RESEARCH

The factorial structure and psychometric properties of the PERMA-Profiler Arabic version to measure well-being within a Palestinian adult population

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Abstract

Background The PERMA-Profiler is an international methods designed to test the general wellbeing of adults in terms of 5 pillars: positive and negative emotions, engagement, relationships, meaning, and accomplishment .In our study, we tested the psychometric properties and the factorial structure of PERMA-Profiler within the Palestinian context using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The sample of the current study consisted of 582 Palestinian adults recruited from online advertisements, e-mail campaigns and social media.

Results The PERMA-Profiler showed good validity and reliability indicators in assessing general wellbeing among Palestinians, the CFA results revealed a stable five-factor construct of the PERMA-Profiler.

Conclusions More future studies validating the PERMA-Profiler with diverse groups in the Palestinian context are recommendable, which will enable mental health providers to develop clinical interventions targeting individuals who suffer from mental distress and low levels of well-being.

Keywords General wellbeing, Positive emotions, Test validation, Palestine

Background

Interest in positive conceptualizations of human functioning started to grow in the last few decades with the concept of individuals' well-being [7]. The importance of understanding the concept of well-being gained momentum among researchers due to its impact on people's health, longevity, and mental health [8].

Well-being has been defined in different shades depending on the theory or perspective researchers embrace. Hedonic well-being is defined by the experience of positive emotional states and satisfaction of desires, while eudaimonic well-being determines the extent of individuals' well-being according to the presence of meaning and development in their potentials [9].

According to the PERMA model of Seligman [27], well-being is construed as a blend of hedonic and Eudaimonic characteristics, consisting of five domains: positive emotion, engagement, relationships, meaning, and achievement [29]. Flourishing is the highest level of well-being that positive psychology seeks to attain. According to the PERMA model, it is recognized and identified based on individuals' experiences of positive emotions, having meaning and purpose in life, having positive relationships, engaging in activities of interest, and having significant personal accomplishments [6, 14].

Due to the importance of having tools to measure well-being and because definitions and approaches of WB are heterogeneous [16], PERMA-Profiler scale was developed by Butler and Kern [6]. Based on Seligman's model,

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PERMA is considered one of the most reliable measures of flourishing and well-being. PERMA-Profiler holds 23 items in total, with 15 items distributed in five domains: positive emotion, engagement, relationships, meaning, and achievement, while the other eight assess physical health, negative emotions, loneliness, and overall well-being [5]. The trustworthiness of the scale was tested through visual and content validity [6].

The scale was found to be valid and reliable among several populations such as the Australian, German, Italian, and Persian [12, 23, 25, 31]. Nevertheless, there is still a need to test the validity of this scale in the Arabic language, especially in the Palestinian context characterized by challenging living conditions of poverty, lack of employment opportunities, and economic dependence that the population endures and experiences daily as a result of the ongoing Israeli military occupation [21]. Violation of fundamental rights, territorial fragmentation, building restrictions, cultural expoliation, and future insecurity undermine the Palestinian people's well-being and flourishing [3, 30]. Disruption of social networks and fewer positive social outlets due to the restrictions on movement between communities and lack of recreational facilities [4, 19], lack of health and mental health care services are characterizing the ongoing social suffering in the Palestinian territory [20].

Accordingly, the need to examine the validity of the PERMA-Profiler scale in the Palestinian context is urgent. Its use might not be limited to an assessment tool and evaluating individuals' well-being; it might help health providers to suggest intervention protocols to improve the level of well-being among Palestinians [23]. Accordingly, the current study aims to examine the psychometric properties of the PERMA-Profiler scale in the Palestinian context, testing validity, internal consistency, and factorial structure.

Methods

Participants

Participants were recruited from online advertisements, e-mail campaigns and social media. The aims of this study, along with the procedures, were presented via online tools. In response to study recommendations, interested participants sent an e-mail indicating their willingness to participate. Each participant then received a letter briefly explaining the subject of the study and its purpose, mentioning ethical issues such as confidentiality and voluntary participation. Upon reading and accepting the conditions outlined in the e-mail, participants replied with informed consent. Participants were 582 Palestinian adults: 123 men and 459 women. 56.7% of participants were from cities, and 43.3% were from Palestinian villages. 57.7% of participants had a bachelor's degree, and 42.3% had a Master's degree. For inclusion in the study, participants are required to be (1) Palestinians, (2) Native Arabic speakers, and (3) free from having any type of neurodevelopmental and mental disorders.

