A Scale to Measure the Effectiveness of Casework (CES-10)

Dr. S. Rama Gokula Krishnan
School of Social Work, St. Joseph's University
Bengaluru, India
Email: ramagokulakrishnan@gmail.com
ORCID- 0000-0002-6914-530X
Hepzibah Sharmila
Executive Director,
Vathsalya Charitable Trust
Bengaluru, India.
B. Preethi Meena
Assistant Professor
School of Social Work
Kumaraguru College of Liberal Arts and Sciences,
Coimbatore, India
ORCID- 0000-0001-7665-7357
Alan Potter
Assistant Professor, Department of Social Work
The American College
Madurai, India
ORCID- 0000-0002-6800-0627
Shreenithi S.K.
Sr. Assistant Medical Social Worker.
Spastics Society of Karnataka
Bengaluru, India.

Abstract

Purpose: One of the challenges in social casework is the measurement its effectiveness, and the challenge mainly arises due to the lack of a standardized tool. The present research is aimed at filling that gap through the development of a scientific scale to measure the effectiveness of casework practice. **Method:** Data were collected from 202 former casework clients across 22 organizations in India. The collected data were then used to carry out both exploratory and confirmatory factor analyses, **Discussion:** The ten-item Casework Effectiveness Scale (CES-10) has been found to be highly valid and reliable (Cronbach Alpha: 0.956). across multiple types of validity and reliability indicators. Apart from making a wide range of studies possible, the tool also opens the door to future randomized controlled trials, to help test and build scientific evidence for social casework practice. CES-10 is now publicly available and free to use.

Keywords: Casework; Casework Effectiveness Scale; CES-10; Exploratory Factor Analysis; Confirmatory Factor Analysis.
Acknowledgment: The researchers would like to thank all the experts, respondents, and organizations that provided us with the support to carry out this major work. Thank you.
Declaration of Conflicting Interests: Two of the authors in the present study are social work practitioners, and data were collected from their organizations as well. However, since the study

is not about comparing one organization with another, there is no reason for bias, and the survey results are therefore not impacted in any manner by this fact.

Funding Statement: The authors did not receive any funding to carry out the present research.

Ethical Consideration: The researchers secured ethical clearance from the first and corresponding author's institution (Ref: 2025-SJRI-EC-003). Informed consent from the respondents was also collected through Google Form and the collected data were stored in a password-protected computer. The researchers have adhered to the principles laid down in the Declaration of Helsinki (World Medical Association, 2022).

Data Availability: The dataset and the scale associated with this research are publicly available at https://doi.org/10.6084/m9.figshare.28737461.v1

This is an Accepted Version of the Manuscript

Krishnan, S. R. G., Sharmila, H., Meena, B. P., Potter, A., & S.K., S. (2025). A Scale to Measure the Effectiveness of Casework (CES-10). *Research on Social Work Practice*, 10497315251351554. https://doi.org/10.1177/10497315251351554

The Author(s). DOI: [https://doi.org/10.1177/10497315251351554].

Introduction

Social casework is one of the three basic methods of social work (Friedlander, 1976). As a method of social work, it is primarily aimed at helping individuals adjust to their environment through certain established principles of practice that have partly been derived scientifically and partly through accumulated experience (Hollis, 1967). A quick examination of existing literature on casework that has had a significant influence on how it is taught and practiced reveals that the vast majority of the influential literature is multiple decades old (Hollis, 1954; Perlman, 1968;) and this includes efforts to develop tools to measure the effectiveness of social casework (Hunt, 1948). Hunt (1948) and his team were the first to attempt to use a valid and reliable instrument to measure the effectiveness of the casework. Their team first attempted to use the Distress-Relief Quotient developed by Dollard and Mowrer (1947). However, this tool, which measured distress in case records using content analysis, did not lead to successful statistical results, and one of the causes of the failure of this tool was the dependence on caseworkers' judgments about distress using the tool on the casework records (Hunt, 1948). Hunt (1948) and his team then applied a different approach to measure the effectiveness of the casework process.

The researchers recruited individuals with varying degrees of professional training and experience in social work to rate the improvement in each of the 38 cases in terms of five responses: no, slight, moderate, considerable, and great. Then, each of their responses/judgments about the improvement was converted into numbers (1-5 rating). The researchers found a positive correlation of 0.7, which was encouraging, and they also noted that the more professionally trained the group of judges was, the higher the agreement about the improvement of a case, highlighting the importance of professional training to effectively measure the improvement in cases (Hunt, 1948). This effort, however, was flawed due to three major reasons.

Firstly, it depended on the judgment of a caseworker, and not the client, to determine how successful or effective the casework process was. The end goal of casework is to help the individual. If the individual's feedback about the effectiveness is not taken into consideration, then there is a need to question the validity of the tool itself.

Secondly, the approach heavily depended on the quality of the casework record and assumed that the caseworkers were completely honest and unbiased while recording the case. In reality, many organizations may request their caseworkers to maintain very brief records without much detail, which might affect the ability of a social work professional to accurately judge the final effectiveness of the casework process. Moreover, caseworkers, just like any other human being, might have certain implicit biases, which might affect their ability to record the case in an unbiased manner. This, too, can adversely impact the final rating of the effectiveness of the casework process, possibly leading to misjudgments. Finally, this approach was never tested through advanced statistical approaches such as confirmatory factor analysis, which was invented much later in 1969 to develop and validate scales (Flora & Flake, 2017). Since then, there have been very few attempts to try and measure the effectiveness of casework interventions quantitatively.

