

The Greek Version of the Southampton Nostalgia Scale: Psychometric Properties in Young Adults and Associations with Life Satisfaction, Positive and Negative Emotions, Time Perspective and Wellbeing

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Abstract—Nostalgia is characterized as a mental state of human's emotional longing for the past that activates both positive and negative emotions. The bittersweet emotions that are activated by nostalgia aid psychological functions to humans and are depended on the type of stimuli that evoke nostalgia but also on the nostalgia activation context. In general, despite that nostalgia can be activated and experienced by all people; however, it differs both in terms of nostalgia experience but also nostalgia frequency. As a matter of fact, nostalgia experience along with nostalgia frequency differs according to the level of the nostalgia proneness. People with high nostalgia proneness tend to experience nostalgia more intensely and frequently than people with low nostalgia proneness. Nostalgia proneness is considered as a basic individual difference that affects the experience of nostalgia, and it can be measured by the Southampton Nostalgia Scale (SNS); a psychometric instrument that measures human's nostalgia proneness consisting of seven questions that assess a person's attitude towards nostalgia, the degree of experience or tendency to nostalgic feelings and the nostalgia frequency. In the current study, we translated, validated and calibrated the SNS in Greek population (N = 267). For the calibration process, we used several scales relevant to positive dimensions, such as life satisfaction, positive and negative emotions, time perspective and wellbeing. A confirmatory factor analysis revealed the factors that provide a good Southampton Nostalgia Proneness model fit for young adult Greek population.

Keywords—Nostalgia proneness, nostalgia, psychometric instruments, positive emotions.

I. INTRODUCTION

NOSTALGIA was initially considered as a negative feeling due to human's great desire to return home and was initially regarded (19th century) as medical disease with symptoms such as sobbing, irregular heartbeat, anorexia and by the beginning of the 20th century it was regarded as a psychiatric disorder. Later on, research revealed that nostalgia activates emotions that can serve important psychological functions [31], [32], [35]. Later on, research revealed that nostalgia activates emotions that can serve important psychological functions [32]. As a matter of fact, nostalgia can increase positive affect [3], [7], [43], optimism [7], self-esteem [42], life meaning [30], [35], well-being [31] and social connectedness [31].

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There can be several nostalgia triggers depending on the situation, the moment or the environment. For example, negative mood, threatening experiences [42], [30] or feeling of self-discontinuity [12]. Nostalgia can also be triggered by social interactions [32] and sensory stimuli such as music, odors and images [30]. Regardless of the nature of nostalgia triggers, research has shown that nostalgia is activated bringing into mind memories of the past that strengthen positive experiences of the present [42] and facilitate dealing with negative moods, experiences or threats [42], [30], [12]. Furthermore, research has revealed that despite the fact that all people experience nostalgia, there are individual differences regarding the frequency of nostalgic feelings (i.e. once a month, once every two weeks, once a week) [42]. In addition, women seem to be more prone to nostalgia than men [15], [26]. Individual differences in nostalgia proneness can be measured by the SNS that was developed to measure how prone someone is to nostalgia. Specifically, the SNS is a self-report instrument that measures nostalgia proneness among individuals and assesses how important is nostalgia for the individual and how prone he/she is in feeling nostalgic [4].

The SNS has been applied in various studies that investigate the role of nostalgia in dealing with negative feelings that are activated when facing negative events or threatening situations [35], [42]. Research has demonstrated that when feeling threatened by the thoughts of human mortality, death awareness or other negative feelings [i.e. counteracting loneliness [42]], the emotional reflection on past experiences facilitates various psychological functions such as positive feelings, notion of self-worth, self-positivity, social connectedness and initiation of interpersonal relationships [42]. Moreover, according to research findings nostalgia, is a meaning-providing resource and can be differentiated between low and high in nostalgia proneness individuals with the latter perceiving life more meaningful [30] and frequently recalling meaningful memories rich in social content [39].

