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Reliability and Validity of the Greek Version of the Professional Quality of Life Scale (ProQOL-V)

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ABSTRACT

Background: Compassion constitutes a central element of all health and social care professions. The Professional Quality of Life Questionnaire is the most widely used instrument to measure compassion fatigue worldwide. **Objective:** The aim of this study was to provide evidence for the reliability and the validity of ProQOL-V for Greece. **Methods:** A total of 261 nurses selected by convenience sampling and required to complete the ProQOL and Secondary Traumatic Stress Scale (STSS). The reliability and validity of the scale was evaluated by correlation analysis, t-test, and confirmatory factor analysis. **Results:** The overall Cronbach's a for Compassion Satisfaction was 0.87 ranging from 0.86 to 0.87 with individual items deleted, for Burn-out was 0.73 ranging from 0.71 to 0.79 with individual items deleted and for Secondary Traumatic Stress was 0.83 ranging from 0.81 to 0.84 with individual items deleted. Additionally, the Pearson correlation r for Compassion Satisfaction, Burn-out and Secondary Traumatic Stress showed strong correlations between test-retest measurements ($p<0.001$). Secondary Traumatic Stress and Burn-out were positively correlated to STSS as expected ($r=0.69$ for Secondary Traumatic Stress and $r=0.57$ for Burn-out) implying sufficient convergent validity. In contrast, Compassion Satisfaction was negatively correlated to STSS as expected ($r=-0.25$) implying sufficient divergent validity. Goodness-of-fit indices included TLI=0.856, CFI=0.895, and RMSEA=0.063 supporting the construct validity of the three-dimensional instrument. **Conclusion:** ProQOL-V has good reliability and validity among nurses in Greece. The implications of relevant future research are important in relation to the health care management and the support and continuous education of front-line health and social care workers.

Keywords: Professional Quality of Life Scale, Secondary traumatic stress, Compassion fatigue, Compassion Satisfaction, Emotional work.

1. BACKGROUND

The most widely used medicines in health care is the professional himself/herself and his/her compassion (1). Lanara (2) explains in her book 'Heroism as a nursing value – A philosophical perspective' (1991) how compassion for the suffering patient as a person in a cure orientated health care system requires heroism, passion for social justice and zeal for righteousness. On the other hand, compassion fatigue is the "cost of caring" for the suffering individual in nursing and other disciplines (3, 4). Indeed, nursing researchers report alarmingly high percentages of compassion fatigue in critical and emergency care nursing, oncology, pediatric nursing, mental health and gynecological nursing (5, 6). The Professional Quality of Life Questionnaire (ProQOL) constitutes the most widely used instrument to measure compassion fatigue worldwide (3).

The theoretical framework of ProQOL is complex and associates characteristics of the work environment (organization, tasks) with the individual's personal characteristics, and their exposure to suffering and trauma in the work setting (7). Overall, ProQOL refers to the quality one feels in relation to their work as a caregiver, and both the positive and negative

aspects of fulfilling their work role. Therefore, the ProQOL scale measures pre-cursors of CF, Burn-out and Secondary Traumatic Stress, and Compassion Satisfaction. Stamm (7) defines Burn-out as lingering feelings of hopelessness and fatigue that interfere with the professionals' ability to perform effectively at work. Symptoms of Burn-out may include feelings of being trapped, overwhelmed, 'bogged down' and unsatisfied from one's work. On the other hand, Secondary Traumatic Stress is defined as being 'preoccupied' with thoughts of people one has cared for. Professionals report feeling exhausted, trapped, 'on edge' or 'infected' by other's trauma (see Stamn (7, p.21). Symptoms may include fear, sleep difficulties, intrusive images and avoiding listening to other's traumatic narratives. However, the ProQOL does not solely focus on negative consequences of helping others but also attempts to capture the positive feelings derived from compassionate help, that constitute the dimension of Compassion Satisfaction. Instead of developing fatigue due to exposure to suffering and traumatization, professionals may develop high morale and resiliency in adversity while experiencing pleasure and a sense of personal fulfilment and satisfaction (8).

The instrument itself consists of three ten-item subscales (7). The scale requires respondents to consider the frequency of their experiences in their working environment for the past 30 days, rated from 1 (*never*) to 5 (*very often*) with higher average values depicting higher Secondary Traumatic Stress, Burn-out and Compassion Satisfaction. It is employed to identify risk and is not considered diagnostic (7). Ten Secondary Traumatic Stress items focus on PTSD-like symptoms consistent with the DSM-V of the American Psychiatric Association (9) such as hypervigilance, negative mood, avoidance and intrusion (e.g., "I jump or am startled by unexpected sounds"). Ten items assess burn-out predominantly as affect ratings related to wellbeing (e.g., "I feel connected to others.") and to the working environment (e.g., "I feel "bogged down" by the system."), including aspects of work overload and attitudes towards the work role. Ten items evaluate Compassion Satisfaction as the quantified professional pleasure and experienced benefit derived from helping others (e.g., "I believe I can make a difference through my work.").

