

Translation and Validation of Telugu Version of Marital Satisfaction Scale (T-MSS)

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ABSTRACT

Introduction: Interest in studying marriage-related issues has increased in recent years. Researchers have demonstrated a constant decrease in marital satisfaction over time in married couples. Marital Satisfaction Scale (MSS) can be used to examine how marital satisfaction affects couple's well-being; A MSS was developed in Pakistan showing good reliability and internal consistency. **Objective:** Present study aimed to translate and validate MSS to Telugu (T-MSS) language. **Methods:** Present study implemented standard methodology for Translation, Adaptation and Validation of instruments for use in cross-cultural healthcare research along with World health organization process of translation and adaptation of instruments. **Results:** 141 first-married individuals participated in the present study to assess validity, internal consistency and reliability. Cronbach alpha (α) of T-MSS was 0.863 demonstrating good validity and internal consistency, Pearson product moment coefficient of correlation (r) was found to be 0.845 and Cohen's kappa (κ) was found to be 0.759 demonstrating good test-retest reliability. **Conclusion:** T-MSS is a useful tool in Telugu language demonstrating good reliability and internal consistency. It can be utilized in diverse settings like social and clinical research to assess various factors related to marital satisfaction.

Key words: India, Marital Satisfaction, Marital satisfaction scale, Telugu, Translation & Validation, T-MSS.

INTRODUCTION

Marriage is the broadest and most intimate of all human interactions. Marriage can be defined as the emotional and legal commitment of two people to share emotional and physical intimacy, various tasks, and economic resources. In the year 2007, almost 2,197,000 marriages and 856,000 divorces were reported from USA. Although marriage is popular, it is not necessarily lasting, with about half of all recent marriages in the United States ending in divorce or separation. Almost 20 million Americans about 9.9% of the U.S. population got divorced.^{1,2} In India latest statistics have shown that 1.1% of Indian population get divorced annually there is a rising graph of divorce rates recorded from various parts of India such as 11,667 cases from Mumbai, 8,347 cases from Kolkata, 2000 cases

from Lucknow. In the recent years, there is a steep rise in the number of Family courts setup across various parts of India.^{3,4}

Interest in the study of marriage as a research topic has also increased dramatically in recent years. Majority of the marriages end up in divorce due to lack of Marital satisfaction. Marital satisfaction is a process of adaptation of the both partners in such a way as to avoid or resolve conflicts sufficiently so that the mates feel satisfied with the marriage and each other.⁵ Researchers have consistently found that marital satisfaction tends to decrease over time. In a longitudinal study by Lawrence Kurdek (1998) in newly married couples, found that over the first 4 years of marriage, the marital satisfaction for both males and females dropped each year at a similar rate. As marital satisfaction dropped, there

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was an increase in the severity of depression, especially among women.^{6,7} Another important study by Jay Belsky and Kuang-Hua Hsieh (1998) focused on change in marital satisfaction for couples having firstborn sons; this study followed couples for 5 years, Using the love scores from fathers and the conflict scores from mothers, this study revealed that some couples can maintain a healthy marriage in spite of having a child.⁸ A research study by Audrey Bryan (1998) reported that many aspects of marital satisfaction changed as results of having child.⁹

A research study by Kayla M Sanders (2010) focusing on changes in marital satisfaction by couple-level characteristics such as the duration of relationship, religious frequency, and economic stability, showed a significant negative relationship between parental status and marital satisfaction, indicating that the married individuals who are parents have significantly lower marital satisfaction than married individuals who are not parents.¹⁰ A study by Zainah (2012) with the aim to examine the effects of demographic variables on marital satisfaction, reported that longer the duration of marriage, the more satisfied the individual was with his/her marriage and the results of this study indicates a significant differences in marital satisfaction based on the length of marriage and income.¹¹ A study by Nadiya Ayub (2012) reported few factors which contribute for overall marital satisfaction in couples namely, In-laws relationship, Communication, Understanding, Education of partner, Compromise, Sexual satisfaction and Dual earning. As per this study the factor for marital satisfaction varies from the view of husband and wife.^{5,12,13}

