Original Article

Translation and Validation of the "Multidimensional Scale of Perceived Social Support" in the Greek General Population

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Abstract

Background: Social support is an external factor that can improve individuals' adaptation to stressful life events. Valid tools are necessary to measure social support in the general population.

Objective: To translate and validate the "Multidimensional Scale of Perceived Social Support" (MSPSS) in a sample of the Greek general population.

Methods: We translated the MSPSS in Greek using the forward-backward translation method. We assessed test-retest reliability, internal reliability, face validity, construct validity, and concurrent validity. First, we calculated intraclass correlation coefficients and Cronbach's coefficient alpha to assess the reliability of the MSPSS. Then, we employed confirmatory factor analysis to assess the construct validity of the MSPSS. Finally, we used the Patient Health Questionnaire-4 (PHQ-4), the Brief Resilience Scale (BRS), the single item burnout measure, and the COVID-19 burnout scale (COVID-19-BS) to assess the concurrent validity of the MSPSS.

Results: Intraclass correlation coefficients for the three subscales of the MSPSS (family, friends, and significant others subscales) and the total scale score ranged from 0.862 to 0.914 (p<0.001 in all cases). Confirmatory factor analysis supported the three factors structure (family, friends, and significant others subscales) of the original version of the MSPSS. Cronbach's coefficients alpha for the family, friends, and significant others subscales and the total scale were 0.888, 0.935, 0.935, and 0.941 respectively. Concurrent validity of the MSPSS was perfect since we found statistically significant correlations between the MSPSS and PHQ-4 (r = -0.181, p<0.001), BRS (r = 0.199, p<0.001), single item burnout measure (r = -0.068, p=0.015), and COVID-19-BS (r = -0.136, p<0.001).

Conclusions: The MSPSS is a reliable and valid tool to measure social support in the general population. Measurement of social support among individuals is necessary to improve this external psychological factor.

Keywords: social support; general population; Greece; Patient Health Questionnaire-4; COVID-19 burnout scale; Brief Resilience Scale

Introduction

Social support refers to the support that people receive from their social environment in order to cope with various stressful events (Aroian et al., 2010; Denis et al., 2015; Ekbäck et al., 2013; Guan et al., 2015; Hannan et al., 2016; Nakigudde et al., 2009; Ng et al., 2010; Shvedko et al., 2018; Stewart et al., 2014). Social support can promote people's mental health and help them to cope more effectively with everyday difficulties. Social support is a multidimensional concept, which is mainly influenced by the social environment, cultural environment, political environment, moral values and personal beliefs of individuals (Bagherian-Sararoudi et al., 2013; Chou, 2000; Ekbäck et al., 2013; Guan et al., 2015; Ng et al., 2010; Shvedko et al., 2018; Stewart et al., 2014). Understanding social support is difficult as it is a complex, subjective and multifaceted concept (Guan et al., 2015; Lakey and Cohen, 2000; Nakigudde et al., 2009). Essentially, social support is defined as the support that individuals receive through their interactions with other individuals (Lakey and Cohen, 2000). This support can be emotional, material or even informational (Fleury et al., 2009; Lakey and Cohen, 2000). Various scales have been developed to measure social support, which use different questions and measure different dimensions (Ekbäck et al., 2013; Ng et al., 2010). One of the most commonly used scales is the "Multidimensional Scale of Perceived Social Support" (MSPSS) (Zimet et al., 1988). The MSPSS measures the support individuals receive from their family, friends and significant others in their lives. The MSPSS has been translated and validated in many different languages and different contexts. For example, it has been translated and validated in low (Nakigudde et al., 2009; Stewart et al., 2014), middle (Bagherian-Sararoudi et al., 2013; Duru, 2007; Ng et al., 2010), and high per capita income countries (Bagherian-Sararoudi et al., 2013; Chou, 2000; Denis et al., 2015; Ekbäck et al., 2013; Hannan et al., 2016).