Measures

Following standard methodological recommendations for developing our questionnaires [13], all items were translated and back-translated from the original English version to Arabic and pilot-tested by a panel of ten Arab professionals recognized as experts in psychology, counseling, and social work. These professionals evaluated the clarity and relevance of the questions and translation. After completing the translated draft, an independent expert English editor back-translated the questionnaires into English. According to their comments, the translated version was then pilot tested among 80 participants and further refined for clarity.

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

The WEMWBS is 14 items covering both hedonic and eudaimonic aspects of mental health, including positive affect (feelings of optimism, cheerfulness, relaxation), satisfying interpersonal relationships and positive functioning (energy, clear thinking, self-acceptance, personal development, competence, and autonomy). Individuals completing the scale must tick the box that best describes their experience of each statement over the past 2 weeks using a 5-point Likert scale (none of the time, rarely, sometimes, often, all of the time). The Likert scale represents a score for each item from 1 to 5 [28]. The WEMWBS indicated a high internal consistency level in assessing Palestinians' global health ($\alpha = .88$).

Patient-Reported Outcomes Measurement Information System (PROMIS)

The PROMIS 10 is a 10-question measure that assesses generic health-related quality of life compared with population norms. PROMIS 10 summarizes health status by assessing five domains: physical function, fatigue, pain, emotional distress, and social health. Questions are answered using 5-point Likert scales; excellent (5) to never (1). The PROMIS indicated a high internal consistency in assessing health and mental well-being among Palestinians ($\alpha = .91$).

The Positive Mental Health Scale (PMH-scale)

The 9-item scale was developed to provide a brief, unidimensional and person-centred instrument to assess positive mental health [18]. The concept of positive mental health combines mainly emotional, psychological, and social aspects of well-being into a single general construct. Participants respond to statements such as "I

am often carefree, and in good spirits, I enjoy my life, I manage well to fulfil my needs, I am in good physical and emotional condition" on a 4-point Likert scale ranging from 0 (do not agree) to 3 (agree). Item scores are combined into a sum score, with higher scores indicating higher positive mental health. The PMH scale indicated a high internal consistency in assessing positive mental health among Palestinians ($\alpha = .91$).

Positive emotion, engagement, relationships, meaning, and accomplishment (PERMA) scale

The PERMA-Profiler consists of 23 items (15 PERMA items and eight filler items) to assess positive emotions, engagements, relationships, and the meaning of life with accomplishment. However, we only used items related to the meaning of life sub-scale in the current study. Each scale item is rated on a 5-point scale ranging from 0 (never) to 5 (always) or 0 (not at all) to 5 (completely). The PERMA indicated a high internal consistency in assessing global health among Palestinians ($\alpha = .93$).

Research procedures

The current study was conducted in March of 2022 and targeted Palestinians in the West Bank and Gaza. The sample of our study was recruited using online methods techniques. Participants were given information to make an informed decision regarding the study, followed by a signed informed consent. Additionally, participants were informed of the purpose of the research and a brief description of the study instruments. Inclusion in the study required participants to be Palestinian, native Arabic speakers and living in the West Bank of the oPt. All procedures performed in this study involving human participants were in accordance with the ethical standards of An-Najah University's Research Ethics Board, the American Psychological Association [2]. Our study was approved by An-Najah Institutional Review Board (IRB) before data collection was administered.

Data analysis

We used Pearson's correlation coefficient to test the correlation between PERMA-Profiler, WEMBWS, PROMIS and PMH. Moreover, Cronbach's alpha, Guttmann Split-Half, and test-retest were calculated to explore the reliability indicators of the scale using Statistical Package for Social Sciences, SPSS 28. In order to test the CFA model, AMOS 25 software was used. The goodness of fit index (GFI), the Normed Fit Index (NFI), the Incremental fit index (IFI), and the root mean square error of approximation (RMSEA) were tested following Hu and Bentler's (1999) criteria, who mentioned that RMSEA values should be less than .07, and the NIF, GfI, and IFI values should be more than .90.

Findings

Exploratory factor analysis

Exploratory factor analysis (EFA) indicated a 5-factor solution of the PERMA in a Palestinian context (Table 1); the five factors explained 85.49 of cumulative variance. The eigenvalues of the five factors were as follows: 26.24, 20.14, 16.19, 12.08, and 10.84.

