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Development of Holistic Scale of Wellbeing-Preliminary (HSW-P) for Young Adults in Pakistan

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ABSTRACT

Aim of the Study: Wellbeing has undoubted value for all. However, an indigenously developed comprehensive scale for general wellbeing was needed in Pakistan. This study aimed to develop a wellbeing scale for indigenous youth of the country.

Methodology: After qualitative exploration of wellbeing among local young adults, a bilingual wellbeing scale was developed. Item pool was generated based on interviews conducted in a prior study exploring wellbeing of young Pakistani adults. Transcribed interviews were read and all possible items were written down. The first draft contained 111 items which resulted in a 52-item second draft after removing ambiguous and repetitive items. Items in the scale were written in two languages, i.e. English and Urdu. Urdu, the national language, is spoken and written across Pakistan.

Findings: A 29-item Holistic Scale of Wellbeing-Preliminary (HSW-P) emerged after EFA on proportionate sample of 402 young adults. Alpha reliability (0.90), split half reliability (0.87; $p<0.001$), divergent validity with DASS-21 and convergent validity with PERMA Profiler was assessed.

Conclusion: HSW-P is a scientifically sound bilingual measure of wellbeing which opens pathways for indigenous research on wellbeing.

Keywords: Scale Development; General Wellbeing; Youth; Adults; Psychometrics

1. INTRODUCTION

Wellbeing is significantly important for all people. People attempt to achieve wellbeing as it is the ideal state of existence (Knight & McNaught, 2011). Yet the concept is not concrete and many ways are used to define and assess it. A single all-encompassing definition of wellbeing is hard to find (Simons & Baldwin, 2021). Recent developments consider wellbeing to be an all-encompassing macro construct which includes family, society and community as a whole (Placa et al., 2013).

1.1 Existing Measures of Wellbeing

Different definitions and different theoretical underpinnings have resulted in diverse assessment measures for wellbeing, however, many a times it is unclear what is being measured in the name of wellbeing

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(Linton et al., 2016). Given the excessive number of wellbeing related scales, it might be a miracle to gather and analyze them all. A systematic review by Linton et al. (2016) covered 99 wellbeing scales for adults from 1993 to 2014. They identified 196 dimensions grouped into six major categories including mental, social, physical and spiritual well-being, activities and functioning, and personal circumstances.

An oft-used wellbeing tool is PERMA profiler (Butler & Kern, 2016) based on Seligman's (2018) PERMA model. Simple language, large sample for scale development, free availability of scale and ease of scoring contribute to its popularity. Comprehensive inventory of thriving has 18 subscales like meaning, optimism, relationship. Brief version containing only 10 subscales is also available (Su et al., 2014). Flourishing Index (VanderWeele, 2017) has 12 items and 6 subscales namely happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, and close social relationships.

Some historically popular wellbeing scales include Psychological Wellbeing Scale (Ryff, 1989) having six domains: autonomy, personal growth, positive relations, environmental mastery, purpose and self-acceptance. Flourishing Scale (Diener et al., 2010) measures psychological wellbeing as it covers positive relationships, feelings of competence and meaning in life. 14-item Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tennant et al., 2007) and its subsequent 7-item version (Stewart-Brown et al., 2009) for mental wellbeing are also common. WHO-5 is often used to assess quality of life or overall wellbeing with only five items (Topp et al., 2015).

1.2 Need for Indigenous Measure of Wellbeing

The authors aimed to assess general wellbeing of young adults in Pakistan. For this purpose, we scrutinized the available scales and considered PERMA profiler as a suitable comprehensive tool. We pilot tested its English version on 25 university students from 5th semester of undergraduate program in a social sciences department. Many apparently simple English words like 'worthwhile' and 'extent' were not understandable for some students. Therefore, we discarded the idea of using English language scale.

Four wellbeing scales were found to be translated and validated in Urdu, the local language of Pakistan, including flourishing scale (Choudhry et al., 2018), WHO-5 (Shahzad et al., 2023), Ryff's psychological wellbeing scale (Jibeen & Khalid, 2012), and PERMA profiler (Faran & Malik, 2021). The former two scales have no subscales whereas later two have multiple subscales but they might lack important indigenous wellbeing indicators. Most of the wellbeing scales originate from developed English speaking countries having white populations in majority. Cultural variations cannot be downplayed when wellbeing assessment is considered for a country like Pakistan. Sources of wellbeing can vary greatly in different contexts (Exenberger et al., 2019). Therefore, while considering a translated version of a scale, it is important to consider whether it encompasses all elements pertaining to the wellbeing of indigenous Pakistani population.

Hence, a phenomenological exploration of factors contributing to wellbeing of young adults in Pakistan was conducted by presenting 10 respondents with APA definition of wellbeing "a state of happiness and contentment, with low levels of distress, overall good physical and mental health and outlook, or good quality of life" (American Psychological Association, 2018). Financial stability, fulfillment of basic needs, external pressure, and familial support were oft-repeated factors. These factors particularly financial stability is not covered in any Urdu version.

This led us to explore indigenously developed scales for wellbeing. To the best of our knowledge, only one wellbeing scale titled ICP Subjective Wellbeing Scale was developed in Karachi, Pakistan (Moghal, 2013). It was based on Diener's (1994) idea of positive and negative emotions, hence, items focus on emotions only, making it unfit for assessing general wellbeing. In light of above details about wellbeing measures, developing an indigenous wellbeing scale was inevitable.