Potential factors affecting marital satisfaction as reported by researchers worldwide include Personality type,¹⁴ Religiosity,¹⁵ Emotional stability,¹⁶ Psychological factors i.e, depression, affection, sexual activities and Social factors i.e, number of children, communication, time spent together,¹⁷ Single and dual-career,¹⁸ Earning,¹⁹ Husband attachment style,²⁰ Extramarital affairs,²¹ Partner job and education.²²

Marital Satisfaction Scale (MSS) can be used to examine how marital satisfaction affects couples well-being.^{12,13} As a result of such research studies, many scales were developed abroad in order to assess marital satisfaction. Some of the most commonly used scales are Locke-Wallas Marital Adjustment Test (MAT),²³ Spanier's Dyadic Adjustment Scale (DAS),²⁴ Snyder's Marital Satisfaction Inventory (MSI),²⁵ Roach, Frazier and Bowden's Marital Satisfaction Scale (MSS),²⁶ Norton's Quality Marriage Index (QMI),²⁷ Schumm's Kansas Marital Satisfaction Scale (KMSS),²⁸ Olson, Fournier and Druckman's ENRICH: Enriching and Nurturing Relationship Issues, Communication and Happiness-

Marital Satisfaction Scale,²⁹ Hudson's Index of Marital Satisfaction (IMS),³⁰ Hendrick's Relationship Assessment Scale (RAS).³¹

Majority of the scales were developed according to the norms and culture of western society, however the married couple's life style, cognition, literacy, language and many other aspects especially prevailing in western society are different from the Indian culture. Therefore, research in this area will be helpful to address the psychological issues of couples in this part of the world. Unfortunately, there are no psychometrically validated and culturally appropriate instrument for measurement of marital satisfaction in Telugu language, which is a popular language of South India spoken in Telangana and Andhra Pradesh states.³²

Several instruments were reviewed for translation and validation into telugu language. A scale developed by Nadiya Ayub (2010) of Pakistan, reported good reliability and internal consistency.^{12,13} Considering the questionnaire and its content, lot of cultural similarities with local population were observed. Compared to other instruments developed for Western society, this instrument suited better to our study population i.e. telugu speaking married individuals of Telangana. Hence, present study aimed to translate and validate the english version of MSS to telugu language (T-MSS).

METHODS

Sample

Present study followed convenient sampling method. The sample included 141 married individuals. 32 of them participated in pre-testing followed by cognitive interview and rest 109 participated in pilot study of final version of translated scale (T-MSS). For this purpose, teaching and non-teaching staff from different educational institutions of Warangal were approached. All the participants were first married and voluntarily participated in the study.

Measure

The marital satisfaction scale is a self-administered questionnaire published in 2010 by Nadiya Ayub. It contains 40 items scored as 4-point likert scale addressing important variables of marital satisfaction. Questions are segregated into 12 major variables namely, Communication, Spouse support, Mutual understanding, Husband financial status, Understanding, Education of partner, Sexual satisfaction, Gender difference, Dual earning, Compromise, Self-perception and In-laws relationship. The scoring ranges from 3-0 for each item and overall score ranges from 0-120 where high score indicates individuals having good satisfaction with their

marriage.¹² Self-designed data collection form containing sections like demographics, socioeconomic status, marriage and family characteristics was used in conjunction with MSS to gather the Participants data.

Procedure

The study was carried in two phases, Translation of MSS followed by assessment of psychometric properties of telugu version of marital satisfaction scale (T-MSS). The study team implemented standard methodology for Translation, Adaptation and Validation of instruments for use in cross-cultural health care research developed by Valmi D Sousa³³ along with World Health Organization (WHO) process of translation and adaptation of instruments.^{33,34}

Phase-1: Translation of marital satisfaction scale

Study team got the permission from Dr.Nadiya Ayub to translate MSS to telugu language (T-MSS). MSS was subjected to Forward translation, Expert panel review, Backward translation, Expert panel review, Pretesting & cognitive interview.

(i) Forward Translation

Chief Translator with mother tongue of Telugu and having a good knowledge of English was selected for translation of scale from English to Telugu language. Along with the chief translator, a parallel translation of scale was done by another translator with the assistance of the study team. Translation of scale was done for generating a simple, clear instrument for easy understanding.

