cluster 3 (n = 218)[c]
Factor 1: high emotional intelligence and self-esteem and low emotional work fatigue	0.94	−1.01	−0.19
Factor 2: high depression, anxiety, and alcohol use disorder	−0.73	−0.12	0.94
Factor 3: high physical and mental work fatigue, high stress, and high alexithymia	−0.52	−0.42	0.95

[a]Cluster 1 = people with well-being (high emotional intelligence and self-esteem and low emotional work fatigue with low depression, anxiety, and alcohol use disorder; low physical and mental work fatigue; low stress; and low alexithymia).
[b]Cluster 2 = people with emotional dysregulation (low emotional intelligence and self-esteem; high emotional work fatigue, low burnout, low stress, and low alexithymia; low depression, anxiety, and alcohol use disorder).
[c]Cluster 3 = people in distress (high physical and mental work fatigue; stress and alexithymia with high alcohol use disorder, anxiety, and depression; low emotional intelligence and self-esteem; high emotional work fatigue).

Moreover, the scales' reliability analysis relied on Cronbach α values. Results showing *P* values <.05 were classified as significant.

Analysis of factors and clusters can determine sample patterns. To classify these patterns, an exploratory evaluation of factors coupled with alexithymia was performed for the study sample. The extraction was conducted utilizing a Promax rotation. As for the sample's adequacy, both Bartlett χ² sphericity test and the index of Kaiser-Meyer-Olkin (KMO) were applied. An Eigenvalue ≥ 1 was a retention criterion for the factors. In this study, any item with a factor loading higher than 0.4 belonged to a certain factor. Then, a cluster analysis was executed with the help of the factor analysis results and the K-mean method chosen to recognize the different profiles of the participants, allowing for grouping of the contributors into 3 clusters.

RESULTS

The participants' sociodemographic characteristics are summarized in Table 1. Of the participants, 45.2% were female, and the mean ± SD age was 30.30 ± 12.52 years. The results showed that 251 (35.9%) had no social anxiety, 312 (44.6%) had probable social anxiety, 124 (17.7%) had very probable social anxiety, and 12 (1.7%) had highly probable social anxiety.

Factor Analysis

The answers to all items centered around a solution of 3 factors (Factor 1 = high emotional intelligence, self-esteem, and low mental fatigue; Factor 2 = high depression, anxiety, and alcohol dependence; Factor 3 = high work fatigue, high stress, and high alexithymia), explaining 62.48% of the total variance (KMO = 0.866, Bartlett test of sphericity *P* <.001; Table 2).

Profiles of Participants

A 3-factor–based cluster analysis resulted in 3 unrelated clusters (cluster 1, cluster 2, cluster 3), which formed 37.9%, 28.7%, and 33.4% of all participants in the same order. The first cluster reflected individuals with well-being (high emotional intelligence and self-esteem and low emotional mental fatigue with low depression, anxiety, and alcohol use disorder). The second cluster represented those with emotional dysregulation (low emotional intelligence and self-esteem and high emotional work fatigue with low stress and low alexithymia). Cluster 3 represented people in distress (high physical and mental work fatigue, stress, and alexithymia with high alcohol use disorder, anxiety, and depression) (Table 3).

Bivariate Analysis

Social phobia was significantly higher in divorced participants (mean = 56.39) than in those who were single

Table 4. Bivariate Analysis of the Factors Associated With Social Phobia Score[a]

Factor	Social Phobia Score (mean ± SD)	P Value
Marital status		
Single	39.04 ± 23.39	
Married	39.24 ± 20.94	
Widowed	39.06 ± 13.68	.002
Divorced	56.39 ± 30.70	

Factor	Correlation Coefficient	P Value
Alcohol dependence	0.152	<.001
Alexithymia	0.145	<.001
Depression	0.229	<.001
Anxiety	0.272	<.001
Stress	0.130	.001
Emotional awareness	−0.131	.001
Emotional management	−0.230	<.001
Social emotional awareness	−0.222	<.001
Relationship management	−0.249	<.001
Emotional exhaustion	0.182	<.001
Physical fatigue	−0.067	.093
Mental fatigue	0.239	<.001
Self-esteem	−0.239	<.001

[a]All other variables not displayed in the table did not show a significant association with the dependent variable.

(mean = 39.04). Also, greater alcohol dependence was correlated with higher anxiety scores in both significant and positive manners (AUDIT score) ($r = 0.152$). A similar correlation was seen with more alexithymia ($r = 0.145$), depression ($r = 0.229$), anxiety ($r = 0.272$), stress ($r = 0.130$), emotional exhaustion ($r = 0.182$), and mental fatigue ($r = 0.239$). However, lower levels of social phobia were linked to higher self-esteem ($r = -0.239$), emotional awareness ($r = -0.131$), emotional management ($r = -0.230$), socioemotional awareness ($r = -0.222$), and relationship management ($r = -0.249$) (Table 4).

