

## CORRELATES OF SELF-ESTEEM AMONG THE LEBANESE POPULATION: A CROSS-SECTIONAL STUDY

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### SUMMARY

**Background:** To the best of our knowledge, no studies have been conducted in order to assess the correlation of these factors with the self-esteem in Lebanon. Therefore, this study aims to assess risk factors associated with self-esteem among a representative sample of the Lebanese population.

**Subjects and methods:** A cross-sectional, conducted between November 2017 and March 2018, enrolled 789 participants. Self-esteem was measured using the Rosenberg scale. An exploratory factor analysis was executed to detect patterns of risk factors associated with self-esteem from our sample. A cluster analysis was then performed with the identified factor scores to identify the different profiles of the participants.

**Results:** Relationship management (Beta=0.117), emotional awareness (Beta=0.074) and personal accomplishment (Beta=0.064) were associated with a higher self-esteem, whereas high depression (Beta=-0.102), alexithymia (Beta=-0.077), burnout depersonalization (Beta=-0.078), suicidal ideation (Beta=-0.391) were associated with a lower self-esteem.

Factor 1 (High emotional intelligence & low depersonalization) (Beta=1.819) was associated with increased self-esteem, whereas Factor 2 (High suicidal ideation, high alcohol dependence, high depression and anxiety) and Factor 3 (High burnout, high stress and high alexithymia) were associated with decreased self-esteem (Beta=-1.380 and Beta=-0.751) respectively.

Being widowed (Beta=-2.332), belonging to cluster 1 (People with emotional dysregulation) (Beta=-2.850) and cluster 2 (People in distress) (Beta=-3.660) were significantly associated with decreased self-esteem.

**Conclusions:** Depression, anxiety, burnout, stress, low emotional intelligence, alexithymia, suicide ideation, alcohol dependence and many other factors can be prevented, or reduced, by interventions that improve self-esteem.

**Key words:** self-esteem - depression - anxiety - alexithymia - burnout - stress

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### INTRODUCTION

Self-esteem is the subjective evaluation, negative or positive, that an individual reflects about his or her value. It's the degree of self-acceptance or self-worth (Rosenberg 2015). The usual depiction of low self-esteem includes a low general assessment of the self, constant sentiments of being inferior to others, feelings of worthlessness, isolation, and self-doubt (Mruk 2006).

There is previous proof that negative self-assessments are shown to be directly incorporated in Social Anxiety Disorder (SAD) individuals after the presence within social circumstances (Clark & Wells 1995, Heimberg et al. 2010). Psychological models suggest that anxious patients think they would be less evaluated than poorly anxious patients (Leary et al. 1988).

Regarding depression, previous findings showed that low self-esteem is a risk factor of depressive disorders

(Evraire & Dozois 2011, Morley & Moran 2011, Sowislo et al. 2014). The exact nature of the relationship between low self-esteem and depression has been controversial and a source of a continuing debate (Sowislo & Orth 2013, Zeigler-Hill 2011), with two models explaining this correlation; (1) the vulnerability model that describes low self-esteem as a risk factor for depression (Orth & Robins 2013). In this model, low self-esteem is conceptualized as a stable personality factor that predisposes the person to experience depression, and (2) the scar model that suggests that low self-esteem is a consequence, rather than a cause, of depression (Shahar & Davidson 2003).

In the same line, self-esteem deficits appear to play an important role in understanding suicidal behavior (Wilburn & Smith 2005). Low self-esteem can lead to both suicidal ideation and suicide attempts, with the person seeing the self as worthless and the future as hopeless (Creemers et al. 2012). Individuals with low

self-esteem may see life as not worth living and may perceive everyday stressors as overwhelming, with suicidal ideation/attempts being a consequence of these negative self-evaluations (Swann et al. 2007).

In addition, early studies suggested a negative association between burnout, emotional exhaustion, and self-esteem (Janssen et al. 1999). People feeling that their professional competences are insufficient and those not satisfied with their work accomplishments may be delicate and easily disappointed by failure and become subjects to difficulties and delay. In the long term, this may create burnout and eventually decrease self-esteem (Maslach et al. 2001).