1.3 Theoretical Framework

Wellbeing has been explained by two major theoretical approaches. Objective list theories claim that anything which is objectively valuable will have a positive impact of wellbeing. Contrarily, desire theories postulate that anything desired by an individual is important for their wellbeing. A hybrid of these two approaches is presented by William Lauinger (2021). Desire-perfectionism theory (Lauinger, 2021) merges these two by stating that the objectively good things when desired by an individual become influential for his/her wellbeing. So, for example, health, money, mental peace, relationships etc. are objectively good; if a person desires them, then these will contribute to that person's wellbeing. This research aims to assess wellbeing of young adults keeping this theory in context.

1.4 Study Objective

The objective of current study is to develop an indigenous general wellbeing scale for young adults.

2. METHODOLOGY

2.1 Step 1: Generating Item Pool

Item pool was generated based on interviews conducted in a prior study exploring wellbeing of young Pakistani adults as part of doctoral research of author (article in process). Transcribed interviews were read and all possible items were written down. The first draft contained 111 items resulted in a 52-item second draft after removing ambiguous and repetitive items. Items in the scale were written in two languages, i.e. English and Urdu. Urdu, the national language, is spoken and written across Pakistan. Most higher education studies are in English and students possess basic to expert English language skills. Moreover, some terms like 'wellbeing' do not have a true equivalent in Urdu language. It has also been experienced that mere forward/backward translation sometimes loses the essence of the scale items. Therefore we intended to develop the scale in both languages to overcome such problems.

2.2 Step 2: Expert Validation

For language validation, the 52-item scale was sent to three English language experts. They had a degree in English language and 10+ years of teaching English. They belonged to Pakistan so they understood the cultural context and possessed reading writing prowess in Urdu as well. They were instructed to suggest changes and rate each item from 0 (not at all agree) to 4 (completely agree) based on how much they agreed with the Urdu and English version of the item. All three raters mostly rated the items on 4 or 5; a few suggestions about language modifications were received and incorporated.

For content validity, 16 experts were contacted who belonged to field of Psychology. They were given the 52-item scale. Likert scale from 0 (not at all relevant) to 4 (completely relevant) was given for rating. 10 experts reviewed and returned the scale; it is enough for content validity (Zamanzadeh et al., 2015). Their qualitative feedback was incorporated and 5 items were discarded due to consistent low rating from majority experts. The remaining 47 items were compiled into scale titled Holistic Scale of Wellbeing-Preliminary (HSW-P).

2.3 Step 3: Piloting

To assure the comprehension of items and instructions, HSW-P was pilot tested on 1st semester psychology students from under-graduation. Convenient sampling strategy was utilized and 40 students ranging between 18 to 19 years were selected for piloting. They were given hard copies of HSW-P to respond on scale of 0 (not at all relevant) to 4 (completely relevant) and to point out difficult or unclear items. Feedback showed that all items were clear so no changes were made.

2.4 Step 4: Establishing Factor Structure and Psychometric Properties

2.4.1 Participants

Study sample consisted of 402 young adults (Table 1) in the age range of 18 to 25 years (The Society for Adolescent Health and Medicine, 2017). Sample was selected using per indicator criterion (Hair et al., 2010) of at least 8 respondents per item. 374 was minimum required sample for 47 items. Participants were selected from five major cities of Punjab province of Pakistan namely Lahore, Faisalabad, Rawalpindi, Gujranwala and Multan as per 2023 census (Pakistan Bureau of Statistics, 2023) https://www.pbs.gov.pk/content/announcement-results-7th-population-and-housing-census-2023-digital-census . For representative sample of 400 young adults, population wise proportionate samples were targeted i.e. Faisalabad 92 (23%); Lahore 136 (34%); Rawalpindi 64 (16%); Gujranwala 60 (15%); Multan 52 (13%).

Table 1: *Descriptive Characteristics of EFA Sample (N = 402)*

Variable	Range	Mean	SD	f	%
Age	18-26	21.04	1.73		
Gender					
Male				189	47
Female				193	48
Not disclosed				20	5
Current Semester					
1st				28	7
2nd				75	18.7
3rd				4	1
4th				109	27.1
5th				1	0.2
6th				121	30.1
7th				4	1
8th				60	14.9
Degree Program					
Computer Sciences/IT/AI				204	50.75
Psychology				60	14.93
Business				9	2.24
Accounting/Finance				2	0.5
English				3	0.75
Engineering (environmental, electrical, biomedical)				78	19.4
Medical Imaging Technology				20	4.98
City					
Lahore				133	33.1
Faisalabad				92	22.9
Rawalpindi				70	17.4
Gujranwala				56	13.9
Multan				51	12.7
Family System					
Nuclear				246	61.2
Joint				87	21.6
Not disclosed				69	17.2
Current Living					
Family House				224	55.7
Hostel				109	27.1
Relatives House				9	2.2

Other		5	1.2
Not disclosed		55	13.7
Monthly Household Income (PKR)			
<50,000		33	8.2
50,000-100,000		117	29.1
100,000-150,000		71	17.7
150,000-200,000		47	11.7
200,000-250,000		25	6.2
>250,000		80	19.9
Not disclosed		29	7.2
Father's Education			
None		9	2.2
5 years or less		7	1.74
10 years or less		82	20.40
12 years		88	21.89
14 years		99	24.63
16 years		70	17.41
18 years		5	1.2
Above 18		5	1.2
Father's Occupation (f>10)			
Retired		21	5.22
Business		109	27.11
Farming/Landlord		34	8.46
Government Job		41	10.2
Personal Job			
Yes		83	20.6
No		286	71.1
Not disclosed		33	8.2
Relationship Status			
Single		342	85.1
Engaged		35	8.7
Married		8	2
Not disclosed		17	4.2

2.4.2 Measures

2.4.2.1 Demographic Information Sheet. This sheet was developed by authors to understand demographic distribution of the sample (Table 1).

