

Behavioral Problems Among Children Attending Private and Community Schools in Karachi, Pakistan

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The study was carried out to determine the prevalence of conduct problems amongst children attending different school settings in Karachi, Pakistan. A total of seven private and eight community schools agreed to participate. 1488 consent forms were sent to 700 parents of private school and 788 parents of community school children. A total of 675 parents agreed to participate in the study. Assessment of conduct problems was conducted using Strength and Difficulties Questionnaire (SDQ; Goodman, 1999). Logistic regression was used to identify factors associated with parent's rating. It was found that girls were more likely to be rated as abnormal on this scale as compared to boys when data is adjusted for parent's education and school type (OR *adj* = .59; 95% CI: .4-.8; $p < .002$). Moreover children attending private schools were more likely to be rated as normal as compared to community school children, adjusting for child's gender and parent's education (OR *adj* = 2.2, 95% CI: 1.2-3.8, $p < .01$). In the present study estimates of behavioral problems was higher than reported in studies from other countries.

Keywords: conduct problems; risk factors; child psychiatry; private schools; community schools.

The term *conduct problem* refers to behaviours characteristic of disruptive behaviour disorders (American Psychiatric Association, 1994). The term conduct problem is not used to refer to a specific diagnostic category, rather it is a cluster of behaviours characterised by non-compliance, aggressive behaviour, and violation of societal or familial rules (McMahon & Wells, 1998).

Children with conduct problems may display behaviours which range from complaining, refusal to obey adult rules and ignoring instructions, lying, physical, or verbal aggression, destructiveness, and

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criminal activities. This pattern has been referred to variously as 'disruptive', 'aggressive', 'antisocial', 'delinquent', or 'externalising'. The standard categorical classification systems currently in use are the psychiatric systems of the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) of the American Psychiatric Association (1994) and the International Classification of Mental and Behavioural Disorders (ICD-10) of the World Health Organisation (1992). The diagnostic categories relevant to the classification of conduct problems in children are Oppositional Defiant Disorder and Conduct Disorder. *Oppositional Defiant Disorder* refers to a pattern of negative, hostile and defiant behaviour that occurs frequently for a period of 6 months or more. *Conduct Disorder* presents as a pattern of behaviour in which the rights of others, family, and community rules are violated and where this pattern of behaviour has been observed over a 6 to 12 month period.

Conduct disorder is the most common psychiatric disorder in childhood, with a prevalence of 7% in boys and 3% in girls in developed countries (Meltzer, Gatward, Goodman, & Ford, 2000). Similar trends have been noted in recent studies conducted in developing countries (Fleitlich & Goodman, 2004; Mullick & Goodman, 2005).

Persistent conduct problems represent a risk for the development of a variety of issues. The behavior interferes with performance at school, so that individuals with this disorder rarely perform at the level predicted by their IQ or age. Their relationships with peers and adults are often poor. They have higher injury rates and are prone to school expulsion and problems with authorities. Rates of depression, suicidal thoughts, suicide attempts, and suicide itself are all higher in children with conduct problems (Shaffer et al., 1996). Those with early onset have a worse prognosis and are at higher risk for adult antisocial personality disorder, restricted employment opportunities, relationship difficulties, criminal activity and increased risk of general psychopathology (American Psychiatric Association, 1994; Hendren & Mullen, 1997; Rutter & Giller, 1984). Another study focused on the growing recognition of the high costs of untreated antisocial behavior and social exclusion originating in childhood (Scott et al., 2001).

In Pakistan, the current scarcity of child mental health services mirrors the scarcity of epidemiological studies. There is a lack of mental health services for children, partly reflecting a lack of adequate information about the magnitude of the needs that should be met, or even the most basic information about what are the main behavioural and emotional problems. Only one community study was carried out

in Lahore to establish the prevalence of emotional and behavioural problems in school children using the Rutter Rating Scales (Javed, Kundi, & Khan, 1992). This found a prevalence of 9.3%, with antisocial problems being the commonest. A recent study to determine the referral pattern and service use of a child psychiatric clinic at a university hospital in Karachi, found the most common reason for referral was aggressive behavior (Syed, Hussein, & Yousafzai, 2007). Therefore there arises a need to look at the prevalence and associated risk factors of child psychiatric disorders for a community sample in a developing country like Pakistan. This study presents only the results of conduct problems subset of the questionnaire. Rest of the data is presented elsewhere (Syed & Hussein, 2007; Syed, Hussein, & Mahmud, 2007).

Method

The study was conducted in Karachi, which is located in south-east of Pakistan. Its population at the time of the survey was estimated as 15 million.