Scholars have made some changes in the MSPSS in order to achieve higher reliability and validity in their studies. For instance, the term "significant others" has been replaced

with the term "husband" in some occasions (Aroian et al., 2010). Moreover, several studies have not confirmed the three-factors model of the MSPSS, i.e., family, friends and significant others support. In that cases, individuals cannot distinguish support from family, friends and significant others and they consider one type of support. In this context, the MSPSS shows a uni-dimensional structure instead of a three-factors model (Khan et al., 2015; Qadir et al., 2013; Wongpakaran and Wongpakaran, 2012). Two studies in Greece have translated and validated the MSPSS (Theofilou et al., 2013; Tsilika et al., 2019). Scholars in Greece examined the validity of the MSPSS in a sample of patients (Theofilou et al., 2013) or in a sample of nurses (Tsilika et al., 2019). However, to our knowledge, there is no study that examines the psychometric properties of the MSPSS in a sample of the general population in the Greece. Thus, the aim of our study was to examine the reliability and validity of the MSPSS in the Greek general population.

Methods

Study design: We conducted a cross-sectional study during September 2022. Study population included 1256 individuals from the general population in Greece. We applied the forward-backward translation method (Galanis, 2019) to obtain the Greek version of the MSPSS. We created an online version of the study questionnaire using Google forms. We used social media to disseminate the study questionnaire. Participants filled the questionnaire in an anonymous and voluntary basis. We conducted a pilot study with 50 participants to assess the test-retest reliability of the MSPSS (Galanis, 2013). In that case, the 50 participants completed the MSPSS two times with a time interval of ten days. We

performed confirmatory factor analysis (CFA) (Galanis, 2013) to assess the construct validity of the MSPSS. We tested the three-factors structure of the MSPSS. The MSPSS includes 12 items and three factors: family, friends and significant others support (Zimet et al., 1988). Each factor includes four items. Answers are on a seven-point Likert scale from very strongly disagree (1) to very strongly agree (7). Score on each factor and total scale ranges from 1 to 7 with higher scores indicative of higher levels of social support. We used the Patient Health Questionnaire-4 (PHQ-4) (Kroenke et al., 2009), the Brief Resilience Scale (BRS) (Smith et al., 2008), the single item burnout measure (P. Galanis et al., 2023; Rohland et al., 2004), and the COVID-19 burnout scale (COVID-19-BS) (Galanis et al., 2022a, 2022b; Petros Galanis et al., 2023) to assess the concurrent validity of the MSPSS. Cronbach's coefficients alpha for PHQ-4, BRS, and COVID-19-BS were 0.82, 0.86, and 0.84 respectively in our study. We calculated Cronbach's coefficient alpha for the MSPSS and three subscales to estimate the internal reliability of the scale. Values >0.60 are considered as acceptable.

Ethical issues: Our study was conducted according to the guidelines of the Declaration of Helsinki (World Medical Association, 2013). Moreover, the study protocol was approved by the Ethics Committee of Faculty of Nursing, National and Kapodistrian University of Athens (reference number; 370, 02-09-2021). We did not collect personal data of the participants.

Statistical analysis: We use numbers and percentages to present categorical variables. Also, we use mean and standard deviation to present continuous variables. We found that continuous variables followed normal

distribution by performing the Kolmogorov-Smirnov test. We calculated the intraclass correlation coefficients and 95% confidence intervals (CI) for the MSPSS scores between the two measurements in test-retest study. In CFA, we examined the goodness of fit indices by calculating the following indices: chi-square/degree of freedom (x^2/df); root mean square error of approximation (RMSEA); goodness of fit index (GFI); adjusted goodness of fit index (AGFI); Tucker–Lewis index (TLI); incremental fit index (IFI); normed fit index (NFI); comparative fit index (CFI). Acceptable value for x^2/df is <5, for RMSEA is <0.10, and for all other measures in the CFA >0.90 (Baumgartner and Homburg, 1996; Hu and Bentler, 1998). We performed CFA with AMOS version 21 (Amos Development Corporation, 2018). We performed the other analyses with IBM SPSS 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.). We considered P-values <0.05 as statistically significant.

Results

Demographic characteristics

Study population included 1256 participants. Mean age of our participants was 39.2 years, while standard deviation was 11.9 years. Minimum age was 18 years and maximum age was 80 years. Among our participants, 69.9% (n=878) were females and 30.1% (n=378) were males. Regarding educational level, 1% (n=12) have completed high school, 16.9% (n=212) have completed high school, and 82.2% (n=1032) have had a university degree.

Reliability analysis

The MSPSS showed an excellent reliability. In particular, Cronbach's coefficients alpha for the family, friends, and significant others subscales and the total scale were 0.888, 0.935, 0.935, and 0.941 respectively.

Intraclass correlation coefficients

Moreover, intraclass correlation coefficients for the three subscales of the MSPSS (family, friends, and significant others subscales) and the total scale score ranged from 0.862 to 0.914 (p<0.001 in all cases).

