

Love and Hate: The Convergent and Divergent Validity of the Love of Life Scale in University Students from Lebanon

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Abstract

The main aim of the present study on Lebanese participants was to replicate earlier studies, specifically to compare its results with those of two previous studies conducted on participants from Libya and Sudan living in a stable socio-political state. The Lebanese sample of the present study was exposed to Israeli aggression during the last two months of the year 2024. A volunteer convenience sample of students from four Lebanese universities in Beirut took part in the study ($N = 236$). Results indicate that women had significantly higher mean total scores for anxiety than did men, whereas men had significantly higher mean total scores for happiness than did women. All the associations between love of life (LOL) and the positive traits (optimism, happiness, and mental health) were statistically significant and positive in men and women. All the LOL associations with negative traits (suicidality, anxiety, and pessimism) were statistically significant and negative, except one. The results support the convergent and divergent validity of the LOL scale. Principal components analysis extracted two components in men and women which were labeled "Positive traits" and "Negative traits". The LOL correlations and factor loadings were higher on the positive traits than the negative traits, indicating the placement of LOL in the subjective well-being nexus. The Israeli aggression seemed to have no effect on the LOL mean score, probably because of its short duration of two months.

Keywords: Love of life, Optimism, Happiness, Mental health, Pessimism, Suicidality, Anxiety, Lebanon.

1 Introduction

Recently, two papers were published under the title: "Love and hate: the convergent and divergent validity of the Love of Life Scale". The participants of these studies were from two Arab countries, Sudan and Libya (Abdel-Khalek et al., 2022a, 2023a). Both studies were conducted under more or less stable political conditions, i.e., before the civil war started in Sudan.

The general aim of the present study was to replicate and compare the last-mentioned two studies with participants from another Arab country, Lebanon. During the last two months of the year 2024, the Lebanese population suffered from Israeli attacks on West Lebanon, Beirut the capital, as well as various important Lebanese towns. The general prediction was: The war atmosphere would affect the participants' responses on the Love of Life (LOL) scale. Lower scores were expected because of reduced well-being.

LOL had been introduced as a new construct proposed to be a sub-component of the subjective well-being (henceforth SWB) domain. LOL is defined by a generally positive evaluation of one's own life and positive regard towards it, holding fast to life, as well as a pleasant attachment to life (Abdel-Khalek, 2004, 2007, 2013b).

Ross et al. (2023) differentiated between LOL and life satisfaction. The difference is between viewing life itself as important and the feelings about one's own life. People can believe life in general is a positive thing, but not necessarily feel content with their own life at the moment. They found that one's family of origin and current beliefs relate to current wellness (LOL, life satisfaction, and happiness).

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Individual differences in love of life versus hate of life are proposed to be on a continuum. It was hypothesized that LOL is positively associated with SWB constructs and scales, such as happiness, optimism, and life satisfaction. On the other hand, it was predicted that LOL is negatively associated with negative affect. Both hypotheses were verified in previous studies (Abdel-Khalek, 2007, 2013b, 2018a). Several research studies have demonstrated statistically significant associations of LOL with the following scales: happiness, optimism, life satisfaction, hope, mental health, physical health, self-esteem, emotional intelligence, positive affect, self-efficacy, social support, etc (Abdel-Khalek, 2007, 2018b, 2020b; Abdel-Khalek et al., 2007; Abdel-Khalek & Al-huwailah, 2013; Abdel-Khalek & Zine El Abiddine, 2019; Al-Fadly, 2009; Al Sa'eedy, 2009; Atef Vahid et al., 2016; Dadfar et al., 2018, 2021; El Noyal 2009a,b).

On the other hand, several studies have found negative associations of LOL with the following negative traits: anxiety, depression, death depression, somatic symptoms, wish to be dead, psychological distress, and suicidal cognitions (Abdel-Khalek, 2018b; Abdel-Khalek & Lester, 2012; Al-Ayoub & Abdel-Khalek, 2012; Atef Vahid et al., 2016; Dadfar et al., 2020a,b).