The SNS as a nostalgia proneness indicator facilitates investigation of the psychological functions of nostalgia in managing difficult and/or negative situations. The SNS is comprised of a definition of "nostalgia" as provided by the New Oxford Dictionary of English (1998)- *a sentimental longing for the past*- and seven items in total [30]; four of which measure frequency of nostalgic engagement (i.e. "how often do you experience nostalgia?"; 1 = very rarely, 7 = very

frequently) and three items assessing the importance assigned to nostalgic engagement (i.e. “how important is it for you to bring to mind nostalgic experiences?”; 1 = not at all, 7 = very much) [9]. The 7- item version is a new version with two new, additional items to the original 5-item scale reported [30]. The revised version that was developed [4] is currently being used in studies that investigate nostalgia and its psychological functions [4], [8]-[10], [37]-[39]. The items of the scale are aggregated to form a nostalgia proneness index ($\alpha = .92$; $M = 4.75$; $SD = 1.47$) with higher scores reflecting greater nostalgia proneness and showing good reliability [2], [4], [8], [10], [30] and construct validity [20], [30] considering it as a one-factor nostalgia model.

The psychometric properties of SNS have been investigated in several adult populations showing good results in terms of internal consistency of the scale with alpha coefficients estimates ranging between .70 and .95 [2], [4], [8], [10], [30], [44]. In terms of convergent and divergent validity, the SNS shows acceptable correlations with other respective measures of trait nostalgia. Studies have shown that SNS highly correlates with other established scales that measure the sentiment of nostalgia proneness or similar constructs [20], [30]. Furthermore, several studies that investigate the relation of SNS and other trait-level constructs have shown positive correlations between SNS and person level negative affect traits [i.e. Sadness dimension of the ANPS and the Neuroticism subscale of the BFI [4]]. Also, some research has shown positive correlations of the SNS with dimensions such as the search for meaning and uncertainty [2], while, other findings have indicated that nostalgia prone individuals are higher on trait empathy and on prejudice control [9], [21]. These studies have shown that the SNS is not only an instrument easy to administer but also suitable and responsive to investigate how different person level nostalgia traits correlate with other traits related to one's perception on life (i.e. meaning in life) and wellbeing [36]. Moreover, the scale can be used also as a part of investigating differences in nostalgia proneness within different age or gender groups and how these differences are linked with other factors affecting people's stance towards themselves and life [26], [42]. Therefore, the examination of SNS psychometric properties and applicability in Greek population is of great importance.

The aim of the present study was to evaluate the psychometric properties of the SNS in a non-clinical sample of the Greek population. Specifically, evaluation of the psychometric properties included (1) internal consistency, (2) factor structure, and (3) convergent and divergent validity of the scale.

II. METHOD

A. SNS Instrument Translation

The SNS scale was initially translated in Greek by three psychologists, Greek native speakers proficient in English. Then, the synthesized translation was back translated to English by two expert psychologists, Greek native speakers proficient in English. All translations and back translations

were finally reviewed by an expert committee of psychologists, Greek native speakers, proficient in English who reached consensus on any discrepancies. The final translated version was generated taking into consideration the expert committee's review.

B. Participants and Procedure

267 Greek psychology students participated in the study (232 women, 87% and 37 men, 13%) within the age range of 18-24 years. The mean age for the total sample was $M_{age} = 21$.

Participants were instructed to fill in a questionnaire that measured emotions and that they should respond freely and spontaneously. In order to examine the validity of the SNS participants filled in other scales which were used as criteria in the analysis.

C. Measures

1. SNS – Translated in Greek (see also Section II A)

The SNS [9] gives participants a definition of “nostalgia” as provided by the Oxford Dictionary- *a sentimental longing for the past*- and then asks them to rate nostalgia proneness by filling seven items in total; four items measure frequency of nostalgic engagement (“how often do you experience nostalgia, “generally speaking, how often do you bring to mind nostalgic experiences”, 1 = very rarely, 7 = very frequently; “specifically, how often do you bring to mind nostalgic experiences”, at least once a day, three to four times a week, approximately twice a week, approximately once a week, once or twice a month, once every couple of months, once or twice a year; “how prone are you to feeling nostalgic, 1 = not at all, 7 = very much) and three items assessing the importance assigned to nostalgic engagement (“how valuable is nostalgia for you”, “how important is it for you to bring to mind nostalgic experiences?”, “how significant is for you to feel nostalgic”, 1 = not at all, 7 = very much) [9].