Poor feelings elaboration, lack of expression and insufficient awareness of the self, are common in people with alexithymia. Such defects may stretch out more extensively to self-recognition (Herbert et al. 2011). Also, there is a correlation between alcohol consumption and self-perception. When comparing patients to control, those with alcohol use disorders have a lower evaluation of their own worth (Silverstone & Salsali 2003). This correlation is found to be disproportionate, self-esteem decreases with the use of alcohol (Sevi et al. 2014). Another relationship identified impaired overall reflection of an individual's self-regard as an indicator of regular exposure to stress (Kirschbaum et al. 1995). The Montreal Imaging Stress Task (MIST) performed by young participants with low self-reflection again confirmed previous observations (Pruessner et al. 2005).

To the best of our knowledge, no studies have been conducted in order to assess the correlation of these factors with the self-esteem in Lebanon, apart from a single Lebanese study published and studied self-esteem among the elderly (El Bcheraoui et al. 2015). Hence the interest of our research is to focus on the actuality of this factor and its influence on the level of the Lebanese population and to compare our results with those of international studies. Therefore, this study aims to assess risk factors associated with self-esteem among a representative sample of the Lebanese population.

## SUBJECTS AND METHODS

This is a cross-sectional study, conducted between November 2017 and March 2018, which enrolled 789 participants using a proportionate random sample of Lebanese pharmacies from all districts of Lebanon (Beirut, Mount Lebanon, North, South and Bekaa). An exhaustive list of pharmacies was provided by the Lebanese Order of Pharmacists. An online software was used to randomly choose the community pharmacies sample. The study targeted the first eligible person entering the community pharmacy and accepting to take part of the study. All participants above 18 years of age were eligible to participate. Patients with mental retardation, dementia or who refused to participate in the study, were excluded.

The questionnaire used during the interviewed was in Arabic, the native language of Lebanon. One trained person was responsible for the data collection, via a personal interview with each patient. This person was independent of this study. The first part assessed the sociodemographic characteristics of the participants (age, gender, education level, marital status, socioeconomic level, type of alcohol drunk). The other parts included the different scales used in this study as follows.

### Rosenberg self-esteem scale (RSES)

It is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self (Rosenberg 1965). The responses on the scale were measured on a 4-point Likert scale: 1 (strongly agree), 2 (agree), 3 (disagree), and 4 (strongly disagree). Five of the items are positively-worded (items 1, 2, 4, 6, and 7) whereas the remaining five are negatively-worded (3, 5, 8, 9, and 10); negative items were reverse-coded prior to data analysis. Higher scores indicated higher self-esteem. In this study, the Cronbach alpha was 0.733.

### Hamilton depression rating scale (HDRS)

The validated Arabic version of the HDRS was used in this study (Obeid et al. 2018). It includes 21 items, with the last four items (diurnal variation, depersonalization/derealization, paranoid symptoms, and obsessive compulsive symptoms) not counted toward the total score since these symptoms provide additional clinical information and are either uncommon or do not reflect depression severity (Hamilton 1960). Therefore, the remaining 17 items of the HDRS are scored and measure the severity of depressive symptoms. Eight items are scored on a 5 point scale, ranging from 0 = not present to 4 = severe (Hamilton 1960). Nine items are scored from 0–2. The total score was calculated by summation of the first seventeen items. The severity of depression was divided into 5 categories as follows: 0–7 are considered as normal patients, 8–13 suggesting mild depression, 14–18 suggesting moderate depression, 19–22 indicate severe depression and scores over 23 indicating very severe depression. The total HDRS score ranged from 0 to a maximum of 52 points. In this study, the Cronbach alpha was 0.890.

### Hamilton anxiety scale (HAM-A)

The HAM-A (Hamilton 1959) recently validated in Lebanon (Hallit et al. 2019) was one of the first rating scales developed to measure the severity of anxiety symptoms, and is still widely used today in both clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). The responses on the

scale were measured on a 5-point Likert scale: 0 (symptoms not present), 1 (mild symptoms), 2 (moderate symptoms), 3 (severe symptoms) and 4 (very severe symptoms). The total score was calculated by summation of the 14 items. In this study, the Cronbach alpha was 0.898.

### **The Alcohol Use Disorders Identification Test (AUDIT)**

It is a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems (Bohn et al. 1995). We used the self-report version of the AUDIT in this study. Patients were encouraged to answer the AUDIT questions in terms of standard drinks. A score of 8 or more is considered to indicate hazardous or harmful alcohol use. In this study, the Cronbach alpha was 0.885.