Multivariable Analysis

Four linear regression graphs were generated using the social phobia score as the dependent variable: (1) with the sociodemographic variable as independent variable, (2) with the sociodemographic variables and the scales as independent variables, (3) with the factors obtained in the factor analysis as independent variables, and (4) with the clusters obtained as independent variables.

The 4 resulting linear regression graphs showed that experiencing a divorce ($\beta = 17.371$) was significantly associated with higher social phobia. Depression ($\beta = 0.229$), burnout/emotional exhaustion ($\beta = 0.275$), and being divorced ($\beta = 15.413$) were significantly associated with higher social phobia, whereas higher self-esteem ($\beta = -0.427$) and higher relationship management ($\beta = -0.381$) were significantly associated with lower social phobia. Being divorced ($\beta = 14.352$), factor 2 ($\beta = 2.598$), and factor 3 ($\beta = 3.576$) were significantly associated with high social phobia prevalence, whereas factor 1 ($\beta = -4.002$) was significantly associated with lower social phobia. Also, being divorced ($\beta = 13.986$), cluster 2 ($\beta = 6.259$), and cluster 3 ($\beta = 12.756$) were significantly associated with higher social phobia (Table 5).

The results of a logistic regression using the LSAS dichotomy variable as the dependent variable showed similar results as the linear regression, wherein cluster 2 (adjusted odds ratio = 1.919) and cluster 3 (adjusted odds ratio = 6.554) were significantly associated with the presence of social phobia (Supplementary Table 1). The results of the general linear model were similar to those obtained in the linear regression (data not shown).

DISCUSSION

The results of this study helped us create a new model and confirmed the associations drawn in the theoretical model between all included factors. The resulting framework shown in Figure 2 was found to be compatible with theoretical models based on other populations (see Figure 1). This study will aid in understanding the underlying causes of social anxiety disorder. Such results are helpful when trying to diagnose complex disorders or when performing psychotherapy interventions to treat individuals with overlapping mental illnesses.

A hierarchical stepwise regression model showed that divorced state, having an emotional dysregulation (cluster 2), or being in distress (cluster 3) significantly increased social anxiety disorder in our study population. These results can be explained by several factors imposed on the Lebanese population: the numerous wars that have occurred in Lebanon, the political conflicts between parties, and the differences among 18 distinctive religions and their negative additional effect on the persistent economic crisis of the country.[40]

All these factors produced a high level of stress, depression, and emotional dysregulation and, therefore, placed individuals at higher risk of experiencing a mental disorder.[41] Also, such events contribute to financial issues, which have been found to be a major reason behind disagreements and divorce among couples.[42] It has been reported that divorced couples exhibit more symptoms of depression and psychological distress.[43] Troxel and Matthews[44] proposed a model that indicated a correlation between familial, physiologic, and social weakness in children with divorced parents and emotional dysregulation.[44] Thus, individuals experiencing this emotional discomfort are also at risk of other psychological illnesses.[41] In particular, adolescents from families with divorced parents had a higher level of anxiety.[45] These results can be applied to our population wherein social anxiety disorder was found to be more common in divorced individuals. In contrast, previous research showed the opposite findings.[46] However, this discrepancy can be clarified by noting that social anxiety affects most aspects of daily living and is associated with disability and avoidance of a broad range of everyday activities.

Our findings indicate that depression was more common in those with social anxiety. The cooccurrence of social anxiety and depressive illness is highly associated with added distress, social dysfunction, and isolation. Social anxiety symptoms usually precede depression symptoms and

Table 5. Multivariable Analysis

Model 1: Linear regression with the social phobia score as the dependent variable and the sociodemographic variable as the independent variable

	Unstandardized β	Standardized β	P Value	CI Lower Bound	CI Upper Bound
Divorced vs single*	17.37	0.149	<.001	8.784	25.957

Variables entered: marital status

Model 2: Linear regression with the social phobia score as the dependent variable and the sociodemographic variables and the scale scores as independent variables

	Unstandardized β	Standardized β	P Value	CI Lower Bound	CI Upper Bound
Self-esteem	−0.427	−0.095	.048	−0.851	−0.004
Depression	0.229	0.113	.013	0.048	0.410
Divorced vs single*	15.413	0.145	<.001	7.368	23.458
Relationship management emotional intelligence	−0.381	−0.155	.001	−0.597	−0.166
Emotional exhaustion work fatigue	0.275	0.130	.001	0.107	0.442

Variables entered in the model: marital status; AUDIT score; TAS-20 score; HDRS score; BDS score; emotional awareness; emotional management; socioemotional awareness; relationship management; emotional, physical, and mental work fatigue; self-esteem scale.