2.4.2.2 Depression, Anxiety, Stress Scale (DASS-21). It is a self-report measure for people 17 years and older. It has sound psychometric properties with reliability of 0.99 for depression, .0.82 for anxiety and 0.90 for stress subscale (Henry & Crawford, 2005). Construct validity is moderate to strong (Brown et al., 1997). Test-retest reliability was satisfactory ranging from .71 to.81 for depression, .74 to .81 for anxiety, .81 to .89 for stress (Antony et al., 1998).

2.4.2.3 PERMA Profiler. It is a 23 item scale to assess wellbeing (Butler & Kern, 2016). Scale items show good model fit, good internal consistency (0.92 to 0.95 across several samples), strong content validity, convergent validity and divergent validity. Test retest reliability ranged from 0.69 to 0.88 (Butler & Kern, 2016).

2.4.2.4 Holistic Scale of Wellbeing-Preliminary (HSW-P). The under-development HSW-P was used to identify its factor structure. Scale had 47 items with response ranging from 'not at all relevant' or 0 to 'completely relevant' or 4.

2.4.3 Ethical Considerations

All ethical guidelines of APA were followed including purpose of research, informed consent, voluntary participation, right to withdraw, privacy and confidentiality.

2.4.4 Procedure

This research is part of a doctoral dissertation. The doctoral dissertation topic was approved by Advanced Studies and Research Review Board of the authors' university. Informed consent form and above mentioned measures were taken to three universities from Faisalabad and one university each from other four cities for data collection. Data was gathered from different universities based on multiple factors like no exams during data collection days, convenience of researcher, permission from university administration etc.

Classroom approach was mostly employed where teacher was requested to allow 15 minutes from their class time. Following teacher's consent, researcher introduced the purpose of research and ethical considerations and proceeded to distribute questionnaires among willing students. Most respondents returned the filled questionnaires within 5 to 14 minutes. Afterwards, students and teachers were thanked for their time and cooperation.

2.4.5 Data Entry and Data Cleaning

Gathered data was manually entered into Statistical Package for Social Sciences (SPSS) version 25. Two blank items were included in HSW-P questionnaire to control for random responses. If any of the blank item was responded, that particular questionnaire form was discarded during data entry. Blank or partially filled forms and forms with same response or same response pattern on all items were also discarded.

Checking minimum and maximum values ensured that no out of range values were present. There was 0.3% missing data which was replaced with respective mean values as missing data was <5% (Schafer, 1999). Normal distribution was checked by skewness, kurtosis and by plotting curves over histograms for each item. All items had normal curves. Skewness <2 and kurtosis <3 is generally acceptable (Hair et al., 2022). Our data only had one item (item 26; "I feel blessed by God") with skewness value -3.19 and kurtosis value of 11.54. Given the nature of item, most responses were clustered towards the positive end which explains the high skewness and kurtosis. But the item was retained owing to the nature of item and the religious inclination of Pakistani culture.

To check for outliers, z-scores beyond 3 were checked (Pituch & Stevens, 2016). Data cleaning showed that 6 items (1, 5, 26, 50, 51, 52) had outliers but they were retained owing to nature of items and cultural context. After following the above mentioned steps, data was considered fit for exploratory factor analysis.

3. RESULTS

3.1 Exploratory Factor Analysis

In order to find the best factor structure, first decision was about the most suitable extraction method. We opted for Maximum Likelihood as it is best suited for data that is nearly normally distributed (Costello & Osborne, 2005). We aimed for the clearest and most meaningful factor structure with minimum dubious items, minimum three factors per factor (Costello & Osborne, 2005) and factor loadings of 0.4 (Pituch & Stevens, 2016)

Next decision was about the number of factors to retain. Scree plot (Figure 1) indicated three factors which were explaining only 33% of cumulative percentage. As cumulative percentage explained through

the factors should be around 50% (Williams et al., 2010), therefore, three factors were not enough for HSW-P.