(ii) Expert Panel Review

After completion of forward translations, both scales were subjected to Expert panel review consisting of two Bi-linguistic experts (Experts in English and Telugu language), two Health care professionals, one Subject expert (Expert in instrument development and validation) along with study team to review translated drafts of scale which were generated through forward translation. Main goal of this step was to identify and resolve inadequate expressions of translation, as well as identification of discrepancies between the forward translations. After implementing all the suggestions made by Expert panel, a single forward translated scale was generated (Preliminary initial translation version).

(iii) Back Translation

Two independent translators expertised in English having good understanding of telugu, without the knowledge of original scale were selected for translation of forward translated scale (Preliminary initial translation version) to English language. One of the back trans-

lator was familiar with health care terminologies. After completion of the translation two drafts of back translated scales were generated. This step allows for clarification of words and sentences used in the translations.

(iv) Expert panel review

The two english back translated versions along with the original english version of MSS was once again subjected to Expert panel review consisting of two Bi-linguistic experts, two Health care professionals, one Subject expert along with study team for comparing the wording, grammatical structure, similarity in meaning and relevance with the original version of MSS. This step helps to establish the initial conceptual, semantic and content equivalence of the pre-final version of scale developed through forward translation.

(v) Pre-testing and cognitive interview

For carrying out the pre-testing and cognitive interview, a field study was conducted by recruiting 32 married individuals of both sexes (≥ 18 years for females and ≥ 21 years for males) with different socio economic groups belonging to local teacher training institute. All participants were first married and voluntarily participated in the study. Participants were briefed about the research work and administered with pre-final version of T-MSS.

Following the written completion, the participants were interviewed personally for any aspects they did not understand as well as any expression they found unacceptable or offensive within the scale. Majority of the participants gave the opinion that they could clearly understand expressions and aspects of pre-final T-MSS. No alternative words or expressions were suggested by any of the participant. A Cronbach alpha (α) was executed and was found to be 0.784 which is within the acceptable limit. By the completion of this step, the final version of telugu translated marital satisfaction scale (T-MSS) was obtained.

Phase-2: Assessment of psychometric properties of Telugu version of marital satisfaction scale (T-MSS)

For the purpose of testing psychometric properties of T-MSS, study team approached the working married individuals from various schools of Warangal District. The Director, Principal or In-charge of the school was contacted for providing permission to carry out the research work with Teaching and Non-Teaching staff of their institutions. Married participants who were familiar with reading, writing and understanding Telugu (Age ≥ 18 years for Females and ≥ 21 years for Males) interested to participate and provide informed consent were included in the study. Un-married, illiterate married

individuals and married individuals with the history of psychiatric disorders were excluded. Individuals meeting the study criteria were briefly explained about the study and provided with data collection form containing participant, their spouse and family demographic details along with T-MSS.

A total of 10 schools gave permission to carry out the research work. About 109 married Teaching and Non-teaching staff meeting the study criteria were recruited into the study and administered with T-MSS along with self-designed demographic form (First Visit). This data was taken up for calculating the validity & internal consistency (Cronbach alpha). Following this visit, time gap of two weeks was given and T-MSS was again administered to the same participant (Second Visit). However, only 72 participants out of 109 completed second visit. (24 Participants were unavailable on the day of visit, 13 participants refused to give their response for second time). The data from 72 participants was taken up for calculation of Test-retest reliability (Cohen's Kappa, Pearson's product moment correlation coefficient). A flowchart of the Translation and Validation process of T-MSS is given in Figure1.