Confirmatory factor analysis

Our findings (see Fig. 1) revealed that 15 items fit together conceptually and positively correlated with the five domains of the PERMA-Profiler. Amos' model (see Table 1) yielded five main factors: (1) positive emotions, (2) engagement, (3) relationships, (4) meaning, and (5) accomplishment. The results demonstrated good indices values with a good model of fit (CFI = .95, GFI = .96, NFI = .90, RFI = .89, IFI = .91, and RMSEA = .05).

Concurrent validity

A Pearson correlation coefficient was calculated between the PERMA-Profiler, WEMBWS, PROMIS, and PMH to determine if the scale can evaluate general wellbeing in the Palestinian context, as presented in Table 2.

The PERMA-Profiler correlated significantly with WEMWBS ($r = .85$; $p < .01$). Moreover, a positive correlation was found between PERMA and PROMIS ($r = .83$; $p < .01$). Finally, PERMA correlated positively with PMH ($r = .84$; $p < .01$).

Reliability of PERMA-Profiler

Test-retest was performed to assess the reliability of the PERMA-Profiler, Guttmann Split-Half and Cronbach's alpha measures were calculated as presented in Table 3.

Cronbach's alpha coefficient of PERMA-Profiler indicated a high level of internal consistency ($\alpha = .93$). Moreover, the split-half coefficient also showed a high degree of reliability (.90). In order to calculate test-retest reliability for PERMA-Profiler, the scale was re-administered to 80 participants after 3 weeks of the first administration. The correlation between the PERMA-Profiler scores at times one and two was .83,

Table 1 Covariance created in the five-scale construct ($n = 582$)

Estimate	Standardized	SE.	CR.	*P*
Positive emotions	1.10	.03	34.09	***.001
Engagement	1.26	.05	24.04	***.001
Relationships	.80	.03	19.63	***.001
Meaning	1.78	.07	24.67	***.001
Accomplishment	1.61	.07	20.32	***.001

***P significance $\leq .001$

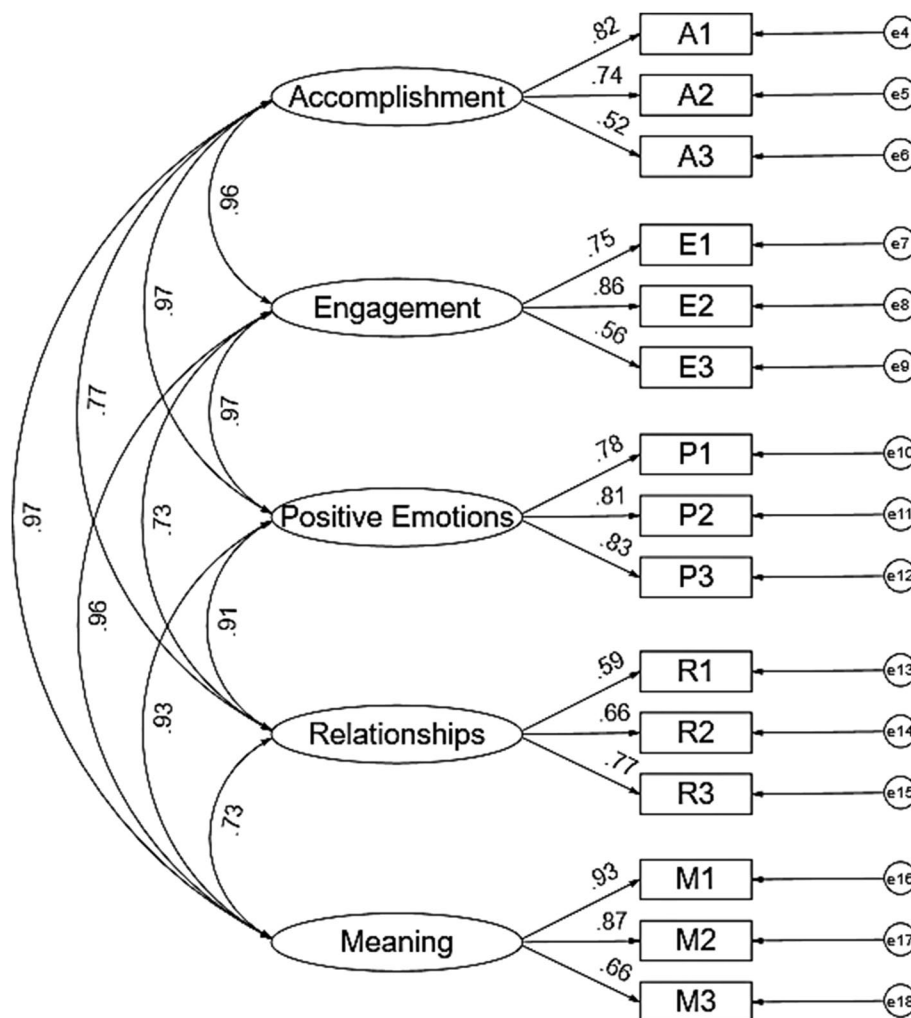Mahamid *et al. Middle East Current Psychiatry*   (2023) 30:10