Figure 1: *Scree plot displaying extraction of factors of HSW-P (N=402)*
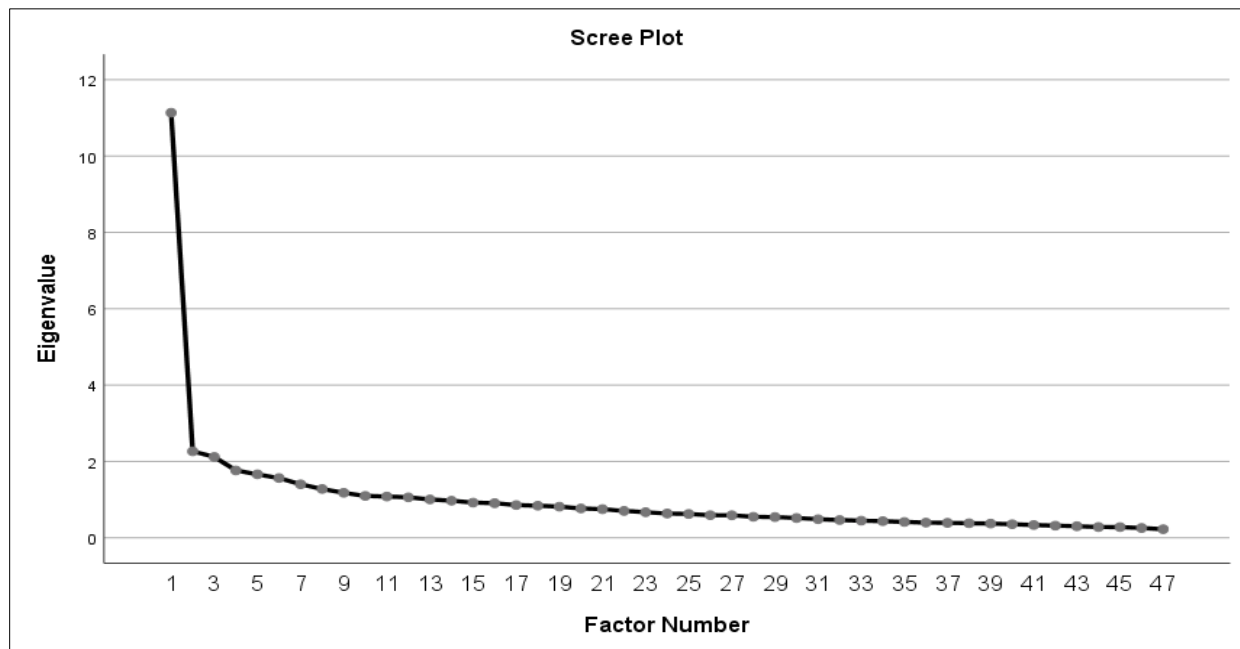
Velicer's MAP test was carried out using SPSS syntax file provided by O'Connor (2000) following the tutorial by Mike Crowson (2023). 3 components were suggested based on original (1976) MAP test and 5 components were suggested based on revised (2000) MAP test. As 3 or 5 factors did not provide meaningful solution which is the primary goal for EFA (Osborne, 2015), hence, further exploration was needed.

Parallel analysis was conducted by using syntax file provided by O'Connor (2000) and the tutorial by Mike Crowson (2022b). Comparing the raw data eigenvalues with the mean values of random data eigenvalues given in Table 2 showed that 6 factors could be clearly retained as their raw data eigenvalues were greater than the means of random eigenvalues. For factor 7, there was an extremely minute difference between raw (1.40) and mean eigenvalue (1.43). Hence, further exploration was deemed necessary.

Table 2: *Parallel Analysis Showing Factors (Root), Raw Data Eigenvalues, Mean and Percentile of Random Data Eigenvalues*

Root	Raw Data Eigenvalue	Mean of Random Data Eigenvalue	Percentile of Random Data Eigenvalue
1	11.13	1.73	1.80
2	2.26	1.65	1.70
3	2.12	1.60	1.64
4	1.76	1.55	1.59
5	1.66	1.50	1.54
6	1.56	1.46	1.50
7	1.40	1.43	1.46
8	1.28	1.39	1.42

Next, goodness of fit test from EFA output was added to excel sheet given at https://drive.google.com/file/d/1QjFr7ogdeawvsatPBoDLoL1xVUo5ItLD/edit by Mike Crowson (2022a)

to calculate RMSEA and change in RMSEA values for 3 to 13 factors. 3-factors were considered as scree plot suggested it whereas 13 factors explained the highest cumulative percentage. For factors 4 to 13, all RMSEA values (<0.05) implied a close fit whereas 3-factor RMSEA value implied an acceptable fit. All values for change in RMSEA were <.01 hence they were less than marginal (Fabrigar & Wegener, 2012).

The most suitable number of factors was therefore chosen by considering the most appropriate, well-meaning and cleanest factor structure by scrutinizing 3 to 13 factor solutions. 8 to 13 factor solutions were discarded as they had <3 items in at least one factor. Factor 7 had 3 or more items in all factors with highly meaningful clustering of items. 6-factor solution also had <3 items in a factor. 3 to 5 factor solutions did not yield meaningful clustering of items on their factors. Hence, 7-factor solution was considered the most suitable solution for EFA.

For choosing method of rotation, latest guideline by Osborne (2015) suggests that oblique rotations are more suitable. Promax and Direct Oblimin both were attempted; Promax led to the most logical and cleanest factor structure. Hence, EFA with Maximum Likelihood and Promax rotation was used for development of HSW-P.

The 7-factor HSW-P had 29 items. No cross-loading or reverse scored items were present. Kaiser-Meyer-Olkin (KMO) value 0.91 with p<.001 for Bartlett's Test of Sphericity was achieved indicating adequate sample size for development of HSW-P. Initial eigenvalues were achieved for 7 factors: 11.13, 2.27, 2.12, 1.77, 1.66, 1.57 and 1.40; % of variance were 23.69, 4.82, 4.50, 3.76, 3.54, 3.33, and 2.98; cumulative % were 23.69, 28.51, 33.10, 36.77, 40.30, 43.63 and 46.61 respectively. All factor loadings are given in Table 3.

