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The Psychometric Properties of the Inventory of Character Strengths (ICS): An Indigenously Developed Measure in Urdu

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The purpose of this paper is to report the initial findings (item analysis & factorial structure) of a study intended to develop an indigenous measure, the Inventory of Character Strengths (ICS) in the Urdu language. A sample of 485 adults from different towns of Karachi, Pakistan, aged from 18-62 years (M=32.71; SD=8.80) were recruited and their responses on a 62 statements item pool were subjected to statistical analysis for item refinement, and then finally, 47 retained item scale was factor analyzed, using Varimax rotation. Items demonstrated good indices of internal consistency (r=.91, p<0.01) and item-total correlations were also within satisfactory range r=.30- r=.54 (p<0.01). Exploratory Factor Analysis resulted in a five-factor solution described as Temperance and humility, Self-regulation, Social facilitation and positivism, Honesty and perseverance, and Inquisitiveness and collaboration. The analysis established culture relevant domains of Character Strengths specific to Pakistani culture.

Keywords: Character strengths, Inventory of Character Strengths (ICS), psychometric properties, item analysis, exploratory factor analysis

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Positive psychology centers on those progressions and processes that empower individuals to thrive and function optimally (Gable & Haidt, 2005). It incorporates three essential phenomena: positive subjective encounters, individual positive attributes, and positive associations (Peterson, 2006). It was Peterson and Seligman (2004) who invigorated psychology's interest to investigate character strengths and virtues. They contributed with a characterization of six progressively higher order global virtues and 24 particular character strengths.

These strengths are understood as the necessary psychological ingredients of the virtues, i.e., the discernible ways in which one or other virtues are displayed. For example, through the practice of strengths of appreciation of beauty, hope, gratitude or religiousness/spirituality, the virtue of transcendence can be achieved. Many instruments have been devised by Peterson & Seligman (2004) for the evaluation of character strengths, such as the Values in Action Structured Interview (VIA-SI), the Values in Action Rising to the Occasion Inventory (VIA-RTO), and the Values in Action Inventory of Strengths, and also the Values in Action Inventory of Strengths for Youth (VIA-Youth; Park & Peterson 2006a).

Along with the conventional and most commonly used way of assessment (through self–report inventory), content-based situational approach has also been designed by Park and Peterson (2006b). Some of these instruments measure situational display of strengths which tend to vary according to the rise of occasion whereas other tools focus on the display of specific strengths. However, the most widely used is one of the pioneer measures of character strengths, Values in Action Inventory, which is a 240 item self-report questionnaire. At present, the Values in Action Inventory is the standard way of measuring character strengths.

The diversified and intrinsic nature of character strengths opened an arena to the exploration of these strengths in association within innumerous psychological constructs related and vital to human optimal functioning. These strengths have found to be

positively related to psychological well-being and other positive outcomes (e.g., Buschor, Proyer, & Ruch 2013; Güsewell & Ruch, 2012; Leontopoulou & Triliva, 2012; Park, Peterson, & Seligman, 2004; Peterson, Park, & Seligman, 2005; Peterson, Ruch, Beermann, Park, & Seligman, 2007; Ruch et al., 2010).

Character strengths play a significant role in recovery from illness (Peterson, Park, & Seligman, 2006), health behaviors (Proyer, Gander, Wellenzohn, & Ruch, 2013), physical and mental health (Leontopoulou & Triliva, 2012), posttraumatic growth (Peterson, Park, Pole, D'Andrea, & Seligman 2008), constructive practices at work (Harzer & Ruch, 2012; 2013), and academic achievement (Peterson & Park, 2009; Weber & Ruch, 2012). Display and usage of character strengths have been identified to play a major role in increasing one's life satisfaction which was accompanied by exercising a specific strength (self-regulation). Studies that focused on interventions to incorporate the use of strengths of character strengths have demonstrated a notable decrease in depressive symptoms for up to half a year (Gander, Proyer, Ruch & Wyss, 2013; Seligman, Steen, Park, & Peterson, 2005).