Existing Efforts to Assess Casework Effectiveness

Due to the lack of standardized tools to measure the effectiveness of casework, organizations have attempted to find other means to assess the effectiveness of casework. For example, attempts to understand the effectiveness of the casework process may take the form of using scales to measure psychological constructs such as self-esteem using Rosenberg's self-esteem scale (Rosenberg, 1995) or depression using Beck's Depression Inventory (Beck, Steer, and Brown, 1996). Although such tools are well known and do measure the psychological

constructs that have a direct bearing on the wellbeing of the clients, they still do not measure the effectiveness of the casework process itself. They do not, for example, explain how beneficial the casework process itself was in addressing their problems. Furthermore, these constructs may not always capture the magnitude of some other types of problems that caseworkers address. Even the solution-based casework process, though useful, aims mainly at developing the skills of the client to address the problem, but again fails to measure the effectiveness of the casework process itself (Krause et al. 2018). There is undoubtedly an urgent need for a standardized tool to effectively measure the effectiveness of casework. The lack of such a tool has had serious consequences for the profession.

Consequences of the Paucity of Standardized Scales

The lack of standardized tools to measure the effectiveness of casework has had a negative impact on the scientific outlook of casework. For example, one of the most cited papers related to casework is the one by Fischer (1973). In this paper titled "Is Casework Effective? - A Review", Fischer examined the existing literature on the effectiveness of casework practice and found that the vast majority were not randomized controlled trials, and randomized controlled trials are considered the gold standard for effectiveness research (Hariton & Locascio, 2018). This resulted in Fisher aptly disregarding the majority of the existing literature and opting to include eleven studies, each of which had its unique sample sizes (Fischer, 1973). For example, in one study, there were 21 in the experimental group and 26 in the control group, whereas in another study, there were 325 in the experimental group and 325 in the control group. These huge differences in the studies could lead to heterogeneity, which in turn could affect the overall conclusion (Cordero & Dans, 2021). However, in cases such as the analysis carried out by Fisher, there were limited randomized controlled trials to begin with (Fischer, 1973). This analysis

eventually led him to the conclusion that casework was not very effective. To quote him from the study, "Not only has professional casework failed to demonstrate it is effective, but lack of effectiveness appears to be the rule rather than the exception across several categories of clients, problems, situations, and types of casework" (Fischer, 1973). This conclusion is a serious blow to those who defend casework as a scientific practice. If examined closely, the lack of randomized controlled trials can be attributed to the lack of standardized tools to measure the impact of casework. This is in line with one highly cited paper (Cheetham, 1992) that called for the need to carry out effectiveness research in social work. Simply put, the lack of tools to measure the effectiveness of casework has been a significant factor (among others) in limiting the number of randomized control trials in casework. This, in turn, has resulted in fewer meta-analyses and systematic reviews being carried out regarding the effectiveness of casework and studies such as the one by Mullen et al. (1972) and Fischer (1973), which conclude that social work methods and interventions are not effective, are well cited even today despite being statistically and methodologically outdated. If more methodologically and statistically sound studies based on randomized controlled trials and meta-analyses on the effectiveness of social work methods, such as casework, are to be conducted, then there is a need to first scientifically develop a tool to measure the effectiveness of casework. In order to fill this gap, the present research is being undertaken.

Theoretical Foundation

Since the goal of the present study is to develop a scale to measure the effectiveness of the casework process across various settings and irrespective of the approach applied, the researchers have developed the initial items of the tool using a combination of the definition of casework by Mary Richmond as well as the objectives of casework as laid out by P. D. Misra.

Richmond, who is widely considered the mother of social casework (Steyaert, 2009), defined casework as "those processes which develop personality through adjustments consciously effected, individual by individual, between men and their social environment (Richmond, 1922)." Three main elements stand out in this popular definition: Individual, Personality, and Social Environment. To put it simply, the goal of social casework, according to Richmond, is to develop the individual's personality so that they can better adjust to the social environment. Although there have been a few attempts made to enumerate the objectives of casework (Lowry, 1937), the researchers have opted to adopt the objectives laid down by Misra (1994) owing to their clarity and practicality. These objectives are as follows: 1) To understand and solve the internal problems of individuals, 2) To strengthen his ego power, 3) Remediation of problems in social functioning, 4) Prevention of problems in social functioning, and 5) Development of resources to enhance social functioning (Misra, 1994). If the goal of the tool is to measure the effectiveness of social casework, then it must be able to capture data indicating whether the casework process has met its primary purpose and objectives. This is why the researchers opted to use both the definition of casework by Richmond (1922) and the objectives laid out by Misra (1994), to develop the initial 20 items of the tool to measure the effectiveness of casework.

Objectives

The objectives of the present study are twofold:

1. To scientifically develop a tool to measure the effectiveness of casework through exploratory and confirmatory factor analysis.
2. To ensure that the developed tool is both valid and reliable.

Method

To fulfill the objectives of this study, the development of the tool was undertaken through a comprehensive three-phase process. The researchers carried out both exploratory factor analysis (Goretzko et al., 2021) as well as confirmatory factor analysis (Goretzko et al., 2021), which are both used in the development of scales. However, before dwelling on the methodology itself, let us first examine the operational definition of effectiveness, which the intended tool will be measuring.