The association between LOL and personality was the subject of two studies. First, Abdel-Khalek (2013a) explored the correlations of LOL with Eysenck's three personality dimensions. The results indicated positive associations between LOL and extraversion in male and female university students, and negative correlations of LOL with neuroticism and psychoticism scores in women only. Second, based on the Big-Five personality traits, significant associations of LOL were found with the following factors: extraversion, agreeableness, openness, conscientiousness (positive), and neuroticism (negative). Predictors of LOL were low neuroticism, and high levels of agreeableness, conscientiousness, and extraversion (Abdel-Khalek & Alhuwailah, 2021). Cross-cultural comparisons of LOL scores were conducted between university students from different countries. It was found that Kuwaiti students obtained higher LOL mean scores than Egyptian and Lebanese students. However, American students obtained a slightly higher mean total score than Kuwaiti students (Abdel-Khalek, 2012, 2018b; Abdel-Khalek et al., 2010; Abdel-Khalek & Lester, 2011, 2012). The conclusion is that rich countries tend to have higher levels of LOL.

Abdel-Khalek and El Noyal (2018) compared university students from nine countries on LOL. They found that students from Malaysia and the US obtained the highest mean LOL scores, followed by participants from Qatar, India, Kuwait (men), and India, Iran, Qatar, and Algeria (women). Generally speaking, students from high-income countries tend to obtain high LOL mean scores. Recently, it was found that the mean score on the LOL scale was higher in Libyan than Sudanese participants (Abdel-Khalek et al., 2022a, 2023a). Using an Egyptian sample of university students ($N = 298$), LOL was associated with quality of life, in particular the psychological and social domains of quality of life. Another recent study indicated that LOL was associated more with positive affect scales than negative affect scales, indicating good convergent validity of the LOL scale (Abdel-Khalek, 2024, 2025).

In Iran, Bahrami et al. (2016) found a significantly elevated mean total score on LOL after participation in the religious retreat of *I'tikaf* compared to before. Dadfar et al. (2021) proposed a LOL model with different roles of psychological well-being, depression, somatic health and spiritual health. Predictors of LOL scores were spiritual health and psychological well-being, indicating the importance of these components. The authors suggested strengthening these predictors in psychiatric outpatients and supporting the development and practice of LOL focused therapy for the treatment of psychiatric outpatients.

In Turkey, Turan et al. (2022) and Yildirim and Özaslan (2022) independently developed two Turkish versions of the LOL scale with good results. Ross and Wright (2023) investigated the associations between humility, personality and psychological functioning, including LOL. They found positive associations between humility and LOL. Abdel-Khalek and Nour Eddin (2024) found significant associations between LOL and hope (positive) and hopelessness (negative).

The LOL scale has been administered to samples from different countries: Egypt, Kuwait, Lebanon, Palestine, Algeria, Qatar, Turkey, Iran, India, Malaysia, and the US (e.g. Abdel-Khalek & Singh, 2019; Abdel-Khalek & Tekke, 2019; Abdel-Khalek et al., 2022b; Al-Arja, 2018). The studies on LOL provide information from different samples, e.g., adolescents, university students, adults, the elderly, mental health patients, cancer patients, and patients with multiple sclerosis (Abdel-Khalek, 2012, 2018b; Abdel-Khalek & Lester, 2011, 2012; Abdel-Khalek et al., 2010; Dadfar et al., 2021; Mohagegh et al., 2021).

2 The present study

During the last few years, Lebanon faced many problems. In addition to serious economic hardships, politically, the Lebanese people failed to elect the state president. Moreover, in the last two months of the year 2024, the Israeli army attacked several parts of Lebanon as well as the capital, Beirut. We predicted that these harsh circumstances may have had a negative impact on the psychological state of the Lebanese population, including their love of life. The main aim of the current investigation was to replicate and compare the findings on the Lebanese participants with the results of previously published studies on two samples, one from Libya and the other from Sudan. Socio-political circumstances were more or less stable in these two Arab countries at the time when these studies were done. It is particularly noteworthy that the previous study on the Sudan sample was conducted before the civil war started.

