Abstract
The paper prescribes details of construction and standardization of Work Related Stress Scale for school teachers. The preliminary draft of 86 items was prepared initially. The items further reduced to 58 on basis of comments and suggestions of experts. After item analysis, 48 items were finalized for the final draft. The test retest reliability and split half reliability of the scale was found to be 0.75 and 0.89 respectively. Validity was established by face, content and construct- validity methods. Construct validity was found to be 0.70. Norms were developed for the scale by preparing the score range.

1. INTRODUCTION
In this age of science and technology, there exists uplift in level of stress in all spheres of life especially at work place. This type of stress is termed as work related stress. Work related stress arises due to individual’s inability to cope with the pressures at work place (Rees, 1997) because of poor fit between individual’s abilities to his/her requirements and conditions (Holmlund- Rytkonen & Strandvick, 2005). Work related stress in the human service professions, particularly in teaching, has been a focus of study in the last decades. The influence of work related stress is making teaching career more challenging and demanding day by day (Hepburn & Brown, 2001; Johnson et al., 2005). As a central axis of education system, a teacher has the responsibility to prepare the young generation and to build a nation. However, teachers under work related stress exhibit behavioral changes that may affect learning of students and hence entire teaching learning process as well as society in a negative manner. Therefore, there is a prime
requirement to measure work related stress of teachers, so that they can strengthen their internal resources such as self-esteem, which will help them to cope up with work related stress in their profession.

Though there are various tools to access work relates stress of school teachers but there is variation in selection of number of dimensions in these tools. For instance work related stress have been studied in terms of four dimensions (Otto, 1983; Mullholland, 2005; Antoniou et al, 2006; Reddi & Purnima, 2012), in terms of five dimensions, (Srivastav, 1996; Rathod and verma, 2001; Akada, 2010; Eres & Atanasoska, 2010), in terms of seven dimensions (Schutz & Long, 1988), in terms of eight dimensions (Rajendran, 1998), in terms of nine dimensions (Sharma 2012), in terms of ten dimensions (Fimian, 1988; Pareek, 1994) and in terms of twelve dimensions (Kaur, 2006). Therefore it was required to construct and standardize a new tool to measure work related stress of school teachers.

As a scale involves a higher degree of operationalization and allows researchers to measure complicated issues (Sarantakos, 2003) and in a five point rating scale, it is easy to access and classify the behavior, therefore, it was decided to prepare a five point rating scale for accessing work related stress for school teachers.

1.1 Purpose Of Work Related Stress Scale
The purpose of construction of work related scale was to measure work related stress of school teachers.

1.2 The Process Of Scale Construction
The process of scale construction was carried out in three phases namely Planning Phase, Construction Phase and Standardization Phase.

2. PLANNING PHASE
Planning phase involved identification of components of work related stress, operational definition and methodology of scale construction.

▶ Identification of the components of work related stress
The empirical literature of journals, catalogues, official sources, books and web sources facilitated the researcher with following components of work related stress namely work load, role uncertainty and role conflict, unhealthy staff relation, poor working conditions, administrative policies, professional distress, harassment by school authorities, student misbehavior and indiscipline.

▶ Operational definition of work related stress
“Work related stress is defined as the stress arising exclusively from job roles i.e. when an environmental situation is perceived as presenting demand which threatens to exceed the person’s resources and abilities to attain it”.

▶ Methodology for scale construction
The methodology of Thurstone (1928) and Likert (1932) was used to develop the scale. To construct the present scale, the technique selected was ‘Scale Product
Method’ which combines the technique of ‘Equal Appearing Interval Scale’ of Thurston (1946) for selection of items and technique of ‘Summated Rating of Likert (1932)’ for collecting the responses on the scale.

3. CONSTRUCTION PHASE

Construction phase involved these steps: preparation of item pool, editing of items, directions for respondents, preliminary try-out of the scale, final try-out of the scale, item analysis, selections of items and preparation of the final draft and scoring procedure.

- Preparation of item pool
  The items of the tool were framed on the basis of information gathered from experienced teachers, colleagues and the study of relevant material from web sources, books etc. These items were framed in English language and were given the shape of statements. 86 items were framed tentatively in the preliminary draft. The statements were both negative and positive.

