

The Development and Validation of Self-Concept Scale For Pakistani University Students

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ABSTRACT

Cultural aspects are dominant in almost all areas of research and require special attention while conducting a study. The same goes for under-focused self-concept which varies from individualistic to collectivistic cultures. In the present research, an indigenous scale was developed to explore the self-concept of university students in Pakistani culture. In the first phase, 60 university students were interviewed separately and generated the item pool of 46 statements. Then repeated and ambiguous items were excluded, and a list of 40 items was used for piloting on 30 university students as a self-report measure of a 5-point rating scale (Self-Concept Scale). Finally, a convenient sample of 300 university students (154 boys and 146 girls) was given the final list of 40 items, Self-Concept Scale for Adolescents, and a demographic sheet. The Statistical Package for Social Sciences (SPSS) was used to investigate the collected data. The Exploratory Factor Analysis (EFA) produced a two-factor solution: positive and negative self-concept. Lastly, 38 items were finalized for the self-concept scale, the first factor was based on 22 items and the second factor consisted of 16 items. The SCS was found to have high internal consistency, concurrent validity, and split-half reliability. This scale can be used in further research, assessment, and counseling services for the students.



Introduction

In the current century, there are many changes that have occurred in the world due to advancements in science and technology and now people can attach and communicate with each other at long distances through the internet, cell phones and television transmissions, etc. This advancement also brings change in people's attitudes towards others and self (Jones, 2015). Self-concept is a person's belief in self that is based upon perception of one's own attributes. A person's self-concept is an organized, composite, and dynamic system of learned attitudes, beliefs, and ideas about his or her unique and private life (Yahaya, 2009). The self-concept is one's mental image of self and it is a collection of all self-perceptions as beliefs about one's nature, typical behaviors, and exclusive qualities. For example; self-concept might include such beliefs i.e. 'I am a bad person or 'I am beautiful' (Weiten, Dunn, & Hammer, 2011). Both humanistic psychologists Carl Rogers and Abraham Maslow had been the first two who created the idea of self-concept. The self-concept is composed of three components: self-worth, self-picture, and the ideal self (McLeod, 2007). Self-worth reflects what individuals think about themselves. According to Rogers, feelings of self-worth develop during early childhood through interactions with caregivers and others. Recent research emphasizes the influence of social and cultural factors on self-worth, particularly how modern social media dynamics can enhance or diminish self-esteem depending on the context and feedback received (Saiphoo et al., 2020). Self-image, or how individuals see themselves, plays a crucial role in psychological well-being. It includes body image and internalized perceptions of appearance and abilities. Research in 2023 highlights the growing concern over body dysmorphia and its ties to distorted self-images fostered by societal standards and pervasive social media exposure (Fardouly & Holland, 2018). Furthermore, academic self-concept studies reveal that stereotypes significantly shape students' perceptions of their abilities, influencing performance and aspirations (Postigo et al., 2022). The ideal self represents an individual's aspirations and goals. Rogers proposed that psychological distress often arises from discrepancies between real self and ideal self. Current findings underscore the importance of aligning personal goals with realistic self-assessments to enhance life satisfaction and reduce anxiety. Additionally, self-compassion practices have been shown to help reconcile such discrepancies, promoting mental health and resilience (Neff, 2023).

Recent research provides additional insights into self-concept clarity, emphasizing its implications for personal well-being and sociocultural dynamics. Studies show that individuals with higher self-concept clarity exhibit better psychological resilience and reduced susceptibility to anxiety, often due to their ability to navigate challenges with less rumination and greater adaptability (Liang et al., 2022). Moreover, self-compassion has been recognized as a significant factor promoting self-concept clarity, especially in coping with negative experiences, enabling individuals to make constructive changes and maintain mental stability (Allen & Leary, 2010; Neff, 2011; Neff, 2023). Additionally, individuals who had higher self-concept clarity appeared to be more active cooperative problem-solvers than those who had low self-concept. This supportive behavior was also mediated by reduced rumination and moderated by conflict intensity (Bechtoldt et al., 2010; Kosir et al., 2016). Moreover, higher self-concept of individuals has more accepting of their physical appearance (Jones, 2015). Self-concept is one of the components of the human persona that affects various aspects of the individual's life as well as characteristics. Also, it usually affects the behaviors of the individual and plays a vital role in shaping different behaviors (Campbell & Lavalley, 1993). However, there are noticeable differences in the cultures of different countries, especially in individualistic and collectivistic cultures (Bochner, 1994). Cultural factors continue to play a crucial role in shaping self-concept. Comparative studies demonstrate stark differences in self-concept clarity across individualistic