3 Aims of the present study

Using Lebanese college student participants, the following six aims were stated:

1. To explore the factorial structure of the LOL scale.
2. To estimate the descriptive statistics of the study scales and the sex-related differences in the seven scales (see the questionnaire section).
3. To compute the associations between the scales.
4. To explore the factorial structure of the study variables.
5. To explore the predictors of LOL.
6. To compare the total LOL mean scores between the three samples from Libya, Sudan, and Lebanon.

4 Materials and Method

4.1 Participants

A volunteer convenience sample of Lebanese university students ($N = 236$: 117 men and 119 women), was sourced from the following four universities: Lebanese University, Lebanese American University, Lebanese International University, and American University of Beirut. All these universities are situated in Beirut, the capital of Lebanon. Respondents' ages ranged between 17 and 35: ($M = 20.9$, $SD = 3.7$ for men, $M = 23.4$, $SD = 6.9$ for women).

4.2 Questionnaires

Seven scales were used as follows. Each item of the present battery of scales is answered on a five-point Likert-type scale anchored at 1 No and 5 Always. Higher scores indicate a higher trait level.

4.3 The Love of Life (LOL) Scale

The LOL scale (Abdel-Khalek, 2004, 2007, 2013b) was written originally in Arabic and has equivalent English, Persian, and Turkish versions. It consists of 16 items (see the items in Table 2). With an Egyptian sample, principal components analysis of the LOL items had extracted three components, which were labelled: "Positive attitude towards life", "Happy consequences of love of life", and "Meaningfulness of life". Construct validity of the LOL scale was adequately demonstrated by statistically significant positive correlations with measures of happiness, satisfaction with life, optimism, self-esteem, hope, and extraversion (Abdel-Khalek, 2007).

4.4 *The Arabic Scale of Suicidal Behavior (ASSB)*

The ASSB purports to assess thoughts, cognitions, and intentions to commit suicide. It consists of five statements. Example items are: "I thought about killing myself", "I wished I were dead", and "I tried to commit suicide". This scale was developed by Abdel-Khalek (2023).

4.5 *The Arabic Scale of Optimism and Pessimism (ASOP)*

The ASOP (Abdel-Khalek, 2020a, Chapter 1) consists of two separate subscales in comparable Arabic and English forms to assess optimism and pessimism. Each subscale contains 15 statements. The total score can range from 15 to 75, with high scores indicating high optimism or pessimism. Cronbach's alpha and test-retest reliabilities were good. Criterion-related validities against scores on the Life Orientation Test by Scheier and Carver (1985) were +0.78 and -0.69, indicating good convergent validity of optimism and pessimism, respectively.

4.6 *The Kuwait University Anxiety Scale (KUAS)*

The KUAS (Abdel-Khalek, 2000) has comparable Arabic, English, German, and Spanish versions. It consists of 20 brief statements. Alpha reliability of the scale ranged from 0.88 to 0.92 and test-retest reliability between 0.70 and 0.93, indicating good internal consistency and temporal stability. The criterion-related validity of the scale ranged between 0.70 and 0.88 (five criteria), while the loadings of the scale on a general factor of anxiety were 0.93 and 0.95 in two factor analyses, demonstrating the scale's criterion-related and construct validity. Discriminant validity of the scale has also been demonstrated. Factor analysis of the scale items extracted three factors, which were labelled "Cognitive/Affective", "Subjective", and "Somatic anxiety". The scale has displayed good psychometric properties in different Arabic and Western samples of college students.

4.7 *The Arabic Scale of Happiness (ASH)*

The ASH (Abdel-Khalek, 2013c) comprises 15 brief statements (e.g., "I have an overall sense of wellbeing", "My life has meaning", and "I feel that I am successful"), plus five filler items. The total score on the ASH can range from 15 to 75, with higher scores indicating higher happiness. A principal axis factor analysis, followed by oblique rotation (pattern and structure matrices), extracted two factors, which were labelled: "General happiness" and "Successful life". Cronbach's alpha and test-retest reliabilities ranged from .82 to .94, indicating good internal consistency and temporal stability. The construct validity of the ASH ranged between .55 and .79 against the Fordyce Happiness Measure, the Subjective Happiness Scale, and the Oxford Happiness Inventory. The ASH has equivalent Arabic and English forms.