- Editing of items
  Editing of items was done under the guidelines of Thurstone and Chave (1929), Likert (1932), Wang (1932), Bird (1940) and Edwards and Kilpatrick (1948). Preliminary draft of 86 items was shown to experts to examine grammatical correctness, repetitiveness and ambiguity of items. Thus, in present study, 10 experts from the field of teaching at schools, college and university level were approached. The experts were asked to respond the task by choosing option accept or delete against each item, such as for the item number 1, ‘I teach eight to nine periods daily’ the experts were either to accept or delete the item. The experts were also requested to give their valuable opinions and comments wherever necessary. In this way, a pool of 58 statements was finalized for the provisional draft of the scale. Out of these 58 statements, 43 were positive and 15 were negative. Area wise distribution of items in the provisional draft is shown in table I.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Areas of Work Related Stress</th>
<th>Serial Number of Favourable and Unfavourable Items in Each Area</th>
<th>Favourable Items (+)</th>
<th>Unfavourable Items (-)</th>
<th>Items in Each Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work Load</td>
<td>1,8,12,17,22,26,32,37,41,45,48,52,57</td>
<td></td>
<td>___</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Role Uncertainty and Role Conflict</td>
<td>2,25</td>
<td></td>
<td>55,43</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Unhealthy Staff Relation</td>
<td>24</td>
<td></td>
<td>7,31</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Poor Working Conditions</td>
<td>4,16,34,38,</td>
<td></td>
<td>11</td>
<td>5</td>
</tr>
</tbody>
</table>
4. DIRECTIONS FOR RESPONDENTS
On the top of the booklet, the following directions were given for respondents:
(i) Fill in information regarding your name, gender, age, qualification, name of the school, teaching experience, marital status, locale and district.
(ii) Please read every statement carefully and tick mark (✓) the response alternative suitable to you. A five point rating scale i.e. Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD) is given against each statement for indicating the degree of appropriateness.
Example:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I teach eight to nine periods daily.</td>
<td>✓</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

(iii) Out of five response alternatives tick only one of them suitable to you.
(iv) Answer without hesitation and with utmost degree of honesty.
(v) The information provided by you will be used for research purpose.

5. PRELIMINARY & FINAL TRY-OUT OF THE SCALE

» Preliminary: After finalizing the provisional draft of the test and before undergoing item analysis, the test was administered to the sample of 10 school teachers of Hoshiarpur district. The sample was equally balanced among male and female school teachers. This attempt was made to check the difficulty level as well as to remove the language problem, if any, occurring in construction of the scale.

» Final: Final try-out of the scale was carried out on 100 secondary school teachers selected randomly from 10 senior secondary schools of Hoshiarpur and Jalandhar District. The teachers were equally balanced among male and female, government and private as well as rural and urban.
Item analysis

Item analysis was done by computing Scale value and Q value with help of Thurstone and Chave’s (1929) formula. Computing Scale and Q value is necessary for placing the statements evenly in the scale from extreme negative to extreme positive.

Scale value

To calculate the scale value, the responses given by teachers were categorized for each statement into five categories as used in the provisional draft of the scale. The responses collected on the 5 point continuum such as Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD), were scored with weights 5,4,3,2 and 1 respectively for favourable statements and with weights 1,2,3,4 and 5 for unfavourable statements. In accordance with the said scoring procedure, frequencies of items were calculated and scale values were computed.

Q-value

Q-values of the items were calculated after noting down the frequency of responses in each category for each statement by using Thurston and Chave’s (1929) technique. Any statement which was placed at different point on the scale showed variation in its interpretation by the respondent, were not considered to be included in the scale. Thurston and Chave (1929) used semi interquartile range or ‘Q’ as a measure of this variation. According to Thurston and Chave’s (1929) for good agreement among judges in judging the degree of favorableness or unfavorableness of statements, Q-value will be small as compare to the value arised when there is relatively less agreement among the judges. In other words, lower the Q value more is the agreement among the respondents on that statement. Contrary to this larger Q value indicates that the statement is ambiguous.

