

ORIGINAL

A Psychometric Evaluation of the Interpersonal Cognitive Distortions Scale: Implications for Mental Health and Quality of Life of College Students

Evaluación psicométrica de la Escala de Distorsiones Cognitivas Interpersonales: Implicaciones para la salud mental y la calidad de vida de los estudiantes universitarios

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ABSTRACT

Introduction: interpersonal relationships are defined as mutual interactions as well as behaviours an individual experiences at varying levels. Interpersonal cognitive distortions have been found to affect the overall mental well-being of an individual and are also known to increase the risk of depression and suicide.

Objective: the current study aims to establish psychometric properties of the Interpersonal Cognitive Distortions Scale among college students.

Method: the current study is a descriptive study with a non-probability convenience sampling with a sample size of 297 participants.

Results: face and content validity was adequately established for the scale. The scale has good internal consistency with a Cronbach's alpha value of 0,910 and a Guttman split half coefficient of 0,83. The model showed a good fit with absolute indices such as χ^2 , χ^2/df , TLI, NFI, CFI, RMR, RMSEA showing good fit value. The average variance extracted and composite reliability for all three factors were greater than 0,5 and 0,7 respectively thereby showing good convergent validity and composite reliability. The AVE values were greater than the squared intercorrelation, thereby showing good discriminant validity.

Conclusions: the scale had demonstrated good psychometric properties, and it is suitable to use in a college setting demonstrating significant relevance in the overall well-being of students thereby aiding practitioners, clinicians, and academicians in ensuring student health and wellness.

Keywords: Interpersonal Relationships; Quality of Life; Interpersonal Cognitive Distortions Scale; Well-Being.

RESUMEN

Introducción: las relaciones interpersonales se definen como las interacciones mutuas, así como los comportamientos que una persona experimenta en distintos niveles, desde conocidos hasta relaciones cercanas. Se ha descubierto que las distorsiones cognitivas interpersonales afectan el bienestar mental general del individuo y también se asocian con un mayor riesgo de depresión y suicidio. Dado que los trastornos de salud mental siguen siendo una importante preocupación de salud pública, es fundamental comprender los diferentes factores que los provocan.

Objetivo: el presente estudio tiene como objetivo establecer las propiedades psicométricas de la Escala de Distorsiones Cognitivas Interpersonales (EDCI) en estudiantes universitarios. El objetivo secundario es comprender las implicaciones de la EDCI en la salud mental y la calidad de vida de los estudiantes universitarios.

Método: el presente estudio es de tipo descriptivo, con un muestreo no probabilístico por conveniencia, y una muestra de 297 participantes.

Resultados: se estableció adecuadamente la validez de apariencia y de contenido de la escala. La escala mostró buena consistencia interna con un valor alfa de Cronbach's de 0,910 y un coeficiente de división por mitades de Guttman de 0,83. El modelo presentó un buen ajuste, con índices absolutos como χ^2 , $\chi^2/g.l.$, NFI, CFI, RMR y RMSEA dentro de valores aceptables. La varianza media extraída (AVE) y la confiabilidad compuesta para los tres factores fueron mayores a 0,5 y 0,7 respectivamente, lo que indica una buena validez convergente y confiabilidad compuesta. Los valores de AVE fueron mayores que las correlaciones cuadradas entre factores, lo que demuestra una buena validez discriminante.

Conclusiones: la escala demostró buenas propiedades psicométricas y es adecuada para su uso en contextos universitarios, mostrando una relevancia significativa para el bienestar general de los estudiantes. Esto puede ayudar a profesionales, clínicos y académicos a promover la salud y el bienestar estudiantil.

Palabras clave: Relaciones Interpersonales; Calidad de Vida; Escala de Distorsiones Cognitivas Interpersonales; Bienestar.

INTRODUCTION

Interpersonal relationships are defined as mutual interactions as well as behaviours an individual experiences at varying levels from acquaintances to close relationships, rising from the need that persists between two or more people. These relationships can be based on real interactions unfolding between two or more individuals or mental representations of a relationship between oneself and the others.

People from various backgrounds and communities tend to have a vital need to form social connections and to develop a sense of relatedness which helps in the overall development and fosters well-being in an individual.⁽¹⁾ Individuals with smaller social networks and fewer close meaningful relationships were more likely to show depressive symptoms.⁽²⁾ People tend to form social relationships in the view of different objectives that can have an overall impact on a relationship and thereby either promote or impair health and well-being.⁽³⁾

Interpersonal problems are considered to be recurrent difficulties present in interacting and relating to others. It involves problems such as difficulty in showing affection and connecting with others, being very controlling of other people or repressing one's own needs to satisfy others.⁽⁴⁾ Existing literature shows that there is a strong negative association between dysfunctional interpersonal belief and mental well-being.⁽³⁾ Studies state that people who tend to have interpersonal goals that are compassionate and who try to emphasise the needs and welfare of others tend to have better mental well-being than people with self-image goals.⁽⁵⁾

This view is further validated by a large body of evidence that states that people who are more socially included and who experience more empathetic, supportive, and rewarding relationships with other people have better psychological health, better quality of life, enhanced personal well-being and reduced rates of mortality as well as morbidity.^(6,7) The need to participate in social settings is highlighted by the presence of depression and anxiety symptoms influenced by the quality of interpersonal relationships of an individual.^(8,9) Interpersonal relationships were found to be a protective factor against depression, stress, and mental disorders.⁽¹⁰⁾

Research shows that suicidal ideation is associated with low-quality peer networks, high level peer exclusion, low level peer intimacy, and lack of supportive friends, as well as peer bullying.⁽¹¹⁾ The presence of good peer relationships as well as family support was found to weaken the link between suicidal ideation and depression.⁽¹²⁾ Several other studies also highlight the association between interpersonal problems and psychopathology such as major depression, maladjusted personality, and anxiety, as well as increased symptomology.^(13,14)