Model 3: Linear regression with the social phobia score as the dependent variable and 3 factors obtained in the factor analysis and the sociodemographic characteristics as independent variables

	Unstandardized β	Standardized β	P Value	CI Lower Bound	CI Upper Bound
Factor 1	−4.002	−0.185	<.001	−5.728	−2.277
Factor 2	2.598	0.121	.007	0.715	4.480
Factor 3	3.576	0.167	<.001	1.784	5.368
Divorced vs single*	14.352	0.135	<.001	6.320	22.384

Factor 1 = high emotional intelligence and self-esteem and low emotional fatigue; Factor 2 = high depression, anxiety, alcohol dependence; Factor 3 = high physical and mental burnout, high stress, high alexithymia.
Variables entered in the model: Factor 1, Factor 2, Factor 3, and marital status.

Model 4: Linear regression taking the social phobia score as the dependent variable and all the clusters as independent variables

	Unstandardized β	Standardized β	P Value	CI Lower Bound	CI Upper Bound
Cluster 2 vs cluster 1*	6.259	0.118	.003	2.150	10.369
Cluster 3 vs cluster 1*	12.756	0.256	<.001	8.880	16.631
Divorced vs single*	13.986	0.120	.001	5.572	22.401

Cluster 1 = people with well-being (high emotional intelligence and self-esteem and low emotional fatigue with low depression, anxiety, and alcohol dependence); Cluster 2 = people with emotional dysregulation (low emotional intelligence and self-esteem and high emotional fatigue with low physical and mental burnout, low stress, and low alexithymia); Cluster 3 = people in distress (high burnout, stress, and alexithymia with high alcohol dependence, anxiety, and depression). Variables entered in the model: cluster 1, cluster 2, cluster 3, and marital status.

*Reference group.
Abbreviations: AUDIT = Alcohol Use Disorders Identification Test, BDS = Beirut Distress Scale, HDRS = Hamilton Depression Rating Scale, TAS-20 = Toronto Alexithymia Scale.

Figure 2. Framework Relating Factors Associated With Social Anxiety Disorder Found to Be Significant Among the Lebanese Population
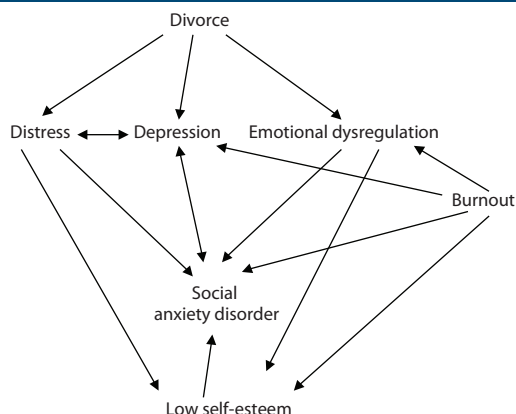
initiate a cycle of psychopathologic manifestations.[47] Some individuals are likely to be more sensitive to such events than others and react to social interactions as a threat by experiencing a prolonged negative affect. Individuals may be involved in a post-event consideration process wherein they evoke and examine their own and others' actions in the event.[48] This unconstructive self-evaluation is likely to preserve or deepen negative feelings that could lead to social anxiety disorder.[48] In contrast to our results, a study[49] conducted on adult outpatients receiving therapy for social anxiety disorder found that 53% had previous periods of a depressive disorder, and patients with a mean age of 33 years had 2.2 episodes of depression on average in this cohort. These 2 distinguishable illnesses, depression and social anxiety, differ in symptoms but overlap with each other.[50] Many people diagnosed with depression had a co-occurring

anxiety disorder with social phobia being the most frequently encountered diagnosis.[50] On the other hand, a psychological illness more commonly evolves in patients suffering from advanced social anxiety by almost 6-fold.[50]

In the present study, high emotional intelligence was related to a decrease in social phobia, which is consistent with other findings that explained a link between emotional intelligence and relationship success, solid attachment, achievement of well-being, and, especially, overall life satisfaction and joyfulness.[8] As mentioned earlier, relational disagreements can influence everyday mood and self-confidence.[51] People with high social skills would have the ability to manage their self-emotional situation during public events. Such interpersonal skills would decrease situational distress and reduce interaction anxiety.[52]

Our study underscores significant associations between the symptoms of social anxiety and emotional burnout, in line with data from previously published literature.[53] It has been shown that higher emotional exhaustion is linked to mental health issues.[54] Usually, workers at risk of experiencing emotional energy deficiency are those who work hard and fail to reach the desired achievements. This pressure and pessimistic view concerning oneself can eventually lead to psychological problems such as depression and social anxiety.[52]