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Fig. 1 Confirmatory factor analysis of PERMA-Profiler within the Palestinian context

Table 2 Pearson correlation between PERMA, WEMWBS, PROMIS, and PMH (*n* = 582)

Scale	1	2	3	4
1. PERMA	1	.85	.83	.84
2. WEMWBS		1	.76	.88
3. PROMIS			1	.77
4. PMH				1

**Correlation is significant at the 0.01 level (2-tailed)

indicating that the PERMA-Profiler is a stable measure to test overall well-being in the Palestinian context.

Results of Table 4 show significant differences between MA holders and BA holders in overall well-being (*t* = 8.45; *p* < .01) in favor of MA holders. Moreover, no significant differences were found between males and females in overall well-being (*t* = 1.66; *p* > .05). Finally, no significant differences were noted between city residents and village residents in overall well-being (*t* = − .19; *p* > .05).

Discussion

The current study aimed to test the factorial structure and psychometric properties of the PERMA-Profiler within the Arabic language in the Palestinian context. The findings of our study indicated that PERMA-Profiler is a valid measure in assessing general well-being in the Palestinian context. A positive correlation was found between PERMA-Profiler and other measures designed to evaluate mental well-being in the Palestinian context, such as WEMWBS, PROMIS, and PMH. The findings of CFA indicated a stable construct of a five-factor structure of WEMBS-Profiler in assessing general well-being among Palestinians. Accordingly, the original

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Table 3 Reliability analysis of PERMA-Profiler (*n* = 582)

Item	Items	Cronbach's alpha if item deleted	Corrected item-total correlation	Test-retest	Guttmann Split-Half	α
P1	In general, how often do you feel joyful?	.787	.743	.83		
P2	In general, how often do you feel positive?	.771	.754	.81		
P3	In general, to what extent do you feel contented?	.835	.698	.82		
E1	How often do you become absorbed in what you are doing?	.84	.49	.83		
E2	In general, to what extent do you feel excited and interested in things?	.47	.59	.80		
E3	How often do you lose track of time while doing something you enjoy?	.37	.65	.84		
R1	To what extent do you receive help and support from others when you need it?	.51	.59	.79		
R2	To what extent do you feel loved?	.60	.54	.83		
R3	How satisfied are you with your personal relationships?	.71	.44	.81		
M1	In general, to what extent do you lead a purposeful and meaningful life?	.63	.80	.86		
M2	In general, to what extent do you feel that what you do in your life is valuable and worthwhile?	.67	.75	.85		
M3	To what extent do you generally feel you have a sense of direction in your life?	.71	.50	.82		
A1	How much of the time do you feel you are making progress towards accomplishing your goals?	.61	.63	.83		
A2	How often do you achieve the important goals you have set for yourself?	.63	.62	.82		
A3	How often are you able to handle your responsibilities?	.75	.51	.83		
	Positive emotions				.82	.85
	Engagement				.74	.78
	Relationships				.80	.83
	Meaning				.81	.82
	Accomplishment				.82	.86
	Total score of PERMA Profiler			.83	.90	.93

Table 4 Differences in overall well-being by academic level, gender, and residence (*n* = 582)

Dependent variable	Variable	Academic level		Gender		Residence	
		MA	BA	Male	Female	City	Village
Overall well-being (PERMA)	Mean (SD)	4.12(.51)	3.63(.76)	3.94(.71)	3.81(.70)	3.84(.68)	3.85(.73)

PERMA-Profiler consisted of five sub-scales: (1) positive emotions, (2) engagement, (3), relationships, (4), meaning, and (5) accomplishment. Previous findings indicated that these constructs are crucial in assessing general well-being among adults. For example, Ryff and Keyes [26] tested the theoretical model of psychological well-being that encompasses six distinct dimensions of well-being (engagement, environmental mastery, personal growth, positive relations with others, meaning of life, and self-acceptance) in the USA, CFA provided support for the proposed six-factor model in assessing general well-being. Negovan [22] tested the dimensions of students' psychosocial well-being model in Romania, with the results that the well-being model yielded psychological engagement, the meaning of life, and social well-being. Linton et al. [17] reviewed 99 self-report measures for assessing well-being in adults; the findings revealed that six key thematic domains: meaning of life, social well-being, physical well-being, spiritual well-being, engagement, and personal circumstances, were identified as central dimensions of well-being scales.