The interpersonal theory highlights that the lack of meaningful relationships is one of the prominent factors that increases the risk of subsequent depressive symptoms.^(15,16) Studies further indicate that building social support systems, interacting with others actively, improving self-control, increasing trust in others, reducing loneliness, and decreasing emotion dysregulation can help increase resilience among individuals.⁽¹⁷⁾

The thoughts that are automatic and developed due to the systematic logic errors present in the perceptions of people are called cognitive distortions.⁽¹⁸⁾ The individual's thoughts are the basis for emotions and they are the cause, creator, and supporter of behaviours. According to cognitive behavioural therapy, adjustments in a relationship are deeply influenced by an individual's way of thinking as well as the thought contents.⁽¹⁹⁾ The irrational maladaptive thinking may lead to negative self-defeating behaviour that leads to poor adjustment with self and others.⁽²⁰⁾ Studies point out that there is a significant association between distorted thinking and negative interpersonal relationships. Dysfunctional interpersonal beliefs such as interpersonal exploitation and social rejection have been determinants of various characteristics of mental disorders.⁽²¹⁾

In various couple researches, evidence displays the undermining impact of dysfunctional interpersonal belief on dyadic coping, quality of life, and satisfaction within romantic relationships.^(22,23) Researchers also

showcase the evidence for the strong negative association between dysfunctional interpersonal belief and mental well-being. Distorted thinking patterns are found to impact thinking, perception, and emotions and cause dysfunctional behaviours. This causes mental disorders and a lack of psychological and social capability due to illogical thinking patterns and negative views about oneself, others, and the world.⁽²⁴⁾

Despite the greater need towards comprehending interpersonal relationships and erroneous beliefs that is present globally, we face a major crisis towards availing a culturally relevant tool on interpersonal cognitive distortions that would be appropriate for an Indian setting. Interpersonal cognitive distortions are defined as perceptions about the nature of relationships as well as about themselves and the world around them that are highly firm, exaggerated, and irrational and absolutist beliefs.⁽²⁵⁾

The Interpersonal Cognitive Distortions Scale that was developed by Hamamci et al.⁽²⁶⁾ is found to have been explicitly developed to measure the various cognitive distortions in all types of relationships. It is multidimensional, consisting of a) interpersonal rejection: the perception that an individual will undergo negative outcomes if they develop relationships with other people, b) unrealistic relationship expectation: high expectation placed on one's behaviour and the behaviour of others in a relationship, and c) interpersonal misperception: the act of trying to comprehend feelings and thoughts of others using unrealistic means.^(25,26)

To address various forms of distorted thinking, the Cognitive Distortions Scale was developed as a comprehensive measure that consists of assessing the presence of 10 distinct negative thought patterns such as mind reading, all or nothing thinking, catastrophising, etc. covering two broad domains which are interpersonal as well as achievement factors. Though it has been extensively validated in both clinical and non-clinical populations it does not explore interpersonal cognitive distortions in a broader aspect thereby rendering it to be less specialized when compared to the ICDS scale.⁽²⁷⁾

Another tool, which is the Self-Debasing Cognitive Distortions Scale is a culturally relevant questionnaire that has been developed as well as validated among the Indian adolescent population focusing on cognitive distortions that are self critical. It is a 16 item instrument that aims to assess self deprecating negative thoughts which are found to play a critical role in the symptomatology of depression as well as the development of self-esteem. However, the focus towards self-debasing distortions is found to be rendered as less suited to measure interpersonal cognitive distortions.⁽²⁸⁾

Other questionnaires, such as the Cognitive Distortions Questionnaire (CD-Quest) and its adolescent adaptation (CD-Quest-T), as well as the Cognitive Distortions Scale-Urdu (CDS-U), are extensively validated and are found to have strong psychometric properties but fail to elaborate on the interpersonal domain in an individual. This thereby puts forward the need to utilise the ICDS scale to have a better understanding of distortions present through the lens of interpersonal relationships. Considering the limited literature in an Indian context due to a lack of a proper validated scale puts forward the need to establish a psychometrically sound tool.^(29,30) The current study thus aims to validate the Interpersonal Cognitive Distortions Scale among college students in Chennai, Tamil Nadu, India.

METHOD

The current study was conducted within the District of Chennai in Tamil Nadu where data was collected by approaching three different educational institutions in Chennai from both undergraduate and postgraduate students. The current study adopted a non-probability convenience sampling where the sample size was 297 participants. The current tool consists of 19 items, the sample size was determined with an n:p ratio of 15 participants per item. The rule of thumb determines that a sample size of $N > 200$ for factor analysis offers the required statistical power for adequate data analysis.⁽³¹⁾ The following inclusion and exclusion criteria was utilized to select the participants of the study.

Inclusion Criteria

- Individuals between the ages of 18 and 25.
- Individuals who are currently pursuing their undergraduate or postgraduate degree at a recognized institution.

Exclusion Criteria

- Individuals diagnosed with any major psychiatric disorders.
- Individuals with chronic physical health conditions.

Procedure

A descriptive method was used in the current study. The content validity ratio (CVR) was determined by psychologists who reviewed the items of the scale using Lawshe's formula. The item level and scale level content validity index was found to be commendable for all 19 items hence proving good content validity. The scale was translated and back-translated to Tamil following standard translation procedures. A pilot testing was

done where 10 participants evaluated the scale in terms of feasibility or understanding of the scale, response time, as well as to identify if there are any other challenges faced by the participants. The participants did not face any difficulties in completing the test regardless of their educational backgrounds thereby indicating good face validity. Data collection was started after good face and content validity were confirmed for the scale. The questionnaire consisted of the basic demographic profile and the Interpersonal Cognitive Distortions Scale with 19 items. The respondents were informed regarding the study procedure, the objectives of the study, potential benefits that can be incurred from the study, and they were briefed about the confidentiality of the data that will be collected. Participants who had consented to the study filled in the form and contributed towards establishing the psychometric properties. The data thus collected was used to check the reliability of the scale and CFA was conducted to determine the factor structure, and to state whether the factors measure the construct interpersonal cognitive distortion.