2. PERMA – Profiler (PERMA)

The Greek version of PERMA-Profiler [6], [28], a multidimensional measure of flourishing, was used to examine each person's global flourishing level by examining five different components: *positive emotion, engagement, relationships, meaning and accomplishment*. The PERMA – Profiler measures these five pillars along with negative emotion and health. It consists of 23 questions that are rated using an 11- point scale ranging from 0 to 10, with the end points labeled [6], [28].

3. Scale of Positive and Negative Experience (SPANE)

The Greek version of SPANE [23] measures people's subjective and global evaluations of their lives as well as positive and negative affective reactions (positive & negative feelings, affect balance). Participants indicate how much they experience 12 feelings on a 5-point scale (1 = Very rarely or Never, 5 = Very Often or Always) [14], [23].

4. Life Satisfaction (SWLS)

The Greek version of SWLS [27] measures people's global assessment of the quality of their life. Participants indicate

how much they agree or disagree with each of five different items (i.e. "I am satisfied with my life") using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree [14], [27].

5. Zimbardo Time Perspective Inventory (ZTPI)

The Greek version of ZTPI [45], [1] measures people's time perception. The scale is constituted by 5 sub-scales: a) Negative past (10 items), b) Wellbeing present (15 items), c) Future (13 items), d) Positive past (9 items), e) Fatal present (9 items). Individuals indicate how much each of 56 items characterizes them using a 5-point scale that ranges from 5 strongly characterizes me to 1 does not characterize me at all [45], [1].

III. RESULTS

The statistical analysis was carried out with the use of SPSS Vol.22.

Normality testing: The distributional indices of the seven SNS items were assessed. Values less than 2 for skewness and less than 7 for kurtosis are considered acceptable [11].

Inter-item correlations: The correlations between the SNS items were examined and values between .20 and .40 would be considered to indicate reasonable item homogeneity. On the other hand, correlations greater than .40 would indicate that the items do not capture a big width of the factor variance [29].

Confirmatory factor analysis: To test the construct validity of the scale we conducted three confirmatory factor analyses (CFA) using the IBM SPSS AMOS, version 22. First of all, we created a first-order single-factor model, in which all the seven items load on a single nostalgia proneness factor. Secondly, we created a second-order model, where the four items load on the intensity factor and the three items load on a frequency factor. Both the frequency and the intensity factors were loading on a higher-order latent factor, called nostalgia proneness. Thirdly, we created a first-order model consisting of two factors, frequency and intensity.

To assess overall model fit of the three models and compare them, we evaluated different goodness of fit indices based on the cutoff values suggested in [18]. The χ^2 ratio ($\chi^2/\text{degrees of freedom}$) was used and values less than 3 would indicate good model fit [22]. However, the χ^2 statistic is highly sensitive to sample size [33], [40]. Moreover, the standardized root mean-square residual (SRMR) [16], the comparative fit index (CFI) [5], the goodness of fit index (GFI) [19], the Tucker-Lewis index (TLI) [39], and the expected cross-validation index (ECVI) [34] were evaluated. According to [17], the upper threshold of SRMR values is .08, thus values below .08 are indicative of a good fit; CFI, TLI and GFI values greater than .90 are indicative of acceptable model fit and values higher than .95 show great model fit. Also, when comparing two models, smaller ECVI values indicate better model fit.

Internal consistency reliability: We evaluated the internal consistency of the SNS factors using the Cronbach's alpha coefficient, where values greater than .70 indicate acceptable internal consistency [13], [24].

Convergent and discriminant validity: The correlations between SNS and other measures were computed to test scale's construct validity. Positive correlations with similar constructs would be indicative of convergent validity and negative or non-correlations with different constructs would indicate discriminant validity [18].