Overall, Stamm reports that the ProQOL constitutes a highly reliable and valid instrument in over 200 published articles (7). The inter-scale correlations of Compassion Fatigue demonstrate 2% shared variance with Secondary Traumatic Stress (r=-.23; co-σ = 5%; n=1187) and 5% shared variance with Burn-out (r=.-.14; co-σ = 2%; n=1187). Despite the shared variance between Burn-out and Secondary Traumatic Stress, the two scales measure different constructs since the shared variance is more likely to reflect the distress that is common to both conditions. The shared variance between these two scales is 34% (r=.58, co-σ = 34%, n=1187). Additionally, Stamm (7) emphasizes that although the Burn-out and Secondary Traumatic Stress scales both measure negative affect, the Burn-out scale does not address fear while the Secondary Traumatic Stress scale does. Despite the widespread use of ProQOL V internationally it has not been validated for the Greek language. Recently published studies in Greece use ProQOL-IV, an earlier version of ProQOL (e.g. Katsantoni et al (10)) or use ProQOL-V without providing any information on its cultural adaptation.

This study is timely since there appears to be an emerging international interest in compassion fatigue and its impact on health and social care professionals. Accurate research is founded on the availability of valid and reliable measures. The validity and reliability of the Professional Quality of Life Scale have not been examined in Greece so far in times when health professionals attract the admiration of public for their heroic serving of patients with COVID-19 and there is a lot of discussion on the impact of their work on their quality of life.

2. OBJECTIVE

The aim of the present study was therefore to provide validation evidence for the Greek version of the Professional Quality of Life Scale-V (ProQOL-V-Greek).

3. PATIENTS AND METHODS

Participants

Questionnaires were distributed to two hundred and sixty-one registered and assistant nurses who worked full time, in three rotating shifts of public hospitals in the greater metropolitan area of Athens, Greece.

Procedure and ethical considerations

The Ethical Committee of University of West Attica approved of the study protocol. Additionally, the study was conducted after review and written approval by the Administrational and Scientific Society of the hospitals. Two of the researchers informed the head nurses of two units about the purpose of the study and then the head nurses informed the nursing staff. Furthermore, all participants were informed of their rights to refuse or to discontinue their participation, according to the ethical standards of the Helsinki Declaration of 1983. Participation in the study was contingent on individual signed consent. Two of the researchers (VP and EF) distributed questionnaires to nursing care providers (registered and assistant). Data were collected between May 2020 and March 2021.

Process of Translation and Adaptation of the instrument

According to the guidelines of the WHO (WHO.int) on the achievement of different language versions of an original questionnaire that are conceptually equivalent in each of the target countries/cultures, the translation process should focus on cross-cultural and conceptual and not on linguistic/literal equivalence (11). Overall, the instrument should be equally natural and acceptable and should practically perform in the same way as the original one (WHO.int). To achieve this goal, we applied forward-translations and back-translations and followed strictly the WHO guidelines for cross-cultural adaptation.

Two bilingual translators (English-Greek) grown up in English speaking countries (USA, Australia) translated the original English version of the ProQOL-V. One of the translators was a native American citizen living permanently in Greece and the other was a second-generation Greek with an Australian and Greek citizenship. Both had a thorough command of the language of the original ver-

sion of the instrument, and were also knowledgeable of the English-speaking culture of the original English version of the ProQOL-V. The translators, both teachers in secondary education were advised to aim at the conceptual equivalent of a word or phrase, not a word-for-word translation, i.e. not a literal translation and strive to be simple, clear and concise in formulating a question.

Then, a bilingual (in English and Greek) five-member expert-panel was convened by the first author in order to identify and resolve inadequate expressions/concepts of the forward translation. Four members of the panel held a PhD and one member was a PhD candidate but also held a degree in nursing and social anthropology which was regarded as an important qualification for a panel focusing on the cultural adaptation of an instrument. All panel members were Greek but two of them had studied in the UK All panel members had a good command of English language. Four panel members had been involved in the process of cultural adaptation before while all of them had numerous publications in English. All discrepancies were discussed and resolved in the first expert panel meeting round which lasted two and a half hours.