Statistical analysis

All the demographic data of the participants were classified into numbers and percentage along with Descriptive statistics. T-MSS was subjected to scoring. The socio economic status of the family was calculated by considering the Updated BG Prasad socioeconomic classification.³⁵Data analysis was performed using Statistical Package for Social Science (SPSS)-Version 18. Cronbach Alpha was executed to calculate the Validity and Internal consistency. Cohen's Kappa and Pearson product moment correlation coefficient tests were executed to calculate the Test-retest reliability. Cronbach alpha (α) of 0.70 and was set as an acceptable level for validity and internal consistency,³⁶Kappa value (κ) of 0.60 was set as an acceptable level for reliability,³⁷Pearson product moment coefficient of correlation (r) value ≥ 0.5 was set as an acceptable level.³⁸

RESULTS

A total of 109 married individuals participated in the study. Majority of the participants were females (n=66) and the mean age was found to be 33.78 yrs (range

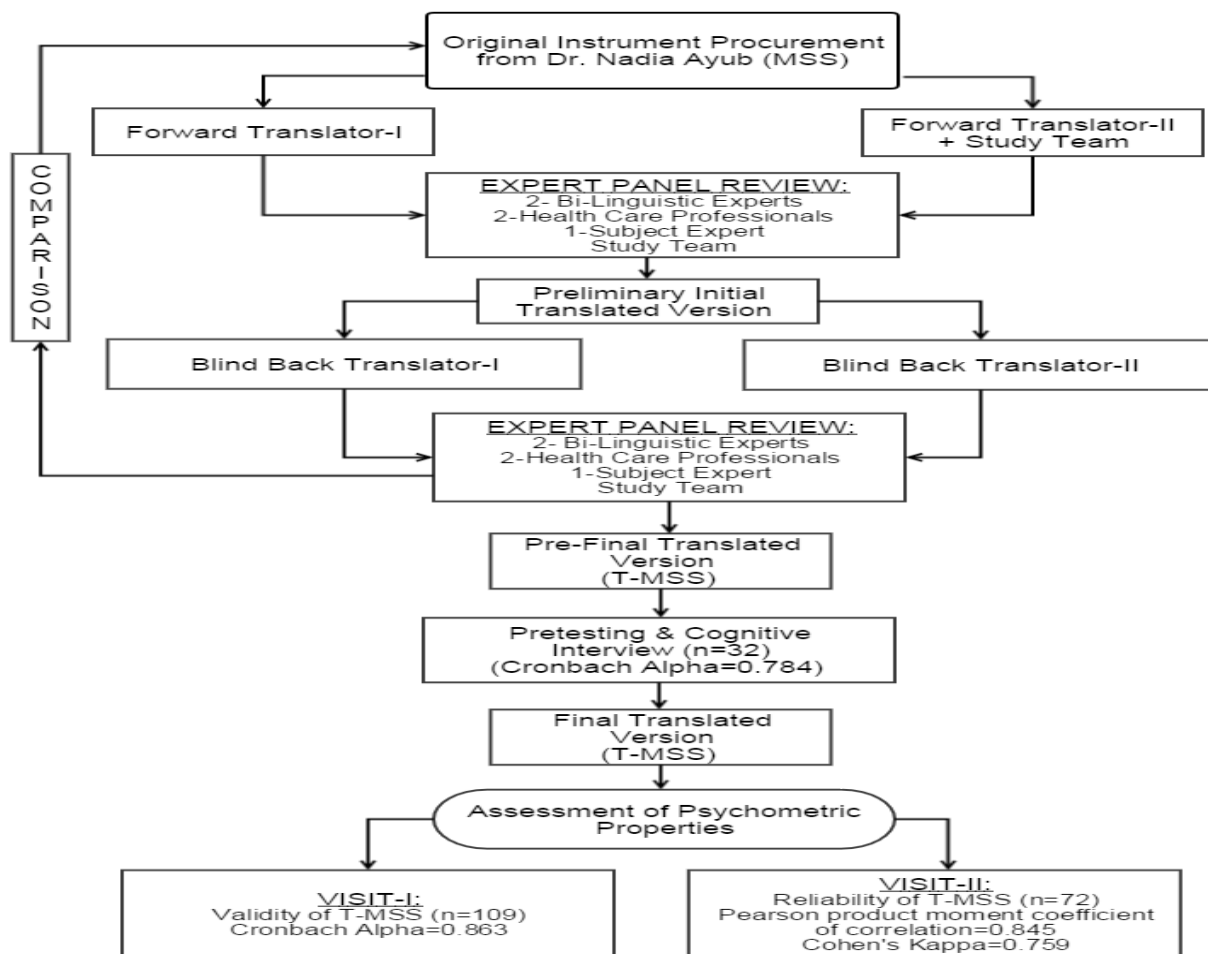


Figure1: Flowchart of Translation and Validation process of Telugu version of marital satisfaction scale (T-MSS).

