

# Using the Strengths and Difficulties Questionnaire as a screening tool for psychopathology in a sample of Singaporean children

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## Introduction

The Strengths and Difficulties Questionnaire (SDQ) is a measure for predicting psychopathology in children and adolescents (Goodman, Ford et al., 2000). A significant association between the SDQ scores and the International Classification of Disease-version 10 (ICD-10) diagnoses has also been reported (Becker et al., 2004). The SDQ has been adopted in many countries outside of its country of origin, Britain. It has been used in research and clinical assessment of child psychopathology. Satisfactory psychometric properties within the European populations have been reported (Rothenberger & Woerner, 2004).

To date, the SDQ has been translated into 40 languages. However, the cross-cultural validity of the SDQ in non-European countries is limited. Psychopathology is defined by presence of abnormal behaviour, and perception of behaviour varies across cultures (Kleinman, 1978). Cross-cultural validity of any psychological measure is therefore vital. The current study examines the clinical utility and predictive values of the SDQ in a sample of Singaporean students.

## Aims

To determine the decision agreement, sensitivity, specificity, positive and negative predictive values of the teacher-rated and parent-rated SDQ.

## Method

### Participants

Participants consisted of 103 students referred to the REACH (Response Early intervention and Assessment in Community mental Health) West program for mental health concerns. The sample has a racial mix of Malays (14.5%), Chinese(78.6%), Indians (4.9%) and Others (1.9%). Participants consisted of 63.1% males and 36.9% females, with ages ranging from 6 to 18 years old (see Table 1).

**Table 1. Number of Males and Females, with the Mean and Standard Deviation of Age**

	n	Mean	Standard Deviation
<i>Teacher SDQ</i>			
Males	65	11.32	3.46
Females	38	11.87	2.94
<i>Parent SDQ</i>			
Males	57	11.23	3.43
Females	32	11.94	2.97
<i>Teacher Parent SDQ Case Agreement</i>			
Males	30	11.77	3.26
Females	24	11.54	2.70

## Measures

The Strengths and Difficulties Questionnaire for parents and teachers - English (UK) and Chinese language version (Goodman, 1997).

## Procedure

Referral to REACH program was made by the child's school and written consent was obtained from parents. Teachers and parents of the children were asked to fill in the respective SDQ questionnaires. The child's main teacher/school counselor was also asked to fill in a screening questionnaire to provide information on the child's demographic data, changes in behaviour, mood and performance in school. All cases were reviewed by a consultant psychiatrist and clinical diagnosis provided if present. A total of 103 teacher-rated SDQ and 89 parent-rated SDQ forms were received.

## Data analysis

The Total Difficulties Scores of the SDQ for teachers [SDQ (T)] and for parents [SDQ (P)] form the variable of interest. The criterion measure is the presence or absence of a clinical diagnosis made based on the ICD-10 or DSM-IV classification after consultation with the psychiatrist.

## Results

### *Case agreement between SDQ (T) and SDQ (P)*

Total case agreement between the teacher-rated and parent-rated SDQ was 61% (n= 89). Both teachers and parents identified the same 19 cases of true positive, 10 cases of true negative, 11 cases of false positive and 14 cases of false negative.

### *SDQ (T) and diagnosis*

The overall decision agreement between SDQ (T) and diagnosis is 54%. The teacher rated version has a sensitivity of 68% and a specificity of 35%. Its positive predictive value is at 59% and its negative predictive value at 44% (See Table 2).

### *SDQ (P) and diagnosis*

The SDQ (P) and diagnosis produced an overall decision agreement of 55%. The parent rated version showed a sensitivity of 50%and a specificity of 62%. Its positive predictive value reached a level of 65% with a negative predictive value of 47% (See Table 3).

**Table 2. Number of Diagnosed and Non-diagnosed Cases Identified by the SDQ (T)**

	Diagnosis		
	Present	Absent	Total
SDQ Abnormal	41	28	69
SDQ Normal	19	15	34
Total	60	43	103

**Table 3. Number of Diagnosed and Non-diagnosed Cases Identified by the SDQ (P)**

	Diagnosis		
	Present	Absent	Total
SDQ Abnormal	26	14	40
SDQ Normal	26	23	49
Total	52	37	89

## Conclusions

This study found the case agreement between teachers' and parents' SDQ rating to be a moderate 61% . The differences in the sensitivity and specificity between teachers and parents suggest that teachers are better at identifying and reporting child psychopathology. This may be due to the fact that they have a larger pool of children in the class for comparison of behaviour. Moreover, the different levels of expectations by teachers and parents, levels of permissiveness and tolerance concerning behavioural features may play a part in their ability to accurately report symptoms.

The sensitivity values of 68% (teacher-rated) and 50% (parent-rated) obtained in this study were much higher than that reported by Goodman (1997), who obtained 29.8% for parent-rated SDQ and 34.5% for teacher-rated SDQ in his sample. Together with the low to moderate predictive values, our results suggest that the clinical usefulness of the SDQ is still below the 80% acceptable level as recommended by Portney and Watkins (2000). This can be, in part, due to the fact that the 25 core items in the SDQ do not explicitly cover the monosymptomatic disorders and the more specific child psychiatric symptomatology such as tic disorders, eating disorders and enuresis (Rothenberger & Woerner, 2004).

Overall, despite having a sensitivity level below the recommended value for an effective screening tool, the SDQ shows higher clinical utility when reported by teachers compared to parents' report in Singapore.

## References

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