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## Original research article

# The reliability of Malay version of parenting stress index-short form (PSI-SF) among caregivers of individuals with learning disabilities



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## ARTICLE INFO

## Article history:

Received 24 July 2015

Received in revised form

13 November 2015

Accepted 23 January 2016

Available online 28 February 2016

## Keywords:

Reliability

Parental stress

Families

Caregivers

Learning disability

## ABSTRACT

**Introduction:** Care demands faced by parents of children with learning disabilities (LD) can cause significant stress to them. The parenting stress index-short form (PSI-SF) questionnaire is a widely used instrument to measure parental stress. Cross-cultural translation of PSI-SF takes place to cater the different population around the world. Recently, a cross-cultural translation was implemented in the Malay language. The Malay version of the PSI-SF was developed and tested for psychometric properties among caregivers of individual with LD.

**Aim:** The main aim of this study was to examine the reliability and internal consistency of the Malay version of PSI-SF.

**Material and methods:** PSI-SF in English version was translated into Malay language. Back translation, comparison and modification were executed to obtain PSI-SF in Malay version. A total of 30 caregivers who handle individuals with LD were surveyed to evaluate the reliability of PSI-SF in the Malay version.

**Results and discussion:** The reliability of PSI-SF in the Malay version was good with Cronbach's  $\alpha = 0.944$ . The internal consistency on subscale of PSI-SF such as parental distress, parent-child dysfunction and difficult child also scored a high internal consistency with value 0.90, 0.82, and 0.87 respectively.

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Conclusions: The Malay version of the PSI-SF is a reliable questionnaire to evaluate the level of stress among the caregivers of children with LD.

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## 1. Introduction

The identified prevalence of learning disabilities (LD) has increased significantly around the world over the last few decades.<sup>1</sup> Raising a child with LD can be a challengeable experience for caregivers.<sup>2</sup> Previous studies showed that caregivers of children with LD have higher stress when compared to caregivers of typically-developing children.<sup>3</sup> Increased parenting stress is also associated with a lack of positive parenting behavior.<sup>3</sup> Parenting stress is shown to play a crucial role in the quality of parenting that parents provide and the subsequent development of social behavior in children with LD.<sup>4</sup> It is important that researchers and clinicians have valid and reliable instruments to measure parenting stress among caregivers of children with LD. In order to detect the stress level, various questionnaires or measures of self-report have been developed in the English language.<sup>5</sup> Self-report measures are popular methods of measuring parenting stress because they tend to be inexpensive and consume the least time as a method of measurement.<sup>5</sup> One such self-report instrument is the parenting stress index (PSI).<sup>6</sup> PSI is the commonly used instrument to assess parental stress in clinical and research settings.<sup>7</sup>

There are two versions of this instrument designed by Abidin (1983, 1995), the full form and the short form.<sup>8</sup> Although the full version PSI has been shown to have strong psychometric properties, with 120 items, the length of the PSI can be weighty and difficult for researchers, clinicians, and participants.<sup>7</sup> The length of the questionnaire and the time required for its administration are the limitations of the full version of PSI.<sup>7</sup> PSI-short form (PSI-SF) which has 36 items was derived from the full version to solve this limitation.<sup>7</sup> The PSI-SF can be administered quickly to allow the clinicians to easily identify families needing intervention or follow-up.<sup>7</sup>

The items comprise of three subscales which are parent distress, difficult child, and parent-child dysfunctional interaction.<sup>7</sup> The parent distress subscale would measure the distress level of feelings of parents about their parenting role apart from their other personal stresses.<sup>9</sup> The difficult child subscale determines behaviors that children regularly engage that may make parenting easier or more difficult. The parent-child dysfunctional interaction subscale emphasizes on the degree to which the child is reinforcing to the parent and the degree to which the child meets the expectations of the parents.<sup>9</sup> The sum of these three subscales offers a final overall score which is called 'total stress'.<sup>7</sup> The score on this variable indicates the degree of stress that parents experience in their role as parents.<sup>7</sup> PSI also reflects the tension found in the areas

of the parents' personal distress, tensions arising from interaction with the child, and those which origins are from the behavioral characteristics of the child.<sup>7</sup>

PSI-SF is a reliable and valid instrument across cultures such as Turkish and French.<sup>6</sup> In this study, a Malay version of the PSI-SF is framed to comprehend the parental stress for parents of children with LD in a South-East Asian cultural context in countries such as Malaysia, Brunei, Indonesia and Singapore where Malay language is commonly spoken. Using a questionnaire in foreign language may influence the outcome of the measurement property due to cultural and language differences.<sup>10</sup> The translation process may instigate errors in syntax and meaning of the items in questionnaire.<sup>11</sup> In such cases, it is crucial to test the internal consistency of a tool to ensure the trustworthiness of the instrument and the translation process of the tool.<sup>10</sup>

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## 2. Aim

The main aim of this study is to investigate the reliability of the Malay version of PSI-SF.