Table 1: Demographic details of the Study participants (Pilot study)

| Parameter | N | % | Parameter | N | % |
|-------------------------|----|-------|----------------------------------|-----|-------|
| Gender | | | Type of family | | |
| Males | 43 | 38.54 | Joint family | 28 | 25.6 |
| Females | 66 | 61.46 | Individual family | 81 | 74.3 |
| Religion | | | Size of family | | |
| Hindu | 94 | 86.23 | Big family (>7) | 11 | 10 |
| Muslim | 13 | 11.92 | Medium family (5-6) | 22 | 20.18 |
| Christian | 02 | 1.83 | Small family (<4) | 76 | 69.72 |
| Residence | | | Education of spouse | | |
| Village | 12 | 11.1 | Master degree | 32 | 29.3 |
| City /urban | 97 | 88.9 | Degree | 37 | 33.9 |
| | | | Inter/diploma | 33 | 30.2 |
| | | | Schooling | 4 | 3.6 |
| | | | Illiterate | 3 | 2.7 |
| Type of marriage | | | Housing arrangements | | |
| Love | 7 | 6.48 | Own house | 63 | 57.7 |
| Arranged | 97 | 88.9 | Rent house | 45 | 41.28 |
| Love Arranged | 5 | 4.62 | Others (Stay at Relatives house) | 01 | 0.91 |
| Education qualification | | | Family socioeconomic status* | | |
| Master degree | 43 | 39.4 | Upper | 107 | 98.1 |
| Degree | 58 | 53.2 | Upper middle class | 02 | 1.9 |
| XII Standard/Diploma | 08 | 7.33 | Lower middle class | 00 | 00 |
| | | | Lower class | 00 | 00 |

*Calculated as per Updated BG Prasad socioeconomic classification-2013

Table 2: Descriptive statistics for individual items of T-MSS

| Item | Median | Mean | Std. Dev | Item total Correlation |
|---------|--------|------|----------|------------------------|
| Item 1 | 3 | 2.3 | 0.800 | 0.456** |
| Item 2 | 3 | 2.3 | 0.900 | 0.550** |
| Item 3 | 3 | 2.2 | 1.020 | 0.358** |
| Item 4 | 3 | 2.6 | 0.730 | 0.530** |
| Item 5 | 3 | 2.6 | 0.629 | 0.192** |
| Item 6 | 3 | 2.1 | 0.934 | 0.679** |
| Item 7 | 3 | 2.1 | 0.965 | 0.178** |
| Item 8 | 3 | 2.8 | 0.512 | 0.445** |
| Item 9 | 3 | 2.8 | 0.424 | 0.281** |
| Item 10 | 2 | 2.1 | 0.850 | 0.099** |
| Item 11 | 3 | 2.2 | 0.924 | 0.206** |
| Item 12 | 3 | 2.6 | 0.710 | 0.455** |
| Item 13 | 1 | 1.3 | 1.090 | 0.340** |
| Item 14 | 2 | 2.0 | 0.985 | 0.501** |
| Item 15 | 3 | 2.3 | 0.910 | 0.478** |
| Item 16 | 3 | 2.7 | 0.761 | 0.264** |
| Item 17 | 3 | 2.7 | 0.523 | 0.293** |
| Item 18 | 3 | 2.3 | 0.828 | 0.456** |
| Item 19 | 3 | 2.6 | 0.648 | 0.280** |