However, the underlying structure of character strengths as proposed in VIA Inventory of Character Strengths seems to vary in different studies. Some researchers have identified five-factor models (Azañedo, Fernández-Abascal, & Barraca, 2014; Peterson & Park, 2004; Ruch et, al. 2010; Singh & Chousiba, 2010), some have demonstrated four-factor models (Brdar & Kashdan, 2010., Macdonald, Bore, & Munro, 2008), some reported three-factor models (Khumalo, Wissing, & Temane, 2008; Shryack, Steger, Krueger, & Kallie, 2010), and yet a few have uncovered two-factor models (Park & Peterson, 2010) in different countries and cultures. These varying findings hint at the likelihood of differences in latent structure across cultures.

Kristjánsson (2010) reasoned that the distinction between the character strengths involved in the VIA classification is

inadequately understandable due to the presence of the cultural and social norm dissimilarities. Many scholars were conscious of the cultural and social norm issue of character strength assessment (Ho, et al,. 2014; McGrath, 2015). It is advisable to understand character strengths within the cultural and social context. The use of a combined approach ensures that humans' cognitions and behaviors are culturally dependent and its exact opposite that models developed in one part of the world are generalizable to the other. (Cheung, van-de-Vijver, & Leong, 2011; Leong, Leung, & Cheung, 2010). This is known as the emic-etic approach which was adopted by Duan, Ho, Bai, and Tang (2013) and was discovered as a three-factor structure (i.e., interpersonal, vitality, and cautiousness). Yet another study uncovered how the information split into various dimensions to break down the factors from unrotated principal component (i.e. an overall strength factor) and established that the most suitable solution was the three-factor model (Shryack et, al. 2010).

The diversity of these contrasting previous finding encouraged the investigation of this matter within Pakistani culture which was conducted on a sample comprising of adults from different towns of Karachi. To the best of our knowledge, no previous attempt has been made to develop a culture-specific measure for character strengths for the Pakistani Muslim population in the Urdu language. It is proposed that a careful assessment is carried out to effectively estimate and identify the strengths that individuals possess in this society. This would lead to a better understanding of the phenomenon and pave the way to designing interventions that facilitate the use of these strengths which in turn will benefit individuals with the enhanced meaning of life and an overall improved psychological health. In the light of above mentioned literature, the current research aims to (a) develop items for an Inventory of Character Strengths (ICS), (b) assess the performance of individual items in full and subscales of the ICS, and (c) uncover the underlying factorial composition of character strengths for the ICS and subscales.

Method

Item development for the ICS and determination of factor structure was accomplished in the following stages.

Stage I: Item development process

The initial pools of item were accumulated by an extensive literature review and conversing about the character strengths from a large number of people from different walks of life. Various measures of character strengths were also reviewed to get enhanced understanding.

The broader and specific areas of the construct were identified and large numbers of items were written through inductive and deductive reasoning. It was made sure that the VIA-IS (Peterson & Seligman, 2004) was thoroughly reviewed for an in depth understanding of broader domains of strengths. The literature review, discussions from people and conversations with subject experts aided to formulate a list of statements developed to gauge morally driven strengths that individuals exhibit in their daily lives. A large numbers of tentative statements were written in the Urdu language.

Items were then given to subject matter experts (Professors of Psychology n=2, Language Experts n=2 & Psychologist n=1) and research supervisor. They reviewed the language, clarity and face validity, and content specificity of all statements. Some of the items were rephrased and modified according to the experts' opinions. A large number of statements were reduced into 67 items and their responses were decided to be scored on five-point Likert scale (1= never, 2 = rarely, 3= sometimes, 4= most of the time, 5 = always). Eight items were negatively worded and their scoring was reversed. A high score on the scale represented high character strengths and a low score meant low demonstration of character strengths.

Stage II: Pilot examination of the items

The aim of the pilot study was to determine the content validity and cultural appropriateness, and to assess the level of comprehensibility of items for the target population. It was attempted to eliminate vague, repetitive and overlapping items. The participants of the current stage comprised of 60 individuals who were recruited through convenient sampling (Male n=27; Female n=33). Their ages ranged from 18-44 years and they were representative of the target population who belonged to different socioeconomic strata. These participants were asked to identify the ambiguous and vague items from the list. They were also asked to point out incomprehensible words and after explaining them the meaning; they were requested to provide better alternatives for the identified difficult words.

Stage III: Determination of content and face validity of items/ formulation of the final list of items

Every suggestion or objection obtained after the pilot study was taken into account. The suggestions given by participants for items were discussed and reviewed by the researcher and subject experts in the field of psychology and suitable changes were incorporated. Vague terminologies were replaced and a few items were rephrased. After thorough evaluation, out of the 67 items, five items were unanimously agreed upon to be eliminated and the final list of 62 items of the ICS was obtained.