### **Toronto Alexithymia Scale (TAS-20)**

Alexithymia was assessed with the Toronto Alexithymia Scale (TAS-20) (Bagby et al. 1994), which includes 20 items, graded from 1 to 5. Items are rated using 5-point Likert scale whereby 1=strongly disagree and 5=strongly agree. Five items are negatively keyed (items 4, 5, 10, 18 and 19). A total alexithymia score is the sum of the 20 items. The cut-off scoring of TAS-20 is: equal or less than 51= non-alexithymia, 52-60= possible alexithymia and equal or greater than 61=alexithymia. The TAS-20 has acceptable validity and reliability (Bagby et al. 1994, Thorberg et al. 2010). In this study, the Cronbach alpha was 0.778.

### **Maslach Burnout Inventory-General Survey (MBI-GS)**

The 22 total items are divided into the three themes with nine items relating to emotional exhaustion, five to depersonalization, and eight to accomplishment. Each item is also rated on a frequency and intensity scale. The frequency scale ranges from zero (never) to six (everyday). The intensity scale ranges from one (never) to six (very-strong) (Maslach et al. 1986). The score for emotional exhaustion was classified as weak if the score was less than 17, moderate if it ranged between 18-29 and high if it exceeded 30 or more. The depersonalization score was classified as weak if the score was less than 5, moderate if it ranged between 6-11 and high if it exceeded 12 or more. The accomplishment score was classified as weak if the score was less than 33, moderate if it ranged between 34-39 and high if it exceeded 40 or more. A high score of emotional exhaustion and accomplishment, and a low score of depersonalization indicate burnout. In this study, the Cronbach alpha for emotional exhaustion was 0.823, for personal accomplishment 0.667 and for depersonalization 0.909.

### **Columbia-Suicide Severity Rating Scale (C-SSRS)**

It is an assessment tool that evaluates suicidal ideation and behavior. The maximum suicidal ideation category ranges from 1-5 on the C-SSRS present at the assessment. A score of 0 is assigned if no ideation is present. A suicidal ideation is considered if the patient answers "yes" at any time during treatment to any one of the five suicidal ideation questions (Categories 1-5) on the C-SSRS (Nilsson et al. 2013). In this study, the Cronbach alpha was 0.762.

### **The Perceived Stress Scale (PSS)**

It is a 10-item classic stress assessment instrument which was originally developed in 1983. The questions in this scale ask about your feelings and thoughts during the last month, with the answers measured on a 5-point Likert scale: 0 (never) up to 4 (very often). Scores for questions 4, 5, 7, and 8 should be reversed. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress; scores ranging from 0-13 would be considered low stress, 14-26 moderate stress and 27-40 high perceived stress. In this study, the Cronbach alpha was 0.667.

### **Liebowitz Social Anxiety Scale**

It is a short questionnaire developed in 1987 (Liebowitz 1987), with the purpose is to assess the range of social interaction and performance situations feared by a patient in order to assist in the diagnosis of social anxiety disorder. The scale features 24 items are rated in a Likert scale from 0 to 3, which are divided into two subscales. 13 questions relate to performance anxiety and 11 concern social situations. The overall score is calculated by combining the total scores for the fear and avoidance sections. The maximum score is 144 points indicating a very severe social phobia. The LSAS has been validated as a self-report scale (Rytwinski et al. 2009). In this study, the Cronbach alpha for the total score was 0.954, for the fear and avoidance subscales the Cronbach alpha was 0.945 and 0.953.

### **The Quick Emotional Intelligence Self-Assessment**

The scale is divided into 4 domains as follows: emotional awareness, emotional management, social emotional awareness and relationship management. Each domain is composed of 10 questions, with the answers measured on a 5-point Likert scale, with 0 (never) and 4 (always). Higher scores would indicate higher emotional intelligence (Mohapel 2017). In this study, the Cronbach alpha for the 4 domains was: 0.823 for emotional awareness, 0.888 for emotional management, 0.902 for social emotional awareness, and 0.908 for relationship management.

All scales were translated from English to Arabic through an initial translation and back translation process. The English version was translated into Arabic by a mental health specialist, then this translation was translated again into English by another specialist. Upon completion of this process, the translators compared the English versions of all the scales to determine whether the variables had the same meaning.