| | | | | |
|---------|---|-----|-------|---------|
| Item 20 | 2 | 1.9 | 0.774 | 0.571** |
| Item 21 | 2 | 2.0 | 0.963 | 0.444** |
| Item 22 | 2 | 2.1 | 0.902 | 0.624** |
| Item 23 | 2 | 1.8 | 0.997 | 0.224** |
| Item 24 | 1 | 1.3 | 1.033 | 0.112** |
| Item 25 | 3 | 2.3 | 0.850 | 0.466** |
| Item 26 | 1 | 1.1 | 0.940 | 0.159** |
| Item 27 | 3 | 2.5 | 0.800 | 0.215** |
| Item 28 | 2 | 2.1 | 0.913 | 0.624** |
| Item 29 | 3 | 2.1 | 0.768 | 0.415** |
| Item 30 | 0 | 0.4 | 0.727 | 0.070** |
| Item 31 | 2 | 1.8 | 1.081 | 0.509** |
| Item 32 | 2 | 2.0 | 0.979 | 0.512** |
| Item 33 | 2 | 1.9 | 0.829 | 0.085** |
| Item 34 | 3 | 2.7 | 0.597 | 0.227** |
| Item 35 | 1 | 0.9 | 0.951 | 0.024** |
| Item 36 | 3 | 2.5 | 0.669 | 0.516** |
| Item 37 | 3 | 2.6 | 0.781 | 0.283** |
| Item 38 | 3 | 2.7 | 0.653 | 0.344** |
| Item 39 | 3 | 2.5 | 0.721 | 0.200** |
| Item 40 | 3 | 2.4 | 0.852 | 0.423** |

** Significance, p< 0.0001

Table 3: Descriptive statistics for the variables of T-MSS

| Variable | Median | Mean | Std. Dev |
|--------------------------|--------|-------|----------|
| Communication | 7 | 6.46 | 2.23 |
| Spouse support | 9 | 7.57 | 1.94 |
| Mutual understanding | 6 | 5.53 | 1.00 |
| Husband financial status | 4 | 4.24 | 1.79 |
| Understanding | 22 | 20.95 | 4.96 |
| Education of partner | 9 | 7.42 | 2.16 |
| Sexual satisfaction | 8 | 7.32 | 1.76 |
| Gender difference | 4 | 4.04 | 1.49 |
| Dual earning | 6 | 5.67 | 0.87 |
| Compromise | 3 | 2.24 | 0.93 |
| Self-perception | 14 | 2.98 | 2.17 |
| In-laws relationship | 4 | 3.87 | 2.74 |

Table 4: Reliability analysis of individual items of marital T-MSS

| Item | Cronbach alpha if alpha deleted | Pearson's Product moment coefficient of Correlation | Kappa |
|---------|---------------------------------|---|-------|
| Item 1 | 0.858 | 0.725 | 0.695 |
| Item 2 | 0.855 | 0.895 | 0.750 |
| Item 3 | 0.860 | 0.969 | 0.873 |
| Item 4 | 0.857 | 0.680 | 0.495 |
| Item 5 | 0.863 | 0.768 | 0.695 |
| Item 6 | 0.852 | 0.766 | 0.735 |
| Item 7 | 0.864 | 0.828 | 0.678 |
| Item 8 | 0.859 | 0.713 | 0.512 |
| Item 9 | 0.862 | 0.755 | 0.592 |
| Item 10 | 0.865 | 0.849 | 0.701 |
| Item 11 | 0.863 | 0.923 | 0.861 |
| Item 12 | 0.858 | 0.876 | 0.758 |
| Item 13 | 0.860 | 0.902 | 0.763 |
| Item 14 | 0.856 | 0.692 | 0.666 |
| Item 15 | 0.857 | 0.688 | 0.702 |
| Item 16 | 0.861 | 0.856 | 0.591 |
| Item 17 | 0.861 | 0.933 | 0.870 |
| Item 18 | 0.858 | 0.768 | 0.738 |
| Item 19 | 0.861 | 0.680 | 0.688 |
| Item 20 | 0.856 | 0.810 | 0.770 |
| Item 21 | 0.858 | 0.849 | 0.761 |
| Item 22 | 0.854 | 0.861 | 0.796 |
| Item 23 | 0.863 | 0.878 | 0.853 |
| Item 24 | 0.866 | 0.861 | 0.679 |
| Item 25 | 0.857 | 0.896 | 0.794 |
| Item 26 | 0.864 | 0.822 | 0.855 |
| Item 27 | 0.862 | 0.807 | 0.781 |
| Item 28 | 0.853 | 0.822 | 0.775 |
| Item 29 | 0.859 | 0.751 | 0.804 |
| Item 30 | 0.867 | 0.560 | 0.531 |