The ProQOL-V was then translated back to English by the two independent translators. Their translation was compared to the original version of the ProQOL-V in the second panel meeting round (two hours duration). All discrepancies were evaluated thoroughly and consensus was reached for all members of the panel. The research team then proceeded in the pre-testing of the instrument to ensure its comprehensibility at an early stage. In other words, terms, words and expressions which are not understandable or clear for participants may be identified and discussed by the expert panel (11, 12). Finally, participants in a pre-test of ProQOL-V verified the readability, comprehensibility and suitability of the culturally adopted items (13).

Secondary Traumatic Stress Scale

The STS scale was developed by Bride et al. (14) and consists of 17 questions, including 5 items of intrusion, 7 items of avoidance, and 5 items of arousal. It is scored on a 5-point Likert scale ranging from 1 ("never") to 5 ("very often''). Scores range from 17 to 85; a higher score indicates higher levels of STS. Scores less than 28 indicate little or no STS; 28 to 37 indicate mild STS; 38 to 43 indicate moderate STS; 44 to 48 indicate high STS; and > 49 indicate severe STS. The total Cronbach's a was 0.93, and the subcategories' reliability were 0.80 for intrusion, 0.87 for avoidance, and 0.83 for arousal (15). Cronbach's a for the Greek version of STSS was 0.92 in total, and for the subcategories were 0.79 for intrusion, 0.79 for avoidance, and 0.81 for arousal.

Statistics

In order to assess the construct validity of the ProQOL-V we performed Confirmatory Factor Analysis (CFA) and investigated its convergent and divergent validity. A Confirmatory Factor Analysis was employed to test the three-factor structure of the ProQOL-5. Specifically, we conducted structural equation modelling with the maximum likelihood estimation method. An assessment of skewness (Sk) and kurtosis (Ku) did not demostrate serious deviations from normality. The possibility of multidimensional outliers was examined by the quadratic Mahalanobis distance (MD2). The model's global adjustment was evaluated through the following fit statistics: Tucker–Lewis index (TLI), comparative fit index (CFI) and root mean square error of approximation (RMSEA). A very good fit is obtained when the CFI, and TLI are 0.90 or higher and the RMSEA is 0.10 or lower. Additionally, the item convergent validity of the ProQOL-V was evaluated by examining the correlations between the total score of each subscale and its item scores. Convergent and divergent validity were investigated in comparison to STSS.

The reliability of ProQOL-V-Greek was evaluated by assessing the instrument's internal consistency and test re-test evaluation. Internal consistency was assessed with Cronbach's a coefficient. In addition, the version of Cronbach's a 'if item deleted' was calculated for each item. The Cronbach's a values were characterized as follows: 0.00–0.25, negligible; 0.26–0.49, low; 0.50–0.69, moderate; 0.70–0.89, high; and 0.90–1.00, excellent.

The following categories of Pearson's r values were used for interpretation: 0.00–0.19, very weak correlation; 0.20–0.39, weak correlation; 0.40–0.69, moderate correlation; 0.70–0.89, strong correlation; and 0.90–1.00, very strong correlation.

4. RESULTS

Demographic and Work-Related Characteristics

The modal age group was forty years old and almost twenty-two per cent were male (Table 1). Sixty-two per cent were registered nurses and held a degree in nursing. Twenty per cent of participants had a post graduate education (Table 1).

	n	%	
Sex	Male	56	21.6
	Female	203	78.4
Marital status	Single	93	35.9
	Married	144	55.6
	Widowed	5	1.9
	Divorced/Separated	17	6.6
Job Position	Assistant nurse	97	37.6
	Registered nurse	164	62.4
Educational Level	Secondary Education	97	37.6
	University Education	115	42.4
	Post-graduate Educat.	49	20

Table 1. Demographic and professional characteristics of the sample (N = 261).

	TLI	CFI	RMSEA
ProQOL-V Greek	0.81	0.87	0.078

Table 2. Model fit for the three-factor model of the ProQOL-V for the Greek sample (N = 261).

Construct Validity of ProQol

Regarding CFA, the model tested was equivalent to the original factorial structure of the ProQOL-5 as proposed by the authors. As suggested in Table 2, this model presented a reasonably good fit to the data. Tucker–Lewis index (TLI) was higher than 0.8 and lower than 0.9, comparative fit index (CFI) was close to 0.9 and root mean square error of

approximation (RMSEA) was 0.078 and lower than 0.10. Overall, our CFA confirmed the three-dimensional structure of ProQOL-5.

Convergent and divergent validity were investigated in comparison to STSS which consists of seventeen items assessing secondary traumatic stress and constitutes a suitable measure in order to evaluate the convergent and divergent validity of ProQOL-V. Secondary Traumatic Stress and Burn-out were positively correlated to STSS as expected ($r=0.69$, $p<0.001$ for Secondary Traumatic Stress, $r=0.57$, $p<0.001$ for Burn-out), implying sufficient convergent validity. In contrast, Compassion Satisfaction was negatively correlated to STSS as expected ($r=-0.25$, $p<0.001$) implying sufficient divergent validity.