Sample

The educational setup in Pakistan comprises of public or community schools and private schools, with the latter offering much better quality of education and facilities. In order to give representation to both school types we collected data from private and community schools. Community schools are run by nongovernmental organizations (NGOs) and mostly have a low fee structure and cater for lower socio economic class. Sindh Education Foundation (SEF) was established in 1992 as a semi-autonomous organization with the main aim to provide education to disadvantaged communities. A town-wise list of all the community schools in Karachi was obtained from SEF.

Seven private and eight community schools agreed to participate. From each school 100 children were selected, 20 from each class (grades 1-5). If there were less than 20 children in a class all were selected and if there were more than 20, then 20 children were selected from the class attendance register using alternate odd-even serial number to select children from each class (grade 1-5).

A total 1488 children were selected and consent forms and information sheets were sent to their parents. The consent forms were collected by the teachers. Six hundred and seventy five parents gave consent to participate in the study. The response rate was 45.4%. Those

who agreed to participate in the study were called on a later date to the school for data collection. Active parental consent was required before a child could be considered for inclusion in the study. Consequently, children of those parents who did not give consent were excluded. Children were eligible for the study if they were over 5 year of age and had not yet reached their 12th birthday.

Instruments

Socio-demographic Parent Performa (SDPP). A 13-item Performa was developed based on existing literature and expert discussions. It elicited details like, child age, gender, type of schooling, parental education, parental occupation, age of parents, residential area, informant, name of the head of the household, family income, family type, physical illness/disability, and languages spoken at home (Federal Bureau of Statistics, FBS, 2001). Screening of all children was carried out by means of Socio-demographic Parent Performa.

Strengths and Difficulties Questionnaire (SDQ). This is a brief mental health-screening questionnaire that measures 25 attributes, some positive and others negative (Goodman, 1997). The 25 items are grouped into five sub scales of five items each, generating scores for conduct, hyperactivity, emotional, peer problems, and pro-social behavior. All scales excluding the last are summed to generate a Total Difficulties Score. Category bands and total difficulties scores can be classified as normal, border line, and abnormal. These bands which are not adjusted for age or gender have been chosen so that approximately 80% of children in the community are considered to be in normal category, 10% in the borderline and 10% in abnormal category (Goodman, 1997).

SDQ can be completed by the parents or the teachers of 4-16 years old. Besides common areas of emotional and behavioral difficulties, it also inquires whether the informant thinks that the child has a problem in these areas and, if so, asks about resulting distress and social impairment (Goodman, 1999). SDQ has been shown to be of acceptable reliability and validity, performing at least as well as the longer-established Rutter Questionnaires and Child Behavior Checklist (Goodman & Scott, 1999). The original English version was published in 1997, by Goodman. Later the scale was translated into Urdu and validated by a study carried out in Pakistan by Samad, Hollis, Prince, and Goodman, 2005.

Procedure

The data was collected from January to March 2006 for the private schools and from April to June 2006 for the community schools. In order to obtain consent from schools a meeting was held with the educational authorities and school principals. They were provided with consent forms, an information sheet, and a brief outline of the research procedure and the kind of assistance required by the schools. The materials were available in English in Urdu the national language as well as in Sindhi the regional language spoken in some areas of Karachi. For the schools that consented to participate in the study, a meeting was held with the parents and teachers of selected students separately at the school. Parents were given a short presentation on child mental health disorders explaining the rationale of the study. The purpose of the presentation was to provide awareness as there is a lack of information on child psychiatric problems in the country, as well as encouraging survey participation, and reducing the number of dropouts. SDQ was filled by parents. As most parents of private school children could read, they filled the questionnaires, however in the community schools majority of parents were uneducated. For those parents needing assistance the principal researcher (SH) along with other interviewers helped fill in the questionnaires. A team of five interviewers assisted with data collection. All had master's degrees with two of them including the principal investigator having master's degree in psychology. Before data collection, they were all trained by various means in interviewing style, concepts, and coding conventions including interviews of volunteers, role play, and recorded interviews. All data was entered into a specially designed database and verified by independent double entry.

Results

Descriptive statistics were computed for the socio-demographic characteristics of children and parents. The frequency distribution for the 'normal', 'borderline' and 'abnormal' categories for conduct problems rated on SDQ subset was computed. For the sake of regression analysis, the cases were grouped into a binary response. The "normal and borderline" categories were recoded into a single "normal" variable. The association of socio-demographic variables with SDQ conduct problems was examined using logistic regression analysis. Data was analyzed using the software package SPSS version 14.5.

Thirty five questionnaires were excluded, as they didn't meet the criteria, (over/ under age of child). Data analysis was carried out on

640 parent SDQ. Table 1 reports the descriptive statistics for socio-demographic variables.