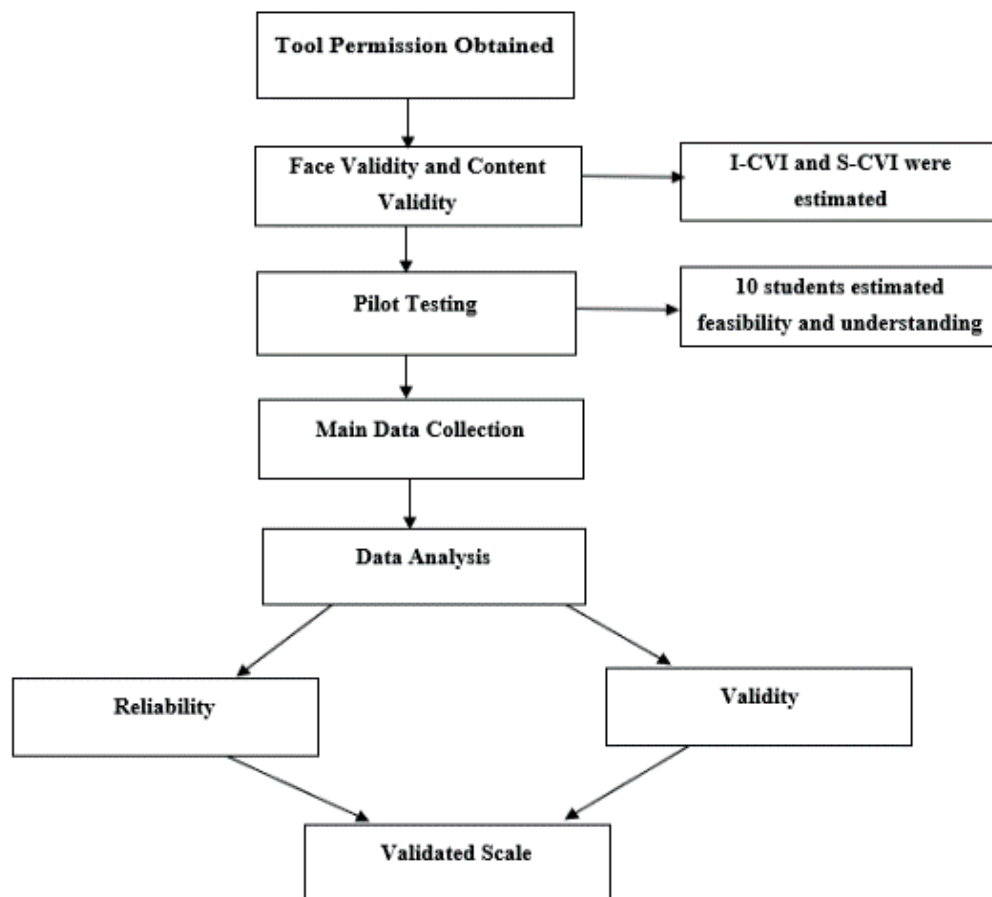


Figure 1. Methodology

Details of the Measurement Tools

Validated scale: Interpersonal Cognitive Distortions Scale

The Interpersonal Cognitive Distortions Scale is a self-report questionnaire that determines cognitive distortions present in different relationships. The questionnaire comprises 19 items with a 5 point likert scale ranging from “1 strongly disagree” to “5 strongly agree.” The scale comprises three dimensions which are interpersonal rejection, unrealistic relationship expectation, and interpersonal misperception. Greater scores represented higher cognitive distortions about interpersonal relationships. The scale was found to have a good test-retest correlation, and the Cronbach’s alpha internal consistency was deemed to be satisfactory. The association between ICDS and the Conflict Tendency Scale demonstrated that the ICDS has criterion-related validity.⁽²⁶⁾

Statistical Analysis Applied

Descriptive statistics were conducted to comprehend the sample participants of the study, and the sample adequacy was tested with the use of Bartlett test of sphericity and Kaiser Meyer Olkin test which was done using SPSS software. Reliability tests such as Cronbach’s alpha and split half reliability were measured to establish the internal consistency of the scale in measuring the particular construct. For the current study, only CFA was conducted using AMOS SPSS as the factorial structure of the questionnaire has already been well

established. The CFA was used to measure the composite reliability, convergent validity and divergent validity of the interpersonal cognitive distortions scale.^(32,33)

Ethical Consideration

The current study abided by the ethical guidelines ensuring that rights, dignity, and welfare of the participants were maintained. The research was conducted after obtaining ethical approval from the Institutional Human Ethics Committee (IHEC-II/0669/24) from Chettinad Academy of Research and Education, Kelambakkam. The nature, purpose, and objectives of the study were clearly mentioned to the participants before conducting the study. The participants were informed that the data will be kept confidential and that it will be used for academic purposes only. The participants were also informed that they can withdraw anytime from the study.

RESULTS

Demographic Profile of the Participants

The graphs in figure 2 show the distribution of the participants in terms of gender and age. From the graphs it was found that around 141 participants were males accounting for 47,5 percent, whereas 156 were females accounting for 52,5 percent. Most of the respondents fall between the ages of 18 and 20 years with 206 participants (69,4 %) and 67 participants were between the ages of 21 and 23 years of age with a percentage of 22,6 % and 24 (8,1 %) participants were between 24 and 25 years of age.