Mean differences: Gender differences on nostalgia proneness components were tested.

Normative data: Means, standard deviations, ranges, and percentiles were computed.

A. Normality Testing

The skewness values of the seven SNS items ranged between -.664 and -.113, while kurtosis values were among -.801 and .081 indicating normal distribution on the participant answers [11].

B. Inter-Item Correlations

The correlations between the SNS items ranged from .44 to .82 indicating that each item captures a small width of construct's variance [29].

TABLE I
SNS INTER-ITEM CORRELATIONS (N = 267)

Item No.	1	2	3	4	5	6	7
1	1						
2	.82	1					
3	.78	.82	1				
4	.69	.68	.70	1			
5	.61	.59	.58	.76	1		
6	.64	.63	.61	.74	.82	1	
7	.45	.46	.44	.55	.64	.62	1

Note. Every correlation is significant at p -value < .001. Item 7 has been reversed.

C. CFA

We firstly created the first-order single-factor model, in which all the seven items are loaded on a single nostalgia proneness factor. However, the overall fit indices were lower than the cut-off scores [17] indicating poor model fit. Secondly, we created the second-order model, where the four items are loaded on the intensity factor and the three items are loaded on the frequency factor. Both the frequency and the intensity factors were loading on a higher-order latent factor, called nostalgia proneness. The results were the same with the first model indicating poor model fit. Thirdly, we created the first-order model consisting of two factors, frequency and intensity. The evaluation of the fit indices showed that χ^2 ratio was higher than 3 due to the big sample size, however, CFI, TLI, and GFI values were higher than .90, while SRMR value was less than .08. Also, the ECVI value of the third model was the smallest comparing with the previous two models. Overall, the results regarding the third model indicate the existence of good model fit (see Table II and Fig. 1).

D. Internal Consistency Reliability

We evaluated the Cronbach's alpha coefficient in order to examine the internal consistency of the SNS and its two factors. Scale's alpha value was .93, while frequency and

intensity factors' alpha values were .92 and .87, respectively, indicating good internal consistency.

TABLE II
FIT INDICES IN CFA FOR A SINGLE-FACTOR, A SECOND-ORDER AND A TWO-FACTOR MODEL

Model	χ^2	χ^2/p -value	df	χ^2/df	CFI	TLI	SRMR	GFI	ECVI
1 factor	279.198	.000	14	19.943	.84	.77	.05	.72	1.04
2 nd order	285.270	.000	15	19.018	.84	.78	.07	.73	1.055
2 factors	100.816	.000	13	7.755	.95	.92	.05	.91	.44

Note. ***p-value<.001. Extraction method: maximum likelihood.

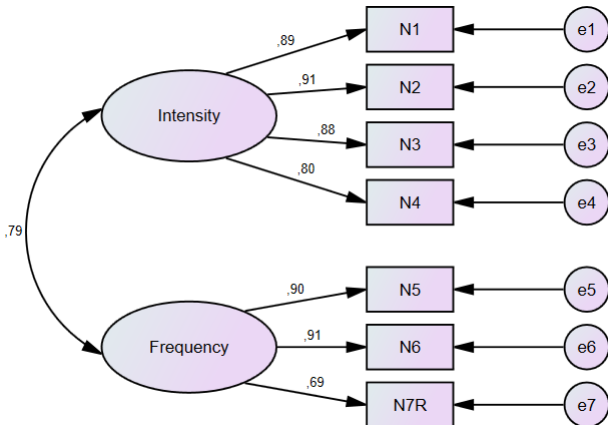


Fig. 1 The two-factor solution for the Greek version of the SNS

E. Convergent and Discriminant Validity

The correlations between SNS factors, and positive or negative constructs that are being measured by other scales were examined to test SNS's convergent and discriminant validity [25]. To further test SNS's construct validity, we selected eight items from the Time Perspective Inventory (TPI) [45] that reflect nostalgia proneness based on [30] and examined their independent correlations to nostalgia proneness components (see Table III). The findings show that both subscales, intensity and frequency of nostalgia experiences, and the general construct, nostalgia proneness, are positively correlated to both positive and negative constructs.