Concerning the correlation between social anxiety disorder and self-regard, our study results show that patients with social anxiety tend to have low levels of self-esteem. Self-esteem has been linked to both public performance and stress defiance, and if sufficiently low, leaves individuals more prone to develop social anxiety.[55] Previous meta-analytic research explored the effect of self-esteem on social relationships and found that high levels of perceived regard improve social skills and interpersonal engagement.[51]

Clinical and Public Health Implications

The findings of this study and the suggested framework focus on the contribution of numerous risk factors that make individuals more prone to social anxiety. These factors should be considered by clinicians who treat patients diagnosed with social anxiety disorder, along with prescribed medications if needed. Improvement of underlying psychological health issues such as low self-esteem, depression, and insufficient emotional skills can provide a remedy for social anxiety symptoms. Taken together, these cross-national data emphasize the international, clinical, and public health significance of social anxiety disorder. Health care professionals who are confident in their ability to distinguish symptoms will be better able to treat their patients according to guidelines compared to those unable to distinguish such symptoms.[56] In other words, starting from such a background, the physicians can differentiate between an individual with social anxiety disorder and a healthy person. In addition, recognition of potential comorbid health problems associated with social anxiety disorder at earlier stages can improve treatment outcome. Our work can also help other researchers to enhance models addressing

social anxiety disorder and to resolve its complex factors. Similar frameworks can be created to study other mental illnesses with overlapping factors. Finally, mental health must be made a global priority; one of the key measures to ensure this is through increasing the investment in mental health by policymakers, development agencies, national and international agencies, and other stakeholders. A psychosocial care network should be developed, along with stepwise training of health care professionals, expansion of services in isolated regions, and strengthening of existing resources, to maintain continuous support for subjects with social anxiety disorder, and innovative solutions should be adopted.

Limitations

Our findings cannot be generalized to include the entire population due to the predominance of young, single, and university-level educated participants. A cross-sectional study depends on a design that does not allow deductions concerning causes, temporality, and effects but focuses on associations between effects and explanatory variables alone. Our methods studied existing psychopathological symptoms and did not assess parameters like the age at onset of social anxiety disorder. Invalid scales are written in the Arabic language, possibly incurring a measurement bias. In addition, this study is retrospective and observational, which imposes consequences such as lower evidence levels and higher risks of information-related bias (overestimation of results of some recognized risk factors, difficulties in comprehending questions and remembering things). Recently, the Lebanese population experienced numerous distressing events: a major economic and currency crisis, the coronavirus disease 2019 pandemic and lockdowns, higher poverty rates, and the explosion in Beirut. Our study was conducted between 2017 and 2018 and therefore lacks data related to the traumatizing incidents of the past 2 years. Newer data collection should be performed.

CONCLUSION

In summary, the present study provides crucial information about the psychological factors of social anxiety among the Lebanese population. Divorce, depression, and emotional work fatigue were found to be associated with higher incidence of social anxiety. Low self-esteem and better relationship management were shown to be associated with lower incidence of the disorder. Psychotherapy interventions might be beneficial to reduce depression and burnout and to improve emotional intelligence, self-esteem, and many other factors related to social anxiety. However, it remains necessary to conduct further intervention studies testing the function of psychological factors to reduce social phobia among the Lebanese people.

Supplementary material: See accompanying pages.

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See supplementary material for this article at PSYCHIATRIST.COM.

Supplementary Material

Article Title: Social Anxiety and Its Correlates Among Lebanese Adults: Role of Self-Esteem, Depression, Alcohol Use Disorder, Alexithymia, and Work Fatigue

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List of Supplementary Material for the article

1. Supplementary Table 1: Multivariable Analysis

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Supplementary Table 1: Multivariable Analysis

Model 1: Logistic regression taking the social phobia category as the dependent variable

	p-value	ORa	Confidence interval	
			Lower Bound	Upper Bound
Cluster 2 vs cluster 1*	0.001	1.919	1.292	2.849
Cluster 3 vs cluster 1*	<0.001	6.554	4.065	10.565

<u>Variables entered</u> **Cluster 1= People with wellbeing (High emotional intelligence, self-esteem & low emotional fatigue with low depression, anxiety and alcohol dependence); Cluster2= People with emotional dysregulation (low emotional intelligence, self-esteem and high emotional fatigue with low physical and mental burnout, stress and low alexithymia); Cluster3= People in distress (High burnout, stress and alexithymia with high alcohol dependence, anxiety and depression); Variables entered in the model: cluster 1, cluster 2, cluster 3 and marital status.**
*Reference group.