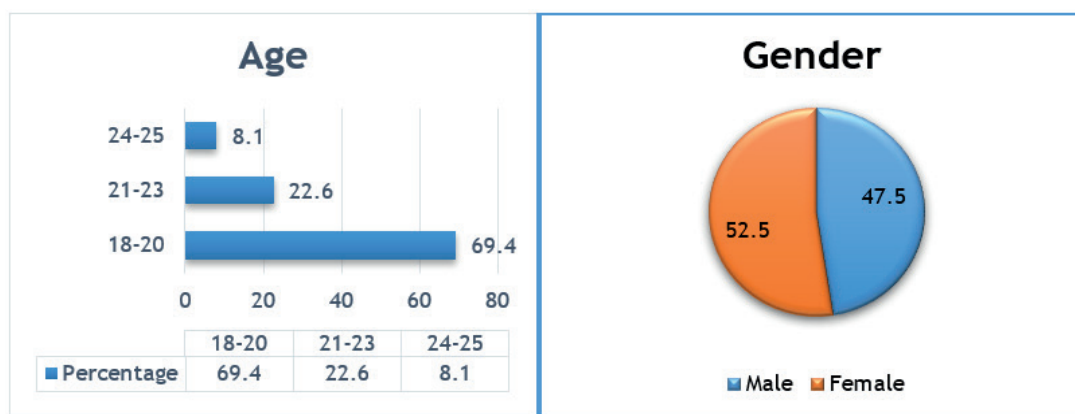


Figure 2. Demographic Profile of the Participants

Reliability Test

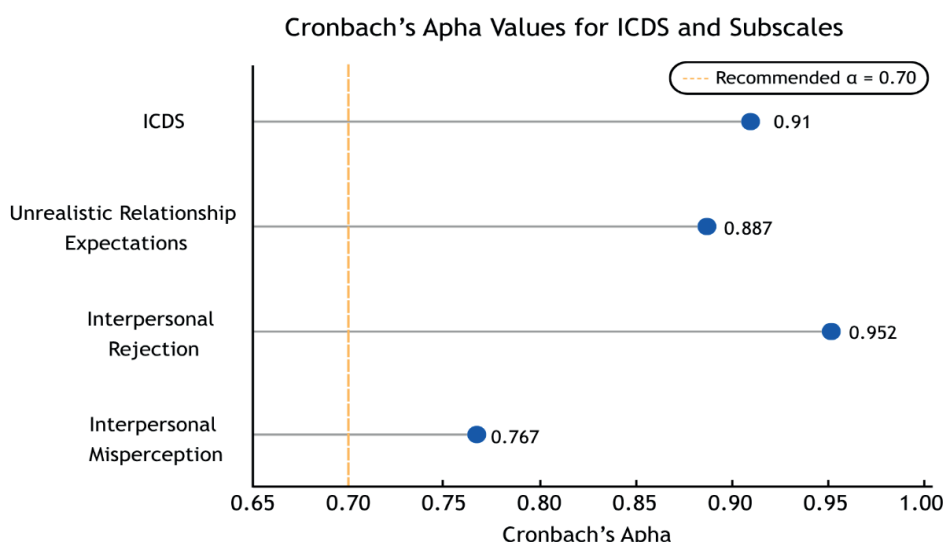


Figure 3. Cronbach's Alpha Value for internal consistency

Figure 3 determines the Cronbach's alpha value to examine the internal consistency of the questionnaire. It determines the extent to which the items consistently seek to measure the same construct. A Cronbach's alpha value of $\alpha=0,910$ was obtained after testing the items of the ICDS. Studies ascertain that an alpha value ranging between 0,70 and 0,95 shows a good reliability.⁽³⁴⁾ Thus, the value obtained showcases good internal

consistency of the ICDS Scale. The factors measuring Interpersonal cognitive distortions which are unrealistic relationship expectation with 8 items, interpersonal rejection with 8 items, and interpersonal misperception with 3 items have Cronbach's alpha values of 0,887, 0,952, and 0,767 respectively thereby further highlighting the good internal consistency of the scale.

Further, table 1 showcases the split-half reliability, which was tested by dividing the items into two halves, with the first half having 10 items and the second half having 9 items. The scores obtained from these items are correlated between the two halves to assure the internal consistency of the ICDS Scale. A score ranging between 0,80 and 0,90 for the guttman split half reliability coefficient is considered to be a good level of reliability for a research tool.⁽³⁵⁾ The two conditions, which are the spearman brown coefficient and the guttman split half coefficient showed values of 0,786 and 0,83 further clarifying a good internal consistency of the scale.

Table 1. Split Half Reliability of the Interpersonal Cognitive Distortions Scale		
Part 1	No. of Items	10
Part 2	No. of Items	9
	Total N of Items	19
Spearman Brown Coefficient	Equal Length	0,786
	Unequal Length	0,786
Guttman Split-Half Coefficient		0,83

Table 2. Test-Retest reliability of the Interpersonal Cognitive Distortions Scale					
ICC Type	ICC Value	95 % Confidence Interval		F Value	P value
		Lower Bound	Upper Bound		
Single Measures	0,983	0,965	0,992	121,624	0,001
Average Measures	0,992	0,982	0,996	121,624	0,001

Table 2 shows an interclass correlation coefficient value for the single measure of 0,983 which is significant at the 0,01 level of significance, indicating good consistency in the response given by the participants in both time intervals. This further indicates that individual evaluations are consistent over time. The average measure of the interclass correlation coefficient is 0,992 which is significant at the 0,01 level indicating the mean score of the test-retest reliability is strong at each time period. These ICC values show that the results obtained for the ICDS scale are consistent and the scores are repeatable. The strong degree of agreement indicates that extraneous factors had little effect on the results of the test.