Concurrent validity

Concurrent validity of the Greek version of the MSPSS was perfect since we found statistically significant correlations between the MSPSS and PHQ-4 (r = -0.181, p<0.001), BRS (r = 0.199, p<0.001), single item burnout measure (r = -0.068, p=0.015), and COVID-19-BS (r = -0.136, p<0.001).

Table 1. Intraclass correlation coefficients for the "Multidimensional Scale of Perceived Social Support" in test-retest study.

Scale	Intraclass correlation coefficient	95% confidence interval	P-value
Family support	0.878	0.815 to 0.914	<0.001
Friends support	0.862	0.763 to 0.904	<0.001
Significant others support	0.914	0.878 to 0.946	<0.001
Total scale	0.898	0.826 to 0.946	<0.001

Table 2. Confirmatory factor analysis for the Greek version of the "Multidimensional Scale of Perceived Social Support".

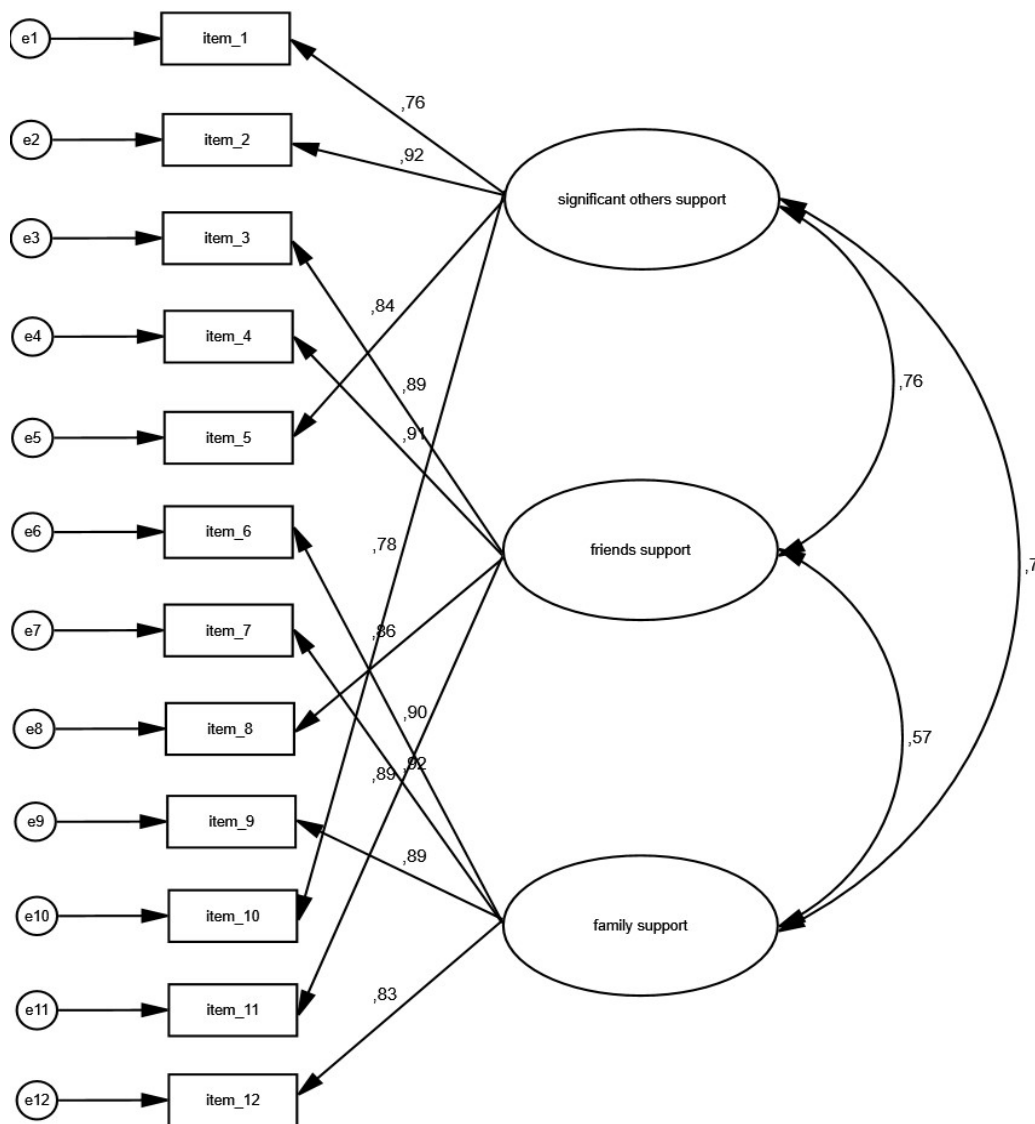| Model	x^2	df	x^2/df	RMSEA	GFI	AGFI	TLI	IFI	NFI	CFI
13 items	199.54	40	4.989	0.056	0.975	0.951	0.981	0.989	0.986	0.989