In accordance with Thurston and Chave (1929) parameters, the item which had Q-Value lower than 0.5 and greater than 2.0 were rejected (Koul, 2009). In this way, 10 items from different areas of Work Related Stress were rejected. The rejected items from the provisional draft carried serial numbers as 7, 14, 34, 36, 46, 49, 50, 56, 57 and 58. Hence, Work Related Stress Scale included 48 items in its final form. These 48 items were classified into eight categories depending upon their relevance to different areas of work related stress. Table II shows the distribution of items in the final draft of work related stress scale for school teachers.

Table-II Showing distribution of items in the final draft of Work Related Stress Scale for School Teachers

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Areas of Work Related Stress</th>
<th>Serial No. of Favourable Items (+)</th>
<th>Serial No. of Unfavourable Items (-)</th>
<th>Total number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work Load</td>
<td>1,3,6,19,23,25,27,31,35,3</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>
6. SCORING PROCEDURE

Each item has a response option on Likert’s 5 points continuum like Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD), with weights 5,4,3,2 and 1 respectively for favourable statements and 1,2,3,4 and 5 for unfavourable statements. Work related stress score of the respondent is the sum total of item scores of all eight areas. The range of scores is 48 to 240 for the scale.

6. STANDARDIZATION PHASE

6.1 Test-retest reliability

For establishing the test retest reliability of the scale, the scale was administered to 100 secondary school teachers of the study area. To the same teachers, the same scale was administered after the gap of one and half month for test retest reliability. The product moment coefficient of correlation was computed between two sets of scores. The values calculated was 0.75, which was fairly high make the tool to be a reliable one.

6.2 Internal consistency reliability

Internal consistency reliability was calculated using Split-half method. Work related stress scale was administered to 100 secondary school teachers. For each subject, the score of even numbered items and odd numbered items was calculated. After that product moment correlation was calculated between odd and even items, and was found to be 0.80. Then, the Spearman-Brown prophecy formula was used to estimate reliability of the full test that came out to be 0.89, which is high enough to prove the soundness of the scale.

6.1 Establishing The Validity Of The Scale

Content Validity

As the present scale was shown to 10 experts from the field of teacher education as well as school education and furthermore the items of the scale were selected after carefully scrutinizing the definitions of work related stress and its dimensions, hence scale has fair degree of content validity.
Face Validity
For establishing face validity, scale was shown to language experts. It was also applied to 10 teachers of Hoshiarpur district. As language, format, instructions and size of the scale were found suitable for subjects, hence the scale has fair degree of validity.

Construct Validity
In order to establish construct validity, the Pearson product moment correlation was calculated between the scores of Work Related Stress Scale and Occupational Stress Scale (Kaur, 2006). It came out to be 0.70 and hence it can be said that the scale has a fair degree of construct validity.

6.2 Norms of the scale
Norms were prepared after collecting data on the sample of 500 school teachers on work related stress scale. Calculated raw scores were tabulated in ascending order. Mean and Standard deviation of scores of 500 teachers were calculated, which were: N=500, Mean=129.69, S.D. =20.30. To frame the norms of scale, Z-scores and T-scores were calculated on basis of above statistics. To interpret the scores on work related stress scale, the raw scores and T-Scores were classified into five categories after preparing the range of scores.

Table-III: Showing Interpretation of Work Related Stress Scores

<table>
<thead>
<tr>
<th>Raw Scores (X)</th>
<th>T-Scores</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 and below</td>
<td>Below 30</td>
<td>Very Low Work Related Stress</td>
</tr>
<tr>
<td>90-115</td>
<td>30-42</td>
<td>Low Work Related Stress</td>
</tr>
<tr>
<td>115-140</td>
<td>42-55</td>
<td>Average Work Related Stress</td>
</tr>
<tr>
<td>140-165</td>
<td>55-67</td>
<td>High Work Related Stress</td>
</tr>
<tr>
<td>165 and above</td>
<td>67 and above</td>
<td>Very High Work Related Stress</td>
</tr>
</tbody>
</table>

The scores below 90 and corresponding T-scores below 30 depict very low work related stress. The scores between 90-115 and corresponding T- scores 30-42 indicate low work related stress. The score range 115-140 and T-scores 42-55 presents average work related stress. The score ranging 140-165 with T-scores 55-67 indicate high work related stress. Whereas scores 165 and above with T-scores 67 and above present a very high level of work related stress.

7. REFERENCES