Stage IV: Administration of item pool and item analysis

The 62 items were administered on a sample of 485 individuals. Inter-item correlations were calculated and on the basis of item-total correlations, as suggested by Nunnaly and Bernstein (1994), some items were deleted as Table 4 shows that15 items had less than r=0.3 item-total correlations. Finally, 47 items that had correlations higher than r=.3 were subjected to exploratory factor analysis.

Stage V: Exploratory factor analysis of item pool (Main study)

In order to find out the underlying components of the culture specific measure of character strengths, exploratory factor analysis was chosen as a method of factor reduction. An important consideration to be noted in the factor analysis of the statements of ICS was an appropriate sample size. Scholars suggested that for factorial scrutiny 100 cases are unsuitable, 300 cases are seen as favorable approach while 1,000 are suggested as an excellent approach for factorial study (Comery & Lee, 1992). Hence, a sample of 485 cases was submitted for factorial scrutiny in this study.

Participants

The participants of main study included 485 individuals who were recruited from Karachi using convenient sampling strategy. Their age ranged from 18-62 years (M=32.71; SD=8.80). The reason behind having such a wide age range lies in the exploratory nature of study. Participants were representative of different socioeconomic status i.e., lower, middle, and upper socio-economic status. They were from different educational and occupational levels. They all were recruited through convenient sampling technique from different towns of Karachi city. Participation in this study was completely voluntary.

Measures

Following measures were used in the current study:

Consent Form. The consent form described the purpose of the study briefly. It also described that the participation was on a voluntary basis and all the information would be solely utilized for research purpose. It was also mentioned that participants have the right to leave the study at any point.

Inventory of Character Strengths (ICS). The final list of 47 items was presented on a sheet of paper and contained items

measuring the extent to which individuals exhibit strengths of character. Responses for the items were recorded on five-point Likert scale (1= never, 2 = rarely, 3= sometimes, 4= most of the time, 5 = always). All items were presented in the Urdu language.

Procedure

The final list of items was administered on 485 individuals. The age range for these was slightly higher than that of pilot study because the present study is one of the pioneers in exploring the phenomenon of character strengths and it was ensured that the sample was representative of Pakistani population which includes all ages. They were recruited from different public places, universities, colleges, banks, offices, referrals from friends, relatives and researchers personal contacts. Official consent was sought from concerned authorities and consent was also taken from the individuals for data collection. All participants were explained about the purpose of study and the scale was handed over in the form of booklet. Their responses were then scored and subjected to item analysis and exploratory factor analysis using SPSS version 22.

Results

After data completion, responses were subjected for statistical analysis that included item-total correlation, internal consistency and Pearson coefficients (*r*), and principal component analysis.

Table 1

Item-total Correlation of 62 items of Inventory of Character Strengths (N=485)

Item No.	*r*	Item No.	*r*	Item No.	*r*	Item No.	*r*
01	.20	17	.45**	33	.32*	49	.54**
02	.22	18	.34*	34(R)	.16	50	.38*
03	.35*	19	.44**	35	.33*	51	.43**
04	.33*	20	.35*	36	.40**	52	.18
05	.40**	21	.44**	37	.39*	53	-.42
06	.36*	22(R)	.17	38		54	.12

					.45**		
07	.33*	23	.19	39		55(R)	.31*
					.46**		
08(R)	.17	24(R)	.01	40	.39*	56	.38*
09	.18	25	.37*	41	.20	57	.51**
10	.36*	26	.48**	42	.38*	58	.49**
11	.40**	27(R)	.06	43		59	.48**
					.46**		
12	.49**	28	.39*	44	.31*	60	.47**
13	.39*	29	.19	45	.39*	61	.41**
14	.49**	30	.37*	46	.39*	62	.33*
15	.53**	31	.34*	47			
					.49**		
16	.30*	32(R)	.31*	48	.24		

Note. *p<0.05, **p<0.01

Item total correlation was computed through Pearson Product Moment Correlation in Phase IV of the study which showed that out of the total 62 items, 47 items significantly met criteria of 0.3. Hence, 15 items (item 1, 2, 8, 9, 22, 23, 24, 27, 29, 34, 41, 47, 52, 53, 54) were excluded from the final list and therefore 47 items were retained. The correlation coefficients for the 47 items lies in the range of r=.30 - r=.54.

