Development of a Scale for Assessing Emotional and Behavioral Problems of School Children

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To develop a scale to assess emotional and behavioral problems in school children, a list of 109 most frequently occurring problems after validation by 20 experienced school psychologists was administered to 853 school children (grades 8-10) along with Youth Self Report (YSR; Achenbach & Rescorla, 2001). Exploratory factor analysis revealed 6 factors of the present scale termed as School Children Problems Scale (SCPS) common with YSR namely Anxiety, Academic Problems, Aggression, Social Withdrawal, Feeling of Rejection and Psychosomatic Complaints. A significant positive correlation was found between SCPS and two broad band scales of YSR. SCPS was found to be a reliable (test-retest reliability = 0.79 and split half reliability = 0.89) and a valid scale with acceptable psychometric properties.

**Keywords:** emotional and behavioral problems, school children, reliability, validity

Adolescence is known as the period that demands continual adjustment with the ever changing developmental process. During the normal growth and development, adolescents face many challenges and difficulties including changing physical growth, parental expectations, role identification and becoming a member of a society (Block & Robins, 1993). New pressures, ever changing social and emotional demands may place children and adolescents at greater risk for developing emotional and behavioral problems (Caspí, Taylor, Moffitt, & Plomin, 2000). More often, most of these problems tend to fade away in time but some, if not handled properly and carefully, may result in serious emotional, behavioral, social, physical or academic problems that can later become the source of stress for children, their families, schools and communities (Gelfend, Jenson, & Drew, 1997).

Throughout the world, extensive research has been conducted to determine the prevalence rate of emotional and behavioral problems of children and adolescents (Barkmann & Markwort, 2005; Buck & Ambrosino, 2004; Egger & Angold, 2006; Steinhausen, Metzke, Meier, & Kannenberg, 1998). A review of various epidemiological studies of emotional and behavioral problems of children and adolescents (Angold & Costello, 1993; Zoccolillo, 1992) suggests that the problems are on the rise. In one interesting study Robert, Attkinson and Rosenblatt (1998) reviewed 52 epidemiological studies to estimate the prevalence of emotional and behavioral problems of children and adolescents concluded that a great deal of variation exists in the prevalence rates. The figures ranged from 1% to 50% with the mean prevalence rate of 15.80%, with rate of preadolescents and adolescents being 13.2% and 16.5% respectively. Prevalence studies often generate a wide range of variations in the prevalence rates. This may be due to many factors including the way problems are defined, the type and the sensitivities of the tools used, the training of the researchers and scorers, variations in the type of informants and the diversity in the plethora of demographic variables used in survey (Gelfend et al., 1997).

There have been few sporadic studies carried out in Pakistan to look at the emotional and behavioral problems of school children. Javed, Kundi, and Khan (1992) investigated the prevalence of emotional and behavioral problems of children in Lahore by using Rutter Children’s Behavior Questionnaire (Rutter, 1967). The sample consisted of 225 children with the age range of 9-11 years. The findings indicated antisocial behavior to be the most common problem with the prevalence rate of 9.3%. Syed, Hussain and Mahmud (2007) provided the account of emotional and behavioral problems amongst 5-11 year old school children in Karachi. They used the Strength and Difficulty Questionnaire Parents’ Version (Goodman, 1997). Results indicated that 47% of children were rated as “normal”, 19% as “borderline” and 34% as “abnormal”. Strictly speaking, both studies are not comparable as they used different and culturally alien tools with different populations, but the fact remains that most studies report a substantial number of children suffering from emotional and behavioral problems that may affect the overall growth and development of the children and influence behavior throughout adolescence to adulthood (Heyerdahl, Kvernmo, & Wichstrøm, 2004).

Literature suggests that emotional and behavioral problems frequently lead to poor school performance, dropping out of schools, adjustment difficulties, school refusal, delayed school progress (Bernstein & Garfinkel, 1986; Byrd, Weitzman, & Auinger, 1997; Zima, Wells, & Freeman, 1994), social incompetence (Chansky & Kendall, 1997; LaGrecq, Dandes, Wick, Shaw, & Stone, 1988), low self-worth and self-esteem (Bos, Huizing, Muris, Vogel, & Biesheuvel, 2010; Orvaschel, Beeferman, & Kabacoff, 1997), feelings of loneliness (Asher, Hymel, & Renshaw, 1984), interpersonal problems (Boulon & Smith, 1994) and lack of feeling of well-being later in life (Konu, Lintonen, & Rimpela, 2002). Therefore, there is ample evidence to suggest that emotional and behavioral problems in adolescence can have serious consequences. The findings also imply a need for early and timely identification of these problems so that remedial steps may be taken against them. For these reasons, a culturally valid and psychometrically reliable assessment tool deemed a necessary prerequisite for the accurate estimation of the magnitude of problems in adolescence.