Confirmatory Factor Analysis

The Bartlett test of sphericity and Kaiser Meyer Olkin test were conducted for the data in order to test the sampling adequacy and the suitability of data for factor analysis. Table 3 shows a score of 0,910 for the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, which is within the acceptable range of greater than 0,5 and closer to 1 indicating that the data of the scale has a greater degree of common variance indicating that the data set is adequate for factor analysis.⁽³⁶⁾

Table 3. KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,910
Bartlett's Test of Sphericity	Approx. Chi-Square	4453,19
	Df	171
	Sig.	0,001

For Bartlett's Test of Sphericity, studies show that any significance value less than 0,05 is considered valid and it supports the ability of the factors to correlate.⁽³⁷⁾ Thus, the bartlett test of sphericity denotes a chi-square value of 4453,19 which is found to be significant at the 0,01 level of significance thereby denoting that the data is valid and can be reduced to different factors.

Table 4 indicates that the hypothesized model has a chi-square value of 452,941 with degrees of freedom of 146 and a chi-square degree of freedom of 3,102.

Table 4. Confirmatory Factor Analysis (CFA) of the Interpersonal Cognitive Distortions Scale

Indices	CFA		Suggested Value
	Value	Remarks	
Chi Square Value	452,941		-
DF	146		-
Chi-Square Value/DF	3,102	Accepted	< 5,00
GFI	0,859	Not Accepted	>0,90
TLI	0,918	Accepted	> 0,90
NFI	0,901	Accepted	> 0,90
CFI	0,930	Accepted	>0,90
RMR	0,055	Accepted	< 0,08
RMSEA	0,079	Accepted	< 0,08

Since the initial fit of the model did not satisfy the conditions of the absolute fit indices, modification indices were used to improve the fit of the model by correlating between the error terms of the same factors. Since the chi-square degrees of freedom are less than 5 the model fits perfectly. The goodness of fit index is 0,859 which is not greater than the proposed value of 0,90 but, however, is quite close to the stipulated value. The tucker lewis index of 0,918 is greater than the acceptable value of 0,90 thereby indicating an acceptable fit. The normed fit index of 0,901 is greater than the acceptable value of 0,90 thereby indicating a good model fit. The comparative fit index of 0,930 further highlights the good fit of the model. The Root Mean Square Residuals (RMR) and Root Mean Square Error of Approximation (RMSEA) represent value of 0,055 and 0,079, which are less than the accepted value of 0,08 hence the model represents a good fit.

Convergent Validity and Construct Validity

Table 5. Convergent Validity and Construct Reliability of the Interpersonal Cognitive Distortions Scale

Variables	Indicator	Validity Test		AVE>0,5	CR>0,7	Conclusion
		Factor Loading	Conclusion			
Unrealistic Relationship Expectation	Q5	0,636	Valid	0,508	0,886	Reliable
	Q9	0,647	Valid			
	Q11	0,31	Valid			
	Q14	0,617	Valid			
	Q15	0,812	Valid			
	Q16	0,802	Valid			
	Q17	0,885	Valid			
	Q18	0,825	Valid			
Interpersonal Rejection	Q19	0,714	Valid	0,704	0,949	Reliable
	Q13	0,684	Valid			
	Q12	0,794	Valid			
	Q10	0,942	Valid			
	Q4	0,933	Valid			
	Q3	0,949	Valid			
	Q2	0,757	Valid			
	Q1	0,891	Valid			
Interpersonal Misperception	Q6	0,711	Valid	0,523	0,767	Reliable
	Q7	0,717	Valid			
	Q8	0,742	Valid			

Table 5 provides the Average Variance Extracted (AVE), factor loadings, and Construct Reliability of the items present in the Interpersonal Cognitive Distortions Scale. The factor loading determines the extent to which a correlation exists between an item and a factor. A value of more than 0,30 for an item predominantly

signifies a moderate correlation between that item and its respective factor. A high factor loading signifies a strong relationship of an item with its construct.⁽³⁸⁾ From the above table it is found that items showed factor loadings between 0,310 and 0,949 thereby stating that they are suitable for the constructs. The lowest factor loading was demonstrated by item 11, which had a factor loading of 0,31, but because the overall factor met the threshold for the AVE and composite reliability, the item was not removed. Further, the item was retained to maintain the structural integrity as well as the comparability to the original tool, as it did not improve model fit indices or the internal consistency measures. The AVE of the three variables unrealistic relationship expectation, interpersonal rejection, and interpersonal misperception are 0,508, 0,704, and 0,523 respectively which are found to be greater than the acceptable value of 0,5 thereby indicating that the variables explain more than half of its variance. Thus, the variables are well explained by their items. The Construct Reliability (CR) determines the internal consistency of the items measuring a particular construct and should have a value greater than 0,7. From the above table it was found that the variables Unrealistic Relationship Expectation, Interpersonal Rejection, and Interpersonal Misperception have a construct reliability of 0,886, 0,949, and 0,767 respectively thereby indicating that the internal consistency of the items measuring the latent variables is intact.

Discriminant Validity

Factors of ICDS	AVE	F1	F2	F3	Conclusion
F1	0,508		0,285	0,007	Valid
F2	0,704	0,285		0,001	Valid
F3	0,523	0,007	0,001		Valid

Table 6 determines the squared intercorrelation value and the Average Variance Extracted (AVE) value for the factors. These values determine the discriminant validity of ICDS by comparing the values of the AVE with the squared value of the intercorrelations among the factors being analysed. If the squared intercorrelations are lesser than the AVE of that particular variable then a good discriminant validity exists. From the values it was found that the correlations between the factors F1 with F2, F1 with F3 and F3 with F2 were 0,285, 0,007, and 0,001 which are less than the AVE values hence a good discriminant validity exists for the ICDS Scale.