4.8 *The Arabic Scale of Mental Health (ASMH)*

This scale was developed as a generic screening measure and research tool for adults and adolescents. It has equivalent Arabic and English forms. The scale comprises 40 brief statements plus 10 filler items. The total score can range from 40 to 200, with higher scores indicating better mental health. A principal components analysis extracted six components, which were labelled: Satisfaction, Self-confidence, Optimism, Enjoyment, Meaningful life, and Stability. Extensive data on reliability and validity are available (Abdel-Khalek, 2011).

4.9 *The short scales*

Factor analysis was used to reduce the dimensionality of the study scales down to a lesser number of latent variables (called constructs). This also helps reduce the redundancy between sets of correlated variables to eliminate the possibility of multicollinearity, which is a major concern when building causal models. Exploratory factor analysis helps in revealing patterns between variables. When we reduced the full scales down to their “best” three items, those with the highest factor loadings, this did not reduce their reliability and the explained variance. Therefore, we administered these short 3-item versions rather than the complete scales. Only the LOL (16 items) and suicidality (5 items) scales were used with all their items (see Table 1).

4.10 *Statistical analysis*

SPSS was used for the statistical analysis of the data. Descriptive statistics, t test, d for effect size, Pearson product moment correlation, and principal components analysis were used. Principal components analysis was conducted to examine the factorial structure of the rating scale scores. The Kaiser criterion (eigenvalue ≥ 1.0) and the scree test were applied to extract significant component(s).

4.11 *Procedure*

The battery of scales was administered to a sample of student volunteers from four universities. The administration of scales was through face-to-face settings, in September and December 2024, during the Israeli aggression on Lebanon. The administration of scales was interrupted at the height of the bombing.

5 Results

Before presenting the findings of the current investigation, it is important to estimate the Cronbach's reliability of the scales in the Lebanese sample. Reference to Table 1 indicates that all alpha reliabilities ranged between .70 and .94, indicating acceptable to good alpha reliabilities.

Table 1: Alpha reliability of the scales.

Scale	Number of items	Men	Women
Love of Life	16	0.93	0.94
Suicidality	5	0.91	0.90
Optimism	3	0.85	0.86
Anxiety	3	0.86	0.92
Happiness	3	0.83	0.87
Pessimism	3	0.87	0.89
Mental Health	3	0.72	0.70

Note. Entries are Cronbach's α .

A principal components analysis (PCA) was conducted to examine the factorial structure of the correlations between the LOL scale items. The Kaiser criterion (eigenvalue ≥ 1.0) and the scree test were applied to extract significant components. Orthogonal (varimax) rotation of axes was performed, i.e., the resulting components after rotation were not correlated with each other. Because the components for men and women were similar, the scores for male and female groups were merged in one sample ($N = 236$). Kaiser-Meyer-Olkin measure of sampling adequacy was .94, and the Bartlett's Test of Sphericity (Approx. Chi square) = 2283.0.

Table 2 indicates that two components were extracted and accounted for 58.5% of the total variance. Before rotation, the first component accounted for 51.6% and the second one accounted for 7.0%. However, the

scree plot indicated that only one component was significant. Therefore, we consider the second component as a residual one and the first component could be labelled “Love of Life”. Table 2 sets out the first component before rotation and the two components after rotation. Figure 1 presents the scree plot.

Table 2: Factor loadings of the Love of Life Scale for men and women ($N = 236$).