There are a number of valid and reliable screening and assessment tools already available which have been constructed and standardized in the Western cultures such as the Strength and...
Difficulty Questionnaire (SDQ; Goodman, 1997). SDQ is a brief mental health questionnaire that consists of 25 items grouped into 5 sub-scales covering conduct problems, hyperactivity, emotional, peer problems and prosocial behavior. Separate versions for teachers and parents are available covering an age range of 4-16 years (Goodman, 1997). Another most frequently and widely used assessment tool is the Child Behavior Checklist (CBCL, Achenbach & Rescorla, 2001) in parent (Parent Report Form; PRF), teacher (Teacher Report Form; TRF) and for youth (Youth Self Report; YSR). CBCL has been used in many studies in different countries to assess emotional and behavioral problems of children (e.g. Kazdin, 1989; Larsson & Frisk, 1999; Slobodskaya, 1999). CBCL consists of 112 items measuring two broad band scales called Internalizing and Externalizing problems.

A great deal of research is now focusing on the impact of culture on different psychological constructs and psychopathology (Chen, Rubin, & Li, 1995; Draguns & Tanaka-Matsumi, 2003). Researchers also argue that cultural value system and practices give an indigenous meaning to a social behavior (Wang & Ollendick, 2001). The development, experience, expression and manifestation of mental health problems are influenced by cultural experiences (e.g., Thakker & Ward, 1998; Weisz, Weiss, Suwanlert, & Chaiyasit, 2003).

Although it can be said that while some pathological behaviors (e.g. psychoses and other organic disorders) may manifest in a more or less universal way across cultures, and virtually are recognized by all as abnormal, some other forms of behaviors (e.g., neurotic disorders, emotional and behavioral problems) are more likely to be a product of individuals’ own experiences, family and social interaction and cultural environment (Eisenberg, Pidada, & Liew, 2001; Saleem & Mahmood, 2009). Moreover, the extent to which such behaviors are perceived as normal or abnormal is usually a matter of social judgment and of the culture in which they are observed, rather than the behavior itself (Gelfend et al., 1997).

Such cultural variations and diversities in experience, expression and manifestation of mental health problems also question the use of assessment and screening tools which are developed in different cultures with different languages and are based on different phenomenological experiences (Gergen, Gulerce, Lock, & Misra, 1996). These instruments and tools are more likely to give inaccurate and invalid results ultimately raising questions about the validity of the research (Kim, 2002). It is also very important to consider that some constructs are relevant to one culture but not for others. By using these tools which are developed exclusively in Western culture with different linguistic expression, we may lose some of the important and crucial information specifically related to non-Western cultures (Stewart et al., 1999). The blind application of culturally alien tools not only leads to misinterpretation of the problems under study but may also mislead prevention and treatment efforts (Kim, 2002). Therefore, a plethora of literature is now focusing on cultural meaning of the psychological concepts and constructs (e.g., Draguns & Tanaka-Matsumi, 2003; Wang & Ollendick, 2001).

The above discussion provides a rationale for developing an indigenous scale for measuring the emotional and behavioral problems based on the cultural and social background of Pakistani school children. Pakistan is a collectivistic society where family and group values play a vital role in developing and shaping behaviors of the individuals and where familial harmony, obedience and conformity to parents and other authority figures are valued (Stewart et al., 1999). Therefore, the psychological and mental health is greatly influenced by the people around them (Markus & Kitayama, 1991). However, very few systematic efforts have been attempted to assess and measure mental health problems of school children and adolescents in the Pakistani cultural context. Therefore, the objectives of this study are to identify the experience, expression and manifestation of emotional and behavioral problems of children within cultural context of Pakistan and to develop a valid and reliable scale for this purpose.

Method

The scale was developed in three stages. Stage 1 describes the gathering and collating procedure of emotional and behavioral problems, followed by stage II of empirical validation and in the stage III the psychometric properties of the scale were established.