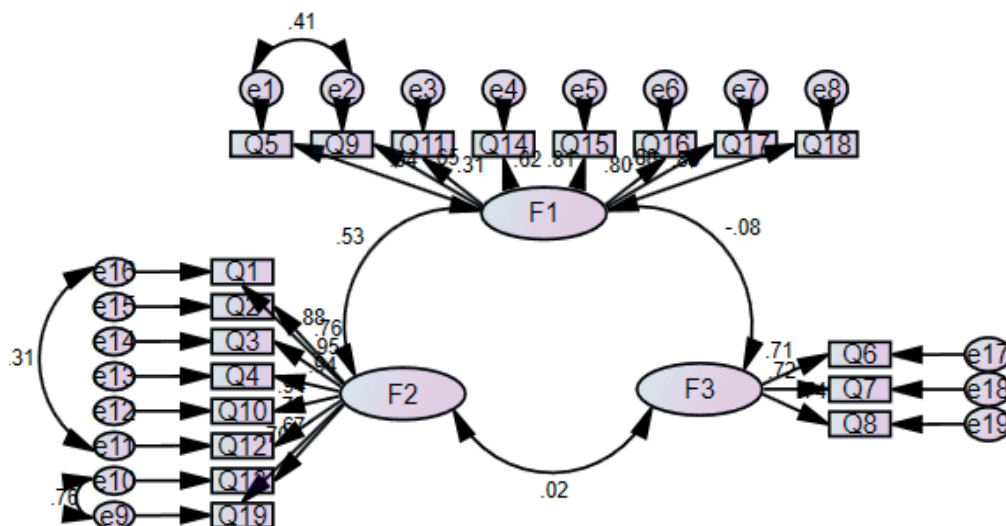


Figure 4. Final three-factor model of the Interpersonal Cognitive Distortions Scale (ICDS)

DISCUSSION

The objective of the current study was to validate the Interpersonal Cognitive Distortions Scale among college students in Chennai, Tamil Nadu, India. The ICDS scale is crucial as the scale does not limit the cognitive distortions to only intimate relationships but it looks towards measuring cognitive distortions over all types of relationships that an individual forms.^(39,40) The scale has been widely used by various researchers towards exploring various areas such as marital intimacy, exploring the role of interpersonal cognitive distortions on suicidal ideation,⁽⁴¹⁾ looking into the role of childhood trauma in causing interpersonal cognitive distortions,⁽⁴²⁾

understanding its role in dating anxiety,⁽⁴³⁾ understanding the role of cognitive distortions in various interpersonal problems, predicting the general health of various couples⁽⁴⁴⁾ and so on.

The study highlights the need for further research on ICD in comprehending college students interpersonal functioning and its underlying influence on their general well-being. The various dimensions, such as the unrealistic expectations over different relationships, interpersonal rejection as well as misperceptions of people's behaviours are found to be associated with negative and maladaptive emotional responses along with dysfunctional interpersonal patterns. These distortions, thereby, can rise to be a major risk factor towards the development as well as the maintenance of various mental health issues such as depression, anxiety, and lower one's self-esteem.

However, the major concern that arises is that none of these studies were conducted in an Indian population. Looking into the cultural and geographical relevance of the Interpersonal Cognitive Distortions Scale, it is important that the researchers have the platform to build on these studies in an Indian setting rather than only limiting its scope to the Turkish population. This thereby highlights the potential of research in the area of interpersonal cognitive distortions and the need to expand on the scientific evidence that would help practitioners and mental health clinicians in aiding the clients in the process of healing and ensuring good interpersonal relationships and achieving improved quality of life and well-being. Thus, the current study aimed to validate the scale among college students in Chennai, Tamil Nadu, India, thereby paving the way for future research in this area.

The cultural relevance of the items of the scale was tested by making various psychologists review the scale. After which a pilot phase was done among 10 students to test the feasibility and the level of comprehension of the scale. After careful examination and review, the scale was found to be acceptable for further analysis. Thus, data was collected from 297 participants and descriptive statistics were conducted in order to understand the participants being studied. The internal consistency of ICDS was found to be fruitful with a Cronbach's alpha value of 0,910 as well as a Guttman split half reliability of 0,83. The researcher then conducted CFA which was utilised to verify the factor structure of the 3-factor model thereby testing the relationship between the observed variable and their latent constructs. From the results it was found that the absolute fit indices of the model such as the Chi-square value (χ^2), Goodness of Fit Index (GFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Root Mean Square Residuals (RMR), and Root Mean Square Error of Approximation (RMSEA) were within the adequate range thereby positing a good fit of the model.

Thus, from the study it can be ascertained that the scale is validated and it is suitable to use among college students. This validated tool can bridge the gap in the existing literature and ascertain the risks that are involved in not addressing these maladaptive thinking patterns pertaining to relationships, thereby serving as an essential tool for practitioners, clinicians, and educators, as well as administrators.

CONCLUSIONS

The current study was successful in validating the ICDS Scale with the three-factor structure among college students in Chennai, Tamil Nadu, India. The constructs which are the unrealistic relationship expectations, interpersonal rejection, and interpersonal misperception were found to adequately measure the interpersonal beliefs of a particular individual pertaining to various relationships the individual beholds. This thereby will help the researchers to fill the gap in literature related to interpersonal cognitive distortions. While the scale showcases good reliability and strong validity, it does come with its own limitation. Researchers haven't statistically compared the scale with existing scales yet. The scale has not been statistically compared with already existing scales. Thus, researchers who aim to validate the scale in a different setting can take that into account and ensure that the scale is validated by comparing its properties with other similar scales. Further, the current study was done with a sample size of 297 participants with a non-probability sampling design, future studies can look towards incorporating a bigger sample size that is representative of a wider geographical setting. This study thus aids researchers, academicians, and practitioners in moving towards a more holistic understanding of interpersonal relationships of various populations.