and collectivistic societies. People in individualistic cultures, emphasizing personal achievement and autonomy, tend to report higher self-concept clarity, whereas those in collectivistic cultures derive clarity from relational and communal roles (Parkes et al, 1999; Choi, 2024).

These cultural frameworks influence not only the clarity of self-concept but also its expression in social and behavioral contexts. Instruments for measuring self-concept, initially developed in Western contexts, remain widely used globally. Recent reviews, however, emphasize the need for culturally adaptive tools to accurately capture self-concept dynamics across diverse populations (Lodi-Smith & Roberts, 2023). These developments underscore the importance of tailoring self-concept research and interventions to reflect cultural nuances and modern societal challenges. Multiple self-concept measures were developed in different countries across the globe to tap this construct according to their cultures. Hence, many western scales are available such as Robson's Self Concept Questionnaire (Robson, 1989), which consisted of 30 items and is based on 8 points Likert scale (0-7) and this scale explains the feelings of individuals who feel most of the time. Another scale was, the Self-Concept Scale of Tennessee (Fitts & Warren, 1996), it contains a self-descriptive of 100 items and measures the three internal aspects of self-satisfaction, identity and behavior, and five external aspects of self-concept as personal, physical, moral-ethical, social and family. Some other scales present such as the Adult Six-Factor Self-Concept Scale (Stake, 1994), the Piers-Harris Children's Self-Concept Scale (Piers, 2002), and the Multidimensional Self-Concept Scale (Bracken, 1992), but all of these scales were developed in western countries and based on these cultures.

Western culture is entirely different from sub-continental and Pakistani culture because western centuries have more advancement in technology, education, and other facilities which are based on individualistic culture. Coming over to unique and fluctuating culture with combination of both individualistic and collectivistic approach, Pakistani culture has lacked these facilities and has greater differences which certainly impact one's self concept and other opinions towards self and others. So, we need to develop a new self-concept scale which bases on the Pakistani cultural context and measure the self-satisfaction, identity, social, emotional, behavioral, familial, and spiritual aspects of individuals.

Methods

Following is the procedure through which the Self-Concept Scale (SCS) was developed and these phases are given below:

Phase I: Items Generation

The initial phase was based on exploring the phenomenology for creating the item pool. For this aim, individual interviews were conducted with 60 university students (30 male and 30 female) aged between 18 and 35 years. After that items pool was generated from the verbatim of the interviewees and a league table of 46 statements was constructed.

Phase II: Expert Validation

In the second phase, individualized opinions were collected from experts in the field. Experts in the field with an experience of 3 or more then 3 years were selected for validation of collected statements. Experts rated these statements relate-ability with the phenomenon being studied and marked statements from 0-4 on the Likert scale. Then highly rated statements were selected for

the scale and excluded the low rated statements. In the end of this phase 40 items were retained for the next psychometric phase.

Phase III: Pilot Study

The third phase was based to evaluate the statements that were finalized through expert validation. This phase tests the scales and collects evidence of the validity and user-friendliness of the scale. For this purpose, 30 university students were selected as a representative sample for the pilot study of this measure. They were also informed about the purpose of administration of scale as well as removed the ambiguity of comprehension in statements (such as same or double meaning words and difficult words) then finalized for further administrations.

Phase IV: Main Study

The main study was designed to establish the psychometric properties of Self-Concept Scale (SCS).

Participants

Using the convenient sampling technique, a sample of 300 university students (154 boys and 146 girls) was selected from public and private universities in Punjab, Pakistan.