Stage 1: Gathering Problems

Initially, the presenting problems of 103 referred school children were gathered and collated through their initial interview with the school psychologists over a period of 6 months. These 103 children had been referred by school authorities for various mental health problems. A list of 129 problems was prepared. All those items that were dubious, vague or overlapping were merged or modified keeping close to their original connotations. Items that were expressed in idiosyncratic or slang words were also excluded. In this way, a final list of 119 problems was collated and given the name of School Children’s Problems Scale (SCPS).

Stage 2: Empirical Validation Through Experts

In order to gather empirical validation of the final list of emotional and behavioral problems, 20 experienced school psychologists were informed about the purpose of the research. All participants had a minimum 3 years of experience with school children. They were asked to rate each of the 119 problems on a 6-point rating scale ranging from 0 = “not at all” to 5 = “extremely common” for their frequency of occurrence in school children.

At the end of stage II, all the problems were listed in descending order of frequency of occurrence as rated by the experts. Problems getting less than 20% average score were excluded from the final list. In this way, a final list of 111 problems was retained and used for further psychometric properties in stage III.

Pilot Study

Hundred and eleven problems were piloted on 60 school children (30 boys and 30 girls) for readability and to test the layout. Two problems were excluded from the scale because their wording was not clear to some children. In this way, 109 problems were retained for further psychometric phase.

Stage 3: Psychometric Properties

Stage III was aimed at establishing the factorial structure, validity and reliability of the final set of statements termed as School Children Problem Scale (SCPS). A multistage sampling technique was used to select the sample. In the first stage, stratified sampling technique was used to divide the sample into two main strata comprising of boys and girls of government schools of Lahore. In the
second stage, two main strata were further divided into three sub-strata according to grades, i.e., 8th, 9th and 10th. Within each strata, the participants were selected randomly. The final sample consisted of 853 school children (boys = 438, girls = 415) of grades 8th, 9th and 10th. The mean age of the sample was 13.91 (SD = 1.27). The sample was collected from 10 mainstream government schools of Lahore (Table 1).

Instruments

1. School Children’s Problems Scale (SCPS). School Children’s Problems Scale (SCPS) developed in the earlier stages consists of 109 problems experienced and expressed by school children and is a 4-point rating scale with options included “Never, Rarely, Sometimes, and Often”.
2. Youth Self Report (YSR; Achenbach & Rescorla, 2001). The Youth Version of Child Behavior Checklist i.e., Youth Self Report (YSR; Achenbach & Rescorla, 2001) was used. It consists of 112 items for ages 11-18 years and describes a broad range of problems. As mentioned earlier, it is one of the most frequently used measures to assess emotional and behavioral problems of children. Therefore, in order to establish the concurrent validity of SCPS, Urdu (national language of Pakistan) version of YSR was used.

Procedure

Initially, 16 schools were contacted and a brief description of the aims of the current research was sent to them. Ten schools agreed to participate. Each school was personally visited by the researcher and school authorities were informed about the objectives of the research. They were assured that all the information would be kept confidential and had nothing to do with the school authorities. The instructions were given in Urdu. They were asked to rate each problem to the extent it bothered them. It took about 25 minutes to complete the protocol. After completion, each group was given about 20 minutes for any questions, feedback and debriefing.

Results

Factor Analysis of School Children’s Problems Scale (SCPS)

Principle Component Analysis with Varimax Rotation and Scree Plot was used to explore the factor structure of SCPS. Factors were also extracted on the basis of Eigen value > 1. On the basis of factor analysis, factor loadings were assessed. Items with loading of

Table 2
Eigen Values and Variance Explained by 6 Factors of SCPS

<table>
<thead>
<tr>
<th>Factors</th>
<th>Eigen values</th>
<th>% of variance</th>
<th>% of total variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.46</td>
<td>18.49</td>
<td>18.49</td>
</tr>
<tr>
<td>2</td>
<td>4.06</td>
<td>4.55</td>
<td>23.05</td>
</tr>
<tr>
<td>3</td>
<td>2.74</td>
<td>3.08</td>
<td>26.13</td>
</tr>
<tr>
<td>4</td>
<td>1.99</td>
<td>2.24</td>
<td>28.37</td>
</tr>
<tr>
<td>5</td>
<td>1.75</td>
<td>1.97</td>
<td>30.34</td>
</tr>
<tr>
<td>6</td>
<td>1.66</td>
<td>1.86</td>
<td>32.20</td>
</tr>
</tbody>
</table>