### Statistical analyses

Data analysis was conducted using SPSS software version 23. The independent-sample t-test was used when comparing two means. For categorical variables, the Chi-2 were used when applicable. Three stepwise linear regressions were conducted, taking the Rosenberg score as the dependent variable. All variables that showed a  $p < 0.1$  in the bivariate analysis were taken as independent variables in the model. Moreover, Cronbach's alpha was recorded for reliability analysis for all the scales. A P-value less than 0.05 was considered significant.

Various statistical methods are used to derive common patterns among specific populations; factorial and cluster analyses are two of the most common methods. Both methods allow for empirical derivation of patterns: factor analysis derives patterns based on inter-correlations between the items/groups, whereas cluster analysis depends on individual differences in mean intakes when reducing data into patterns. First, an exploratory factor analysis was performed to identify patterns of risk factors associated with self-esteem from our sample. After ensuring sample adequacy with the Kaiser-Meyer-Olkin (KMO) index and Bartlett's Chi-square test of sphericity, factors of the different risk factors were extracted using the principal component analysis and using a promax rotation. Factors with an Eigenvalue higher than one were retained; confirmation of adequacy with a Scree plot was performed and interpretability of the results was taken into account. Items with factor loading  $> 0.4$  were considered as belonging to a factor. Reliability analysis was performed by Cronbach's alpha values for factors and the total scale. Second, a cluster analysis was performed with the identified factor scores reflecting patterns of the risk factors using the K-mean method to identify the different patterns of the participants. This method allowed study participants to be grouped into non-overlapping mutually exclusive clusters. Analysis allowed for 10 iterations centering results on zero and convergence was only reached using a three-cluster structure, i.e., three different patterns.

## RESULTS

Out of 950 questionnaires distributed, 789 (83.05%) were completed and collected back. The mean age of the participants was  $30.30 \pm 12.52$  years (54.8% males), 62.3% had a university level of education, 50.7% had a

monthly salary less than 1000 USD and 63.1% were single. In the absence of a cut-off point to categorize the Rosenberg scale score, we chose the median to dichotomize our sample; at a median of 25, the results showed that 331 (42.2%) of the participants had low self-esteem, whereas 454 (57.8%) had high self-esteem (Table 1).

**Table 1.** Sociodemographic characteristics of the sample population

	Frequency (%)
Gender	
Male	423 (54.8%)
Female	349 (45.2%)
Education level	
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%)
Socioeconomic status	
< 1000 \$	376 (50.7%)
1000 - 2000 \$	260 (35.1%)
> 2000 \$	105 (14.2%)
Marital status	
Single	488 (63.1%)
Married	236 (30.5%)
Widowed	19 (2.5%)
Divorced	30 (3.9%)
	Mean $\pm$ SD
Age (in years)	$30.30 \pm 12.52$

### Factor analysis

Out of all the items asked in the questionnaire, all variables could be extracted from the list except for the Liebowitz total score (low communality of 0.208), which was taken out of the factor analysis. All others items did not over-correlate to each other ( $r > 0.9$ ), did not have a low loading on factors ( $< 0.3$ ) or a low communality ( $< 0.3$ ). The factor analysis for all the scales total score was run over the whole sample (Total=789). The total items converged over a solution of 3 factors, every factor including items that go together among the study participants (Factor 1= High emotional intelligence & low depersonalization; Factor 2= High suicidal ideation, high alcohol dependence, high depression and anxiety; Factor 3= High burnout, high stress and high alexithymia), explaining a total of 63.95% of the variance. A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.847 was found, with a significant Bartlett's test of sphericity ( $p < 0.001$ ) (Table 2).

### Profiles of participants

A cluster analysis based on the three factors derived three mutually exclusive clusters, which form 29.2%, 33.8%, and 36.9% of all participants respectively. The first

**Table 2.** Pattern loading of the major factor solutions after promax rotation

	Factor 1	Factor 2	Factor 3
High Social emotional awareness	0.862		
High Relationship management	0.857		
High Emotional management	0.807		
High Emotional awareness	0.796		
Low Burnout depersonalization	0.739		
High Suicidal ideation		0.834	
High depression		0.810	
High Alcohol dependence		0.683	
High anxiety		0.545	
High Perceived stress			0.854
High Burnout emotional exhaustion			0.789
High alexithymia			0.763
High Burnout personal accomplishment			0.439