Table 3: *Factor Structure of HSW-P (N = 402) with Maximum Likelihood and Promax Rotation*

No	Items	Factor Loading						
		I	II	III	IV	V	VI	VII
Factor I: Purpose								
30.	I focus on my priorities and fulfill my goals	**.66**	.12	.05	.00	.02	-.04	.02
28.	I have a sense of purpose	**.57**	.19	-.04	-.00	.06	.00	-.01
8.	I actively try to improve myself	**.55**	-.16	-.06	-.02	-.05	.07	.12
44.	What I am doing in my life is valuable and important	**.48**	.05	.29	-.10	.07	-.03	-.10
34.	I fulfill my responsibilities	**.48**	-.04	-.03	.14	-.07	.08	.09
Factor II: Psychological Health								
49.	I try to solve problems instead of crying over them	.14	**.77**	-.22	-.03	-.02	-.04	-.02
48.	I can easily cope with the difficulties	.08	**.70**	-.08	-.04	.17	.12	.01
17.	I can quickly recover from failures	.03	**.70**	-.02	-.05	-.01	-.05	.11
16.	I have good mental health	-.10	**.58**	.05	.09	-.02	.18	.16
20.	I feel mental peace	-.23	**.46**	.34	.14	.03	.05	.09
Factor III: Vitality and Satisfaction								
39.	I live my life fully	-.05	.02	**.82**	.02	.03	.02	-.18
46.	Overall I feel satisfied with my life	.03	-.03	**.77**	-.11	.06	.05	.07
38.	I am satisfied with what I have achieved so far	.10	-.18	**.71**	-.03	.00	-.14	.15
10.	I am satisfied with my self	.09	.09	**.58**	.08	-.18	-.03	.10
45.	I live my life the way I want to	.08	.01	**.57**	-.16	.11	.17	-.15
40.	I am full of energy	.27	.15	**.55**	.01	.02	-.08	-.21
Factor IV: Physical Health								
25.	I follow a healthy routine	.12	-.03	-.10	**.89**	.01	-.08	-.05
24.	I eat healthy foods	.04	-.03	-.11	**.85**	.06	-.08	-.06
23.	I am satisfied with my sleep	-.14	.01	.13	**.51**	-.05	.10	.03
22.	Overall I spend a fair share of my time in moving, walking, exercising or staying active	.11	-.02	.00	**.40**	.08	.12	-.14
Factor V: Finances								
50.	My family and I can easily meet our basic needs	.06	.03	-.09	.00	**.74**	-.05	.06
14.	My family and I have enough savings to face an	-.03	-.16	.08	.06	**.70**	.04	.01

	emergency situation							
13.	I am satisfied with my and my family's financial situation	-.14	-.13	.17	.02	**.58**	-.02	.27
Factor VI: Relationships								
7.	I feel that I am loved by the people who are important to me	.11	.01	.00	-.06	-.05	**.72**	-.10
2.	My close relations are there to support and help me whenever I need it	.02	-.07	-.08	.02	.05	**.68**	-.12
1.	I have a strong bond with my family, friends and other people who are important to me	-.08	.02	.08	.00	-.04	**.62**	.00
Factor VII: Religiosity and Spirituality								
26.	I feel blessed by God	.08	.05	.05	-.07	.13	-.05	**.56**
27.	I feel satisfied with my religious and spiritual practices	.22	-.24	.08	.17	-.09	-.01	**.51**
52.	I have a strong bond with God	.10	.13	-.18	-.05	.11	-.02	**.48**

Note. Only the items having .40 or above factor loadings are shown in the table in the respective factor.

3.2 Factor Description of HSW-P

As a result of EFA items formed seven different factors which are explained further.

3.2.1 Factor I: Purpose

This subscale includes a person's priorities, goals, responsibilities and meaningful activities in life. There are 5 items and score can range from 0 to 20. High score can show high sense of purpose in one's life. Contrarily, low scores can indicate an aimless life.

3.2.2 Factor II: Psychological Health

Multiple facets of psychological health are covered in this subscale including resilience, coping, problem solving, sound mental health and mental peace. There are 5 items and score can range from 0 to20. High score can show overall good psychological health of the respondent whereas low score can show psychological and mental health concerns.

3.2.3 Factor III: Vitality and Satisfaction

This subscale encompasses overall satisfaction in life along with zest for life. Items are wider in their range as they are about self-satisfaction, life satisfaction, contentment, living life on own terms and an enthusiasm for life. Total 6 items of this subscale have potential score range of 0 to 24. High scores can show greater satisfaction and vitality for life. Closer scrutiny of items can further show whether vitality or satisfaction or both need improvement.

3.2.4 Factor IV: Physical Health

Physical health subscale encompasses healthy eating, quality sleep, good routine and an active lifestyle. All items can work as doorways to important domains in the physical health umbrella. This subscale has 4 items and score can range from 0 to 16. High score on this scale implies overall sound physical health of the respondent.

3.2.5 Factor V: Finances

This subscale covers a domain that holds significant value for many people in Pakistan and other similar developing countries. It covers satisfaction with current financial situation, fulfillment of basic needs and some finances to fall back on. There are 3 items in it and score can range from 0 to 12. High score can show financial stability and access to better resources.

3.2.6 Factor VI: Relationships

Close relationships like the ones with family and friends are covered in this subscale. Love, support and attachment with important relationships can be explained by it. It has 3 items and scores can vary from 0 to 12. High score represents that person enjoys good relations and has the care and love of others.

3.2.7 Factor VII: Religiosity and Spirituality

This factor is about religious and spiritual inclination of the respondent. It can shed light on the connection between man and the higher power. This contains 3 items and potential score range of 0 to 12. A high score on this subscale can indicate strong religious and/or spiritual orientation.

EFA led to finalization of factor structure and full-scale score and sub-scale scores. Inter-factor correlations showed strong to low associations among subscales (Table 4).