Figure 1. Confirmatory factor analysis for the Greek version of the "Multidimensional Scale of Perceived Social Support".

Discussion

To the best of our knowledge, this is the first study that translates and validates the MSPSS in a sample of Greek general population. A recent systematic review showed that the evidence supports the psychometric robustness of the MSPSS is limited (Dambi et al., 2018). Therefore, our study adds further evidence on the validity issues regarding the MSPSS.

Our findings revealed that the MSPSS is a reliable and valid tool to measure social support in the general population. Moreover, since we examined several types of reliability (test-retest reliability, internal reliability), and validity (face validity, construct validity, and concurrent validity) our results seem to be robust.

In particular, intraclass correlation coefficients for the three subscales of the MSPSS (family, friends, and significant others subscales) and the total scale score were very high in our study. Additionally, all Cronbach's coefficients alpha were higher than 0.888. Several studies in Portugal, Poland, Malawi, Malaysia, Nigeria, and Korea support this finding by confirming the strong internal consistency of the MSPSS (Adamczyk, 2019; Chou, 2000; Mohammad et al., 2015; Park et al., 2012; Stewart et al., 2014).

In a similar way, our study revealed a high validity level of the MSPSS. Confirmatory factor analysis supported the three factors structure (family, friends, and significant others subscales) of the original version of the MSPSS. In this context, all indices in the CFA were very good. This finding is confirmed by the literature since plenty of studies showed the good or excellent structural validity of the tool (Adamczyk, 2019; Cheng and Chan, 2004; Denis et al., 2015; Mohammad et al., 2015; Stewart et al., 2014; Wongpakaran and Wongpakaran, 2012). Moreover, concurrent validity of the MSPSS was excellent in our study since we found statistically significant correlations between the MSPSS and PHQ-4, single item burnout measure, and COVID-19-BS.

Our study had limitations. We employed a convenience sample through a cross-sectional design. Therefore, our sample may not be representative of the general population in Greece. Further studies with different samples from the Greek general population should be conducted to assess the psychometric properties of the MSPSS. Moreover, we used self-reported questionnaires, and information bias could be arising in our study. Finally, further validation analyses could be done. For example, we did not investigate convergent validity of the MSPSS.

In conclusion, the Greek version of the MSPSS shows excellent reliability and validity. Therefore, the MSPSS is a valid and reliable tool to measure social support in the general public.

References

Adamczyk, K., 2019. Development and Validation of a Polish-Language Version of the Satisfaction with Relationship Status Scale (ReSta). Curr Psychol 38, 8–20. https://doi.org/10.1007/s12144-017-9585-9

Aroian, K., Templin, T.N., Ramaswamy, V., 2010. Adaptation and Psychometric Evaluation of the Multidimensional Scale of Perceived Social Support for Arab Immigrant Women. Health Care for Women International 31, 153–169. https://doi.org/10.1080/07399330903052145

Bagherian-Sararoudi, R., Hajian, A., Ehsan, H.B., Sarafraz, M.R., Zimet, G.D., 2013.

Psychometric properties of the persian version of the multidimensional scale of perceived social support in iran. Int J Prev Med 4, 1277–1281.

Baumgartner, H., Homburg, C., 1996. Applications of structural equation modeling in marketing and consumer research: A review. Int J Res Mark 13, 139–161. https://doi.org/10.1016/0167-8116(95)00038-0

Cheng, S.-T., Chan, A.C.M., 2004. The multidimensional scale of perceived social support: dimensionality and age and gender differences in adolescents. Personality and Individual Differences 37, 1359–1369. https://doi.org/10.1016/j.paid.2004.01.006

Chou, K.-L., 2000. Assessing Chinese adolescents' social support: the multidimensional scale of perceived social support. Personality and Individual Differences 28, 299–307. https://doi.org/10.1016/S0191-8869(99)00098-7