Measures

Demographic Sheet. The demographics sheet was used to obtain basic information about the study members, such as age, gender, and family system.

Self-Concept Scale (SCS). A new indigenous self-concept scale was used for measuring the self-concept among university students. The measure consisted of forty items and was based on two factors: negative and positive self-concept. The positive characteristics of each person's self-concept were described by the 22 elements that comprised the Positive Self-concept. The negative characteristics of the people's self-concept were described by the 18 elements that comprised the negative self-concept. Response options were on five-point Likert scales: 0 denoted "not at all," 1 "rarely," 2 "to some extent," 3 "mostly," and 4 "always."

Self-Concept Scale for Adolescents (SCSA). Parveen (2011) developed the SCSA and it was consist of 40 items and responses were based on 4 point Likert scale. The concurrent validity of indigenous SCS was established in the current investigation using this scale.

Procedure

After getting approval from the relevant authorities, the sample was chosen as stated earlier. In accordance with the study's ethical requirements, proper data collection was initiated, and prior to the scales being administered, verbal consent was obtained from the participants. This was done because the data was collected from students in comfortable settings, taking into account their willingness to participate, and there were no incentives provided. The Self-concept scale for adolescents, a demographic sheet, and the recently created scale (Self-Concept Scale) were given individually and in groups. The Statistical Package for Social Sciences (SPSS-v26) was used to estimate the collected data, and the participants were properly thanked.

Results

Table 1: Demographic Characteristics of the Participants (N=300)

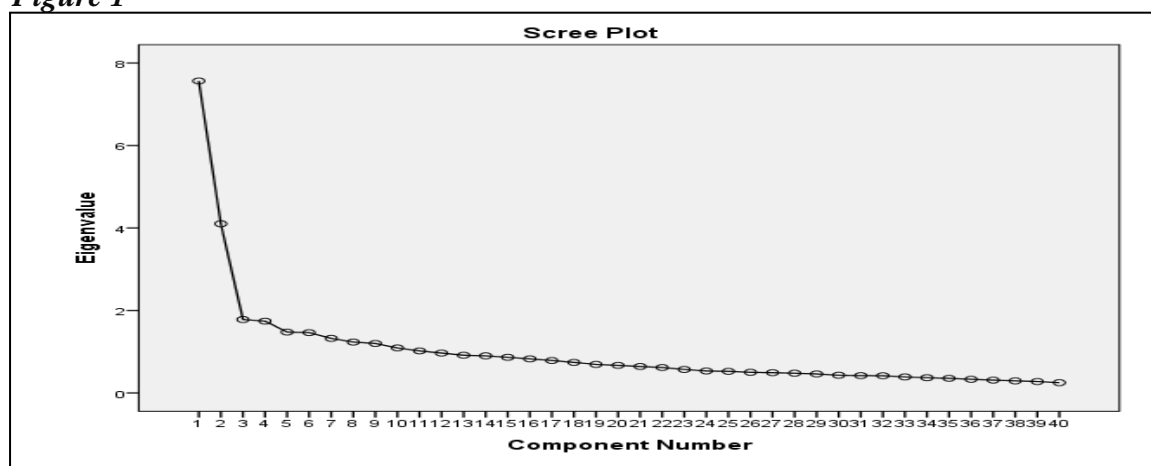
Demographic Variables		<i>f (%)</i>	<i>M (SD)</i>
Age			21.37 (3.16)
Gender	Male	154 (51.3)	
	Female	146 (48.7)	
Family System	Joint	117 (39.0)	
	Nuclear	183 (61.0)	

Table 1 shows that the sample was based on university students with mean age of 21.37 and standard deviation of 3.16. Further, the table explains the frequencies and percentages of other demographic variables such as Gender and Family System. The table indicates that male students were 154 (51.3%) and female students 146 (48.7%). Another demographic variable was family system, in which 117 (39.0%) belonged to joint family system and 183(61.0%) from nuclear family system.

