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An Adaptation and Validation Study of Strength Use Scale: Urdu Version

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ABSTRACT

Studying human strengths is central to understanding and promoting one's well-being. Evidence suggests that positive outcomes of strengths depend not only on knowing/possessing them but also on how frequently they are used in daily life. The Strength Use Scale (Govindji & Linley, 2007) has been the most widely used instrument to assess this phenomenon. This study has attempted to adapt this scale and establish its psychometric properties for Pakistani adolescents. Participants of this study were 266 adolescents (aged 13-17 years) recruited through multistage cluster random sampling from schools in Pakistan. This study reached a consensus on translating the construct 'strength'. Confirmatory factor analysis was conducted to establish the construct validity of the adapted version (SUS-Urdu) supporting its unidimensional structure (Factor loadings ≥ 0.5) with a good model fit ($\chi^2(105) = 151.89$, $p < .001$; CFI = .95, TLI=.94, IFI=.95, RMSEA=.06). Additionally, the psychometric assessment revealed that SUS-Urdu showed good internal consistency (α =.91), construct reliability (CR=.91), convergent validity (AVE=.42) and content validity, (S-CVI=0.91). This study adds to the existing body of knowledge by establishing the applicability of SUS to a wider population and diverse cultural context.

Keywords: *Strength Use, Adaptation, Construct Validity, Content validity, Convergent Validity, Construct Reliability*

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INTRODUCTION

The concept of strengths appears as a central tenet in the field of positive psychology. It plays a major role in promoting wellbeing and leads to a happier, more flourishing life. Theorists have explained strengths as the natural tendency of a person to use his/her capabilities that he/she yearns to use for better wellbeing (Govindji & Linley, 2007). According to Niemiec (2018) these strengths act as a buffer against psychological disorders on one end and as a protective factor to promote mental wellness among individuals on the other. Evidence suggests that the positive effects of strengths not only depend on knowing or possessing them but also on the extent to which they are used in daily life (Govindji & Linley, 2007; Rath, 2007; Gander et al., 2013).

Wood et al. (2011) claimed that knowledge about one's strengths is not enough to enable a sustainable change rather their active application in daily life leads to happier and healthier lives. Recent intervention studies have also shifted their focus on assessing the impact of strength use in addition to the levels of possessing strengths (Seligman, et al., 2005; Seligman, 2012; Proyer, et al., 2015; Miglianico, et al., 2020). This shift in perspective signifies the need to have psychometrically sound and well-established scales for multiple cultural contexts to precisely assess strength use in diverse populations.

Despite supporting evidence for assessing strengths use, there appears to be limited existing measures to appropriately assess this phenomenon. Wood et al. (2011) suggest that this absence of psychometrically sound scales for strengths use

has further hampered the availability of adequate research on this area. To date, three scales have been used in existing studies to assess the strength use: including the Applicability of Character Strengths Rating Scales (Harzer & Ruch, 2013), Strengths Overuse/Underuse Scale (Freidlin, et al., 2017) and Strength Use Scale - SUS (Govindji & Linley, 2007). The first two scales have limited applicability as they were exclusively developed for adults and tap specifically into the use of character strengths. SUS appears to be a more appropriate and widely used tool, as it assesses the general use of strengths in daily life and has been designed for a broader population including both adolescents and adults (Wood et al., 2017). Despite the utility and popularity of SUS, there is still a scarcity of research on establishing the psychometric properties of this scale for adolescent population.

SUS is a 14 item self-report scale designed to measure active strengths use (Govindji & Linley, 2007). The SUS has already been translated into German (Huber et al., 2017), French (Forest et al., 2012), Hebrew (Littman-Ovadia et al., 2017), Finish (Vuorinen, et al., 2020), and Chinese (Bu and Duan, 2020) and adapted for use in the work settings (Dubreuil et al., 2014). Despite its wide use, only four studies have actively attempted to establish its psychometric properties including studies by Govindji and Linley (2007) and Wood et al. (2011) in the US, Huber et al. (2017) in Germany, and Duan et al. (2018) in China. This study aimed to adapt the scale for the Pakistani context and establish the validity and reliability, contributing to the existing literature.

Globally, SUS has been used and adapted primarily for adults. However, the current study attempts to adapt it for adolescents further increasing its utility in terms of population. Specifically, in the Pakistani context, there is a lack of existing tools to assess strength use. Therefore, this study enhances the cultural applicability of SUS. The main objectives of current study were to translate and adapt SUS in Urdu language for Pakistani adolescents and have also attempted to establish psychometric properties of the adapted version by assessing its construct, convergent and content validity along with the internal consistency and construct reliability.