Operational Definition

Since the main objective of the tool is to measure the effectiveness of casework, there is a need to first establish the operational definition of effectiveness in this scenario. Operational definitions are necessary to ensure clarity on the key concepts in a study for both the researchers and the readers (Slife et al., 2016). In the present study, effectiveness refers to the ability of the tool to measure whether the casework process has successfully achieved the objectives of casework as laid out by Richmond (1922) and Misra (1994). Although Richmond's definition is almost 100 years old, the definition still stands tall as the most comprehensive and apt definition of casework practice even today.

Sampling and Data Collection

Since casework involves working with individuals, and it is not easy to secure a large enough sample from a single organization to carry out factor analysis, the researchers collected data from 22 organizations in the country that offer casework services. The researchers opted for this as securing data from multiple organizations working in multiple fields of social work, such as in this case, would help ensure that the final tool is both valid and reliable, irrespective of the setting/field it is used in by future researchers and practitioners. A total of 202 responses were secured from these organizations during the data collection period.

Inclusion and Exclusion Criteria

Since the questionnaire and the finalized items were in English, only those who were able to understand English were selected to respond to the final questionnaire. The respondents had to have completed all their casework sessions. In other words, they were required to be former clients who had experienced the casework process as clients. In cases where the clients were children, data were secured from their parents or guardians. In case a respondent was unable to read English but could understand it, a telephonic or personal interview was carried out, depending on that particular client's preference.

Phase 1

In the first phase of the study, the researchers identified 20 items that best measured the effectiveness of casework as defined in the definition and objectives of casework mentioned by Richmond (1922) and Misra (1994). These 20 items examined whether the casework process had enabled the individual to 1) overcome the problem, 2) improve their relationship with those around them, and 3) improve their personality. In order to establish the content validity of the tool, the researchers identified six experts who could help them in this process. All six experts had to meet the inclusion criteria in order to participate in the study. Firstly, all the experts needed to possess a Master's or bachelor's degree in Social Work from a recognized university. Secondly, they needed to have current or prior experience of at least one year as a practicing social caseworker in any setting. Those who did not study casework as part of the curriculum were excluded from the study. The researchers reached out to mutual social work networks to identify those who met this criterion and were willing to be a part of the study. This led to six experts being identified who agreed to rate the items of the scale and help establish the content validity. The experts were briefed about the study, the purpose of the tool, and the process that

would be undertaken to finalize the tool. The experts were then sent an online questionnaire with the initial 20 items along with written instructions. The experts were asked to rate each of the items on a four-point Likert scale, with one being rated as “Is definitely not a sign of an effective casework process,” and four being rated as “Is definitely a sign of an effective casework process.”. The responses of the six experts were transformed in order to calculate the content validity index as laid out by Yusof (2019). Accordingly, responses between 1-2 were considered as zero on the content validity sheet, while responses between 3-4 were rated as 1. This was followed by the calculation of the content validity index by first noting the average score secured by each item, followed by the removal of items that had an average score below the cutoff value of 0.8 (Yusoff, 2019). Of the total 20 items, eight items secured a perfect average score of 1, while nine items scored 0.8. Three items scored 0.6, which was below the required cut-off point, and were hence removed. To be precise, items 9, 12, and 20 were removed from the table, and the Average of I-CVI across the items was calculated and found to be 0.89, which is above the minimum expected value (McGartland Rubio, 2005). Thus, a total of 17 items (as seen in Table 1) were included in the next phase.

Phase 2

Once the 17 items were finalized, the items were re-numbered after removing the three items that did not meet the required cut-off. These items were now included as part of a larger questionnaire that was used to collect data from the respondents. The final questionnaire had a total of three parts, with the first part including questions related to the respondent’s socio-demographic characteristics, such as age and gender. This was included to gain a general understanding of the background of the respondents. The second part had questions related to the casework sessions, such as the number of sessions they attended and the reason for which they

had participated in the casework. This section was included to learn more about the reasons why individuals seek casework services in the current scenario, among other things. The third section included the 17-item scale to measure the effectiveness of the casework. The respondents could choose one option from the five-point Likert scale (Jebb et al., 2021), with options that ranged from strongly disagree to strongly agree. These responses would later be rated as 0-4 (strongly disagree- 0, disagree - 1, neither agree nor disagree- 2, agree- 3, and strongly agree- 4).

Phase 3

In order to check whether the questionnaire did not have any errors and to ensure that the typical respondent was able to understand all the items in the questionnaire, a pre-test (Wolf et al., 2016) was conducted with two respondents who had undergone casework in the past in one of the Non-Governmental Organizations. Both respondents did not find any difficulty in understanding any of the items. Hence, the questionnaire was finalized and deployed for data collection.

Background Characteristics of the Respondents

In the present study, the majority (53 percent) of the respondents were aged between 22-40 years. Most (80.7 percent) of the respondents were female. Almost half (49 percent) of the respondents were married, while the remaining were either unmarried (34.7 percent), widowed (11.9 percent), or divorced/separated (4.5 percent). While a little less than two-thirds (62.4 percent) of the respondents had undergone casework a year or more than a year ago, an equal percentage of the respondents had undergone casework six or fewer than six months ago (18.8 percent), or between seven to twelve months ago (18. 8 percent). As far as the number of casework sessions was concerned, a slight majority (55 percent) of the respondents had undergone six or more sessions. A little more than one-third (33.7 percent) of the respondents

had undergone 4-5 sessions of casework, while the remaining (10.4 percent) had experienced between 1-3 sessions of casework. The problems faced by the clients were classified into eleven categories- mental health (4.5 percent), addiction (0.5 percent), family adjustment (5 percent), behavioral problems (1.5 percent), parenting related (8.4 percent), financial related (40.6 percent), illness or medical related (16.3 percent), crisis (such as abuse) (2.5 percent), skill development (10.9 percent), legal issues (4 percent), and others (5.9 percent). Among these, the three most common problems for which the respondents had sought casework were financial-related issues such as unemployment/underemployment or challenges in securing a job (40.6 percent), support to overcome illness or medical-related issues (16.3 percent), and skill development (10.9 percent).