Factor 1 = High emotional intelligence & low depersonalization; Factor 2 = High suicidal ideation, high alcohol dependence, high depression and high anxiety; Factor 3 = High burnout, high stress and high alexithymia

**Table 3.** Classification of participants in the study sample by cluster analysis using the categories factor scoring

	Cluster 1 N=191 (29.2%)	Cluster 2 N=221 (33.8%)	Cluster 3 N=241 (36.9%)
<i>Factor 1:</i> High emotional intelligence & low depersonalization	-1.04	-0.12	0.94
<i>Factor 2:</i> High suicidal ideation, high hazardous alcohol drinking, high depression and anxiety	-0.10	0.91	-0.75
<i>Factor 3:</i> High burnout, high stress and high alexithymia	-0.42	0.95	-0.53

Cluster 1 = People with emotional dysregulation ((low emotional intelligence and high depersonalization with low burnout, stress and alexithymia); Cluster 2 = People in distress (high suicidal ideation, hazardous alcohol drinking, depression and anxiety with high burnout, stress and alexithymia); Cluster 3 = People with high wellbeing (high emotional intelligence and low depersonalization, with low suicidal ideation, low alcohol dependence & low depression and anxiety)

**Table 4.** Bivariate analysis of the factors associated with the Rosenberg score

	Rosenberg score Mean ± SD	p-value
Marital status		
Single	18.54±4.78	
Married	18.39±4.77	
Widowed	14.94±3.29	0.003
Divorced	16.65±4.11	
	Correlation coefficient	p-value
Audit score	-0.319	<0.001
HAM-D score	-0.407	<0.001
HAM-A score	-0.372	<0.001
PSC score	-0.242	<0.001
Liebowitz social anxiety scale	-0.239	<0.001
Emotional awareness	0.275	<0.001
Emotional management	0.372	<0.001
Social Emotional awareness	0.364	<0.001
Relationship management	0.403	<0.001
MBI - Emotional exhaustion	-0.208	<0.001
MBI - Personal accomplishment	0.153	<0.001
MBI - Depersonalization	-0.388	<0.001
Suicidal ideation score	-0.336	<0.001
Alexithymia	-0.290	<0.001

cluster represented people with emotional dysregulation (low emotional intelligence and high depersonalization, low burnout, low stress and low alexithymia with low suicidal ideation), the second one represented people in distress (high suicidal ideation, hazardous alcohol drinking, depression anxiety, burnout, stress and alexithymia), whereas cluster 3 represented people with high wellbeing (high emotional intelligence and low depersonalization with low suicidal ideation, low alcohol dependence and low depression and anxiety and low burnout, stress and alexithymia) (Table 3).

### Bivariate analysis

A significantly higher mean of Rosenberg score was found in single persons (18.54) compared to widow one (14.94). Also, higher self-esteem was significantly and positively correlated with emotional awareness ( $r=0.275$ ),

emotional management ( $r=0.372$ ), social emotional awareness ( $r=0.364$ ), relationship management ( $r=0.403$ ) and personal accomplishment ( $r=0.153$ ). Less self-esteem was significantly correlated with high depression (HAM-D score) ( $r=-0.407$ ), anxiety (HAM-A score) ( $r=-0.372$ ), perceived stress (PSC score) ( $r=-0.242$ ), social phobia (Liebowitz social anxiety scale) ( $r=-0.239$ ), alcohol dependence (AUDIT score) ( $r=-0.319$ ), more emotional exhaustion ( $r=-0.208$ ), depersonalization ( $r=-0.388$ ), suicidal ideation ( $r=-0.336$ ) and alexithymia ( $r=-0.290$ ) (Table 4).