Table 4
Cronbach Alpha of SCPS and 6 Factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>No of items</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiousness</td>
<td>23</td>
<td>0.87</td>
</tr>
<tr>
<td>Academic Problems</td>
<td>16</td>
<td>0.84</td>
</tr>
<tr>
<td>Aggression</td>
<td>15</td>
<td>0.84</td>
</tr>
<tr>
<td>Social Withdrawal</td>
<td>15</td>
<td>0.83</td>
</tr>
<tr>
<td>Rejection</td>
<td>10</td>
<td>0.70</td>
</tr>
<tr>
<td>Psychosomatic Problems</td>
<td>9</td>
<td>0.76</td>
</tr>
<tr>
<td>Total SCPS Score</td>
<td>88</td>
<td>0.92</td>
</tr>
</tbody>
</table>
Table 5

Summary of Intercorrelation, Means and Standard Deviations for Six Factors and Total Score of SCPS

<table>
<thead>
<tr>
<th>Factors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anxiousness</td>
<td>---</td>
<td>.63**</td>
<td>.41**</td>
<td>.72**</td>
<td>.57**</td>
<td>.59**</td>
<td>.89**</td>
</tr>
<tr>
<td>2. Academic Problems</td>
<td>---</td>
<td>---</td>
<td>.57**</td>
<td>.55**</td>
<td>.59**</td>
<td>.39**</td>
<td>.81**</td>
</tr>
<tr>
<td>3. Aggression</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.44**</td>
<td>.39*</td>
<td>.29*</td>
<td>.66**</td>
</tr>
<tr>
<td>4. Withdrawal</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.53**</td>
<td>.54**</td>
<td>.83**</td>
</tr>
<tr>
<td>5. Rejection</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.39*</td>
<td>.72**</td>
</tr>
<tr>
<td>6. Psychosomatic Problems</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.66**</td>
</tr>
<tr>
<td>7. Total Score</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>M</td>
<td>24.41</td>
<td>18.20</td>
<td>17.72</td>
<td>16.11</td>
<td>6.08</td>
<td>14.93</td>
<td>78.53</td>
</tr>
<tr>
<td>SD</td>
<td>13.04</td>
<td>10.68</td>
<td>9.39</td>
<td>8.74</td>
<td>5.02</td>
<td>8.06</td>
<td>35.42</td>
</tr>
</tbody>
</table>

*p < .01, ** p < .001.

.3 or below were eliminated. Eighty eight items were distributed across 6 factors.

Table 2 indicates the factorial structure of SCPS. Scree plot revealed six factor solutions of SCPS. A descriptive label was assigned to each factor on the basis of commonality of items in the factors. The details of these six factors are given in Table 3.

Validity and Reliability

Concurrent Validity

Concurrent validity of SCPS was confirmed with YSR. A significant positive correlation was found between School Children's Problems Scale (SCPS) and two broad band scales of YSR namely Internalizing Problems (r = 0.76, p < 0.001) and Externalizing Problems (r = 0.70, p < 0.001).

Table 4 indicates that SCPS has a high internal consistency. Table 5 indicates a significant positive correlation among six factors and the Total Score of SCPS.

Test Retest Reliability

One week test retest reliability on 20% (n = 115) sample was r = 0.79, p < 0.001.

Split Half Reliability

Odd and even method was used to determine the split half reliability of SCPS showing r = 0.89, p < 0.001.

Discussion

The present study focused on the culture specific experience and expression of emotional and behavioral problems of school children. Initially, a list of 129 problems was collated from 103 referred school children. After linguistic modification, a list of 119 items was further validated through 20 experienced school psychologists. The final list of 109 problems (School Children’s Problem Scale, SCPS) was administered to 853 school children.

Principle Component factor analysis revealed a six factor solution of SCPS namely Anxiousness, Academic Problems, Aggression, Social Withdrawal, Feeling of Rejection and Psychosomatic Problems. While the four factors Anxiousness, Aggression, Social Withdrawal and Psychosomatic Problems were found to be consistent with the literature (e.g., Achenbach & Rescorla, 2001). The factors, Academic Problems and Feelings of Rejection were peculiar for this sample.