Table 2

Item-Total Correlation of 47 items Inventory of Character Strengths (N=485)

Item No.	*r*	Item No.	*r*	Item No.	*r*	Item No.	*r*
1	.35*	13	.45**	25	.33*	37	.54**
2	.33*	14	.34*	26	.40**	38	.38*
3	.40**	15	.44**	27	.39*	39	.43**
4	.36*	16	.35*	28	.45**	40(R)	.31*
5	.33*	17	.44**	29	.46**	41	.38*
6	.36*	18	.37*	30	.39*	42	.51**
7	.40**	19	.48**	31	.38*	43	.49**
8	.49**	20	.39*	32	.46**	44	.48**
9	.39*	21	.37*	33	.31*	45	.47**
10	.49**	22	.34*	34	.39*	46	.41**
11	.53**	23	.31*	35	.39*	47	.33**
12	.30*	24(R)	.32*	36	.48**		

Note. *p<0.05, **p<0.01

Table 2 shows that all 47 items of the ICS are positively correlated with total scores. The 47 items lie in the acceptable range (r= 0.31- r= 0.54). The acceptability for the retention of items was proposed by Nunnaly & Bernstein (1994). These are the items retained for the final ICS.

Table 3

Alpha Reliability Coefficient of Inventory of Character Strengths (ICS; N=485)

Number Of Item	Cohrnbach Alpha Coefficient
47	.91

In order to estimate the overall homogeneity of items for the present construct, the alpha reliability of the 47 items of ICS was computed. Table 3 shows a high level of Cohrnbach Alpha Reliability for 47 items of ICS.

Table 4

Kaiser-Meyer-Olkin (KMO)Measure of Sampling Adequacy and Bartlett Test of Sphericity for Inventory of Character Strengths (ICS) (N = 485)

KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity Apx. Chi-Square	*df*	*p*
0.88	6501.97	1081	.00

The remaining items, after deletion of items due to the results of internal consistency, were subjected to exploratory factor analysis. The factorial validity of Inventory of Character Strengths was analyzed so that the structure of the items could be assured and final items for the scale could be retained. Table 4 specifies the value for KMO test for sampling adequacy which is .88. This value is within good range and far above the minimum criteria. Bartlett test for Sphericity is also found to be significant; it tests the overall significance of all the correlations within the correlation matrix. Hence, it was appropriate to use the factor analytic model on this set of data.

Table 5

Exploratory Factor Analysis and Variance distribution for Components of Inventory of Character Strengths (ICS; N=485)

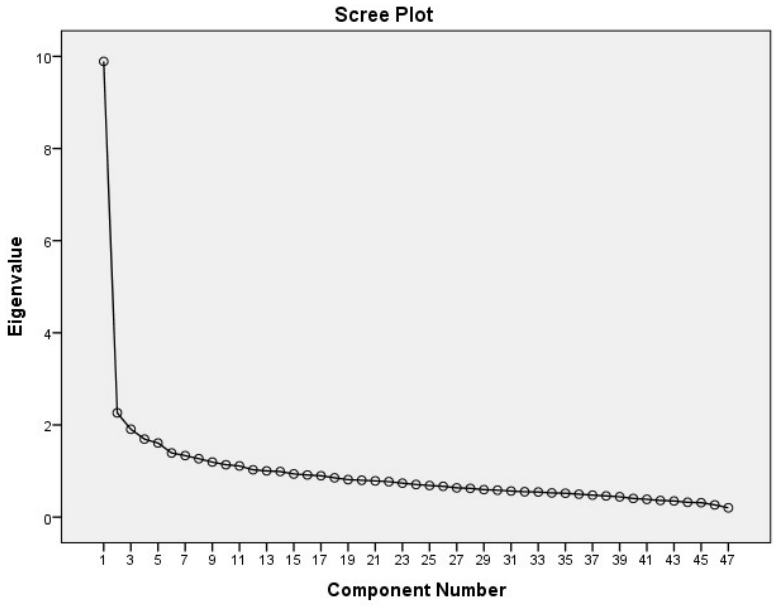
Factors	Eigen Value	Percentage of Variance	Cumulative Percentage
1	9.89	21.04	21.04
2	2.26	4.81	25.85
3	1.90	4.05	29.91
4	1.69	3.60	33.51
5	1.60	3.42	36.93
6	1.39	2.96	39.89
7	1.33	2.83	42.73
8	1.26	2.69	45.43
9	1.19	2.53	47.97
10	1.13	2.41	50.39
11	1.11	2.36	52.75
12	1.02	2.18	54.93
13	1.00	2.13	57.07

