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Translation and Adaptation of Inferiority Complex Scale [ICS-10]

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ABSTRACT

The present study aimed at translating and adapting Inferiority Complex Scale (ICS-10) in order to increase its cross-cultural application. Keeping in view the research goals and objectives, the scale was translated into Urdu and adapted at different stages proposed for translation and adaption of a questionnaire or scale. Correlation of Urdu version with English version of Inferiority Complex Scale and one week test-retest reliability seemed good when estimated through Pearson Product Moment Correlation Coefficient. Computation of Cronbach's alpha also indicated good internal consistency of the scale. The measure of Urdu version was tested with KMO and Bartlett's test to estimate its sampling adequacy for using factor analysis. The measurement model of confirmatory factor analysis with one factor has revealed the Urdu version of Inferiority Complex Scale (ICS-10) as good fit model. ICS-10 also yields strong convergent and discriminant validity when tested with other translated measures of General Self-Efficacy Scale and Automatic Thoughts Questionnaire-Negative. Over all present research findings confirmed the measure of Inferiority Complex Scale, Urdu version, as standardized tool indicating good reliability and validity with reference to Pakistan.

Keywords: Adaptation, Cross-culture Application, Inferiority Complex, Reliability, Validity

Introduction

Inferiority can be defined in terms of person's negative attitude towards own self, lack of satisfaction with performance/ condition and eventually devalues self-existence (Meng, 2005, as cited in Chen, 2020). Inferiority complex develops when a person perceives own abilities and attitude being rejected or vilified in a specific situation by others (Adler, 1927). When people cannot adapt with the environment for various reasons, they are likely to develop inferiority complex (Hans, 2011). However, literature searched its roots in childhood experiences of weakness, helplessness and dependency as well. With the passage of time, these feelings are worsened by comparing own self with siblings (Kangata, 2017, as cited in Nancy, 2018).

But one thing is important that dimensions and quality of inferiority feelings are different in the context of gender, place and origin (Yan et al., 2019). People belonging to different occupations and with educational background seem to exhibit diverse patterns of inferiority (Kuai et al., 2022). Research literature explored various causing factors of inferiority complex. People who are having low level of grit may have higher level of inferiority complex (Yan et al., 2019). Personal experiences, social interaction and love relationship are few causes of developing the inferiority feelings (Liu et al., 2022).

Albeit, inferiority complex is an old concept but it is significant enough to be investigated in the connection of emotional and behavioral problems. For that purpose, it

first should be translated and validated in other cultures in order to improve its cross-cultural applications. Considering this, the present study aimed to translate and validate the scale of inferiority complex in Urdu language. It will not only enhance its cross-cultural applications but further helps in investigating it as cause or consequence in the context of Pakistani culture.

Literature Review

Literature pointed out the connection of various other concepts with inferiority feelings and complex. These feelings may be the result of negative comparison within social environment of an individual and are associated with envy and depressive symptomatology (Appel et al., 2015). However people with inadequate feelings may go for finding the solutions of their feelings (Abramson, 2015).

Inferiority complex has positive and direct relationship with aggression and is mediated by cognitive reappraisal (Chen et al., 2020). It is robustly associated with self-esteem (Sultana et al., 2018) and with academic achievement (Saminathan & Manivannan, 2018). Inferiority complex is also allied with psychological problems such as: hostility, depression, insomnia and suicidal ideation (Hein et al., 2003). Inferiority complex predicts psychopathology when a person strives to avoid it (Gilbert et al., 2007).

These inferiority feelings have connection with the problems of anxiety, stress and self-coldness but negatively associated with self-compassion (Kara, et al., 2023). Insecure striving with inferiority has significant association with depression, anxiety and stress, while secure non-striving is association with life satisfaction (Nagae et al., 2022). Inferiority feelings may instigate aggression in (Zhang et al., 2020) Inferiority feelings lead to higher propensity of self-concealment and are the significant predictors of happiness (Akdogan & Cimsir, 2019).

Inferiority complex is further connected with social appearance (Attah & Shahzad, 2022) and with frustration among adolescents as well (Kenchappanavar, 2012). These inferiority feelings are equally important in the context of substance use as well (Abramson, 2015). People with nonautotelic personality seemed to pronounce more inferiority feeling than autotelic personality (Hirao, 2014). Inferiority feelings escalated the pain, while inferiority complex predicted sleep disorders among war survivors of Northern Kosovo (Wang et al., 2012). Inferiority complex seemed to have positive association with academic achievement among high school students (Kalaivani, 2017). Inferiority complex is negatively association with interpersonal values and psychological well-being among teenage students (Kabir, 2016). Another researcher also explained the association of high level of inferiority complex with moderate level of academic achievement (Shrivastava, 2023). Inferiority feelings have significant positive relationships with social anxiety among junior high school students in China (Li et al., 2022).