Item	Factor loadings		
	Before rotation	After rotation 1	After rotation 2
1. Life is full of pleasures.	.82	.93	.15
2. There are many things that make me love life.	.81	.75	.14
3. Love of life adds to its beauty.	.80	.73	.13
4. Life deserves to be loved.	.79	.72	-.11
5. Love of life makes me happy.	.77	.70	.27
6. Life seems beautiful and wonderful to me.	.75	.67	.21
7. I look at life from its beautiful side.	.73	.66	.12
8. Love of life gives me hope.	.71	.62	.15
9. I would like to have a long life to achieve what I hope for.	.69	.48	.16
10. Love of life brings me satisfaction.	.67	.48	-.12
11. Life is a treasure we should guard.	.66	.43	.10
12. Life is beautifully meaningful.	.64	.42	.21
13. Life is a blessing whose value we should appreciate.	.62	.12	-.83
14. I realize that my existence in this life has great meaning.	.59	.01	-.60
15. I always have a wonderful feeling of loving life.	.55	.21	-.55
16. I like to be optimistic about life.	.45	.42	-.42
<i>Eigenvalue</i>	8.25	7.37	5.43
<i>% of variance</i>	51.55	48.74	4.27

Note. Entries are factor loadings (orthogonal varimax). “Eigenvalue” and “% of variance” rows summarize each solution.

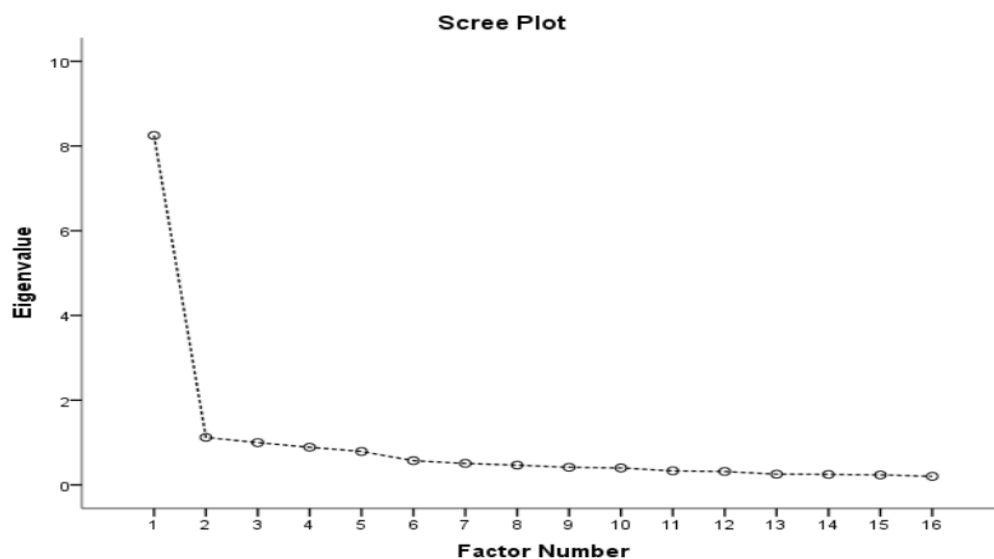


Figure 1: Scree plot for the Love of Life Scale in the current study

Table 3 sets out the descriptive statistics of the scales and the differences between total scores for men and women. Women obtained significantly higher mean total scores than did men for anxiety, whereas men had significantly higher mean total scores than did women for happiness. There were no sex-related significant differences in the other scales.

Table 3: Mean (*M*), standard deviation (*SD*), *t* value, and effect size *d* of the difference between men (*n* = 117) and women (*n* = 119).

Scales	Men		Women		<i>t</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Love of Life	55.07	12.82	56.09	12.17	0.62	—	—
Suicide	7.82	4.78	7.07	3.81	1.30	—	—
Optimism	11.03	3.01	10.65	2.85	0.99	—	—
Anxiety	7.66	3.55	8.89	3.49	2.69	.008	.39 [†]
Happiness	9.47	3.02	8.90	2.96	1.44	.043	.27 [†]
Pessimism	6.13	3.39	5.39	3.10	1.75	—	—
Mental Health	9.84	2.71	9.18	2.58	1.92	—	—

Notes: “—” = not reported. [†] Small effect size.

Table 4 presents the bivariate Pearson correlations between the study scales, separately for men and women. The important correlations in the present study are for LOL and the other scales. The associations between LOL and the positive traits (optimism, happiness, and mental health) were statistically significant and positive in men and women. Conversely, all the LOL associations with negative traits (suicidality, anxiety, and pessimism) were statistically significant and negative, except between LOL and anxiety among men (n.s.).