Table 4: *Inter-Correlations, Means, and Standard Deviations of HSW-P and its Factors (N = 402)*

Factors	*M*	*SD*	1	2	3	4	5	6	7	8
1. Purpose	13.76	3.95	-	.44***	.58***	.45***	.29***	.31***	.34***	.74***
2. Psych_H	12.07	4.67	-	-	.60***	.40***	.30***	.33***	.27***	.76***
3. Vit_Sat	15.28	5.72	-	-	-	.45***	.40***	.40***	.34***	.85***
4. Phy_H	8.29	4.06	-	-	-	-	.26***	.27***	.28***	.67***
5. Finance	8.89	2.78	-	-	-	-	-	.28***	.28***	.55***
6. Relation	8.88	2.84	-	-	-	-	-	-	.19***	.56***
7. Relig_Spi	9.85	2.22	-	-	-	-	-	-	-	.51***
8. HSW-P	77.00	18.30	-	-	-	-	-	-	-	-

Note. Psych_H= Psychological health; Vit_Sat= Vitality and Satisfaction; Phy_H= Physical Health; Relation= Relationships (Subscale of HSW-P); Relig_Spi= Religiosity and Spirituality; HSW-P= Holistic Scale of Wellbeing-Preliminary; ***$p < 0.001$

3.3 Reliability

3.3.1 Internal Consistency

For internal consistency of HSW-P, Cronbach alpha coefficients for full scale and all of its seven subscales were calculated. Alpha reliability ranged from moderate to very strong (Table 5).

Table 5: *Cronbach Alpha of HSW-P and its Subscales (N = 402)*

Factors	No of items	Alpha Coefficients (α)
1. Purpose	5	0.74
2. Psychological Health	5	0.81
3. Vitality and Satisfaction	6	0.85
4. Physical Health	4	0.73
5. Finances	3	0.74
6. Relationships	3	0.68
7. Religiosity and Spirituality	3	0.57
HSW-P	29	0.90

3.3.2 Split-Half Reliability

Odd-even split was used for split half reliability. Correlation between sum of odd items and sum of even items showed very strong split half reliability ($r = 0.87$, $p < 0.001$).

3.3.3 Convergent Validity

PERMA Profiler (Butler & Kern, 2016) was used with approximately 52% of the sample (N=211). Missing values (<5%) were replaced with mean values. Data was normally distributed but 4 cases having outliers were discarded. Total and subscale scores were calculated for PERMA Profiler and HSW-P. Strong correlation between PERMA wellbeing and HSW-P wellbeing ($r = 0.63, p < 0.001$) indicated good convergent validity (Table 6).

Table 6: *Correlations among HSW-P and PERMA Profiler (N = 211)*

	Purpose (HSW-P)	Psych_H (HSW-P)	Vit_Sat (HSW-P)	Phy_H (HSW-P)	Finance (HSW-P)	Relation (HSW-P)	Relig_Spi (HSW-P)	HSW-P
Pos_Emo (PERMA)	.50***	.54***	.57***	.41***	.29***	.36***	.31***	.60***
Engagement (PERMA)	.31***	.24***	.29***	.25***	.21**	.35***	.18*	.35***
Relation (PERMA)	.48***	.42***	.44***	.32***	.27***	.40***	.29***	.51***
Meaning (PERMA)	.62***	.53***	.59***	.40***	.39***	.44***	.38***	.66***
Accomp (PERMA)	.52***	.42***	.43***	.37***	.23**	.35***	.21**	.50***
PERMA	.58***	.52***	.56***	.41***	.33***	.45***	.33***	.63***

Note. Pos_Emo= Positive Emotion; Relation=   Relationships (subscale of PERMA Profiler); Accomp= Accomplishment; PERMA= PERMA Profiler; Psych_H= Psychological health; Vit_Sat= Vitality and Satisfaction; Phy_H= Physical Health; Relation= Relationships (Subscale of HSW-P); Relig_Spi= Religiosity and Spirituality; HSW-P= Holistic Scale of Wellbeing-Preliminary; *p< .05; **p< .01; ***p< .001

3.3.4 Divergent Validity

For divergent validity DASS-21 (Lovibond & Lovibond, 1995) was used with 46% of the sample (N=186). Missing value (<5%) were replaced with mean values. Data was normally distributed. All wellbeing subscales and total score had significant negative correlation with depression, and stress. Anxiety had significant negative relation with all subscales except Finances (Table 7). Moderate divergent validity was established between wellbeing and depression ($r = -0.52, p<0.001$).

Table 7: *Correlations among HSW-P and DASS-21 (N = 186)*

	Purpose (HSW-P)	Psych_H (HSW-P)	Vit_Sat (HSW-P)	Phy_H (HSW-P)	Finance (HSW-P)	Relation (HSW-P)	Relig_Spi (HSW-P)	HSW-P
Depression	-.39***	-.55***	-.49***	-.33***	-.22**	-.27***	-.35***	-.52***
Anxiety	-.24**	-.41***	-.30***	-.28***	-.13	-.23**	-.22**	-.36***
Stress	-.26***	-.48***	-.34***	-.26***	-.24**	-.15*	-.25***	-.39***

Note. Psych_H= Psychological health; Vit_Sat= Vitality and Satisfaction; Phy_H= Physical Health; Relation= Relationships (Subscale of HSW-P); Relig_Spi= Religiosity and Spirituality; HSW-P= Holistic Scale of Wellbeing-Preliminary; *p< .05; **p< .01; ***p< .001

4. DISCUSSION

Wellbeing, a multifaceted construct, has many scales for its measurement. Despite the variety, none of the scales was a perfect fit for general wellbeing assessment of young adults in Pakistan. Scales developed in other countries were not suitable because of language and cultural differences in perception of wellbeing. Indigenous people perceived general wellbeing to encompass many dimensions like emphasis on close family attachments, need for financial and monetary resources, a deep rooted relationship with God, etc. which are rarely present in existing wellbeing scales imported from other countries. The sole locally developed scale was found to lack all these domains. Therefore, this article covered indigenous scale development of general wellbeing measure.