Material and Methods

Sample

Though, the study was conducted in different phases, for this reason, the sample was recruited accordingly. First and second groups of sample comprised of fifty ($n = 50$) participants respectively while third one comprised of fifty ($n = 40$) participants. For confirmatory factor analysis, total six hundred participants ($n = 600$) including males and females were recruited. A separate group of ($n = 40$) participants was taken to validate the ICS-10 in the connection of other measures.

Instruments

Inferiority Complex Scale (ICS-10)

Inferiority Complex Scale developed by Cekrlija et al. (2017) was selected to be translated and validated in Urdu Language. This scale comprised of 10 items which are scored on five point likert scale ranging from (Completely disagree = 1, Disagree = 2, Not sure = 3, Agree = 4, completely agree=5). Cronbach's alpha of original scale (English version) ranged from .82 to .90, while factor loading ranged from .42 to .81 (Cekrlija et al., 2017).

General Self-Efficacy Scale (GSES-10)

Urdu version of General Self-Efficacy Scale was selected to examine its theoretical connection with Inferiority Complex Scale (ICS-10). This ten items scale was developed by Schwarzer and Jerusalem (1995), while translation was done by Tabassum and Rehman (2005). There is 4 point likert scoring scale ranging from not at all true (1) to extremely true (4). Cronbach's alpha of this measure ranged from .82 to .93. Other researchers also documented the alpha value of .89 for Urdu Version of General Self-Efficacy Scale (Farhan & Atif, 2021).

Automatic Thoughts Questionnaire-Negative (ATQ-30)

This 30-items instrument was originally developed by Hollon and Kendall (1980) in order to rule out negative automatic thoughts. Five points of continuum is available to score the items ranging from not at all (1) to all the time (5) options. Reported reliability of its English version is ($r = .97$). Urdu version of Automatic Thoughts Questionnaire-Negative (ATQ-30) also emerged as a standardized instrument for research and clinical purpose (Sadiq & Tahir, 2023). Researchers reported good internal consistency ($\alpha = .84$) and strong test-retest reliability ($r = .80$). Factor loading ranged from .392 to .787 for four different factors (i.e, personal maladjustment/desire for change, negative self-concept/negative expectations, low self-esteem and giving up/helplessness) and neutral items respectively. Adults with neurotic disorders also reported more automatic negative thoughts when assessed with Urdu version of Automatic Thoughts Questionnaire-Negative (Sadiq & Tahir, 2023).

Procedure

Translation of Inferiority Complex Scale

First of all, Inferiority Complex Scale was given to subject experts who translated it into Urdu language. Three translated drafts were then given to three bilingual experts to be translated back into English language in order to check to what extent translated English versions were similar to original English version.

Then, another expert reviewed Urdu versions of the Inferiority Complex Scale and sorted out items which seemed best among all translated items. All selected items were included in the final draft of the scale that was later on administered on a group (n = 50) in order to estimate internal consistency among items.

Adaptation of Final Urdu Draft of Inferiority Complex Scale

Having estimated Cronbach's alpha, final Urdu draft and original English version of Inferiority Complex Scale were administered on a sample to determine the correlation between both versions of ICS-10. Then, on another sample, Urdu version of ICS-10 was administered with one week of interval to estimate its test-retest reliability.

In order to determine the validity of Urdu Version, Inferiority Complex Scale was administered on six hundred participants (n =600) including 276 males and 324 females. KMO and Bartlett's test was computed before choosing Confirmatory Factor Analysis. In last, convergent and discriminant validity of ICS-10 (Urdu) was estimated by testing it with other two translated measures including General Self-Efficacy and Automatic Thoughts Questionnaire-Negative.

Results and Discussion

Table 1
Summary of Cronbach's Alpha (n= 50)

Measure	<i>k</i>	α	<i>M</i>	<i>SD</i>
Inferiority Complex Scale (ICS-10)	10	.80	26.60	8.15

Analysis done through Cronbach's alpha (Table 1) has shown good internal consistency among all ten items of Urdu draft of Inferiority Complex Scale ($\alpha = .80$).