Table 4: Pearson correlations between the scales for men (*n*=117, upper triangle) and women (*n*=119, lower triangle).

Scales	1	2	3	4	5	6	7
1. Love of Life	—	−0.29**	0.58**	−0.09	0.49**	−0.32**	0.47**
2. Suicidality	−0.24**	—	−0.33**	0.34**	−0.26**	0.53**	−0.23*
3. Optimism	0.62**	−0.19*	—	−0.15	0.40**	−0.33**	0.53**
4. Anxiety	−0.41**	0.36**	−0.48**	—	−0.40**	0.51**	−0.44**
5. Happiness	0.68**	−0.29**	0.53**	−0.53**	—	−0.45**	0.67**
6. Pessimism	−0.45**	0.57**	−0.41**	0.52**	−0.48**	—	−0.47**
7. Mental Health	0.59**	−0.30**	0.54**	−0.48**	0.57**	−0.32**	—

* *p* < .05 (two-tailed); ** *p* < .001 (two-tailed).

A principal components analysis was conducted to examine the factorial structure of the correlations between the total scale scores, separately for men and women (see Table 5). The Kaiser criterion (eigenvalue ≥ 1.0) was applied to extract significant components. Two components were extracted for men and women. They accounted for 68% and 74% of the total variance, respectively, as reported in Table 5. Kaiser-Meyer-Olkin = .86 and .89, and Bartlett's Sphericity = 3135 and 3437 for men and women, respectively. The components and the loadings of the scale scores on them were very similar for men and women. The first component could be labelled “Positive traits”, because of its high loadings for LOL, optimism, happiness, and mental health. The second component could be labelled “Negative traits” because of its high loadings for suicidality, anxiety, and pessimism.

Table 5: Orthogonal (varimax) two-factor solution for the scales for men ($n = 117$) and women ($n = 119$).

Scales	Men		Women	
	1	2	1	2
Love of Life	0.79	-0.08	0.86	-0.17
Suicidality	-0.09	0.79	-0.12	0.81
Optimism	0.77	-0.19	0.82	-0.19
Anxiety	-0.15	0.77	-0.28	0.73
Happiness	0.85	-0.21	0.88	-0.20
Pessimism	-0.17	0.84	-0.18	0.87
Mental Health	0.84	-0.09	0.86	-0.23
Eigenvalue	2.6	2.1	3.0	2.0
% of Variance	39.1	29.0	44.0	30.0
Total Variance	68.1%		73.9%	

Notes: Orthogonal varimax rotation. "Total Variance" is the cumulative percentage within sex.

Table 6 sets out the results of a regression analysis in which LOL was the dependent variable and the other six scales were predictors for men and women, separately. The predictors of LOL were optimism, happiness, and lack of anxiety among men. For women, the LOL predictors were optimism, happiness, and mental health. The R^2 was .44 and .59 for men and women, respectively.

Table 6: Predictors of love of life.

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
<i>Men</i>					
Suicidality	-0.27	0.23	-.10	1.14	.26
Optimism	1.62	0.38	.38	4.31	.0001
Anxiety	-0.67	0.32	.19	2.11	.04
Happiness	1.26	0.42	.30	2.99	.003
Pessimism	-0.19	0.37	-.05	0.53	.60
Mental Health	0.49	0.52	.10	0.93	.35
Constant	18.62	6.26		2.97	.004
<i>Model fit (Men): $F = 14.65$, $p < .0001$, $R^2 = .44$.</i>					
<i>Women</i>					
Suicidality	0.11	0.24	.04	0.46	.65
Optimism	1.23	0.34	.29	3.61	.0001
Anxiety	0.35	0.28	.10	1.27	.21
Happiness	1.61	0.34	.39	4.70	.0001
Pessimism	-0.55	0.34	.14	1.63	.11
Mental Health	1.05	0.38	.22	2.76	.007
Constant	18.01	5.86		3.07	.003
<i>Model fit (Women): $F = 26.67$, $p < .0001$, $R^2 = .59$.</i>					

Notes: *B* unstandardized coefficient; β standardized coefficient. Two-tailed *p*. Model rows report overall fit statistics.