Dambi, J.M., Corten, L., Chiwaridzo, M., Jack, H., Mlambo, T., Jelsma, J., 2018. A systematic review of the psychometric properties of the cross-cultural translations and adaptations of the Multidimensional Perceived Social Support Scale (MSPSS). Health Qual Life Outcomes 16, 80. https://doi.org/10.1186/s12955-018-0912-0

Denis, A., Callahan, S., Bouvard, M., 2015. Evaluation of the French Version of the Multidimensional Scale of Perceived Social Support During the Postpartum Period. Matern Child Health J 19, 1245–1251. https://doi.org/10.1007/s10995-014-1630-9

Duru, E., 2007. Re-examination of the psychometric characteristics of the multidimensional scale of perceived social support among turkish university students. Soc

Behav Pers 35, 443–452. https://doi.org/10.2224/sbp.2007.35.4.443

Ekbäck, M., Benzein, E., Lindberg, M., Årestedt, K., 2013. The Swedish version of the multidimensional scale of perceived social support (MSPSS) - a psychometric evaluation study in women with hirsutism and nursing students. Health Qual Life Outcomes 11, 168. https://doi.org/10.1186/1477-7525-11-168

Fleury, J., Keller, C., Perez, A., 2009. Social support theoretical perspective. Geriatr Nurs 30, 11–14. https://doi.org/10.1016/j.gerinurse.2009.02.004

Galanis, P., 2019. Translation and cross-cultural adaptation methodology for questionnaires in languages other than Greek. Arch Hellen Med 36, 124–135.

Galanis, P., 2013. Validity and reliability of questionnaires in epidemiological studies. Arch Hellen Med 30, 97–110.

Galanis, P., Katsiroumpa, A., Sourtzi, P., Siskou, O., Konstantakopoulou, O., Kaitelidou, D., 2023. The COVID-19 burnout scale: development and initial validation. J Ment Health 32, 985–994. https://doi.org/10.1080/09638237.2023.2245914

Galanis, P., Katsiroumpa, A., Sourtzi, P., Siskou, O., Konstantakopoulou, O., Katsoulas, T., Kaitelidou, D., 2022a. COVID-19-Related Burnout and Intention of Fully Vaccinated Individuals to Get a Booster Dose: The Mediating Role of Resilience. Vaccines (Basel) 11, 62. https://doi.org/10.3390/vaccines11010062

Galanis, P., Katsiroumpa, A., Sourtzi, P., Siskou, O., Konstantakopoulou, O., Katsoulas, T., Kaitelidou, D., 2022b. Social Support Mediates the Relationship between COVID-19-Related Burnout and Booster Vaccination Willingness among Fully Vaccinated Nurses.

Vaccines (Basel) 11, 46. https://doi.org/10.3390/vaccines11010046

Galanis, P., Katsiroumpa, A., Vraka, I., Siskou, O., Konstantakopoulou, O., Katsoulas, T., Gallos, P., Kaitelidou, D., 2023. The single item burnout measure is a reliable and valid tool to measure occupational burnout (preprint). Occupational and Environmental Health. https://doi.org/10.1101/2023.03.06.23286842

Guan, N.C., Seng, L.H., Hway Ann, A.Y., Hui, K.O., 2015. Factorial Validity and Reliability of the Malaysian Simplified Chinese Version of Multidimensional Scale of Perceived Social Support (MSPSS-SCV) Among a Group of University Students. Asia Pac J Public Health 27, 225–231. https://doi.org/10.1177/1010539513477684

Hannan, J., Alce, M., Astros, A., 2016. Psychometric properties of the newly translated creole multidimensional scale of perceived social support (MSPSS) and perceived adequacy of resource scale (PARS) and the relationship between perceived social support and resources in Haitian mothers in the US. BMC Psychol 4, 7. https://doi.org/10.1186/s40359-016-0113-8

Hu, L., Bentler, P.M., 1998. Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. Psychological Methods 3, 424–453. https://doi.org/10.1037/1082-989X.3.4.424

Khan, M.N., Chiumento, A., Dherani, M., Bristow, K., Sikander, S., Rahman, A., 2015. Psychological distress and its associations with past events in pregnant women affected by armed conflict in Swat, Pakistan: a cross sectional study. Confl Health 9, 37. https://doi.org/10.1186/s13031-015-0063-4

Kroenke, K., Spitzer, R.L., Williams, J.B.W., Löwe, B., 2009. An ultra-brief screening scale for anxiety and depression: the PHQ-4.