The longstanding Israeli–Palestinian conflict has eluded resolution for decades resulting in negative implications for the well-being of the Palestinian people. Although large-scale conflicts only break out periodically, Palestinians in the West Bank, East Jerusalem, and the Gaza Strip are susceptible to risks to their economic well-being and physical security on a daily bases. The Israeli occupation

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has led to an ongoing threat of arrests, beatings, and possible home eviction or destruction for inhabitants of the West Bank. Further, the continuous occurrence of shifting checkpoints and road closures limits the physical mobility of Palestinians across the West Bank [1]. As a result, Palestinians living in the West Bank of Palestine are at risk of exposure to various types of traumatic experiences, which should be considered in assessing general well-being.

Validating new instruments to test general well-being in the Palestinian context is crucial for mental health providers; this may enable them to develop different intervention programs to target affected groups in Palestinian society. Previous research has shown that Palestinians were subjected to political violence and experienced several stressors and strains that presumably have taxed the psychological distress of family members, their well-being, and their ongoing life pattern [15].

Our findings revealed that Master's degree holders reported higher levels of well-being than BA holders. This can be explained that a greater level of well-being correlates with higher academic performance, indicating that academic performance is an essential factor in improving well-being among individuals. These findings are similar to those of the study of Dodd et al. [10], who explored the psychological well-being of domestic and international university students in Romania. Well-being was significantly higher in postgraduate students compared with undergraduate students. Egan et al. [11] found solid and clear associations between better academic performance, higher academic degree and well-being. Roslan et al. [24] explored the level of well-being among university students in Malaysia, with results that postgraduate students possessed a slightly high level of psychological well-being compared with undergraduate students.

Limitation of the study

Validating new instruments is an ongoing process; therefore, the current study has several limitations that may offer opportunities for future research to continue validating the PERMA-Profiler within different contexts. First, our study used a convenience sample of Palestinians recruited using online self-reports. Validating the PERMA-Profiler with different groups, especially those at risk of traumatic and stressful events, is crucial; the factorial structure of the measure may differ in other populations. Secondly, we validated the PERMA-Profiler in the West Bank of Palestine during a difficult period characterized by many conflicts and political violence between Palestinians and Israelis. Hence, the political violence may have negatively affected the level of general well-being among Palestinians, possibly skewing the factorial structure of the PERMA-Profiler. More future studies validating the PERMA-Profiler over different periods are recommended. Thirdly, our study sample is not sufficiently representative of different groups in Palestinian society. Especially those who are more likely to experience lower levels of mental well-being, such as former prisoners, individuals whose homes have been demolished due to political conflict, and prisoners and wounded, indicating the need to validate the PERMA-Profiler with individuals may experience lower levels of mental well-being. Finally, our study used different scales to evaluate the concurrent validity of the PERMA-Profiler in the Palestinian context; the psychometric properties of these scales were not tested before in the Arabic language and within the Palestinian context, indicating the need to validate these scales in the same context to add to the validity of the results.

Conclusions

The PERMA-Profiler is an international instrument designed to test the level of general well-being among adults, which has not been previously validated in the Palestinian context. The PERMA-Profiler was found to be valid and reliable in testing the general well-being among Palestinian adults. The results of CFA yielded a reasonable five-factor solution of PERMA-Profiler: (1) positive emotions, (2) engagement, (3) relationships, (4), meaning, and (5) accomplishment. Thus, more future studies validating the PERMA Profiler with diverse groups in the Palestinian context are recommendable, especially for those who are at risk of traumatic and stressful events. The PERMA Profiler will enable mental health providers to develop different clinical interventions targeting individuals who suffer from mental distress and low levels of well-being.

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Availability of data and materials
The datasets used and/or analyzed during the current study available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
All procedures performed in this study involving human participants were in accordance with the ethical standards of An-Najah University's Research Ethics Board, the American Psychological Association [2] and with the 2013 Helsinki Declaration. Written Informed consent was obtained from all participants. Also, our study was approved by An-Najah Institutional Review Board (IRB) before data collection was administered.

Consent for publication
Not applicable

Competing interests
The authors declare that they have no conflict of interest.

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