The comparison between the participants from three countries on LOL indicated that there were no

significant differences between the Lebanese and Libyan samples on LOL. However, the mean score on LOL for the Sudan participants was lower than the other two samples as reported in Table 7.

Table 7: Mean (*M*), standard deviation (*SD*), *t* test and effect size *d* on the Love of Life Scale among three Arab countries.

Country	Men			Woman			<i>t</i>	<i>d</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>		
Libya	186	57.00	12.86	521	56.16	11.88	0.78	0.06
Sudan	112	53.30	11.51	342	52.58	12.96	0.56	0.06
Lebanon	117	55.07	12.82	119	56.09	12.17	0.62	-0.08

Note. *t* from independent-samples test; *d* = Cohen's *d*.

6 Discussion

At first, the current investigation using a sample of Lebanese university students computed the reliabilities of the study scales. Cronbach's alpha reliabilities ranged between .70 and .94, indicating acceptable to high internal consistency of these scales (see Table 1). Psychometric authorities stated that a reliability of .70 is a minimum for a good test (Furr, 2011; Kline, 2000; Nunnally & Bernstein, 1994), although it can be argued that this depends on how narrow or how broad the examined construct is. For example, LOL is a very narrow construct, where a high reliability is desirable. In a similar vein, mental health as assessed in the present study, using the ASMH, was relevant only to the positive mental health indicators, and not to the DSM nomenclature. The present reliabilities reached and exceeded that criterion.

Principal components analysis of the LOL scale items extracted two components based on the Kaiser criterion (eigenvalue ≥ 1.0) (see Table 2). However, only the first component was considered significant based on the following results: The scree test showed only one significant component, the first unrotated component accounted for a high percentage of variance (51.6% versus 7% for the second component), as well as the percentage of variance after rotation, i.e., 48.7% and 4.3% for the first and second components, respectively, and the loadings onto the first unrotated component ranged from .45 to .82 (see Table 2). Unfortunately, there is a descending trend regarding the loadings onto the LOL items from high to low (see Table 2). This trend was most probably related to either boredom or fatigue. Therefore, it is suggested to develop a short LOL scale.

As to the number of salient components of the LOL scale in previous studies, there was no agreement. In the original study on the Egyptian sample, which introduced the LOL scale, Abdel-Khalek (2007) extracted three components, whereas Atef Vahid et al. (2016) extracted two components on an Iranian sample. One component was extracted in two studies using Turkish samples (Turan et al., 2022; Yildirim & Özalan, 2022). Only one component was extracted for seven samples (Abdel-Khalek et al., 2023b). These differences may be due to either the nature of the samples or to the capricious nature of exploratory factor analysis. Perhaps it is mainly a difference in what the researcher considers a meaningful factor.

Regarding the second aim, the sex-related differences were statistically significant only on two scales: happiness (men scored higher), and anxiety (women scored higher) (see Table 3). This result is expected in light of women's high scores on anxiety and neuroticism (Abdel-Khalek, 2013a, 2021; Abdel-Khalek & Alansari, 2004; Lynn & Martin, 1997). Several studies have shown a significant negative association between anxiety and happiness.

The correlations between the LOL scale and the positive traits (optimism, happiness, and mental health) were statistically significant and positive in men and women. On the other hand, the associations between LOL and the negative traits (suicidality, anxiety, and pessimism) were statistically significant and negative, except between LOL and anxiety in men (*n. s.*) (see Table 4). The last-mentioned result could reflect gender-based

emotional processing differences, sample characteristics, or measurement artifacts. Moderations or cultural gender norms may possibly explain this result. These results suggest the convergent and divergent validity of the LOL scale. However, the LOL associations with positive traits were higher than the LOL correlations with the negative traits. These results were consistent with the findings of two other Arab samples, from Libya and Sudan (Abdel-Khalek et al., 2022a; Abdel Khalek, Al Shahomee et al. 2023a).