More specifically, there were found positive correlations with positive and negative time perspective, fatal present time perspective, negative feelings and emotions. On the other hand, significant negative correlations were found between nostalgia proneness components and experiencing of positive feelings and affect balance. There were found non-significant correlations between nostalgia proneness factors and wellbeing present time perspective, life satisfaction, and all PERMA wellbeing components. Low positive correlation was found among the frequency of being nostalgic and feelings of loneliness.

The above results are replicated when testing the correlations of the nostalgia components with TPI's single items. To be more specific, there were found positive correlations to every single item apart from "The past has too

many unpleasant memories that I prefer not to think about". However, a subgroup of the items refers to positive perceptions of the past, e.g. "Happy memories of good times spring readily to mind", while another subgroup refers to a negative construction of the past, e.g. "I often think of what I should have done differently in my life". Thus, the results reflect the connection of being nostalgia prone with negative feelings, thoughts and emotions in the present and towards past, but also confirm nostalgia's characteristic of constructing a positive perception of the past. Last but not least, it seems that nostalgia proneness has nothing to do with current wellbeing levels. The above findings strongly support SNS's convergent and discriminant validity.

TABLE III
CONVERGENT AND DISCRIMINANT VALIDITY: AVERAGE CORRELATIONS OF SNS FACTORS WITH OTHER CONSTRUCTS (N = 267)

	NP	Intensity	Frequency
Nostalgia proneness overall	1		
Nostalgia proneness intensity	.95***	1	
Nostalgia proneness frequency	.91***	.73***	1
Future time perspective	.05	.04	.06
Positive past time perspective	.38***	.39***	.31***
Fatal present time perspective	.17**	.14*	.17**
Negative past time perspective	.28***	.24***	.29***
Wellbeing present time perspective	.11	.11	.09
Positive feelings	-.11*	-.10	-.12*
Negative feelings	.25***	.20***	.28***
Affect balance	-.21***	-.17**	-.23***
Life satisfaction	-.10	-.08	-.10
PERMA Positive emotions	-.06	-.04	-.07
PERMA Engagement	.04	.06	.02
PERMA Relationships	.09	.11	.06
PERMA Meaning	-.04	-.04	-.03
PERMA Accomplishments	-.02	.01	-.05
PERMA Wellbeing	-.01	.01	-.03
PERMA Negative emotions	.30***	.27***	.30***
PERMA Health	-.04	-.01	-.07
PERMA loneliness	.11	.01	.14*
It gives me pleasure to think about my past.	.25***	.26***	.21***
I often think of what I should have done differently in my life.	.26***	.25***	.23***
On balance, there is much more good to recall than bad in my past.	.17**	.17**	.14*
I think about the good things that I have missed out on in my life.	.21***	.19***	.20***
Happy memories of good times spring readily to mind.	.34***	.33***	.29***
The past has too many unpleasant memories that I prefer not to think about.	.05	.08	.00
I get nostalgic about my childhood.	.35***	.33***	.31***
I think about the bad things that have happened to me in the past.	.26***	.22***	.28***

Note. NP = Nostalgia proneness. ***p < .001, **p < .010, *p < .050.

F. Mean Differences

The mean differences of subsamples created by gender were examined. The results showed that both nostalgia proneness components and the total score demonstrate statistically significant differences across gender indicating that women are characterized by higher levels of nostalgia proneness compared to men (see Table IV).

TABLE IV
MEAN DIFFERENCES (MEANS AND STANDARD DEVIATIONS) OF SNS FACTORS
BY GENDER

Gender	NP	Intensity	Frequency
Male	3.96 (1.31)	4.07 (1.37)	3.82 (1.46)
Female	4.71 (1.15)	4.76 (1.20)	4.64 (1.29)
<i>t</i>	3.595***	3.188**	3.517***
<i>df</i>	267	267	267

Note. NP = Nostalgia proneness. *t* = t-statistic in independent samples t-test, *df* = degrees of freedom. ****p* < .001, ***p* < .010.