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## 3. Material and methods

### 3.1. Participants

This was a cross-sectional study conducted among 30 caregivers who handle children with LD. The participants who brought their children with LD for acquiring health services at an institutional hospital were enlisted for this study using a convenient sampling method. A pre-defined inclusion and exclusion criteria were used for the recruitment of study participants. The inclusion criteria were parents/caregivers who have children with LD aged between 3 and 16 years old. The definition of caregivers is meant to include biological parents, adoptive parents, foster parents, relatives or guardians of the individual with LD. Parents who reported to be having psychological problems or in habit of any substance abuse were excluded from the study.

### 3.2. Instruments

The PSI-SF is a questionnaire or a self-reported measure comprising 36 items.<sup>6</sup> Parents responded on a 5-point Likert-type scale.<sup>6</sup> It attempted to evaluate stress experienced during paternity and maternity.<sup>12</sup> It is presumed that parental stress can be determined by the characteristics of the parents, certain child behavioral traits and situation variables directly related

to the parental role.<sup>12</sup> The PSI-SF consists of three subscales of 12 items each. The procedure took 20–25 min for the parent to complete.<sup>12</sup> The PSI-SF was written at a fifth-grade reading level, and has been validated in multicultural use.<sup>6</sup> The PSI-SF was highly correlated with the full length version ( $r = 0.94$ ), as is its two-week test-retest reliability ( $r = 0.95$ ).<sup>12</sup> A high score indicated high parenting stress.<sup>12</sup> The Malay version of PSI-SF which had the above stated characteristics was used in this study as study instrument.

### 3.3. PSI-SF items forward-backward translation

The PSI-SF was cross-culturally adapted according to the established protocol.<sup>13</sup> Firstly, three language experts independently translated and culturally adapted the original English version to Malay version. No item was eliminated in the translation process. In the second step, a consensus version was produced by synthesizing both translations and discussing disagreements. Thirdly, the consensus version was backwards-translated by professional bilingual translators. The original version was then compared to the back-translation and no corrections were made to the final Malay version. A committee of experts, consisting of the three language experts, produced a final version based on the consensus. The statements appear in the same order as in the original version of the PSI-SF in English.

### 3.4. Procedure

Caregivers were asked to complete the questionnaire of the Malay version of PSI-SF and additional questions regarding the demographics details were included. Participants were asked to value each statement in the PSI-SF on a 5-point Likert-type scale. In addition, a trained investigator who had prior experience in using PSI-SF was present to resolve any uncertainties that arise during the data collection. The trained investigator was instructed not to influence any responses from the participants and was advised to oversee that all the items in the questionnaire were answered by the participants. The ethics committee of a government university teaching hospital approved this study with project code NN-071-2014. All the research materials were handled exclusively by the main researcher and the results of the data obtained were reported in a collected manner with no reference to any specific individuals. All participants gave written consent prior to the collection of data.

### 3.5. Data analysis

Statistical analysis was conducted using the SPSS 21.0. Descriptive statistic was utilized to analyze the demographic characteristics of the participants. The reliability of PSI-SF was tested by examining the overall Cronbach's  $\alpha$ -value along with the internal consistency of the subdomain in PSI-SF.

## 4. Results

Every participant answered all the items in the questionnaire. Hence, there no data were omitted from the analysis. The age

**Table 1 – Demographic characteristic of the participants.**

Characteristic	Number of participants
Caregivers' gender	
Female	22 (73.3%)
Male	8 (26.7%)
Caregivers' age (mean $\pm$ SD)	38.33 $\pm$ 7.22
Children's age (mean $\pm$ SD)	6.83 $\pm$ 2.588
Children's gender	
Female	6 (20.0%)
Male	24 (80.0%)
Caregivers' educational level	Nil
Primary school	9 (30.0%)
Secondary school	6 (20.0%)
Diploma	14 (46.7%)
Degree	1 (3.3%)
Postgraduate	
Caregivers' marital status	
Married	30 (100%)
Unmarried	Nil
Family income <sup>a</sup>	
1 000–3 000 RYM	3 (10.0%)
3 000–6 000 RYM	16 (53.3%)
More than 6 000 RYM	11 (36.7%)

<sup>a</sup> At the time of a study 1 RYM was equal to \$0.33.