| | | | |
|---------|-------|-------|-------|
| Item 31 | 0.856 | 0.917 | 0.826 |
| Item 32 | 0.856 | 0.735 | 0.666 |
| Item 33 | 0.865 | 0.842 | 0.751 |
| Item 34 | 0.862 | 0.735 | 0.755 |
| Item 35 | 0.869 | 0.837 | 0.798 |
| Item 36 | 0.857 | 0.605 | 0.591 |
| Item 37 | 0.861 | 0.812 | 0.583 |
| Item 38 | 0.860 | 0.736 | 0.551 |
| Item 39 | 0.863 | 0.796 | 0.792 |
| Item 40 | 0.858 | 0.735 | 0.671 |

Table 5: Reliability analysis of Variables of T-MSS

| Variable | Cronbach alpha if alpha deleted | Pearson's Product moment coefficient of Correlation | Kappa |
|--------------------------|---------------------------------|---|-------|
| Communication | 0.723 | 0.706 | 0.676 |
| Spouse support | 0.704 | 0.724 | 0.667 |
| Mutual understanding | 0.649 | 0.794 | 0.620 |
| Husband financial status | 0.756 | 0.909 | 0.795 |
| Understanding | 0.745 | 0.826 | 0.754 |
| Education of partner | 0.795 | 0.846 | 0.721 |
| Sexual satisfaction | 0.569 | 0.857 | 0.739 |
| Gender difference | 0.734 | 0.845 | 0.729 |
| Dual earning | 0.801 | 0.848 | 0.754 |
| Compromise | 0.863 | 0.923 | 0.861 |
| Self-perception | 0.606 | 0.749 | 0.752 |
| In-laws relationship | 0.711 | 0.783 | 0.744 |

22-47). All the participants were first married couples, living with their spouses and their average length of relationship was found to be 12.35 yrs (Range 0.3-28 yrs). Majority of the participants were from upper and upper middle class families as per the Updated BG Prasad socioeconomic classification. The detailed characteristics of the study participants are given in Table1. The mean scores of responses for individual items in marital satisfaction scale ranged between 0.4 to 2.8 with the standard deviation 0.59 to1.09 and the median values in between 0-3. The mean scores for individual variables of marital satisfaction scale ranged between 2.24 to 20.95 with the standard deviation 0.93 to 4.96. The detailed descriptive statistics of T-MSS scores are given in Table 2 & 3.

Validity &Internal consistency of T-MSS

Cronbach alpha was calculated to measure the reliability and internal consistency of T-MSS. The Cronbach alpha (α) for the whole scale was 0.863. The α values of the individual items varied between 0.531 to 0.869.

The α values for the twelve variables of the scale varied between 0.569 to 0.863. ' α ' values closer to 0.7 are generally considered as reliable and the instrument is said to have a good internal consistency. T-MSS demonstrated ' α ' > 0.7. Hence, T-MSS is considered to have good internal consistency. Our findings are also supported by item-total correlation scores, ranging from 0.024 to 0.679 again showing a good level of internal consistency for the scale (Table-2). The detailed results (internal consistency) of T-MSS for individual items and variables are given in Tables 4 and 5 respectively.

Test-retest reliability (Pearson product moment coefficient of correlation)

Pearson product moment coefficient of correlation is measured to find out the degree of association between test-retest results (First visit and Second visit). The ' r ' value for overall T-MSS were 0.845 and for individual items the values range from 0.560 to 0.969, for individual variable values range between 0.706 to 0.909. The ' r ' value of ≥ 0.5 closer to 1 is generally considered as the good agreement between the compared variables and indicates that any repeated use of the scale would provide the similar results. T-MSS demonstrated good agreement between the individual items, the detailed correlation coefficient values of individual items and variables are given in Tables 4 & 5 respectively.

Test-retest reliability (Cohen's kappa)

Cohen's kappa (κ) was measured to find out the test-retest reliability of T-MSS, generally the ' κ ' values ranges from 0 to 1, the ' κ ' value ≥ 0.6 closer to 1 is usually considered as good test-retest agreement. ' κ ' value for whole T-MSS was 0.759, individual item scores ranged between 0.512 to 0.873 and for individual variables scores ranged between 0.667 to 0.861 showing good reliability. The detailed test-retest reliability values of individual items and variables are given in Tables 4 & 5 respectively.