### Multivariable analysis

The results of a first linear regression, taking the Rosenberg score as the dependent variable, showed that relationship management (Beta=0.117), emotional awareness (Beta=0.074) and personal accomplishment

**Table 5.** Multivariable analysis

*Model 1:* Linear regression taking the Rosenberg score as dependent variable and all the scales as independent variables

	Unstandardized	Standardized	p-value	Confidence interval	
	Beta	Beta		Lower Bound	Upper Bound
Relationship management	0.117	0.214	<0.001	0.068	0.166
Depression	-0.102	-0.226	<0.001	-0.137	-0.067
Alexithymia	-0.077	-0.170	<0.001	-0.107	-0.047
Burnout depersonalization	-0.078	-0.140	0.001	-0.122	-0.034
Suicidal ideation	-0.391	-0.108	0.003	-0.647	-0.135
Emotional awareness	0.074	0.110	0.009	0.019	0.130
Burnout personal accomplishment	0.064	0.084	0.016	0.012	0.116

Variables entered: Audit score, alexithymia, HAMD score, HAMA score, PSC score, Liebowitz social anxiety scale, Emotional awareness, Emotional management, Social Emotional awareness, Relationship management, MBI - Emotional exhaustion, MBI - Personal accomplishment, MBI - Depersonalization, Suicidal ideation score and marital status.

*Model 2:* Linear regression taking the Rosenberg score as dependent variable and three factors obtained in the factor analysis as independent variables

	Unstandardized	Standardized	p-value	Confidence interval	
	Beta	Beta		Lower Bound	Upper Bound
Factor 1: High emotional intelligence & low depersonalization	1.819	0.385	<0.001	1.517	2.120
Factor 2: High suicidal ideation, high alcohol dependence, high depression and anxiety	-1.380	-0.292	<0.001	-1.713	-1.046
Factor 3: High burnout, high stress and high alexithymia	-0.751	-0.159	<0.001	-1.071	-0.432

Factor 1 = High emotional intelligence & low depersonalization; Factor 2 = High suicidal ideation, high alcohol dependence, high depression and anxiety; Factor 3 = High burnout, high stress and high alexithymia and marital status

*Model 3:* Linear regression taking the Rosenberg score as dependent variable and the clusters as independent variables

	Unstandardized	Standardized	p-value	95% Confidence Interval	
	Beta	Beta		Lower Bound	Upper Bound
Cluster 2	-3.660	-0.346	<0.001	-4.405	-2.914
Cluster 1	-2.850	-0.257	<0.001	-3.623	-2.076
Widowed*	-2.332	-0.075	0.025	-4.373	-0.292

Variables entered in the model: cluster 1, cluster 2 and marital status. Cluster 1 = People with emotional dysregulation (low emotional intelligence and high depersonalization with low burnout, stress and alexithymia); Cluster 2 = People in distress (high suicidal ideation, alcohol dependence, depression and anxiety with high burnout, stress and alexithymia).

\*Reference: Marital status = single. Cluster 3 = People with high wellbeing (high emotional intelligence and low depersonalization, with low suicidal ideation, low alcohol dependence & low depression and anxiety).

(Beta=0.064) were associated with a higher Rosenberg score (higher self-esteem), whereas high depression (Beta=-0.102), alexithymia (Beta=-0.077), burnout depersonalization (Beta=-0.078), suicidal ideation (Beta=-0.391) were associated with a decrease in Rosenberg score (lower self-esteem).

A second linear regression, taking the Rosenberg score as the dependent variable and the factors obtained in the factor analysis as independent variables, showed that Factor 1 (High emotional intelligence & low depersonalization) (Beta=1.819) was associated with increased Rosenberg score, whereas Factor 2 (High suicidal ideation, high alcohol dependence, high depression and anxiety) and Factor 3 (High burnout, high stress and high alexithymia) were associated with a decrease in the self-esteem (Beta=-1.380 and Beta=-0.751) respectively.

A third linear regression, taking the Rosenberg score as the dependent variable and the clusters obtained as independent variables, showed that being widowed (Beta=-2.332), belonging to cluster 1 (People with emotional dysregulation) (Beta=-2.850) and cluster 2 (People in distress) (Beta=-3.660) were significantly associated with a decrease in the self-esteem (Table 5).

## DISCUSSION

Our research is the first to study the correlates of the self-esteem among the Lebanese population. Self-esteem was measured among 789 Lebanese adult participants using a proportionate random sample from all the Lebanese regions. Factor and cluster analyses were performed over all scales' items before running a multi-variable analysis to evaluate the correlates of the self-esteem. This paper is part of a big project conducted about alexithymia in Lebanon (Lahoud et al. 2019, Zakhour et al. 2019, Obeid et al. 2019).