**Table 2 – Internal consistency of PSI-SF and its subscales.**

Subdomain	Cronbach's $\alpha$
Parental distress	0.904
Parent-child dysfunction	0.816
Difficult child	0.870
Total stress score of PSI-SF	0.944

range of the caregivers was between 24 and 51 years (mean 38.33  $\pm$  7.22 years). The genders of the children with LD were 24 boys (80%) and 6 girls (20%), with a mean age of 6.83  $\pm$  2.59. Participant demographics are shown in Table 1. The results of reliability analysis showed that PSI-SF have an internal reliability coefficient  $\alpha = 0.94$ . The internal reliability coefficients for the subscales derived from the data in current study are  $\alpha = 0.90$  for parental distress,  $\alpha = 0.85$  for parent-child dysfunctional interaction and  $\alpha = 0.87$  for difficult child. The results of PSI-SF reliability are presented in Table 2.

## 5. Discussion

The main aim of this study was to examine the reliability of Malay version of PSI-SF. The PSI-SF total stress score in the current study showed high internal reliability coefficient  $\alpha = 0.94$ . The scales of the PSI-SF in the current study showed acceptable to high internal consistency ( $\alpha$ -values range from 0.82 to 0.90, Table 2) and it shows that the Malay version of PSI-SF is appropriate for clinical use. The original English version PSI-SF total stress score has an internal reliability coefficient  $\alpha = 0.90$ .<sup>7</sup> The reliability of Malay version of PSI-SF was comparable with the original English version of PSI-SF in terms of internal consistency. The internal reliability coefficients for the subscales derived from the data in

previous study were  $\alpha = 0.87$  for parental distress,  $\alpha = 0.80$  for parent-child dysfunctional interaction and  $\alpha = 0.82$  for difficult child scale.<sup>7</sup> Close values were obtained in Malay version of PSI-SF when compared to the original version. Therefore, the comparability of the internal consistency of the Malay version of the tool against the original version of PSI-SF supports the trustworthiness of the Malay version of PSI-SF.

Most participants in the current study were mothers and from middle-income socioeconomic status. Studies show that gender of the caregivers and the socioeconomic status are the factors that influence parental stress.<sup>7,14</sup> It is proven that parents from low and middle level income socioeconomic status have higher parental stress<sup>7</sup> while parental stress in mothers is comparatively higher than fathers.<sup>14</sup> Although the mechanisms for the impacts of parenting stress on parenting behavior could be different for mothers and fathers, both genders are at the risk of developing high levels of parenting stress.<sup>14</sup>

Factors such as selection of the language experts or translator, translation technique and back-translation process should be given much attention during the translation process for the adaptation of an intercultural scale as the above stated factors might affect the reliability of translated instrument.<sup>15</sup> In the current study, the scale was translated from English into Malay by three professionals who comprehend both languages for language validity.

When producing a translated version of a tool, back-translation should be done by somebody who does not know the original scale to minimize biasness during the translation process.<sup>16</sup> The back-translation of the scale which was the re-translation of the latest Malay version into English was done by a linguist who did not know the original scale. In this current study, the translation process was rigorously conducted to ensure that equivalence between original tool and translated version was established which might have resulted in high internal reliability. No disagreement on the terminology was observed among the three translators during the translation process.

The PSI-SF is a particularly useful working tool that would allow for designation of programs of prevention, intervention or follow-up depending on the areas or subscales most concerned.<sup>14</sup> From a clinical point of view, clarification of the components of parenting and their stressors may help in defining and redefining program goals and objectives.<sup>7</sup> Parents with high scores on the subscale of parent-child dysfunctional interaction may need intervention programs aimed at improving parents-child interactions promoting the development of secure attachment.<sup>7</sup> On the other hand, parents who score high in parental stress may require more focused interventions in stress management caused by life events in the wider context.<sup>7</sup> Meanwhile, parents who score highest in the difficult child subscale may need training programs and management for their child's behavior.<sup>7</sup> Evaluating more specific elements or variables that cause parenting stress could reinforce the ability of researchers to understand and predict ways in which stress and coping behaviors interact with parenting.<sup>7</sup> In terms of clinical implications, the findings of the study may provide a reliable tool to measure parental stress in clinical practice. It also helps the clinician in the

design and development of more individually tailored interventions for parents and children. Hence, a culturally appropriate clinical tool with good reliability is important for an efficient medical practice. The good Cronbach's  $\alpha$ -values obtained from the Malay version of PSI-SF support that the Malay version of PSI-SF is equivalent to the original tool. As a result, the Malay version of PSI-SF can be recommended as a useful tool for researchers and clinicians in Malay speaking countries.

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## 6. Conclusions

The Malay version of the PSI-SF is a reliable questionnaire to measure parental stress among caregivers of children with LD.

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## Conflict of interest

None declared.

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## Financial disclosure

This study is supported by a research grant from Ministry of Higher Education, Government of Malaysia, Malaysia. Grant number is Industri-2013-016.

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## Acknowledgement

The authors wish to thank all participants for their support to this study.

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