Table 2
Correlation with English and Urdu Versions of ATQ-30

Measure	<i>R</i>	<i>p</i>
Inferiority Complex Scale (ICS-10)	.91	.000

Further estimation through Pearson Product Moment Correlation Coefficient (Table 2) has shown the strong association of English Version with Urdu Version of Inferiority Complex Scale ($r = .91, p = .000$).

Table 3
One Week Test-retest Reliability

Measure	<i>R</i>	<i>p</i>
Inferiority Complex Scale (ICS-10)	.82	.000

Computation of Pearson Product Moment Correlation Coefficient (Table:3) has revealed the strong one week test-retest reliability of Urdu draft of Inferiority Complex Scale ($r = .82, p = .82$).

Table 4
Summary of Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity pertaining to ICS-10

<i>Scale</i>	<i>KMO</i>	X^2	Bartlett's Test	
			<i>df</i>	<i>p</i>
ICS-10	.87	1311.39	45	.000

KMO and Bartlett's test (Table: 4) were also computed through SPSS. The obtained value of KMO is .87 and of Chi-Square is ($X^2 = 1311.30$) with significance alpha level ($p = .000$) which have confirmed the suitability of obtained data for computing confirmatory factor analysis.

Having computed KMO and Bartlett's test, data obtained through the Urdu Version of Inferiority Complex Scale (ICS-10) were further analyzed through Confirmatory Factor Analysis as shown by the table values and measurement model.

Table 5
Summary of Fit Indices for Confirmatory Factor Analysis
Urdu Version of Inferiority Complex Scale (ICS-10)

RMSEA	.06
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GFI	.95
CFI	.93
IFI	.93
TLI	.91
NFI	.90

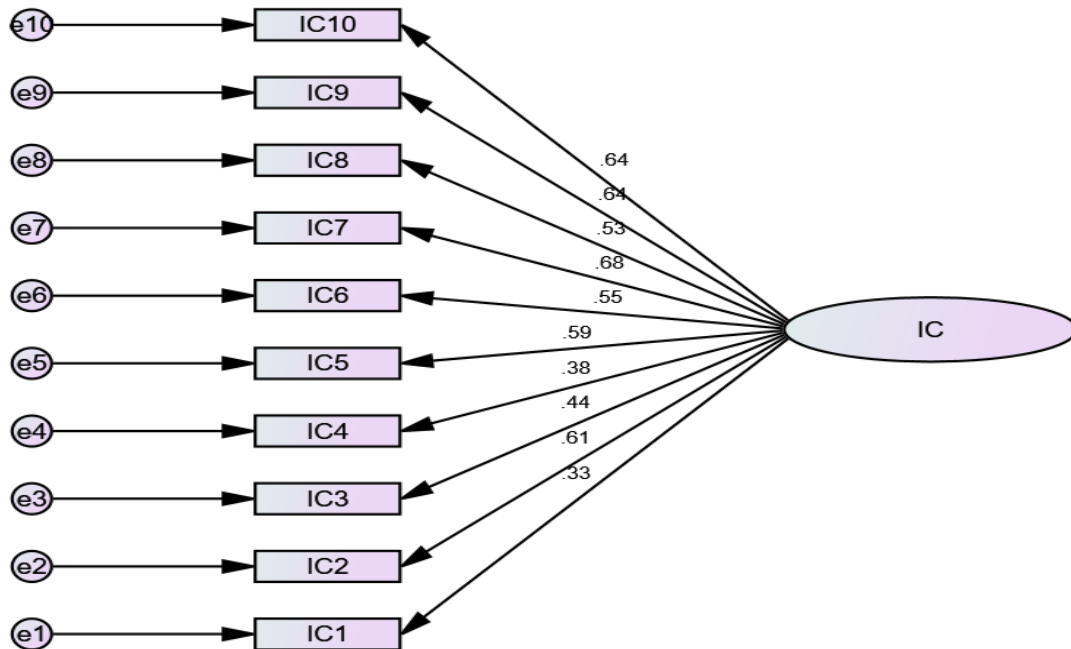


Figure-1: Model Summary of the Urdu Version of Inferiority Complex Scale (ICS-10)

Confirmatory factor analysis (CFA) was done to determine the validity of Urdu version of Inferiority Complex Scale (ICS-10). Factor loading (**Figure: 1**) of all ten items are in the range of .33 to .68. The model seemed acceptable in the light of obtained values of Root Mean Square Error of Approximation (RMSEA = .06) and Normative Fit Index (NFI = .90). Good fit model of Urdu Version of ICA-10 also has been confirmed by the estimated value of Good Fit Index (GFI = .95). Rest of the fit indexes values are Incremental Fit Index (IFI = .93), Tucker Lewis Index (TLI = .91) and Comparative Fit Index (CFI = .93) which somehow support the model fit indices.