METHOD

Participants. Participants of this study included 266 adolescents (Girls = 51%; Boys=49%) within the age range of 13 to 17 years (Mean Age = 14.2) enrolled in schools of twin cities (Rawalpindi & Islamabad). These participants were recruited through multistage cluster random sampling as elaborated in fig 1. Most participants of this study were studying in matric class (50%) followed by middle (35%) and intermediate grade (15%).

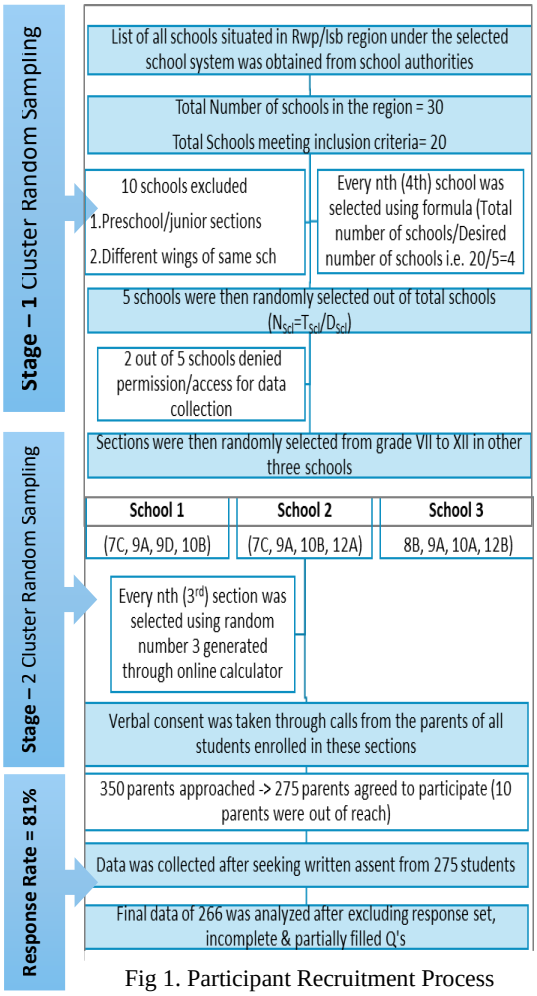

Fig 1. Participant Recruitment Process

Procedure. Ethical approval was taken from the ethical review board of the affiliated institute of researchers. Group administration was done after seeking permission from the school authorities, consent of the parents, and assent from the participants. A rigorous process of adaptation was adopted in the study to culturally translate and adapt the scale in Urdu.

The adaptation process followed in this study consisted of multiple steps as per guidelines of Sousa and Rojjanasrirat (2011). The scale was first translated into Urdu language by two bilingual translators having Urdu as their mother tongue and good command on the source language English. At second step, both forward translations were reviewed to create a synthesized Urdu version of SUS by a panel of three independent experts resolving any ambiguities and discrepancies of both translations. The synthesized version was then back translated into English by a bicultural translator who also has expertise in the field of psychology. At fourth step, the committee approach was conducted by all translators along with the researcher to compare the original and translated versions for any discrepancy or inconsistency and resolve any issues in translations. Pilot testing and cognitive pre-interviewing of the Urdu version of SUS was then conducted on adolescents. Four questions were asked from 10 participants (Boys = 4 and Girls = 6) during cognitive pre-interview to gain their feedback regarding the language use, difficulty level, comprehension of the items, and cultural appropriateness of the instrument. A discussion had also been generated with all the participants during cognitive interview about the Urdu translation of the term “strength” as recommended by experts during committee

approach. Both terms *'Khuubiyan'* and *'Salahiyatein'* were included in the pilot testing phase and participants were specifically asked following questions about the translation of term "strength" (see Table 1). Lastly, SUS-Urdu was tested on 266 adolescents for establishing and testing the factor structure, internal consistency, content validity, construct validity, and construct reliability of the instrument.

Table 1. Questions during cognitive interviewing/pilot testing (n=10)

Probes for Cognitive Pre-Interviewing
1. According to you, what has been asked in this item/ question?
2. Can you repeat this item/question in your own words?
3. What has come to your mind after reading this item/phrase?
4. How did you choose your answer for this item/question?
Translation of the construct 'Strength'
1. How do you translate the word strength in Urdu?
2. What does each term *'Khuubiyan'* (خوبیاں) versus *'Salahiyatein'*(صلاحیتیں) means to you? How do you define each term; can you elaborate with some examples?
3. If you must pick one word in Urdu among both for 'strength', which one would it be?