Data of 485 participants were subjected to exploratory factor analysis and Varimax rotation method was used. Initial analysis revealed the factor solution that converged in 25 iterations. A principal component analysis (PC) yielded a 13-factor solution with Eigen values > 1.0 by following the criterion of Kaiser (1960). For exploratory factor analysis, there are different approaches concerning the retention of the number of components. Kaiser (1960) suggested retaining all those components which showed Eigen values higher than 1. In the present case, there are 18 components that showed Eigen values greater than 1 but adopting this approach cause trivial retention of a larger number of factors. Hence, Table 5 represents the initial factor analysis which produced factor solution of 13 components with Eigen values greater than 1.

Another approach regarding the retention of number of factors is the Scree plot method proposed by Cattel (1966). It is graphical representation in which X –axis shows number of components and Y –axis shows Eigen values. A sharp break point or *elbow* between two values provides an idea about the retention

of the number of factors. For the Scree plots, Hair et al,. (2006) guided that *"Starting with the first factor, the plot slopes steeply downward initially and then slowly becomes an approximately horizontal line. The point at which the curve first begins to straighten out is considered to indicate the maximum number of factors to extract"* (p.120). Figure 1 shows the Scree plot for present data.

Figure 1**.** *The Scree test for Eigen values and Factors for ICS.*



The above mentioned figure shows the graphical representation, in which X–axis shows the number of components and Y –axis shows Eigen values. A sharp break point between two values provides an idea about the retention of the number of factors. It is shown that there is a notable decreasing line after five components. Therefore, items of Inventory of Character Strengths were then rotated for five factors using Varimax rotation.

Table 6

Exploratory Factor Analysis and Variance distribution for Rotated Five Factors of the ICS (N=485)

Factors	Eigen Value	Percentage of Variance	Cumulative Percentage
1	9.89	21.04	21.04
2	2.26	4.81	25.85
3	1.90	4.05	29.91
4	1.69	3.60	33.51
5	1.60	3.42	36.93

Table 6 illustrates the five components of Inventory of Character Strengths ICS and their respective Eigen values, Percentage of Variance and Cumulative Percentages, which supports five-factor model for ICS. The resulting 47 items of Inventory of Character Strengths (ICS) were rotated for five factors for further clear descriptions.

Table 7

Factor Matrix for 47 Items Designated in Respective Factors of the ICS, Obtained Through Varimax Rotation (N=485)

Items	Factors				
	I	II	III	IV	V
Item1					.456
Item2					.685
Item3					.699
Item4		.476			
Item5					.313
Item6					.531
Item7				.510	
Item8				.553	
Item9				.558	
Item10				.752	
Item11				.708	
Item12	.300				
Item13			.676		
Item14			.372		

Item15			.678		
Item16			.636		
Item 17			.438		
Item18		.374			
Item19			.517		
Item20		.339			
Item21					.391
Item22	.329				
Item23	.546				
Item24		.448			
Item25		.499			
Item26		.538			
Item27		.669			
Item28		.652			
Item29			.393		
Item30			.342		
Item31			.455		
Item32			.340		
Item33			.470		
Item34					.323
Item 35	.394				
Item37	.477				
Item38	.488				
Item39	.442				
Item40	.506				
Item41					.467
Item42		.605			
Item43	.504				
Item44		.340			
Item45	.508				
Item46	.439				
Item 47	.473				

Table 7 illustrates 47 items of ICS that emerged under rotated five factors along with their respective loadings. After looking at the values and Scree plot, items were finally grouped among five factors. Some items provided loading greater than .3 on more than one factor. Their conceptual relevance was made the criteria for grouping them with one factor over another. Table 8 demonstrates their loadings on designated factor.