Taking into consideration all the scales as independent variables, we found that emotional intelligence (relationship management, emotional awareness) and personal accomplishment are positively correlated with self-esteem, consistent with other studies (Janati et al. 2012, Kouchakzadeh Talami et al. 2016, Sillick & Schutte 2006). Self-esteem is an essential component of emotional intelligence which helps the individual to accurately and really relate to people and events around him (Vărășteanu & Iftime 2013).

All the others scales as depression, anxiety, alexithymia, burnout depersonalization and suicidal ideation were associated to low self-esteem. These results are in line with previous studies that showed that low self-esteem is related to depression and emotional reactions, especially anxiety (Liu et al. 2014, Michalak et al. 2011, Trzesniewski et al. 2003). Sowislo found that the relationship between anxiety and self-esteem was reciprocal, with both negatively affecting each other in similar ways (Sowislo & Orth 2013). Also, he found that depressed individuals may seek out negative feedback, which lowers their self-esteem (Sowislo &

Orth 2013, Sowislo et al. 2014). Depression and self-esteem are intertwined and contribute to negative affect (Hwang et al. 2017). Other Studies revealed that decreased self-esteem increased the risk of depression far more than depression increased the risk of low-self-esteem (Sowislo & Orth 2013, Sowislo et al. 2014).

Studying the effect of the burnout on self-esteem, it has been observed that a lack of personal accomplishment leads to low self-esteem and job demotivation, in agreement with other studies that reported that burnout is negatively related to self-esteem, a high burnout is correlated to a low self-esteem (Abdallah 2009, Padyab et al. 2013, Rosse et al. 1991). Achievement successes elevate positive self-esteem (Nwankwo et al. 2013). Alexithymia was also found to be inversely related to self-esteem. By definition, persons with high alexithymia have little self-awareness (Taylor et al. 1991). Higher levels of emotional distress, such as depressive symptomology, correlate highly with low self-esteem (Shin & Shin 2008).

The lowest self-esteem scores was observed in suicidal ideation scale. In fact suicide attempts may decrease self-esteem (Yoo et al. 2015). Previous studies reported the strong relationship between low self-esteem and suicidal ideation (Lin 2015, McGee & Williams 2000). Self-esteem has strong support as a buffer to suicide (Sharaf et al. 2009). There is also evidence from longitudinal studies that relatively low self-esteem is a risk factor for health problems, including social isolation, depression and suicide ideation (McGee & Williams 2000).

Through these analyses, it has been found out that dimensions of the dependent variable, three factors, namely "High emotional intelligence & low depersonalization", "High suicidal ideation, high alcohol dependence, high depression and high anxiety", and "High burnout, high stress and high alexithymia" came out as final factors. After defining the factors of the variables, regression analyses were conducted in order to identify the factors that correlated with the self-esteem. The analyses reveal that the following factor "high emotional intelligence and low depersonalization" contribute positively to a high self-esteem. While the two others factors are correlated with low self-esteem. These results were kind of expected. In fact, higher alexithymia, stress, burnout was associated with low self-esteem, in line with previous studies that showed that perceived stress and alexithymia may play a significant role in the development of burnout syndrome (Alarcon et al. 2009, Popa-Velea et al. 2017), which would also contribute to a low self-esteem (Shin et al. 2007). Alcohol dependence, associated with anxiety and depression, may lead to a dramatic decrease in self-esteem and an increase in the suicidal ideation. Research showed that people with alcohol dependence are more at risk of suicide and have higher levels of depressive and affective problems (DeSimone et al. 1994). Heavy alcohol use may produce or exacerbate depressive symptoms indirectly through its effects on the psychosocial function-

ning of the individual (Davidson & Ritson 1993). Alcohol-related negative consequences may result in feelings of guilt, hopelessness, and low self-worth.

Based on these factors three mutually exclusive clusters were derived: “people in distress”, “people with emotional dysregulation” and “people with high well-being”. Regression analyses showed that being in any of the first two clusters was correlated to a low self-esteem. Positive emotional intelligence is considered a strong predictor of better psychological adjustment and high self-esteem, whereas negative or low emotional intelligence is significantly related to depression, harmful and distressing behavior (Bibi et al. 2016). Low emotional intelligence results in the interpersonal relational difficulties, low self-esteem, poor impulse control, loneliness, suicidal thoughts, drug, stress, depression, anxiety, aggressive behaviors and alcohol usage (Gardner & Qualter 2009). Emotional intelligence appeared to be a strong determinant of self-esteem (Mayer et al. 2008).