Psychosomatics 50, 613–621. https://doi.org/10.1176/appi.psy.50.6.613

Lakey, B., Cohen, S., 2000. Social Support Theory and Measurement, in: Cohen, S., Underwood, L.G., Gottlieb, B.H. (Eds.), Social Support Measurement and Intervention. Oxford University Press, pp. 29–52. https://doi.org/10.1093/med:psych/9780195126709.003.0002

Mohammad, A.H., Al Sadat, N., Loh, S.Y., Chinna, K., 2015. Validity and reliability of the hausa version of multidimensional scale of perceived social support index. Iran Red Crescent Med J 17, e18776. https://doi.org/10.5812/ircmj.18776

Nakigudde, J., Musisi, S., Ehnvall, A., Airaksinen, E., Agren, H., 2009. Adaptation of the multidimensional scale of perceived social support in a Ugandan setting. Afr Health Sci 9 Suppl 1, S35-41.

Ng, C.G., Amer Siddiq, A.N., Aida, S.A., Zainal, N.Z., Koh, O.H., 2010. Validation of the Malay version of the Multidimensional Scale of Perceived Social Support (MSPSS-M) among a group of medical students in Faculty of Medicine, University Malaya. Asian Journal of Psychiatry 3, 3–6. https://doi.org/10.1016/j.ajp.2009.12.001

Park, Hyunju, Nguyen, T., Park, Hyunjeong, 2012. Validation of multidimensional scale of perceived social support in middle-aged Korean women with diabetes. Asia Pacific Journal of Social Work and Development 22, 202–213. https://doi.org/10.1080/02185385.2012.691719

Qadir, F., Khalid, A., Haqqani, S., Zill-e-Huma, null, Medhin, G., 2013. The association of marital relationship and perceived social support with mental health of women in Pakistan. BMC Public Health 13, 1150. https://doi.org/10.1186/1471-2458-13-1150

Rohland, B.M., Kruse, G.R., Rohrer, J.E., 2004. Validation of a single-item measure of burnout against the Maslach Burnout Inventory among physicians. Stress and Health 20, 75–79. https://doi.org/10.1002/smi.1002

Shvedko, A., Whittaker, A.C., Thompson, J.L., Greig, C.A., 2018. Physical activity interventions for treatment of social isolation, loneliness or low social support in older adults: A systematic review and meta-analysis of randomised controlled trials. Psychology of Sport and Exercise 34, 128–137. https://doi.org/10.1016/j.psychsport.2017.10.0 03

Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., Bernard, J., 2008. The brief resilience scale: Assessing the ability to bounce back. Int. J. Behav. Med. 15, 194–200. https://doi.org/10.1080/10705500802222972

Stewart, R.C., Umar, E., Tomenson, B., Creed, F., 2014. Validation of the multi-dimensional scale of perceived social support (MSPSS) and the relationship between social support, intimate partner violence and antenatal depression in Malawi. BMC Psychiatry 14, 180. https://doi.org/10.1186/1471-244X-14-180

Theofilou, P., Zyga, S., Tzitzikos, G., Malindretos, P., Kotrotsiou, E., 2013. Assessing Social Support in Greek Patients on Maintenance Hemodialysis: Psychometric Properties of the Multidimensional Scale of Perceived Social Support, in: Chronic Kidney Disease: Signs/Symptoms, Management Options and Potential Complications. Nova Publishers, New York, pp. 265–279.

Tsilika, E., Galanos, A., Polykandriotis, T., Parpa, E., Mystakidou, K., 2019. Psychometric Properties of the Multidimensional Scale of Perceived Social Support in Greek Nurses. Can J Nurs Res 51, 23–30. https://doi.org/10.1177/0844562118799903

Wongpakaran, N., Wongpakaran, T., 2012. A revised Thai Multi-Dimensional Scale of Perceived Social Support. Span J Psychol 15, 1503–1509. https://doi.org/10.5209/rev_sjop.2012.v15.n3. 39434

World Medical Association, 2013. World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. JAMA 310, 2191. https://doi.org/10.1001/jama.2013.281053

Zimet, G.D., Dahlem, N.W., Zimet, S.G., Farley, G.K., 1988. The Multidimensional Scale of Perceived Social Support. Journal of Personality Assessment 52, 30–41. https://doi.org/10.1207/s15327752jpa5201_2