Measures. The measures used in this study included a demographic sheet assessing information about age, gender, grade; and Strength Use Scale (SUS) by Govindji & Linley, (2007). SUS is a unidimensional scale consisting of fourteen items asking about the extent to which people use their strengths. Each item of this scale is rated on a 1 ('Strongly Disagree") to 7 ('Strongly Agree") Likert type scale. Urdu adapted version of this scale has been used in this study.

Data Analysis. The factor structure of SUS-Urdu was tested using confirmatory factor analysis (CFA) with maximum likelihood estimation through AMOS 23.0. CFA was opted to assess factor structure of the adapted version as literature supports

the unidimensional structure of original as well as other translated versions of SUS (English, French, German). The goodness of fit for the models was evaluated using the chi-square ($\chi 2$ statistic), the root means square error of approximation (RMSEA) with 95% confidence interval, Tucker-Lewis Index (TLI), and comparative fit index (CFI). The internal consistency was calculated through Cronbach's alpha and construct reliability was assessed by calculating AVE and CVI index from factor loadings with acceptable criterion value of >.07 (DeVellis, 2003). According to the guidelines of Yousuf (2019) content validity was established by calculating scale level and item level content validity indices based on ratings by 6 independent experts who rated the adapted version of scale for the relevance of each item and the appropriateness and understanding of the overall scale with acceptable criterion value of >.83 (Polit & Beck, 2006).

RESULTS

Cognitive Interviewing. All participants showed a good understanding of the instructions, items, and response requirements of SUS-Urdu version.

Translation of Construct 'Strength'. Regarding translation of term "strength" almost all participants displayed difficulty in coming up with its literal translation. Three participants translated strength as '*Mazbooti / Quuwat'* but suggested that it doesn't fit with the construct of strength in the context of personality aspects. Upon further exploration, most participants stated that *'Khuubi'* can be referred to as one's quality and positive aspects of personality whereas *'Salahiyat'* can be defined as any talent that can be learned and isn't necessarily a

positive characteristic. While elaborating the meaning of both constructs, three among them suggested that *'Khuubi*' is specifically inherent and/or innate quality whereas *'Salahiyat*' is something one can learn and achieve. Examples for both terms given by participants included confidence, persuasiveness, intelligence, carefulness for *'Khuubi*' versus the skill of horse riding, painting, public speaking for term *'Salahiyat*'. Only two participants suggested that both terms have a similar meaning and there is no difference between the meaning of these constructs.

In conclusion, five participants suggested that final scale should retain both terms in Urdu translation and can further retain English term 'strength' in bracket for better clarity whereas three participants opted for term *'Salahiyat*' and two for *'Khuubi*'. A consensus was then achieved based on the agreement of translators, experts during committee review and community feedback to retain both terms '*Salahiyat*' and *Khuubi*' in the adapted version as it has been concluded that 'Strength' is a relatively difficult construct to be translated in Urdu and its essence cannot be captured specifically by a single word.

Construct Validity. The construct validity of SUS-Urdu was established through confirmatory factor analysis and convergent validity. All items had factor loadings >.50 to .72 that were significant at p<.01 (as shown in fig 2). The unidimensional structure of the SUS-Urdu showed acceptable model fit for model II as per guidelines of Little (2013) as ($\chi^2(105)$ =

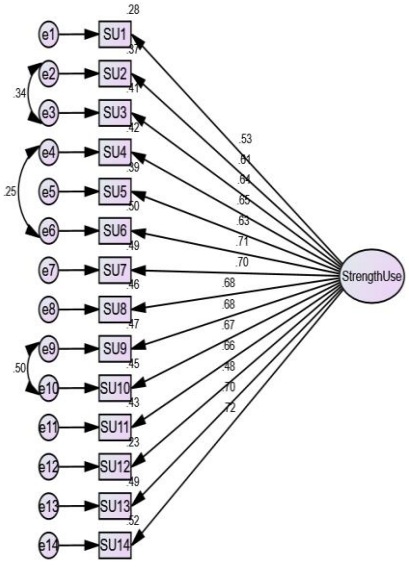

Fig 2. Factor Structure of SUS-Urdu

151.89, p < .001; CFI = .95, TLI=.94, IFI=.95, RMSEA=.06). Good model fit was achieved after covarying errors e2 with e3, e4 with e6 and e9 with e10; this covariance can be explained as these items tend to ask similar questions and had similarity in terms of language.