BIBLIOGRAPHIC REFERENCES

1. Pardede S, Kovač VB. Distinguishing the need to belong and sense of belongingness: The relation between need to belong and personal appraisals under two different belongingness-conditions. *Eur J Investig Health Psychol Educ.* 2023;13(2):331-44. <http://dx.doi.org/10.3390/ejihpe13020025>
2. Wickramaratne PJ, Yangchen T, Lepow L, Patra BG, Glicksburg B, Talati A, et al. Social connectedness as a determinant of mental health: A scoping review. *PLoS One.* 2022;17(10):e0275004. <http://dx.doi.org/10.1371/journal.pone.0275004>
3. McEvoy PM, Burgess MM, Nathan P. The relationship between interpersonal problems, negative cognitions,

and outcomes from cognitive behavioural group therapy for depression. *J Affect Disord*. 2013;150(2):266-75. <http://dx.doi.org/10.1016/j.jad.2013.04.005>

4. Orehek E, Forest AL, Barbaro N. A people-as-means approach to interpersonal relationships. *Perspect Psychol Sci*. 2018;13(3):373-89. <http://dx.doi.org/10.1177/1745691617744522>

5. Canevello A, Crocker J. Interpersonal goals and close relationship processes: Potential links to health: Interpersonal goals and close relationship processes. *Soc Personal Psychol Compass*. 2011;5(6):346-58. <http://dx.doi.org/10.1111/j.1751-9004.2011.00356.x>

6. Cohen JR, Spiro CN, Young JF, Gibb BE, Hankin BL, Abela JRZ. Interpersonal risk profiles for youth depression: A person-centered, multi-wave, longitudinal study. *J Abnorm Child Psychol*. 2015;43(8):1415-26. <http://dx.doi.org/10.1007/s10802-015-0023-x>

7. Miller GE, Lachman ME, Chen E, Gruenewald TL, Karlamangla AS, Seeman TE. Pathways to resilience: maternal nurturance as a buffer against the effects of childhood poverty on metabolic syndrome at midlife: Maternal nurturance as a buffer against the effects of childhood poverty on metabolic syndrome at midlife. *Psychol Sci*. 2011;22(12):1591-9. <http://dx.doi.org/10.1177/0956797611419170>

8. Tian L, Zhang W, Chen G. Effects of parental support, friendship quality on loneliness and depression: To test an indirect effect model. *Xin Li Xue Bao*. 2014;46(2):238. <http://dx.doi.org/10.3724/sp.j.1041.2014.00238>

9. WHO. Depression and other common mental disorders: Global health estimates, Geneva, Switzerland: 2017

10. Santini ZI, Koyanagi A, Tyrovolas S, Mason C, Haro JM. The association between social relationships and depression: a systematic review. *J Affect Disord*. 2015;175:53-65. <http://dx.doi.org/10.1016/j.jad.2014.12.049>

11. Winterrowd E, Canetto SS, Chavez EL. Friendships and suicidality among Mexican American adolescent girls and boys. *Death Stud*. 2010;34(7):641-60. <http://dx.doi.org/10.1080/07481181003765527>

12. Rivers AS, Russon J, Winston-Lindeboom P, Ruan-lu L, Diamond G. Family and peer relationships in a residential youth sample: Exploring unique, non-linear, and interactive associations with depressive symptoms and suicide risk. *J Youth Adolesc*. 2022;51(6):1062-73. <http://dx.doi.org/10.1007/s10964-021-01524-x>

13. Tonge NA, Lim MH, Piccirillo ML, Fernandez KC, Langer JK, Rodebaugh TL. Interpersonal problems in social anxiety disorder across different relational contexts. *J Anxiety Disord*. 2020;75(102275):102275. <http://dx.doi.org/10.1016/j.janxdis.2020.102275>

14. Tricoli C, Croy I, Sailer U. Depression predicts interpersonal problems partially through the attitude towards social touch. *J Affect Disord*. 2019;246:234-40. <http://dx.doi.org/10.1016/j.jad.2018.12.054>

15. Rognli EW, Waraan L, Czajkowski NO, Solbakken OA, Aalberg M. Conflict with parents in adolescent depression: Associations with parental interpersonal problems and depressive symptoms. *Child Psychiatry Hum Dev*. 2020;51(3):442-52. <http://dx.doi.org/10.1007/s10578-020-00955-0>

16. Sullivan HS, editor. The interpersonal theory of psychiatry. London, England: Routledge; 2013. <http://dx.doi.org/10.4324/9781315014029>

17. Wills TA, Bantum EO. Social support, self-regulation, and resilience in two populations: General-population adolescents and adult cancer survivors. *J Soc Clin Psychol*. 2012;31(6):568-92. <http://dx.doi.org/10.1521/jscp.2012.31.6.568>

18. Goodie AS, Fortune EE. Measuring cognitive distortions in pathological gambling: review and meta-analyses. *Psychol Addict Behav*. 2013;27(3):730-43. <http://dx.doi.org/10.1037/a0031892>

19. Rait S, Monsen JJ, Squires G. Cognitive Behaviour Therapies and their implications for applied educational psychology practice. *Educ Psychol Pract*. 2010;26(2):105-22. <http://dx.doi.org/10.1080/02667361003768443>