Summary of the Exploratory and Confirmatory Factor Analyses

The researchers carried out both exploratory (Watkins, 2018) and confirmatory factor analyses (Brown, 2015) to develop this scale. In order to carry out the exploratory factor analysis, SPSS, version 26, was used, whereas SPSS-AMOS (version 29) was used to conduct the confirmatory factor analysis. While the exploratory factor analysis resulted in the removal of six items, the confirmatory factor analysis led to the removal of one item, resulting in a unidimensional 10-item casework effectiveness scale (CES-10). The scale is both valid and highly reliable. A detailed explanation of both analyses is provided in the following sections.

Exploratory Factor Analysis

The exploratory factor analysis, which was carried out through principal axis factoring (Samuels, 2017), included a factor loading threshold of 0.6, which has always been considered a very good threshold while carrying out the analysis (Comrey & Lee, 1992). The results of this analysis led to the removal of items 2, 13, 14, and 15 as they had a factor loading of less than the

required threshold of 0.6. The analysis was carried out again with the remaining 13 items. Items 7 and 11 were also removed as they had a commonality value of 0.4 or less (Taherdoost et al., 2014). This left the researchers with 11 items. These 11 items, when put through confirmatory factor analysis, resulted in the removal of item 12, which was negatively impacting the model fit. The final set of 10 items was then once again put through exploratory factor analysis

Sampling Adequacy and Factorability

The Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy (see Table 2), which tests whether the sample size is adequate for carrying out factor analysis, was found to be 0.94, which is in the marvelous range (Kaiser, 1974). Bartlett's test of Sphericity points to the factorability of the data (Noora, 2021), and it was found to be statistically significant ($p<0.001$), indicating the factorability of the data.

Total Variance Explained and Multicollinearity

The total variance explained or the amount of variability captured by the factors is an important indicator in factor analysis. In the present study, as seen in Table 3, it was found to explain about 69 percent of the total variance, which is well within the expected limit (UCLA, 2025). Another aspect that can negatively impact the factor analysis is the presence of multicollinearity (Kyriazos & Poga, 2023). In the present study, multicollinearity was assessed using the correlation matrix determinant, which was found to be 9.29, higher than the minimum value of 0.0001, and therefore indicating the absence of multicollinearity.

Validity and Reliability

Three types of validity and two types of reliability were examined. The first and one of the most commonly examined types of validity is the convergent validity of the data. Convergent validity refers to the presence of a strong correlation between the items (Weiss & Adams, 2010).

In the present study, all the items had a strong positive correlation with each other, as examined through the factor loadings. All the factor loadings were well above the minimum threshold of 0.4, with the lowest factor loading being 0.74 (item 1). Thus, convergent validity was established. Since the present scale is a unidimensional scale, discriminant validity does not need to be established. Finally, construct validity was also established through confirmatory factor analysis, which will be explained in the following sections. As far as the reliability of the tool is concerned, As seen in Table 2, the Chornbach Alpha value of the scale, which is an indicator of the scale's reliability from the perspective of internal consistency, was found to be 0.96, which is indicative of high internal consistency and reliability (Taber, 2018). The dataset was split to examine the reliability of the the scale across different demographic groups as well and the results indicated that it is in fact reliable across genders (Female: 0.97; Male: 0.95; Transgender: 0.70), different age groups (21 years or below: 0.92; 22-40 years: 0.97; 41 years and above: 0.97), across marital status (Unmarried: 0.92; Married: 0.97; Divorced/Separated: 0.97; Widowed: 0.98), and across education levels (12th grade or below: 0.96; Undergraduate Degree: 0.97; Post Graduate Degree: 0.97). The composite reliability, another measure of internal consistency (Alexander, 2019), was also found to be well above the minimum threshold of 0.7, with the same value of 0.96 (Cheung et al., 2024). The composite reliability was calculated using a combination of SPSS and Excel software. The construct validity of the scale is proven through a good model fit, as discussed in the following section.

Confirmatory Factor Analysis

Confirmatory factor analysis begins by defining the latent variables that the researcher aims to measure (Jöreskog et al., 2016). The results of the CFA carried out can be seen in Table 5. As mentioned previously, item 12 was removed as it was negatively impacting the model fit.

Moreover, modification indices were used as a reference to improve the model fit. The results show that all the indicators, namely, CMIN/df, Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), and the Probability of close fit or P-close, all indicate that the model is a good fit (Statistische Beratung Leonardo Miljko, 2020). The threshold limits have also been mentioned in the table for reference. Moreover, the path diagram with the standardized estimates has been presented in Figure 1. It may be noted that since it was challenging to secure another 200 responses, both exploratory and confirmatory factor analyses were carried out using the same sample. In order to address this limitation, the Bollen-Stine Bootstrap procedure was carried out using 1000 bootstrap samples, and it indicated that the model was highly robust ($p = .997$).