Table 2. Confirmatory Factor Analysis of Strengths Use Scale (N=266)

	χ^2 (105)	p	CFI	TLI	IFI	RMSEA
Model I	259.03	.000	0.90	0.88	0.90	0.09
Model II	151.89	.000	0.95	0.94	0.95	0.06

Content Validity. Content validity refers to the extent to which content of the items seems relevant and appropriate to the construct. The rating of all experts on each item of the scale indicated that all items of the scale have good content validity i.e. Item-level Content Validity Index (I-CVI) ≥ 0.83 as per criteria of Polit & Beck (2006). Scale level Content Validity Index (S-CVI) has been calculated by taking average of I-CVI divided by total number of items. S-CVI also showed that SUS-Urdu has good content validity (S-CVI=0.90) see table 3.

Convergent validity. Convergent validity of SUS-Urdu has been calculated through Average Variance Extracted (AVE) in AMOS, which also showed acceptable values i.e. >0.4 (Hair, Hult, Ringle, & Sarstedt, 2016) as shown in Table 3.

Construct Reliability. Construct reliability was calculated by using the formula $\frac{(\sum_{i=1}^{p}\lambda_i)^2}{(\sum_{i=1}^{p}\lambda_i)^2 + \sum_{i}^{p} V(\delta)}$ given by Netemeyer (2003) which showed acceptable values >.07 for all items (see table 3).

Internal Consistency. Internal consistency of SUS-Urdu was measured through Cronbach alpha showing it has higher internal consistency i.e. α= 0.91.

Table 3. The descriptive statistics, Construct validity, Construct reliability (N=266)

	M	SD	Skewness	Kurtosis	α	CR	AVE	S-CVI
Strength Use	68.67	14.43	-.29	-.31	.91	.91	.42	0.90

M = Mean, SD = Standard Deviation, α = Alpha coefficient, CR=Construct Reliability, AVE= Average Variance Extracted

DISCUSSION

In this study, we adapted SUS in Urdu language and assessed the psychometric properties of the adapted version to establish its relevance for Pakistani adolescent population. The findings indicated that the unidimensional structure of SUS was supported by CFA for the Urdu version as well. This finding goes in line with the original version (Govindji & Linley, 2007; Wood et al., 2011) and its existing adaptations in German (Huber et al., 2017); French (Forest et al., 2012); Hebrew (Littman-Ovadia et al., 2017); Finish (Vuorinen et al., 2020); Chinese (Bu & Duan, 2020); and work-related setting (Dubreuil et al., 2014).

A significant strength of this study lies in establishing the linguistic equivalence of the term “Strength” in Urdu language. Urdu language doesn’t have a specific term for depicting the essence of the construct ‘Strength’; thus, we have attempted to resolve this complexity by including feedback from experts and participants reaching at an acceptable level of linguistic equivalence in the adapted version. As revealed by the findings, the SUS-Urdu version tends to show good

validity and reliability as shown by its construct, convergent and content validity along with internal consistency and construct reliability. Moreover, the ratings by experts showed it as well-versed, relevant, and comprehensive scale in terms of its content. These findings corroborate with the existing evidence and show that the rigorous method used for the translation and adaptation in this study has maintained its psychometric appropriateness and ensured the validation of this scale as comparable to its original version.

The available studies that have attempted to establish psychometric equivalence of SUS in different contexts have shown that SUS is a reliable and valid tool, but require some modifications (e.g., correlating error terms or item parceling) outside US setting to ensure data-model fit (Huber et al., 2017; Duan et al., 2018; Mahomed & Rothmann, 2020; Vuorinen et al., 2020). This trend was also observed in current study as indicated by the unexplained covariances in items 2 & 3, 4 & 6 and 9 & 10 which can be accounted for the similarity in language use and context of these items. These consistent findings among studies suggest that there is a need to review the items with similar context and/or content. These concerns in factor structures could also be improved in further research by either reducing the number of items or differentiating the context of these questions to encompass strength use in multiple life situations.

Besides its useful implications, this study has some limitations as we could not assess the convergent and discriminant validity of the adapted SUS with other scales measuring similar constructs. Moreover, we have taken cross-sectional data

for this study from the federal area of Pakistan; henceforth in future studies it can be tested with different populations and settings to increase its generalizability and longitudinal study could establish its properties even better. For future, this study has highlighted the complexity of translating the phenomenon ‘Strength’ in Urdu language suggesting a need for in-depth qualitative exploration to understand the cultural expression of this construct in an extensive way.

CONCLUSION

This study indicated that the adapted version of Strength Use Scale in Urdu has shown sound psychometric properties as comparable to the original version. It has revealed good internal consistency, construct reliability and acceptable convergent, construct and content validity proving it to be a culturally appropriate tool to assess use of strengths among Pakistani adolescents. This study henceforth adds onto the existing body of knowledge by contextually increasing the utility of SUS and providing a psychometrically sound tool to assess strength use in Pakistani context for future intervention studies.

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