Factor 1 of SCPS consisted of 23 problems related to anxiety, worry and indulging in pointless thoughts. School children are perhaps over concerned about how they are viewed and evaluated by their teachers, parents and peer group. More specifically, children and adolescents of these grades (8th, 9th and 10th) are more anxious about their school performance and this may influence the manifestation of problems.

Academic problems stood out very prominently in SCPS. In educational system in Pakistan, these three years, i.e., 8th, 9th and 10th grades are very crucial and critical in every child's academic life. These grades play a vital role in the choice of career in the future. As noted in other studies (Isralowitz & Ong, 1990) that school adjustment and choice of career are the top concerns of adolescents living in Asian countries. Therefore, it may be possible that the pressure the child feels in school may bring out some of the emotional and behavioral problems that may lead to declined school performance. This particular factor of academic problems did not emerge in other similar studies (e.g. Achenbach, 1991; Goodman, 1997) which may reflect the different nature of the samples.

The third factor that emerged in factor analysis was Aggression. This factor consists of that items related to direct or indirect expression of anger and aggression. This factor is consistent with other scales (YSR, Achenbach & Rescorla, 2001), where it was reflective of externalizing problems. This factor shows the typical pattern of school children where they have to excel collectively as well as individually. Therefore, they may manifest more aggressive behaviors and activities. Other two factors namely Social Withdrawal and Psychosomatic Problems are also consistent with the literature. Studies have revealed that Asian adolescents tend to manifest their emotional and behavioral problems in terms of somatic complaints (Kim, 2002).

The other interesting and significant factor that emerged in the sample was Feeling of Rejection. This factor is perhaps more conspicuous in collectivistic culture like Pakistan than it may be in the West. Collectivistic culture is marked by overdependence of the...
child on the family. Family, parents, siblings and teachers plays a vital role in shaping and molding a child’s behavior. The child rearing practices are more traditional where familial harmony, obedience and conformity to parents and other authority figures are valued (Stewart et al., 1999). In the traditional Asian cultures like Pakistan, childhood period is somewhat prolonged in which dependence on parents is encouraged and children are expected to respect (Chao, 1994). The family structure is larger, predominately living in joint family system and more hierarchical than in the West. Children of traditional societies are more likely to regress under pressure than those of the Western culture, where they are encouraged to develop individuality, autonomy and independence.

The psychometric properties of SCPS were encouraging. The internal consistency of SCPS was established using Cronbach Alpha, which was 0.92 for the whole scale with 88 items after factor analysis, while the reliability coefficients also showed that the SCPS was found to have high internal consistency. As the items of SCPS were based on the direct experience and expression of school children and were further validated by experts, therefore the scale satisfied the criteria of face and content validity.

As far as the concurrent validity was concerned, YSR (Achenbach & Rescorla, 2001) was used. A significant positive correlation was found between total SCPS score and two broad band scales of CBCL, with Internalizing problems and with Externalizing problems. One week test retest reliability of SCPS was also high.

The scale (SCPS) was divided into two equal halves by using odd and even method to establish the split half reliability which was also high. High split-half reliability may provide the short versions of SCPS for quick screening for emotional and behavioral problems of school children.

The present study has contributed significantly by discovering the culture specific experience and expression of emotional and behavioral problems in Pakistani culture. The School Children’s Problems Scale (SCPS) with acceptable psychometric properties does have the potential to be used in research. This scale may also be used to monitor progress and effectiveness in therapy, counseling and guidance of school children. The present research is also an attempt to develop an assessment scale measuring different dimensions of emotional and behavioral problems of school children and is largely based on the empirically derived data as proposed by Achenbach (1991). This study also emphasizes the use of functional profile of the child rather than using rigid diagnostic categories.

Conclusion

This study has addressed the important issue of culture specific manifestation and presentation of emotional and behavioral problems of school children. Results showed that academic problems and feelings of rejection are the essential features of school children’s experience and expression of emotional and behavioral problems. These problems are absent in most popular Western measures of emotional and behavioral problems. Problems such as anger and aggression, social withdrawal and psychosomatic problems found in Western measures are also found to be an integral and important part of mental health issues in our culture. We propose that these might be the core or universal expression found in any culture. With both core and culture specific expression of emotional and behavioral problems in SCPS, the accuracy of assessing and screening mental health issues in school children can be enhanced. This study could also prove a basic measuring tool to determine the prevalence of emotional and behavioral problems of school children so that we could have an accurate account of the magnitude of the problems.

References