Regarding the cluster “People in distress” (high suicidal ideation, hazardous alcohol drinking, depression and anxiety with high burnout, stress and alexithymia), the results of the Rosenberg scores were the lowest. Indeed, a high degree of burnout is evidenced by high scores on the emotional exhaustion and depersonalization subscales combined with a low score on the personal accomplishment subscale. All these factors contribute to the low self-esteem. From another side, this cluster presents high suicidal ideation and it is not surprising that individuals who lack respect for themselves would have suicidal ideation tendencies. The relationships among stress, self-esteem, and suicidal ideation were proven by different studies (Daan et al. 2012, Mitsui et al. 2014, Wilburn & Smith 2005)

Regarding the marital status, we can see that widowed persons have also lower Rosenberg scores. Single persons have higher self-esteem than widow persons. Widowhood and divorce are significantly distressing events in the life of an individual, with associated psychological ramifications. Loneliness is a major problem associated with widowhood. Many widows live by themselves. They suffer the fear of being alone and loss of self-esteem (Fasoranti & Aruna 2007). Fry suggested that loss of self-esteem during widowhood may occur through a variety of pathways (Fry 2001). Other studies have also suggested that self-esteem drops during widowhood as a result of lowered emotional efficacy (Utz et al. 2011).

Gender, age, education level and socioeconomic status were not significantly associated with self-esteem symptoms in our sample. However, a meta-analysis had showed that men tend to have higher self-esteem than women and that both men and women show age-related increases in self-esteem from late adolescence to middle adulthood (Kling et al. 1999). In fact, these two effects are now considered some of the most well-established findings in the self-esteem literature (Orth et al. 2014).

Recently, several studies have shown that subjective well-being significantly correlates with high self-esteem, and that self-esteem shares significant variance in both mental well-being and happiness (Zimmerman 1999). Self-esteem has been found to be the most dominant and powerful predictor of happiness (Furnham & Cheng 2000). Indeed, while low self-esteem leads to maladjustment, positive self-esteem, internal standards and aspirations actively seem to contribute to ‘wellbeing’ (Glick & Zigler 1990). In this line, low self-esteem has an impact on patient prognosis, then it is beneficial from a therapeutic standpoint to identify and address the causes of low self-esteem, and therefore focus on therapeutic strategies to improve self-esteem and well-being of individuals.

### Limitations

A few limitations to our study are noteworthy. The current study has a cross-sectional design, with a low level of evidence. The instruments used to assess the psychological symptoms had not yet been validated. Since 60% of the participants had a university degree, the results might not be representative to the whole population. The self-esteem was diagnosed using a score tool not a clinical diagnostic interview. Taking into consideration more socioeconomics and demographics factors can be interesting to understand the risk factors associated with self-esteem. This can lead to an optimization of a psychological intervention. Finally, we relied on participants to provide us with information on depression, anxiety, and alexithymia, using self-report questionnaires. Future research using alternative methods, such as interviews, might obtain a more complete view of depression and anxiety and alexithymia. Despite these limitations, the study is useful in providing the first delineation of developmental change in the self-esteem, highlighting the importance of studying self-esteem throughout an entire lifespan.

### CONCLUSIONS

In summary, the present research provides crucial information about the different correlates to the self-esteem among the Lebanese populations. The knowledge provided by the present study suggests that interventions aimed at increasing global self-esteem among Lebanese populations and so moreover, suggesting that depression, anxiety, burnout, stress, low emotional intelligence, alexithymia, suicide ideation, alcohol dependence and many other factors can be prevented, or reduced, by interventions that improve self-esteem. It is necessary to conduct further intervention studies examining the role of self-esteem and social support in facilitating Lebanese people stress, anxiety and depression-related coping during their life.



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**Contribution of individual authors:**

Sahar Obeid & Souheil Hallit conceived and designed the survey.

Kassandra Fares & Marwan Akel performed the data collection and entry.

Chadia Haddad, Pascale Salameh & Souheil Hallit were involved in the statistical analysis and data interpretation.

Sahar Obeid wrote the manuscript.

Chadia Haddad, Maha Zakhour & Souheil Hallit contributed to the writing.

Souheil Hallit edited the paper for English language; all authors critically revised it for intellectual content, and approved the final version.

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