20. Alfrehat B, Jarwan A, Abu Zaid HY, Alshawashreh OM, Al-Balqa. Self-Defeating Behaviour and Its Relationship with Cognitive Distortion among Jordanian People. *J ReAttach Ther Dev Divers*. 2023; 2023. <https://jrtd.com>
21. Partridge O, Maguire T, Newman-Taylor K. How does attachment style affect psychosis? A systematic review of causal mechanisms and guide to future inquiry. *Psychol Psychother*. 2022;95(1):345-80. <http://dx.doi.org/10.1111/papt.12371>
22. Filipović S, Vukosavljević-Gvozden T, Opačić G. Irrational beliefs, dysfunctional emotions, and marital adjustment: A structural model. *J Fam Issues*. 2016;37(16):2333-50. <http://dx.doi.org/10.1177/0192513x15572384>
23. Downey G, Feldman S, Ayduk O, "Rejection sensitivity and male violence in romantic relationships," *Personal Relationships*. 2000; 7(1):45-61. <https://doi.org/10.1111/j.1475-6811.2000.tb00003.x>
24. Sultan R. Possible Self and its Relationship to Cognitive Euphoria among Distinguished Students in Distinguished Secondary Schools. Unpublished Master Thesis, College of Education for Girls, University of Baghdad, Baghdad, 2018.
25. Şimşek OM, Koçak O, Younis MZ. The impact of interpersonal cognitive distortions on satisfaction with life and the mediating role of loneliness. *Sustainability*. 2021;13(16):9293. <http://dx.doi.org/10.3390/su13169293>
26. Hamamci Z, Büyüköztürk S. The Interpersonal Cognitive Distortions Scale: development and psychometric characteristics. *Psychol Rep*. 2004;95(1):291-303. <http://dx.doi.org/10.2466/pr0.95.1.291-303>
27. Covin R, Dozois DJA, Ogniewicz A, Seeds PM. Cognitive Distortions Scale. *PsycTESTS Dataset*. American Psychological Association (APA); 2016.
28. Ara E. Measuring self-debasing cognitive distortions in youth. *Int J Asian Soc Sci*. 2016;6(12):705-12. <http://dx.doi.org/10.18488/journal.1/2016.6.12/1.12.705.712>
29. de Souza CLSG, Pires PP, Couto ISL, de Vasconcelos NSSM, Menezes IG, de Oliveira IR. Development and psychometric properties of the Cognitive Distortions Questionnaire for Adolescents (CD-Quest-T). *Trends Psychiatry Psychother*. 2023;45(1):e20210214. <http://dx.doi.org/10.47626/2237-6089-2021-0214>
30. Shakil M, Ali U, Ali AZ, Khan B. Psychometric analysis of cognitive distortions scale-urdu on patients diagnosed with mental disorders. *J Pak Med Assoc*. 2022;72(1):79-83. <http://dx.doi.org/10.47391/JPMA.1989>
31. Singh K, Junnarkar M, Kaur J. Measures of positive psychology: Development and validation. 1st ed. New Delhi, India: Springer; 2016.
32. Schmitt TA. Current methodological considerations in exploratory and confirmatory factor analysis. *J Psychoeduc Assess*. 2011;29(4):304-21. <http://dx.doi.org/10.1177/0734282911406653>
33. Goyal H, Aleem S. Confirmatory factor analysis (CFA) and psychometric validation of healthy lifestyle and personal control questionnaire (HLPCQ) in India. *Indian J Community Med*. 2023;48(3):430-5. http://dx.doi.org/10.4103/ijcm.ijcm_394_22
34. Tavakol M, Dennick R. Making sense of Cronbach's's alpha. *Int J Med Educ*. 2011;2:53-5. <http://dx.doi.org/10.5116/ijme.4dfb.8dfd>
35. Faremi YA. Reliability Coefficient of multiple-choice and short answer objective test items in basic technology: Comparative approach. *Journal of Educational Policy and Entrepreneurial Research*. 2016;3(3):59-69.
36. Reddy LS. Parigya Kulshrestha. Performing the KMO and Bartlett's Test for Factors Estimating the Warehouse Efficiency, Inventory and Customer Contentment for E-retail Supply Chain. *International Journal for Research in Engineering Application & Management*. 2019; 9(1). <https://doi.org/10.35291/2454-9150.2019.053>

37. Burton LJ, Mazerolle SM. Survey instrument validity part I: Principles of survey instrument development and validation in athletic training education research. *Athl Train Educ J*. 2011;6(1):27-35. <http://dx.doi.org/10.4085/1947-380x-6.1.27>
38. Tavakol M, Wetzel A. Factor Analysis: a means for theory and instrument development in support of construct validity. *Int J Med Educ*. 2020;11:245-7. <http://dx.doi.org/10.5116/ijme.5f96.0f4a>
39. Quispe L, Arauco E, Mauricio Esteban CA. Assessment of quality of work life and healthy lifestyles in nursing professionals: review of the conceptual framework and background. *Multidisciplinar (Montevideo)*. 2024;2:92.
40. Matos Matos A. Algorithmic biases in mental health diagnoses and their impact on vulnerable populations: a documentary review of advances and challenges. *EthAlca*. 2022;1:20.
41. Damirchi ES, Ghojebegloo PH, Amir S. Suicidal ideation in Elderly Without a Spouse: the role of interpersonal cognitive distortions, positive and negative affect, perceived social support and meaning in life. *DOAJ: Directory of Open Access Journals*. 2020. <https://doi.org/10.22126/jap.2020.4894.1389>
42. Demir-Kaya M, Kaya F, Eroglu Y. Interpersonal cognitive distortions: What is the role of childhood trauma and attachment? *J Educ Environ Sci Health*. 2023;9:292-309. <http://dx.doi.org/10.55549/jeseh.1381214>
43. Aghajani S, Samadifard H. The relationship between cognitive fusion and cognitive distortion with death anxiety in patients with diabetes mellitus. *Chron Dise J*. 2018; 6(1): 18-22. <https://doi.org/10.22122/cdj.v6i1.248>
44. Samadifard H, Narimani M. The role of cognitive belief, fusion and distortion in predicting the general health of couples. *Journals of Community Health Research*. 2020;6(3):132-40.

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CONFLICT OF INTEREST

None.

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