Scoring of CES-10

After the factor analyses, 10 items from the 17-item list were retained- Items, 1,3,4,5,6,8,9,10,16, and 17. Table 6 indicates the scoring of the Casework Effectiveness Scale (CES-10). The original items have been re-numbered to form the final 10-item scale. As seen in the table, the responses range from 0-4 (Strongly Disagree to Strongly Agree), with higher scores indicating higher casework effectiveness. The total scores are also divided into three levels- low, moderate, and high. The scale does not have any items that need to be reverse-scored, making it convenient to calculate the total score.

Discussion and Applications to Practice

The development of a standardized tool to measure the effectiveness of casework has been a longstanding goal that has not received sufficient research attention in recent years. The development of this tool opens the door to a wide range of studies that can help improve the scientific evidence for the practice of casework around the world. While organizations that

conduct casework can use this tool to measure the effectiveness of the casework services they provide, it can also be used by students of social work to assess how effective their casework sessions have been and identify ways to further improve their sessions. CSE-10 could be loaded onto a Google Form and sent to the former client to respond to, thus enabling a scientific feedback mechanism that can be used by social workers as well as faculty members to assess the performance of their students in the field even during pandemic-like situations (Krishnan & Joseph, 2023). The present tool has been developed using the theoretical foundation laid down by two experts, one of whom is regarded as the mother of social casework, and the final set of items echoes this strong theoretical foundation. The tool can also be used by researchers to compare the effectiveness of different approaches used in casework (Fook, 2022), to identify which approach is ideal for clients facing a particular type of problem. Such studies will also provide caseworkers with more evidence-based guidelines on the ideal approach to be adopted in various situations. Such measures are in existence in the field of clinical psychology (Child Outcomes Research Consortium, 2024) but not in Social Work, and their absence has led to studies such as those by Fischer (1973), which have had a negative impact on the scientific image of social casework. It is hoped that researchers in the future will make use of this tool to not only carry out descriptive and exploratory studies (Dannels, 2018) but also use this tool to carry out randomized controlled trials, a collection of which can then be examined under the meta-analytical lens (Borenstein et al., 2021) to provide a more scientific and accurate verdict on which approach works in casework and which does not. With regard to the validity and reliability of the tool, as seen in the results, CES-10 has demonstrated both excellent validity and reliability. The ten-item scale is easy to administer either as part of an interview schedule or through a questionnaire. This enables a more accurate recording of both the short-term as well as

long-term effectiveness of the casework process, and it provides a more objective dimension to the follow-up step in casework. The final scores of clients may also be shared with other professionals, such as psychiatrists, which will help them gain an understanding of how effective the casework process has been for the client in numeric terms. The primary objective of the research was to develop a scientific scale that is both valid and reliable through exploratory and confirmatory factor analysis. This effort has led to the development of CES-10, a ten-item scale to measure casework effectiveness based on strong theoretical foundations and developed through modern scale development approaches. The scale is both valid and reliable, and the researchers hope that it will be of significant value to students, researchers, as well as practitioners in enabling a more scientific and objective evaluation of the effectiveness of casework practice. Finally, as mentioned in the discussion section, it is hoped that this tool will prove useful in improving the scientific evidence for the practice of social casework. One of the limitations of the present study is that it was carried out in only one country. Researchers from other countries could consider using this scale and testing it. In the future, randomized controlled trials, apart from descriptive and exploratory studies examining the effectiveness of casework across various populations and approaches, could be carried out.

References

Alexander. (2019, May 16). *Composite Reliability: Definition*. Statistics How To. https://www.statisticshowto.com/composite-reliability-definition/

Beck, A. T., Steer, R. A., & Brown, G. (1996). *Beck Depression Inventory–II* [Dataset]. https://doi.org/10.1037/t00742-000

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2021). *Introduction to Meta-Analysis*. John Wiley & Sons.

Brown, T. A. (2015). *Confirmatory Factor Analysis for Applied Research, Second Edition*. Guilford Publications.

Cheetham, J. (1992). Evaluating Social Work Effectiveness. *Research on Social Work Practice*, *2*(3), 265–287. https://doi.org/10.1177/104973159200200303

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, *41*(2), 745–783. https://doi.org/10.1007/s10490-023-09871-y

Comrey, A. L., & Lee, H. B. (1992). *A First Course in Factor Analysis* (2nd ed.). Psychology Press. https://doi.org/10.4324/9781315827506

Child Outcomes Research Consortium. (2024). *Outcome Rating Scale (ORS) & Child Outcome Rating Scale (CORS)*. https://www.corc.uk.net/outcome-experience-measures/directory-of-outcome-measures/outcome-rating-scale-ors-child-outcome-rating-scale-cors/

Cordero, C. P., & Dans, A. L. (2021). Key concepts in clinical epidemiology: Detecting and dealing with heterogeneity in meta-analyses. *Journal of Clinical Epidemiology*, *130*, 149–151. https://doi.org/10.1016/j.jclinepi.2020.09.045

Dannels, S. A. (2018). Research Design. In G. R. Hancock, L. M. Stapleton, & R. O. Mueller (Eds.), *The Reviewer's Guide to Quantitative Methods in the Social Sciences* (2nd ed.). Routledge.