DISCUSSION

The marital satisfaction is based on the quality of interaction and understanding between the couples. MSS are useful tools that can be used to gather information about the couples issues within a short time. Hence, the use of marital satisfaction scales are becoming widespread. Unfortunately, there are no psychometrically validated and culturally appropriate instruments to assess marital satisfaction in Telugu speaking population. The main purpose of this study was to translate and validate marital satisfaction scale for use with Telugu speaking population. Further, the Telugu translated scale was planned to be used to assess the Marital satisfaction in chronic disease patients and their spouses. Considering the use

of translated scale in Clinical settings, study team utilized the translation and validation methods involving Health Care Professionals.³⁴

In India, a girl or boy cannot marry before completing the age of 18 and 21 years respectively.³⁹ Study participants were chosen as per the act and all were first married individuals. Participants with history of second marriage or divorce were not included into the study. Cronbach's alpha for T-MSS was found to be reliable ($\alpha = 0.863$). ' α ' values for individual items of T-MSS ranged above the acceptable level with good item total-correlation scores demonstrating good internal consistency and validity. Out of 12 variables only three variables showed lesser alpha values namely, sexual satisfaction (0.569), self-perception (0.606) and mutual understanding (0.649). The Probable reasons for the lesser scores in these variables could be due to non-willingness of the participants to share their personal, sexual matters along with the study team who are out of their family and friends circles. Also, the strict Indian culture and social stigma might have an influence on the participant not to discuss sexual, personal feelings openly with Investigators.

Pearson product moment coefficient of correlation ' r ' for T-MSS was found to be reliable. ($r = 0.845$) showing strong positive relationship. The values of individual items of T-MSS indicate positive correlation. Out of 40 items only item numbers 4, 14, 15, 19, 30, 36 showed moderate positive relationship and remaining all items showed strong positive relationship. The individual variable values (0.706 to 0.909) also indicate the strong uphill linear correlation. The high correlation values demonstrate that the 40 items are related to the same construct, measuring marital satisfaction. There are consistently positive correlations between almost all the Marital Satisfaction Scale, subscales and the total score reflecting positive relationship. Moreover, the final score also reflect that any replication of this scale would provide similar results. Cohen's kappa is a measure of test-retest reliability. ' κ ' for the T-MSS was found to be 0.759 indicating substantial agreement. Out of 40 items only 10, 16, 17, 18 shows moderate agreement and remaining all were within the range of substantial to perfect agreement. The individual variable values also fell in the range of moderate to almost perfect agreement indicating good test-retest reliability of T-MSS.

LIMITATIONS

However, our study is having a small limitation. The participants belonged to a specific group of married individuals from single Telugu region. All the participants belonged to Educational institutions. (Teaching/ Non teaching staff of Primary and High Schools).

Multi centre studies recruiting married individuals from different professions and socioeconomic status are further required for the generalizability of T-MSS.

CONCLUSION

To our knowledge, this is the first research study conducted in Telugu speaking population focusing on standardizing a specific instrument to measure marital satisfaction in couples. MSS developed by Nadia Ayub was published in 2010 showed good validity and reliability in English language.¹² Till date, no study has been published regarding the translation and validation of this scale to other languages. Our findings support that T-MSS has potential to be used as a cross-culturally valid instrument. By the results of our study, we are in the opinion that T-MSS is a valid and reliable tool for assessing marital satisfaction and it can be used in both social and clinical researches.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ABBREVIATION USED

DAS: Dyadic Adjustment Scale; **ENRICH:** Enriching and Nurturing Relationship Issues, Communication and Happiness-Marital Satisfaction Scale; **IMS:** Index of Marital Satisfaction; **KMSS:** Kansas Marital Satisfaction Scale; **MAT:** Marital Adjustment Test; **MSI:** Marital Satisfaction Inventory; **MSS:** Marital Satisfaction Scale; **QMI:** Quality Marriage Index; **RAS:** Relationship Assessment Scale; **T-MSS:** Telugu Version of Marital Satisfaction Scale.

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