Table 6
Summary of Pearson Product Moment Correlation Coefficient with other translated measures

Scales	<i>R</i>	<i>p</i>
General Self-Efficacy Scale	-.22	.166
Automatic Thoughts Questionnaire-Negative (ATQ-30)	.70	.000

Analysis done by Pearson Product Moment Correlation Coefficient (Table:6) revealed a non-significant association of Inferiority Complex Scale with General Self-Efficacy Scale ($r = -.22, p = .166$). It means both scales are unrelated to each other. On the other hand, Inferiority Complex Scale seemed to be related with Automatic Thoughts Questionnaire-Negative ($r = .70, p = .000$).

Discussions

The aim of the present study was to translate and adapt the Urdu version of Inferiority Complex Scale (ICS-10) to make it applicable on Pakistani population. The whole process was done following steps required for the translation and adaptation of research tools. Reliability and validity were estimated computing different statistical tests through SPSS. The construct of inferiority feelings and complex was developed several years back but still is being investigated in the context of emotional, behavioral and academic problems. Existing literature also proved its connection with various psychopathologies. Adequacy of this construct was previously checked in respect to self-esteem, general efficacy and abstinence self-efficacy with the sample of college students (Lamberson, & Wester, 2018). In the present study, the construct of Inferiority Complex was also found to be reliable in terms of internal consistency among items and one week test-retest reliability.

Suitability and adequacy of data set was also estimated before further validation of translated version of ICS-10. The findings clearly revealed the correlation between construct and the data set. KMO and Bartlett's test output has shown the sampling adequacy in the connection of Inferiority Complex construct. Validity of the Inferiority Complex Scale (ICS-10) was determined through confirmatory factor analysis. The construct of Inferiority Complex appeared to be having features of good fit model (**Table:4**). The values of TFI and CFI should be close to .95 for a construct to be deemed as good fitting model (Hu & Bentler, 1999) but in the current study, the obtained value of TLI and CFI are .91 and .93 respectively. However, these both values are not less than .9 and more or less seemed closer to .95.

Rest of the values of GFI (.95), NFI (.90), IFI (.93) and RMSEA (.06) largely justified the good structural validity of the scale. The smaller value of RMSEA is the indication of better model fit (Timothy, 2015). The value of GFI should be greater than .9 for acceptable model fit (Baumgartner & Hombur, 1996). The value of Normative Fit Index (NFI = .90) too increased the acceptance of current model fit. Moreover, rest of the fit indexes values like Incremental Fit Index (IFI = .93), Tucker Lewis Index (TLI = .91) and Comparative Fit Index (CFI = .93) are in the support of acceptable model fit of ICS-10. Authors also have reported the ICS-10 English version as good fit model when they tested in four different countries encompassing Bosnia-Herzegovina, Serbia, India and Malaysia (Čekrljija et al., 2017). Another instrument, inferiority compensation with subscale: self-compensation and other compensation along with five dimensions (i.e, academic performance, physical fitness, social communication, appearance and self-esteem) also emerged with good structural validity (Yang et al., 2023).

Urdu version of Inferiority Complex Scale (ICS-10) seemed to have good convergent and discriminant validity as well. ICS-10 is theoretically related with negative thoughts automatically come in the mind when a person experiences discomfort with own self. Conversely, self-efficacy beliefs depict how strongly a person believes in own self and abilities. Owing to the dissimilar nature of self-efficacy beliefs and inferiority feelings/thoughts, ICS-10 seems unrelated with the measure of general self-efficacy.

Conclusion

Based on the findings, it is concluded that the Urdu version of Inferiority Complex Scale (ICS-10) is reliable and valid tool in the same line of its English Version. Internal consistency exists among all 10 items of the construct. Translated version also has strong one week test-retest reliability. Moreover, ICS-10 emerged as good fit model indices when analyzed through Confirmatory Factor Analysis. All of the items of Inferiority Complex Scale (ICS-10) are theoretically related to the construct indicating the truthfulness of translated version as well. Urdu Version of ICS-10 also yields strong convergent and discriminate validity when tested in the connection with other Urdu versions of General Self-Efficacy Scale (GSES-10) and Automatic Thoughts Questionnaire-Negative (ATQ-30).

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