Principal components analysis of the total scores on the seven scales extracted two components accounting for 68% and 74% of the total variance in men and women, respectively (see Table 5). The two components were labelled "Positive traits" and "Negative traits." It is noteworthy that the LOL scale had high loadings on the "Positive traits" component: .79 and .86, whereas the LOL loadings on the "Negative traits" component were -.07 and -.17 among men and women, respectively. Therefore, the placement of LOL in the positive traits component, subjective well-being, or the positive emotionality nexus, is evident.

Regression analysis indicated that the predictors of LOL were optimism and happiness in both sexes. In addition, low scores on anxiety for men and low scores on mental health for women were predictors of LOL. Most of the LOL predictors were scales of positive traits. These predictors accounted for 44% and 59% of the variance in LOL scores among men and women, respectively. Again, these results confirm that LOL is in the nexus of positive traits and subjective well-being. However, there is no claim of cause-and-effect relations. Indeed, regression models cannot prove causality. The study of causality needs an experimental design.

The mean total score on the LOL scale among the Lebanese men (see Table 7) was slightly lower than that in the sample from Libya, whereas the mean total score of the LOL in the two countries among women was exactly the same. The lowest total mean score on the LOL scale was in men and women from Sudan, probably because of the modest per capita income in this country as well as the scant opportunity for employment after graduation.

It seems that the Israeli aggression on Lebanon did not affect the participants' level of LOL because of the short duration of this aggression (the last two months in the year 2024). This result was relevant to a study on death anxiety among 673 Lebanese adolescents and emerging adults during the civil war (Abdel-Khalek, 1991). At that time, results indicated that the Lebanese samples obtained either the same or a lower mean total score on death anxiety than their peers from Egypt, Kuwait, and the US. This finding of non-elevated scores on death anxiety among Lebanese participants during the civil war may be explained in light of social, political, and historical factors. In this country, twenty years of civil war around the middle of the nineteenth century aggravated political and religious conflicts. After more than a century, civil war broke out again in 1975 and continued for 16 years. These conditions may operate in much the same manner as the psychotherapeutic principle of flooding, as a sequence of continuous exposure to an insecure environment. People got used to the insecure conditions in the country. Furthermore, we can hypothesize that there is a high level of resilience among this Lebanese sample.

7 Limitations

Strong points of the study are the sufficient size of the sample, which was recruited from four universities, and the acceptable to high internal consistency of the study scales. However, some limitations have to be acknowledged. Foremost among them is the limited age range of participants, as university students. Furthermore, the selection of the sample was based on convenience and not probability. It is suggested to replicate this study using participants from the general population with a wide range of ages.

There is a need to study resilience as a hypothetical buffer against stressful events, particularly war of short duration. Furthermore, the association between habituation and resilience is in need of a separate study.

8 Conclusion

A sample of 236 students was recruited from four Lebanese universities. Principal components analysis (PCA) of the LOL (16) items extracted one high-loaded component, which was labelled LOL. Men obtained a significantly higher score on happiness, whereas women scored higher on anxiety. The associations of LOL with the positive scales: optimism, happiness, and mental health were significant and positive. Except for one, all other correlations between LOL and the negative traits suicidality, anxiety, and pessimism were negative and statistically significant.

PCA of the correlations between the total scores on the seven scales extracted two components, which were labelled: "Positive traits" and "Negative traits." The LOL scale had high loading on the first one. Predictors of LOL were optimism and happiness in men and women, in addition, the lack of anxiety among men and mental health in women. These predictors accounted for 44% and 59% of the variance in LOL scores among men and women, respectively. It seems that the Israeli aggression had no effect on the LOL mean scores among this sample of students in Lebanon, probably because of the short duration of that aggression (two months) and because the aggression was not country-wide but restricted to selected regions. By and large, the LOL scale is a good indicator of well-being or positive emotionality with good convergent and divergent validity.

Acknowledgement: We thank all the college students for their participation in the study, and Professor Gerhard Meisenberg, the Editor-in-Chief of *Mankind Quarterly* for his constructive suggestions.

Declaration of conflicting interests: The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding: The authors received no financial support for the research, writing and publication of this article.

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