Exploratory Factor Analysis (EFA)

The items were grouped into a common theme using the Exploratory Factor Analysis (EFA). Two factors were selected with the aid of Scree Plot, which helped determine the number of factors. Varimax Rotation was also used to calculate the factor structure. Two components of the Self-Concept Scale (SCS) also contributed to the explanation of the variance and Eigen value. The Self-Concept Scale's inter-factor connection was ascertained. The factor analysis scree plot is provided below.

Figure 1



According to the Kline (1993) concept, which was used to choose the items in each factor, the items in each factor had loadings greater than .30, Items 31 and 38 on the original scale were eliminated because their loadings were lower than the.30. As a result, there were 22 items in the first factor and 16 in the second. Detailed factor loadings are provided below.

Table 2: The Factor Structure of the Self-Concept Scale (N=300)

Sr. No.	Item No.	Factors	
		F1	F2
1	13	.73	-.04
2	12	.72	-.08
3	10	.70	-.07
4	27	.62	.00
5	33	.59	-.11
6	29	.58	-.08
7	16	.58	-.07
8	4	.57	-.04
9	1	.56	-.00
10	18	.56	-.02
11	2	.56	.06
12	32	.54	.03
13	3	.53	.11
14	11	.53	-.17
15	17	.52	-.11
16	36	.49	-.08
17	21	.47	.05
18	23	.46	.00
19	19	.42	.20
20	39	.41	.17
21	24	.40	.02
22	9	.32	.04
23	14	.16	.60
24	22	.08	.57
25	25	-.08	.57
26	8	.12	.56
27	7	-.08	.53
28	34	-.26	.52
29	30	-.00	.50
30	15	.38	.46
31	40	-.31	.46
32	5	-.08	.45
33	37	-.33	.44
34	6	-.21	.44
35	20	.22	.43
36	35	-.27	.43
37	26	.20	.40
38	28	.18	.34

Table 2 shows the loadings of items across two factors with loadings of more than .30 were retained and in boldface form. Those items loaded below the cut of score were excluded.

Table 3: Eigen Value and Variance Explained by 2 Factor of Self-Concept Scale for University Students

Factors	Eigen Value	% Variance	Cumulative %
F1-Positive Self-concept	7.53	18.84	18.84
F2-Negative Self-concept	4.12	10.32	29.16

Table 3 shows the Eigen values and variance for two factors of the Self-Concept Scale (SCS), the Eigen values of the first factor and second factor were 7.53 and 4.12 respectively.

Factor Description

The factors were assumed according to the themes of the items and two factors of the self-concept scale were made, which are positive and negative self-concept. The explanation of both factors is given below.

Factor 1: Positive Self-Concept

The positive self-concept is the first factor of scale and it consists of 22 items. These items explain the positive aspect of the self-concept of individuals. The items included in this factor were helpful, confident, wise, not hurting others, honest, simple, respectful person, hard worker, undaunted, humble, funny, friendly, careful, virtuous, responsible, attractive personality, obedient, peaceful, and so on.

Factor 2: Negative Self-Concept

The negative self-concept is the second factor of the self-concept scale and it consists of 16 items. These items explain the negative aspect of the self-concept of the individuals. The items included in this factor are timid, critical, sinful, emotional, stubborn, sensitive, complex, restless nature, careless, introvert, whimsical, foolish, and so on.

Psychometric Properties of SCS

To define the psychometric properties of the Self-Concept Scale (SCS), the concurrent validity, construct validity, and split half reliability were calculated.

Construct Validity

To assess the internal consistency of the scale and the items were also calculated to find out the inter item correlation between the full scale and the factors of this scale. The Cronbach's alpha was calculated for this purpose which is given below.

Table 4: The Alpha Values of Self-Concept Scale (SCS) and Its Subscales (N=300)

Scale and Factors	No. of Items	Cronbach's Alpha (α)
SCS	38	.82
P-SC	22	.88
N-SC	16	.79

Note. SCS=Self-concept Scale; P-SC = Positive Self-Concept, N-SC = Negative Self-Concept

Table 4 shows that Cronbach's alpha of the Self-concept scale and its positive and negative subscale gave the values of .82, .88, and .79 respectively which shows that scale items were highly inter-correlated in the current sample.