G. Normative Data

To assist psychologists and researchers better interpret

TABLE V
NORMATIVE DATA FOR NOSTALGIA PRONENESS COMPONENTS OF SNS

<i>N</i> = 267	Mean	SD	Range	5	10	25	50	75	90	95
NP	4.54	1.20	5.57	2.26	2.85	3.57	4.71	5.42	6.00	6.30
Intensity	4.60	1.24	6.00	2.21	2.75	3.81	4.75	5.50	6.00	6.50
Frequency	4.46	1.34	6.00	2.00	2.66	3.66	4.66	5.33	6.33	6.38

Note. NP = Nostalgia proneness.

Factorial structure of the SNS was examined through CFA. We firstly created the first-order single-factor model, in which all the seven items loaded on a single nostalgia proneness factor. However, the overall fit indices were lower than the cut-off scores [17] indicating poor model fit. Then, we created the second-order model and the results were the same with the first model indicating poor model fit. Finally, we created the first-order model consisting of two factors, frequency and intensity, and the results regarding indicated the existence of good model fit.

Regarding the scale's reliability, we evaluated the Cronbach's alpha coefficient in order to examine the internal consistency of the SNS and its two factors. Scale's alpha value was .93, while frequency and intensity factors' alpha values were .92 and .87, respectively, indicating good internal consistency.

Finally, we tested the convergent and discriminant validity using as criteria specific variables based on literature review. We selected eight items from the TPI [45] that reflect nostalgia proneness based on [30] and examined their independent correlations to nostalgia proneness components. The findings show that both subscales, intensity and frequency of nostalgia experiences, and the general construct, nostalgia proneness, are positively correlated to both positive and negative constructs. Non-significant correlations were found between nostalgia proneness factors and wellbeing present time perspective, life satisfaction, and all PERMA wellbeing components. Also, low positive correlation was found among the frequency of being nostalgic and feelings of loneliness. Furthermore, these results are replicated when testing the correlations of the nostalgia components with TPI's single items. Positive correlations were found to every single item apart from "The past has too many unpleasant memories that I prefer not to think about". However, a subgroup of the items refers to positive perceptions of the past, e.g. "Happy memories of good times spring readily to mind", while another subgroup refers to a negative construction of the past,

SNS's scores, means, standard deviations, ranges and percentiles were computed for scale's factors (see Table V).

IV. DISCUSSION

The results of the study provide empirical support for the reliability and validity of the Greek version of the SNS. The instrument's adaptation was based on data collected from 267 individuals. Results showed that the scale's items have satisfactory psychometric properties.

e.g. "I often think of what I should have done differently in my life". Thus, the results reflect the connection of being nostalgia prone with negative feelings, thoughts and emotions in the present and towards past, but also confirm nostalgia's characteristic of constructing a positive perception of the past. Last but not least, it seems that nostalgia proneness has nothing to do with current wellbeing levels. The above findings strongly support SNS's convergent and discriminant validity.

Overall, the above findings are indicative of the validity of the scale in the Greek population [41]. Limitations that need to be taken into consideration are the following: a) the sample was consisted of psychology students, therefore, generalization of the results should be made with caution, b) the vast majority of the sample was women and c) concurrent validity of the instrument has not been tested and test-retest reliability has not been examined.

V. CONCLUSION

The general conclusion of this work is a two-factor solution for the Greek version of the SNS: intensity and frequency. The SNS showed satisfactory psychometric properties: good internal consistency and convergent and discriminant validity. Positive correlations were found with positive and negative time perspective, fatal present time perspective, negative feelings and emotions. Negative correlations were found between nostalgia proneness components and experiencing of positive feelings and affect balance [30], [4], [43], [38]. Finally, women are characterized by higher levels of nostalgia proneness compared to men [15], [26].

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