Dollard, J., & Mowrer, O. H. (1947). A method of measuring tension in written documents. *The Journal of Abnormal and Social Psychology*, *42*(1), 3–32. https://doi.org/10.1037/h0054341

Fischer, J. (1973). Is casework effective? A review. *Social Work*, *18*(1), 5–20. https://doi.org/10.1093/sw/18.1.5

Flora, D. B., & Flake, J. K. (2017). The purpose and practice of exploratory and confirmatory factor analysis in psychological research: Decisions for scale development and validation. *Canadian Journal of Behavioural Science / Revue Canadienne Des Sciences Du Comportement*, *49*(2), 78–88. https://doi.org/10.1037/cbs0000069

Fook, J. (2022). *Social Work: A Critical Approach to Practice*. SAGE.

Friedlander, W. A. (1976). *Concepts and Methods of Social Work*. Prentice Hall Professional.

General Assembly of the World Medical Association. (2014). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *The Journal of the American College of Dentists*, *81*(3), 14–18.

Goretzko, D., Pham, T. T. H., & Bühner, M. (2021). Exploratory factor analysis: Current use, methodological developments and recommendations for good practice. *Current Psychology*, *40*(7), 3510–3521. https://doi.org/10.1007/s12144-019-00300-2

Goretzko, D., Siemund, K., & Sterner, P. (2024). Evaluating Model Fit of Measurement Models in Confirmatory Factor Analysis. *Educational and Psychological Measurement*, *84*(1), 123–144. https://doi.org/10.1177/00131644231163813

Hariton, E., & Locascio, J. J. (2018). Randomised controlled trials—The gold standard for effectiveness research. *BJOG : An International Journal of Obstetrics and Gynaecology*, *125*(13), 1716. https://doi.org/10.1111/1471-0528.15199

Hollis, F. (1954). Casework diagnosis—what and why? 1. *Smith College Studies in Social Work*, *24*(3), 1–8. https://doi.org/10.1080/00377315409512862

Hollis, F. (1967). Principles and Assumptions Underlying Casework Practice *. In *Social Work and Social Values*. Routledge.

Hunt, J. V. (1948). Measuring Movement in Casework. *The Journal of Social Casework*, *29*(9), 343–351. https://doi.org/10.1177/104438944802900902

Jebb, A. T., Ng, V., & Tay, L. (2021). A Review of Key Likert Scale Development Advances: 1995–2019. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.637547

Jöreskog, K. G., Olsson, U. H., & Wallentin, F. Y. (2016). Confirmatory Factor Analysis (CFA). In K. G. Jöreskog, U. H. Olsson, & F. Y. Wallentin (Eds.), *Multivariate Analysis with LISREL* (pp. 283–339). Springer International Publishing. https://doi.org/10.1007/978-3-319-33153-9_7

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*(1), 31–36. https://doi.org/10.1007/BF02291575

Kogan, L. S. (1951). The distress-relief quotient (DRQ) in dictated and verbatim social casework interviews. *The Journal of Abnormal and Social Psychology*, *46*(2), 236–239. https://doi.org/10.1037/h0062085

Krause, D. J., Green ,Susan A., Koury ,Samantha P., & and Hales, T. W. (2018). Solution-Focused Trauma-Informed Care (SF-TIC): An Integration of Models. *Journal of Public Child Welfare*, *12*(2), 117–135. https://doi.org/10.1080/15548732.2017.1348312

Krishnan, S. R. G., & Joseph, J. J. (2023). Online learning experiences of social work students in India. *Journal of Social Work*, 14680173231207962. https://doi.org/10.1177/14680173231207962

Kyriazos, T., & Poga, M. (2023). Dealing with Multicollinearity in Factor Analysis: The Problem, Detections, and Solutions. *Open Journal of Statistics*, *13*(3), Article 3. https://doi.org/10.4236/ojs.2023.133020

Lowry, F. (1937). Objectives in Social Case Work. *The Family*, *18*(8), 263–268. https://doi.org/10.1177/104438943701800801

McGartland Rubio, D. (2005). Content Validity. In K. Kempf-Leonard (Ed.), *Encyclopedia of Social Measurement* (pp. 495–498). Elsevier. https://doi.org/10.1016/B0-12-369398-5/00397-2

Misra, P. D. (1994). *Social Work:Philosophy and Methods*. Inter India Publication.

Mullen, E. J., Dumpson, J. R., & University, F. (1972). *Evaluation of social intervention* ([1st ed.]). Jossey-Bass. https://cir.nii.ac.jp/crid/1130282268670617856

Noora, S. (2021). Factor Analysis as a Tool for Survey Analysis. *American Journal of Applied Mathematics and Statistics*, *9*(1), 4–11. https://doi.org/10.12691/ajams-9-1-2

Perlman, H. H. (1968). Can Casework Work? *Social Service Review*, *42*(4), 435–447. https://doi.org/10.1086/642284

Richmond, M. (1922). *NASW Social Workers Pioneers Bio Index*. https://www.naswfoundation.org/Our-Work/NASW-Social-Work-Pioneers/NASW-Social-Workers-Pioneers-Bio-Index/id/477

Rosenberg, M. (1995). *Rosenberg Self-Esteem Scale* [Dataset]. https://doi.org/10.1037/t01038-000

Samuels, P. (2017, June 9). *Advice on Exploratory Factor Analysis* [Monograph]. ResearchGate. https://www.researchgate.net/publication/319165677_Advice_on_Exploratory_Factor_Analysis

Slife, B. D., Wright, C. D., & Yanchar, S. C. (2016). Using Operational Definitions in Research: A Best-Practices Approach. *The Journal of Mind and Behavior*, *37*(2), 119–139.