Internal Consistency of ProQol-V

As regards the internal consistency assessment of the three dimensions of ProQOL-V-Greek, Cronbach's a coefficients for each item of Compassion Satisfaction, Secondary Traumatic Stress and Burn-out indicated mostly high internal consistency. The overall Cronbach's a for Compassion Satisfaction was 0.87 ranging from 0.86 to 0.87 with individual items deleted, for Burn-out was 0.73 ranging from 0.71 to 0.79 with individual items deleted and for Secondary Traumatic Stress was 0.83 ranging from 0.81 to 0.84 with individual items deleted.

Test-retest reliability

Thirty participants completed the ProQOL-V three weeks after the first administration. No significant differences existed between the two measurements indicating the stability and reliability of the scale. Additionally, the Pearson correlation r showed strong correlations between the two measurements for Compassion Satisfaction ($r= 0.968$, $p<0.001$), Burn-out ($r= 0.968$, $p<0.001$) and Secondary Traumatic Stress ($r= 0.935$, $p<0.001$).

5. DISCUSSION

The present study constitutes a validation of the culturally adapted ProQol-V into the Greek language. A confirmatory factor analysis was carried out and produced a reasonable CFA model fit. Assessment of Cronbach's a coefficient and Cronbach's a 'if item deleted' for every item of the three sub-scales produced adequate results supporting the internal consistency of the ProQOL-V. Additionally, convergent and divergent validity was demonstrated in comparison to STSS. Furthermore, administration of the instrument after a three-week period provided evidence of high test-retest reliability. Overall, the present study provided evidence for the psychometric properties and the three-factor structure of the instrument and is in line with other similar research supporting the three dimensionality of ProQol-V (16, 17).

Despite the promising findings of the present study, several limitations should be taken into account. The present study was limited by its relatively small sample size and the lack of a wider variety of professionals. Participants were mainly women, which limits considerably the generalizability of our findings due to the possibility of different mechanisms of developing traumatic stress consequences among men and women (18). Nonetheless, the proportion of male and female nurses in our sample matches other international and national samples (16, 17). Furthermore, we used a convenience sample of institutions and nurses which may not adequately represent the population by employing a nonprobability sampling method.

Indeed, compassion fatigue constitutes a serious threat to the career of health and social care professionals and may result in a reduced ability to show compassion for patients (19, 20). Especially in the context of COVID-19 pandemic, health care workers on the front line who are directly involved in the diagnosis, treatment, and care of patients with COVID-19 are at risk for developing compassion fatigue and psychological distress (21-26). The combination of witnessing physical suffering and death along with the immediate threat to one's own safety can induce anxiety, fear, grief and emotional distancing (27). Standing by the suffering patient in the context of COVID-19 and facing pain, fear, stigma and human misery requires moral courage in dealing with internal and external barriers to care and persistence in building resilience to emotional situations. The recent pandemic makes more than ever necessary the assessment of front-line workers' CF in order to provide support for those in need.

The implications of relevant future research are important in relation to the health care management and the support and continuous education of front-line health care workers. In times of an international health care systems crisis due to COVID-19, health care providers should be adequately prepared to face the dynamics of fear and grief generated in the midst of this pandemic. Such preparation may be a valuable tool in promoting collaborative therapeutic encounters and the building of compassionate communities (26) while at the same time may help professionals to protect themselves from absorbing or internalizing unmanageable emotions which may lead to compassion fatigue (4).

6. CONCLUSION

This study comprises the first published data on the validation of the culturally adapted version of ProQol-V-Greek. According to the findings, the ProQol-V-Greek demonstrated reasonable psychometric properties and is a valid tool for the assessment of compassion fatigue and the professional quality of life of health care professionals. Our confirmatory factor analysis confirmed the three-factor structure of the original questionnaire. Our results are encouraging in terms of the item convergent validity and the reliability of the scale because all the items were related to the total sub-scale score and Cronbach's a values were considerably high. Additionally, the Pearson correlation r for Compassion Satisfaction, Burn-out and Secondary Traumatic Stress showed strong correlations between test re-test measurements. Overall, the findings of this study are indicative of the reliability and validity of ProQol-V which is available to Greek researchers to compare results to those of other countries in which a culturally adapted version of the instrument is available.

All in sum, it can be concluded that the ProQol-V shows psychometric sufficiency in its culturally adapted Greek version and can be useful for the assessment of compassion fatigue and professional quality of life of professionals who provide assistance and care to others in their work.

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