HSW-P, developed in this study, has 29 items as established after EFA. It is bilingual as all items are in Urdu and English to ensure better comprehension for respondents. Suitable language is critical to ensure comprehension of the scale. HSW-P contains seven subscales and yields subscale scores along with total wellbeing score. General wellbeing scales, though many in number, do not cover all the seven subscales included in HSW-P. All seven of them are crucial for assessing wellbeing as they are based on the qualitative interviews covered in another indigenous study (article under process). An overview of some multi-faceted wellbeing scales solidifies it further: BBC Wellbeing Scale (Kinderman et al., 2011) has 3

subscales of psychological wellbeing, physical wellbeing and relations; PERMA Profiler (Butler & Kern, 2016) has 5 subscales of positive emotions, engagement, relationships, meaning and accomplishment; Body-Mind-Spirit Wellness Behavior and Characteristic Inventory (Hey et al., 2006) has three subscales of body, mind and spirit; Gallup-Healthways Wellbeing Index has 5 subscales of purpose (lately labeled as career), social, financial, community and physical (Gallup, 2014; Gurley, 2008); General Wellbeing Schedule developed by Dupuy in1977 has six subscales of anxiety, depression, general health, positive well-being, self-control and vitality (McDowell, 2006); Perceived Wellness Survey has six subscales of physical, spiritual, intellectual, psychological, social, and emotional (Adams et al., 1997).

Strong wellbeing is linked to lower depression as evident from divergent validity of HSW-P ($r= -.52$; $p<0.001$). High wellbeing implies that person is doing better in at least some of the seven domains. Strong relations, good physical and psychological health, higher vitality and greater satisfaction have their fair share in lowering depressive symptoms. Psychological health ($r= -.55$; $p<0.001$) obviously had the greatest role in lowering depression, anxiety and stress. Contrarily, poor finances are related to anxiety as seen from the correlation values ($r= -.13$) among them.

5. CONCLUSION

HSW-P is a bilingual, comprehensive yet precise scale for general wellbeing in young adults. It offers seven wide ranging subscales including purpose, psychological health, vitality and satisfaction, physical health, finances, relationships, religiosity and spirituality which can be used for further probing. Young adults of developing countries like Pakistan can benefit from this scale.

5.1 Limitations

EFA sample was gathered from different cities of Punjab province but rural youth and non-student youth was not a part of our sample. Practical limitations of time and resources were the major reason for including only university based youth.

5.2 Implications and Suggestions

This research offers a scientifically sound bilingual instrument for wellbeing assessment. Educational institutions, youth based organizations and counselors can use HSW-P to assess wellbeing of youth. Further research can be done to confirm its factor structure.

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REFERENCES

Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of Health Promotion*, *11*(3), 208–218. https://doi.org/10.4278/0890-1171-11.3.208

American Psychological Association. (2018, April 19). *APA Dictionary of Psychology*. https://dictionary.apa.org/

Butler, J., & Kern, M. L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, *6*(3), Article 3. https://doi.org/10.5502/ijw.v6i3.526

Choudhry, F. R., Al-Worafi, Y. M., Akram, B., Ahmed, M. A., Anwar ul Haq, M., Khan, T. M., Rehman, I. U., Barki, N., Munawar, K., Kamal, A., Kassab, Y. W., Bakrin, F. S., & Golden, K. J. (2018). Factor Structure of Urdu Version of the Flourishing Scale. *Frontiers in Psychology*, *9*. https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01513

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *PracticalAssessment,Research,and Evaluatio*, *10*(7), 1–9. https://doi.org/10.7275/JYJ1-4868

Diener, E. (1994). Assessing Subjective Well-Being: Progress and Opportunities. *Social Indicators Research*, *31*(2), 103–157.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New Well-being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings. *Social Indicators Research*, *97*(2), 143–156. https://doi.org/10.1007/s11205-009-9493-y

Exenberger, S., Banzer, R., Christy, J., Höfer, S., & Juen, B. (2019). Eastern and Western Children's Voices on their Well-Being. *Child Indicators Research*, *12*(3), 747–768. https://doi.org/10.1007/s12187-018-9541-8

Fabrigar, L. R., & Wegener, D. T. (2012). *Exploratory factor analysis* (pp. viii, 159). Oxford University Press.

Faran, M., & Malik, F. (2021). TRANSLATION AND LINGUISTIC VALIDATION OF PERMA PROFILER IN MUSIC ENGAGERS CONTEXT. *PalArch's Journal of Archaeology of Egypt / Egyptology*, *18*(3), Article 3.

Gallup. (2014, January 31). Updates to the Gallup-Healthways Well-Being Index in 2014. *Gallup.Com*. https://news.gallup.com/opinion/thrive/170396/updates-gallup-healthways-index-2014.aspx

Gurley, J. K. H. and V. F. (2008). Measuring Well-Being in the United States. *APS Observer*, *21*(8). https://www.psychologicalscience.org/observer/measuring-well-being-in-the-united-states

Hair, J., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.

Hey, W. T., Calderon, K. S., & Carroll, H. (2006). Use of Body-Mind-Spirit Dimensions for the Development of a Wellness Behavior and Characteristic Inventory for College Students. *Health Promotion Practice*, *7*(1), 125–133. https://doi.org/10.1177/1524839904268525

Jibeen, T., & Khalid, R. (2012). Cross Validation of Ryff's Scales of Psychological Well-being: Translation into Urdu Language. *The International Journal of Educational and Psychological Assessment*, *10*.