Statistische Beratung Leonardo Miljko. (2020). *How to interpret SEM model fit results in AMOS*. https://www.statistika.co/images/services/How_to_interpret_SEM_model-Fit_results_in_AMOS.pdf

Steyaert, J. (2009). *History of Social Work, details*. https://historyofsocialwork.org/eng/details.php?cps=7&canon_id=133

Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, *48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Taherdoost, H., Sahibuddin, S., & Jalaliyoon, N. (2014). Exploratory Factor Analysis; Concepts and Theory. In J. Balicki (Ed.), *Advances in Applied and Pure Mathematics* (Vol. 27, pp. 375–382). WSEAS. https://hal.science/hal-02557344

UCLA. (2025). *A Practical Introduction to Factor Analysis: Exploratory Factor Analysis*. https://stats.oarc.ucla.edu/spss/seminars/introduction-to-factor-analysis/a-practical-introduction-to-factor-analysis/

Watkins, M. W. (2018). Exploratory Factor Analysis: A Guide to Best Practice. *Journal of Black Psychology*, *44*(3), 219–246. https://doi.org/10.1177/0095798418771807

Weiss, A., & Adams, M. J. (2010). Personality, Temperament, and Behavioral Syndromes. In G. F. Koob, M. L. Moal, & R. F. Thompson (Eds.), *Encyclopedia of Behavioral Neuroscience* (pp. 47–53). Academic Press. https://doi.org/10.1016/B978-0-08-045396-5.00117-2

Wolf, C., Joye, D., Smith, T. W., & Fu, Y. (2016). *The SAGE Handbook of Survey Methodology*. SAGE.

World Medical Association. (2022). *WMA - The World Medical Association-WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects*. https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/

Yusof, M. S. B. (2019). (PDF) ABC of Content Validation and Content Validity Index Calculation. *Education in Medicine Journal*, *11*(2), 40–54. https://doi.org/10.21315/eimj2019.11.2.6

Table 1- Content Validity Index

Sl. No.	Item No.	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Total	I-CVI
1	1	1	1	1	1	1	0	5	0.8
2	2	1	1	1	1	1	0	5	0.8
3	3	1	1	1	1	1	0	5	0.8
4	4	1	1	1	1	1	0	5	0.8
5	5	1	1	0	1	1	1	5	0.8
6	6	1	1	0	1	1	1	5	0.8
7	7	1	1	1	1	1	1	6	1
8	8	1	1	1	1	1	1	6	1
9	10	1	1	1	1	1	1	6	1
10	11	1	1	1	1	1	1	6	1
11	13	1	1	0	1	1	1	5	0.8
12	14	1	1	1	1	1	1	6	1
13	15	1	1	1	1	1	1	6	1
14	16	1	1	1	1	1	1	6	1
15	17	1	1	1	1	1	0	5	0.8
11	18	1	1	0	1	1	1	5	0.8
17	19	1	1	1	1	1	1	6	1
I-CVI: *Item Content Validity Index;* ***S-CVI-Ave:*** *Average of I-CVI across the items.*						**S-CVI-Ave: 0.89**			

Table 2: Descriptive Statistics

Items	Mean	SD.	r^c i-t	(α –i)
(1)	(2)	(3)	(4)	(5)
VAR00001	3.23	0.69	0.85	0.95
VAR00003	3.25	0.67	0.84	0.95
VAR00004	3.31	0.65	0.82	0.95
VAR00005	3.23	0.66	0.81	0.95
VAR00006	3.30	0.64	0.81	0.95
VAR00008	3.29	0.68	0.81	0.95
VAR00009	3.20	0.72	0.81	0.95
VAR00010	3.22	0.67	0.80	0.95
VAR00016	3.22	0.69	0.78	0.95
VAR00017	3.24	0.72	0.73	0.95
Cronbach's Alpha: 0.96 **KMO: 0.94** **Bartlett's test of Sphericity**: **Approx Chi sq-1827.45, df: 45, p<0.001**				
Note: r^c i-t – Corrected item-total correlations. (α-i) – Cronbach's alpha if items are deleted. N= 202				

Table 3: Total Variance Explained

Component	Initial Eigenvalues		
	Total	**% of Variance**	**Cumulative %**
1	7.17	71.69	71.69
2	0.57	5.66	77.34
3	0.45	4.46	81.80
4	0.42	4.33	86.04
5	0.32	3.21	89.26
6	0.31	3.07	92.32
7	0.26	2.57	94.89
8	0.20	1.99	96.89
9	0.17	1.72	98.60
10	0.14	1.40	100.00
Extraction Sums of Squared Loadings			
1.	6.86	68.58	68.58

Table 4: Factor Loadings and Communalities

Items	Factor Loadings	Communalitites (Extraction)
VAR00001	0.74	0.55
VAR00003	0.82	0.67
VAR00004	0.83	0.69
VAR00005	0.85	0.71
VAR00006	0.87	0.75
VAR00008	0.81	0.65
VAR00009	0.83	0.69
VAR00010	0.83	0.69
VAR00016	0.83	0.69
VAR00017	0.87	0.75