Concurrent Validity

The validity of the Self-Concept Scale was recognized through the concurrent validity of another measure on the same construct i.e., Self-Concept Scale for Adolescents (Parveen, 2011).

Table 5: Correlation between Self Concept Scale (SCS) and Self-Concept Scale for Adolescents (N=300)

Scales	SCS	SCQ
SCS	--	.41**
SCSA		--
<i>M</i>	88.57	16.02
<i>SD</i>	42.91	6.73

Note: SCS= Self Concept Scale; SCSA=Self Concept Scale for Adolescents

The results showed a significant correlation at a $p < .01$ significance level among the total scores of Self Concept Scale (SCS) and Self-Concept Scale for Adolescents (SCSA). The findings imply that the recently created indigenous self-concept measure has a high concurrent validity.

Split Half Reliability

The Self-Concept Scale's split-half reliability was assessed using the Odd-Even approach. Two portions of the scale were created: Form A, which had all odd items, and Form B, which had all even items. The Self-Concept Scale (SCS) showed a correlation of .73 ($p < .001$) between its two forms, and Form A's internal consistency was .70, while Form B's was .69.

Gender Differences on SCS

Table 6: Mean, Standard Deviation and t-values of Positive and Negative Self-Concept with Gender (N=300)

Factors	Gender	<i>M</i>	<i>SD</i>	95% CI		<i>t</i>	<i>df</i>	<i>p</i> <	Cohen's <i>d</i>
				<i>LL</i>	<i>UL</i>				
Positive	Male	57.79	13.89	-4.23	1.76	.810	298	.419(<i>ns</i>)	0.09
Self-concept	Female	59.02	12.42						
Negative	Male	29.33	9.00	-3.73	.65	1.37	298	.169(<i>ns</i>)	0.15
Self-concept	Female	30.87	10.31						

Note: $ns = p > .05$

According to Table 6, there is no discernible difference between the male and female groups on any of the two aspects of self-concept that is positive and negative self-concept.

Discussion

The primary aim of the present study was to develop a culturally relevant and psychometrically robust scale for assessing self-concept, focusing on differences between Western and Pakistani cultural contexts. Western societies, predominantly individualistic, emphasize autonomy and personal achievement, while Pakistani culture, largely collectivistic, values interdependence and community relationships. Research underscores significant differences in how self-concept is shaped and expressed across such cultural frameworks (Mosanya & Kwiatkowska, 2023; Choi, 2024). Recent studies suggest that cultural orientation influences self-concept development. For instance, individuals in collectivistic cultures often derive clarity and identity from relational

roles, while individualistic cultures promote a self-concept grounded in personal attributes and achievements (Choi et al., 2018). Additionally, globalization has introduced hybrid cultural identities, requiring nuanced approaches to understanding and measuring self-concept in multicultural settings, particularly in youth populations (Wirthwein & Steinmayr, 2020; Celikel & Çoban, 2022). The study also addresses the lack of culturally relevant tools for self-concept assessment in Pakistan. Existing scales, such as the Tennessee Self-Concept Scale and Robson's Self-Concept Questionnaire, were developed within Western contexts and may not fully capture the collectivist nuances of Pakistani society (Lodi-Smith & Roberts, 2023). The development of culturally specific tools aims to bridge this gap, ensuring that the constructs measured reflect local social norms and values. Furthermore, the study examined demographic variables among university students, a critical group for exploring self-concept. Self-concept clarity in this demographic is influenced not only by culture but also by the increasing role of digital environments, which affect self-perception and self-presentation (Fullwood et al., 2016; Lin et al., 2021). These findings highlight the importance of culturally adaptive approaches in self-concept research to account for the diverse and evolving social landscapes globally and locally.