Kinderman, P., Schwannauer, M., Pontin, E., & Tai, S. (2011). The development and validation of a general measure of well-being: The BBC well-being scale. *Quality of Life Research*, *20*(7), 1035–1042. https://doi.org/10.1007/s11136-010-9841-z

Knight, A., & McNaught, A. (2011). *Understanding Wellbeing: An Introduction for Students and Practitioners of Health and Social Care*. Scion Publishing Ltd.

Lauinger, W. A. (2021). Defending a Hybrid of Objective List and Desire Theories of Well-Being. In M. T. Lee, L. D. Kubzansky, & T. J. VanderWeele (Eds.), *Measuring Well-Being: Interdisciplinary Perspectives from the Social Sciences and the Humanities* (p. 0). Oxford University Press. https://doi.org/10.1093/oso/9780197512531.003.0009

Linton, M.-J., Dieppe, P., & Medina-Lara, A. (2016). Review of 99 self-report measures for assessing well-being in adults: Exploring dimensions of well-being and developments over time. *BMJ Open*, *6*(7), e010641. https://doi.org/10.1136/bmjopen-2015-010641

Lovibond, S. H., & Lovibond, P. F. (1995). Manual for the Depression Anxiety Stress Scales. *Sydney: Psychology Foundation*, *2nd*.

McDowell, I. (2006). *Measuring Health: A Guide to Rating Scales and Questionnaires*. Oxford University Press.

Mike Crowson (Director). (2022a, June 11). *Determining number of factors during EFA using Maximum Likelihood factor analysis in SPSS* [Video]. https://www.youtube.com/watch?v=_E8bPU2zJps

Mike Crowson (Director). (2022b, June 11). *Parallel analysis for PCA and EFA in SPSS using O'Connor's syntax* [Video]. https://www.youtube.com/watch?v=AKE49mHkoKo

Mike Crowson (Director). (2023, May 9). *Determining number of factors in SPSS using Velicer's MAP Procedure* [Video]. https://www.youtube.com/watch?v=yHpL43gKZo8

Moghal, F. (2013). *CORRELATES OF SUBJECTIVE WELL-BEING MEASURED BY INDIGENOUSLY DEVELOPED AND VALIDATED icp SUBJECTIVE WELL-BEING SCALE (SWBS)* [Thesis, University of Karachi, Karachi.]. http://prr.hec.gov.pk/jspui/handle/123456789/13924

O'connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, & Computers*, *32*(3), 396–402. https://doi.org/10.3758/BF03200807

Osborne, J. W. (2015). What is Rotating in Exploratory Factor Analysis? *Practical Assessment, Research & Evaluation*, *20*(2), 1–7. https://doi.org/10.7275/hb2g-m060

Pakistan Bureau of Statistics. (2023). *Announcement of Results of 7th Population and Housing Census-2023 'The Digital Census.'* Pakistan Bureau of Statistics. https://www.pbs.gov.pk/content/announcement-results-7th-population-and-housing-census-2023-digital-census

Pituch, K. A., & Stevens, J. (2016). *Applied multivariate statistics for the social sciences: Analyses with SAS and IBM's SPSS* (6th edition). Routledge/Taylor & Francis Group.

Placa, V. L., McNaught, A., & Knight, A. (2013). Discourse on wellbeing in research and practice. *International Journal of Wellbeing*, *3*(1), Article 1. https://www.internationaljournalofwellbeing.org/index.php/ijow/article/view/177

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, *8*(1), 3–15. https://doi.org/10.1177/096228029900800102

Shahzad, S., Jones, H. E., Begum, N., & Zia, A. (2023). Urdu translation and psychometric properties of WHO-Five Wellbeing Index among male patients with substance use disorders in Pakistan. *Journal of Substance Use*, *28*(1), 34–38. https://doi.org/10.1080/14659891.2021.2006338

Simons, G., & Baldwin, D. S. (2021). A critical review of the definition of 'wellbeing' for doctors and their patients in a post Covid-19 era. *The International Journal of Social Psychiatry*, *67*(8), 984–991. https://doi.org/10.1177/00207640211032259

Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J., & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey. *Health and Quality of Life Outcomes*, *7*(1), 15. https://doi.org/10.1186/1477-7525-7-15

Su, R., Tay, L., & Diener, E. (2014). The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Applied Psychology. Health and Well-Being*, *6*(3), 251–279. https://doi.org/10.1111/aphw.12027

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, *5*(1), 63. https://doi.org/10.1186/1477-7525-5-63

The Society for Adolescent Health and Medicine. (2017). Young Adult Health and Well-Being: A Position Statement of the Society for Adolescent Health and Medicine. *Journal of Adolescent Health*, *60*(6), 758–759. https://doi.org/10.1016/j.jadohealth.2017.03.021

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy and Psychosomatics*, *84*(3), 167–176. https://doi.org/10.1159/000376585

VanderWeele, T. J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences*, *114*(31), 8148–8156. https://doi.org/10.1073/pnas.1702996114

Williams, B., Onsman, A., & Brown, T. (2010). Exploratory Factor Analysis: A Five-Step Guide for Novices. *Australasian Journal of Paramedicine*, *8*(3), 1–13. https://doi.org/10.33151/ajp.8.3.93

Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A.-R. (2015). Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication. *Journal of Caring Sciences*, *4*(2), 165–178. https://doi.org/10.15171/jcs.2015.017