Table 8

Chornbach Alpha Reliabilities, Items, and Percentage of Variance Accounted for by Factors (N=485)

Factors	Factor Label	Items	% of Variance	α
I	Temperance and Humility	12, 22, 23R, 35, 36, 37, 38, 39, 40R, 43, 45, 46, 47	21.04%	.77
II	Self-Regulation	4, 18, 20, 24, 25, 26, 27, 28, 42, 44	4.81%	.77
III	Social Facilitation and Positivism	13, 14, 15, 16, 17, 19, 20, 30, 31, 32, 33	4.05%	.79
IV	Honesty and Perseverance	7, 8, 9, 10, 11	3.60%	.77
V	Inquisitiveness and Collaboration	1, 2, 3, 5, 6, 21, 34, 41	3.42%	.68

The above mentioned table shows the final factor structure of Inventory of Character Strengths (ICS) with the labels of the factors and respective items with their percentage of variance accounted for by each factor. The scores on the five sub scales of the ICS were analyzed for the cohesiveness of the domains for the present construct. The Chornbach alpha reliabilities for the five subscales lie in the range of α=.68-.79. This indicates that each component successfully taps their respective area of character strengths. The correlation matrix for five components is shown in table 9 which illustrates that each subscale represents the separate and yet meaningful domains of character strengths.

Table 9

Inter-subscale Correlations of Inventory of Character Strengths (ICS; N=485)

Scales	ICS	T&H	SR	SF&P	H&P	I&C
ICS	-	.83**	.78**	.79**	.71**	.70**
T&H		-	.56**	.54**	.50**.	.45**
SR			-	.47**	.52**	.43**
SF&P				-	.49**	.51**
H&P					-	.41**
I&C						-

Note. **p <.01. ICS= Inventory of Character Strengths; T&H = Temperance and Humility; SR = Self-Regulation; SF&P= Social Facilitation and Positivism; H&P = Honesty and Perseverance; I&C = Inquisitiveness and Collaboration.

The above mentioned table shows that all components are positively associated with each other. The matrix reveals that coefficients lie in the moderate to strong range of correlations.

Discussion

The present endeavor of the study is to report item related properties and underlying factorial composition of an indigenously developed Inventory of Character Strengths (ICS). These items were developed in the national language of Pakistan i.e. Urdu. The primary aim was to a construct a culturally valid instrument that gauges the extent to which people demonstrate character strengths in their daily lives. This study attempts to provide psychometric foundations of ICS.

The results of item analysis were attained after the final administration of 62 item pool on 485 participants. A look at item-total correlation in Table 1 discloses that most of the items yielded significant associations with the total score, except for 15 items from the initial item pool that failed to provide item-total correlation higher than 0.3, a criteria proposed by Nunnaly, (1978). It is advisable that items that have correlations lower than 0.3 are discarded from the final measure. As evident in Table 2, all items that were retained in the inventory for undergoing exploratory factor analysis had inter-item correlations ranging from .30 to .54. Moreover, as a measure of internal consistency, Cronbach alpha was computed and came out to be .91 for the final 47 items of ICS. This is signifying the fact that despite not being truly one-dimensional construct, the newly developed inventory contains uniformity among all items and hence is a reliable tool for the estimation of character strengths. It further implies that character strengths are adequately represented by these items.

Exploratory Factor Analysis was selected as a method of dimension reduction. Principal Component Analysis was used with Varimax rotation. The initial unrotated factor solution produced 13

factors (Eigen values of all were greater than 1) with cumulatively accounting for 57% of the variance in the data. Since 13 is a large number of factors to retain and the literature showed a number of factors for different cultures was never too high, a Scree Plot was considered as guiding tool to help reduce the number of factors for retention (Cattel, 1966; Hair et al., 2006). On inspection, they were found to be five factors (as shown in Figure 1). Items were rotated on a fixed 5-factor solution which was converged in 8 iterations.

Taking a close look at factor loadings in Table 6, it was noted that few items loaded greater than .3, on more than one factor. These items were 11, 14, 21, 30, 34, 36, 39, 43 and 44. Item 11, 36, 39, 43 were grouped with the factors they evidently correlated higher with. However, the remaining items were checked for conceptual relevance along with thematic adherence and placed in the category they fit best. One example is item 34 that loaded closely on three factors 1, 3 and 5 with slightly higher correlation with factor 3. Nevertheless, it was finally made a part of factor 5 because it was about how individuals prefer spreading happiness and hence it related more with the concept of social collaboration.