The Self Concept Scale's component analysis revealed two factors; Positive and Negative Self-concept, which were named after their respective themes. There were 22 items in the first factor and 16 items in the second factor. In addition, subscales also provided the dimensions addressing perceptions about him/herself based on personal attributes and different life experiences i.e., the 1st factor ordered the items relevant to the positive aspect of individuals as honest, hard worker, helpful, confident, and respectful person, etc. Whereas the 2nd factor entails the theme in which items relevant to the negative aspect of individuals as careless, stubborn, critical, foolish, and complicated etc (Brooks & Emmert, 1976). Recent research has expanded on the conceptualization and factor structure of self-concept scale, emphasizing the importance of distinguishing between positive and negative self-concept dimensions. For example, studies suggest that negative self-concept factors, often derived from negatively worded items, provide unique insights into self-perceptions and their impact on motivation and performance, particularly in educational contexts. This distinction has been validated through large-scale assessments and confirmatory factor analyses across diverse age groups and cultural settings (Gao & Ali, 2024). On the positive self-concept side, scales such as the Oxford Positive Self Scale have been developed to measure constructs tied to psychological well-being and self-beliefs, offering nuanced assessments of positive self-cognitions. These scales are informed by both psychological frameworks and lived experiences, ensuring cultural and contextual relevance (Cambridge Core, 2022).

In addition to factor analysis insights, the evolving measurement tools underline the necessity of culturally adaptive scales. This is critical when applying Western-developed instruments in non-Western contexts, where the interpretation and relevance of scale items can differ significantly (Lodi-Smith & Roberts, 2023). For instance, new models often integrate themes of communal and relational self-concept pertinent to collectivistic societies such as Pakistan while still maintaining global psychometric standards. The concurrent validity, construct validity and split-half reliability were measured in order to determine the psychometric qualities of the indigenous self-concept scale. The scale's alpha coefficients demonstrated its high level of internal consistency. The Self-Concept Scale (SCS) is therefore suitable for use in current and future research, according to the alpha coefficients. The appropriate construct validity is shown by the theoretical consistency of the relationship between the Positive and Negative Self-concept subscales of the Self-Concept Scale (SCS). The finding showed that the Positive and Negative Self-concepts have a negative correlation, when one is increasing the other one is decreasing

(Gorges & Scherrer, 2023). Self-concept is the set of ideas and attributes towards the self which are alike in male and female students as they equally attribute themselves with positive and negative qualities. Therefore, the current study's findings indicate that there is no discernible difference in university students' self-concepts between male and female students (Pinquart & Sörensen, 2001). Newer research also reveals nuanced insights into gender differences. While some research suggest that male and female students attribute themselves similarly to positive and negative qualities, others identify domain-specific differences. For example, boys may exhibit higher self-concept in mathematics, while girls may excel in verbal domains. These differences can influence academic motivation and performance, reflecting the broader interplay between self-concept, achievement, and self-efficacy (Arens & Hasselhorn, 2014; Skaalvik & Skaalvik, 2004; MDPI, 2023).

The cultural context remains critical for the validation of these scales. Studies emphasize the importance of culturally tailored instruments to capture variations in self-concept expression, particularly in collectivistic versus individualistic societies. This is increasingly relevant given the global adaptation of self-concept measures originally designed in Western contexts, necessitating cultural recalibration to ensure their validity and reliability in non-Western settings (Hapsari et al., 2023; Wirthwein & Steinmayr, 2020). These findings collectively underscore the significance of rigorous psychometric evaluations to enhance the applicability of self-concept scales across demographics and cultural settings.

Conclusion

The study's findings demonstrated the self-concept scale's (SCS) excellent validity and reliability, and the current research is a ground-breaking effort to gauge university students' self-concept. This research will contribute to a deeper comprehension of the dynamic and intricate character of an individual's self-concept.

Limitations and Recommendations

The main limitation of this study is that data was collected only from a few universities in Punjab, Pakistan due to lack of resources and funding. So, it recommended that the Self-Concept Scale (SCS) should be used for future studies with a bigger sample size. This measure could be useful for identifying those who struggle with confidence and tracking how well counseling is working. Furthermore, the results of this study may help guide the creation of tactics meant to change unfavorable attitudes and actions linked to poor self-esteem, especially in the younger generation.

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