Table 5- Confirmatory Factor Analysis

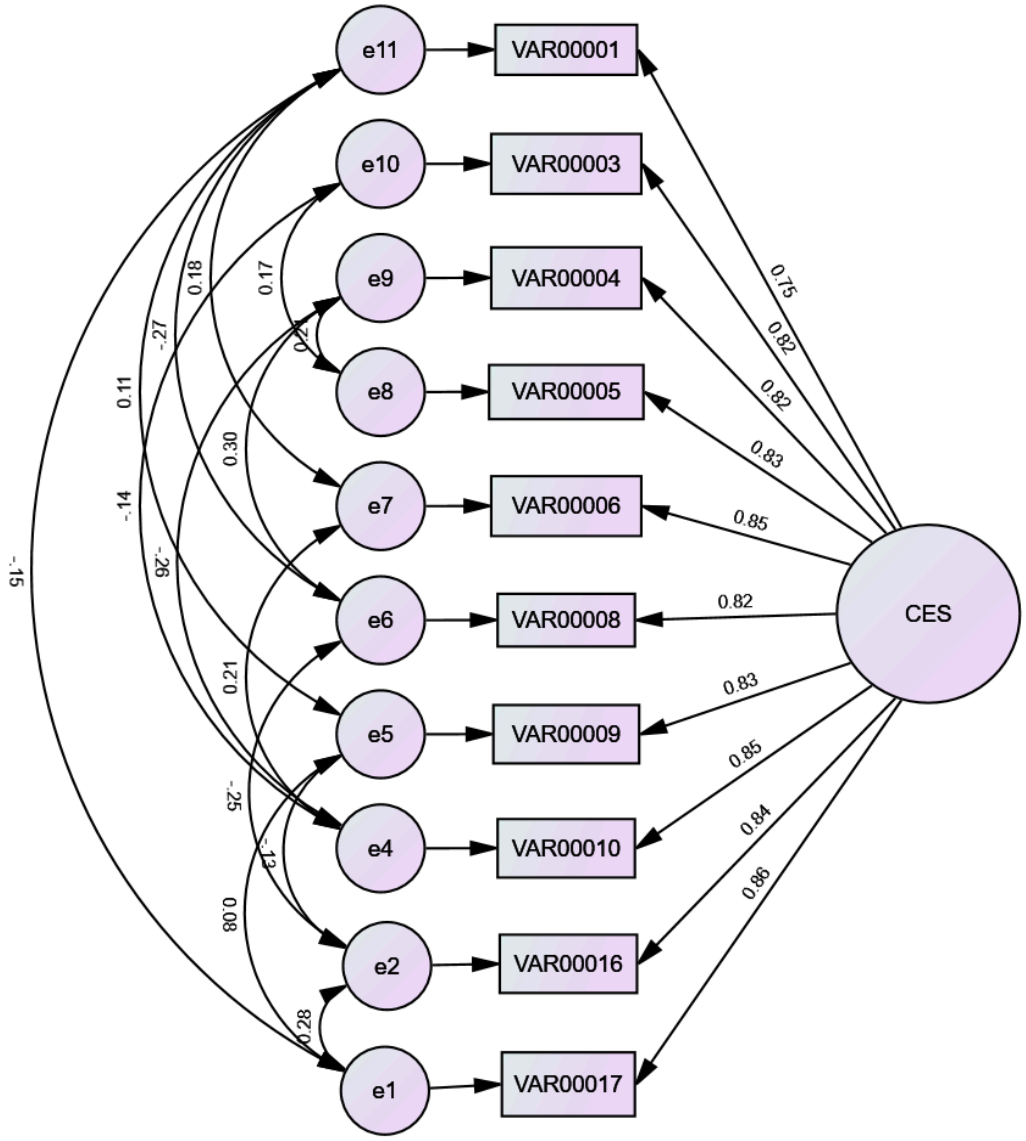
Measure	Estimate	Threshold
CMIN(χ^2)	16.64	….
df	21	….
CMIN/df	0.79	≤ 3 indicates an acceptable fit.
CFI	1.00	≥ 0.95 is considered an excellent fit.
RMSEA	0.000	≤ 0.05 are considered excellent.
P Close	0.97	>0.05 is considered an excellent fit
NFI	0.99	> 0.95 is considered a good fit.
Fit indices: CMIN- Chi-square, **df-** degree of freedom, **CMIN/df -** Chi-square divided by degrees of freedom, **CFI-** Comparative Fit Index, **RMSEA -** Root Mean Square Error of Approximation, **NFI-** Normed Fit Index, **P Close-** Probability of close fit.		

Table 6: The Casework Effectiveness Scale- CES-10

Item no.	Item	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1.	The casework process helped me identify my problems.					
2.	The casework process helped me solve my problems.					
3.	The casework process helped me understand myself.					
4.	The casework process helped me gain self-confidence.					
5.	The casework process helped me learn to respect myself.					
6.	The casework process has helped me become a better person.					
7.	The casework process has helped identify the weak areas in my personality.					
8.	The casework process has helped improve my personality.					
9.	The casework process has helped me gain resources that I can use to solve problems in the future.					
10.	The casework process has helped me gain the ability to solve problems in the future.					

Scoring: Strongly agree: 4; Agree: 3; Neither agree nor disagree: 2; Disagree: 1; Strongly disagree: 0.
Maximum score: 40 and **Minimum score:** 0. Higher scores indicate higher levels of casework effectiveness.
Levels: 0-12: Low, 13-25: Moderate, and 26 and above: High.

Figure 1- Path Diagram of CES-10



Note: VAR: Item number, CES-10: Casework Effectiveness Scale-10