The resulting five factors were named as Temperance and Humility, Self-Regulation, Social Facilitation and Positivism, Honesty and Perseverance, and Inquisitiveness and Collaboration. The identified sub-domains of the ICS theoretically amalgamated specific items that were internally related. This was verified when subscales inter correlations and alpha reliabilities were found to be significant (see table 8 & 9). The subscale which correlated with the ICS most significantly was found to be Temperance and Humility (r=.81, p<0.01). This subscale is also factor 1, which accounted for the most variance in the overall display of strength of character in our population i.e. 21.04%. This factor is conceptually defined as monitoring ones' emotions, behavior and thoughts, primarily on their own and also exhibiting a sense of selflessness and unworthiness while interacting socially. This implies that in Pakistani culture, the most weight is given to being

humble and down to earth and exhibiting moderation and restraint in action, thought or feeling. Individuals who possess and exercise this more often are appreciated and considered as having high character. This coincides with the teachings of Islam, where it is frequently recommended as the best way of dealing with people. Allah praises His beloved Prophet (SAW) on the display of humility as follows (Prophet SAW is an example of how Muslims should lead their lives). Allah the Exalted,*"And by the Mercy of Allah, you dealt with them gently. And had you been severe and harsh-hearted, they would have broken away from about you"*(Quran, 3:159).

The concept of moderation in Islam is equally important if not more. It suggests voluntary self-restraint in various domains of life, and Allah has said it in many times in the holy book (Quran 1:143; 1:172; 17:29; 7:54). Since it is a predominantly Muslim culture, and all of our participants were chosen to be Muslims, this contributed the most to the overall display of character strengths. An idiom in Urdu goes *pehley socho, tolo, phir bolo* which means that a person should think and weigh the words before uttering them. Such a simple behavior (speaking) necessitates individuals to be cautious. All items in this subscale primarily measure how frequently or infrequently one displays temperance and humility and these items are 12, 22, 23, 35, 36, 37, 38, 39, 40, 43, 45, 46 and 47.

The second factor had 10 items and it was named Self-Regulation which is conceptually defined here as an ongoing deed of conscious scrutiny on ones actions, whether it is directed to self or others. This factor accounted for 4.81% variance. The items that grouped together in this factor talk about exercising self-control in different domains of life. These items are 4, 18, 20, 24, 25, 26, 27, 28, 42 and 44. Item number 27 has the highest loading among other items and it aptly explains the naming of this factor as it discusses how one is able to have control on displaying emotions.

The third factor accounted for 4.05% variance and was named Social Facilitation and Positivism. It included items that are

associated with displaying one's strength and how it expedites other individuals to look at the positive aspects of life and spend life with zest. Item 15 loaded most on this factor. Social Facilitation and Positivism could be defined as being able to practice positivity, altruism and assisting others to become better humans in general. This is in line with Triplett's (1898) idea of social facilitation that presence of others increases performance as compared to solitude in a way that individual endeavours to become an example of good to others. Items included in this factor are 13, 14, 15, 16, 17, 19, 29, 30, 31, 32 and 33.

The fourth factor emerged with items 7, 8, 9, 10 and 11 and it accounted for 3.60% of the overall variance. It was named Honesty and Perseverance, defined as the capability of sticking to what is right even in the face of hardships. This is deemed culturally very important that individuals display honesty diligently and such that they are considered to be exhibiting the strength of character. The item that had the highest loading in this factor was item 10 which is concerned about honesty and perseverance, hence the name of the factor.

The fifth factor appeared with 8 items that accounted for 3.42% variance in the data. Items categorized in this factor are 1, 2, 3, 5, 6, 21, 34 and 41 and this factor is named Inquisitiveness and Collaboration. It can be described as displaying a desire for knowledge, logical reasoning, and working in collaboration. Item 3 loaded the most on this factor which entails the importance of attaining new knowledge.

The outcome of item analysis and exploratory factor analysis pertinently explain the psychometric properties of the inventory. It is implied that this inventory is internally stable, multidimensional in nature and embodies five culture-specific components for the Muslim population in Pakistan.

Limitations and Future Recommendations

This study aimed at providing item analysis and factorial structure of the ICS. Further psychometric verifications for reliability and validity of the instrument could be undertaken with different sub domains of the population (people with psychological & physical illnesses), different occupations and religious beliefs in order to deepen cultural information about character strengths. A larger sample may also be included in the study of character strengths from other cities. Different age groups can be compared in order to uncover if strengths are stable in the Pakistani Muslim population. This will upgrade our confidence over present results and enhance wide range use of the scale.

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