Table 1

Socio-demographic Status of Children (N = 640)

Variables		<i>n</i>	%
Gender			
	Boy	339	53
	Girl	301	47
School type			
	Private school	271	42.3
	Community School	369	57.7
SES ¹			
	Lower	492	78.6
	Middle	113	18.1
	Upper	21	3.3
Mother education ¹			
	Not educated	319	49.8
	Under-matric	85	13.3
	Matric	161	25.2
	Graduate/higher	75	11.7
Father education ²			
	Not educated	202	31.6
	Under-matric	120	18.8
	Matric	161	25.9
	Graduate/higher	151	23.6

Note. ¹missing data, n = 626; ²missing data, n = 639.

The mean age of the children in the study sample was 8.4 years with *SD* of 1.85 years. About 42% children were going to private while 58% were going to the community schools see Table 1. Mean age of the mothers of these children was 35 years (*SD* = 7 years). 50% of the mothers, and 32% of the fathers were uneducated. Only 12% of mothers and about 24% of fathers had were graduates or had attained higher education. Majority of the mothers were housewives (89%) and

belonged to lower socioeconomic status (79%). Ethnically our sample was very diverse. Since languages or dialects represent different ethnic groups in Pakistani culture, spoken language is often the most appropriate determinant of ethnicity. A total of 16 different linguistic or ethnic groups were represented in our sample. Urdu was the language spoken by 42% of the households while 12% spoke Sindhi and Balochi each, 9% Pashto, and 7.5% Punjabi. Other respondents reported many different languages spoken in the Subcontinent as their primary means of communication.

Table 2

Type and Frequency of Behavioral Problems According to Socio-demographic Variables (N = 640)

	Behavioral Problems					
	Normal (n = 271)		Borderline (n = 98)		Abnormal (n = 271)	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Gender						
Boys	123	36.2	51	15.0	165	48.7
Girls	148	49.2	47	15.6	106	35.2
School Type						
Private Schools	145	53.5	46	17.0	80	29.5
Community schools	126	34.1	52	14.1	191	51.8

Based on parent's rating on SDQ, 42.3% of all children were categorized as 'abnormal' on the conduct problems subset, out of which 61% ($n = 165$) were boys and 71% ($n = 191$) belonged to community schools. In general those children who were rated as abnormal were more likely have uneducated mothers ($P=59\%$; $n = 160$) as compared to uneducated ($P=31.6\%$; $n = 104$). A great majority i.e., 83.4% belonged to lower socio economic status ($n = 226$). During univariate analysis the variables which were found to be significantly associated with our out come variable were gender, father's education and school type. These were all significant at the level of .0001. Mother's education was not found significant at this stage but it was kept in the model because literature supports mother's education to be a significant predictor of children's behavior.

Table 3

Multivariable Logistic Regression Analysis for Identifying Factors Associated with Parent's Rating of Conduct Problems (Normal/borderline/abnormal; N = 640)

Variables	Adjusted Odds Ratio*	95% CI**
Gender		
Boy	1.0	.4 - 0.8
Girl	.5	
School Type		
Community	1.0	1.2 - 3.8
Private	2.2	

Note. Likelihood Ratio Test; * adjusted for Parent's education; ** $p < .0001$

On multivariable analysis using logistic regression, only gender and school type remained significantly associated with conduct problems. it was found that the odds of a girl child being rated as abnormal on this scale was only .5 times that of a male adjusting for parent's education and school type (OR *adj* = .5, 95% CI: .4- .8, $p = .01$). The children attending private schools were more likely to be rated normal on SDQ conduct problems subset by parents as compared to community school children, adjusting for child's gender and parent's education (OR *adj* = 2.2, 95% CI: 1.2-3.8, $p = .006$).

Discussion

This survey was carried out with the objective to determine the prevalence of conduct problems amongst school children. The prevalence of conduct problems has been investigated in several countries and in all continents. The differences found in prevalence rates have more to do with the methodology used (type of sample, study design, source of information, age, diagnostic criteria, or how they are applied). Screening tools yield higher results while diagnostic interviews of the screened population often result in lower estimates. In our study estimates of conduct problems may be higher because these frequencies are being reported based on screening questionnaire alone, a recent study on Sir Lankan school children using similar method showed significantly higher rates of conduct problems (Margot, Shanya, & Diana, 2005).

Since there is a lack of child mental health studies, we reviewed studies in child mental health research from other countries as well as adult literature in Pakistan to determine the risk factors for psychopathology. Based on literature reviews we looked at socio-demographic factors associated with psychiatric morbidity among children such as gender, school type, and parental education as well as socioeconomic status.

According to the present study boy gender and attending community school were significantly associated with conduct problems in children. Male gender has been consistently reported in literature as a predictor of conduct disorder (Loeber, Burke, Lahey, Winters, & Zera, 2000). School type has not so far been reported in the literature searched by the authors except one study carried out in Brazil, where similar to our findings the most striking difference by school type was the substantially higher prevalence of psychiatric disorders as a whole and conduct problems as the most frequent among children attending public schools as opposed to private school. In Pakistani setting community schools are usually in dire need of funds. They are over crowded and usually have appalling state of affairs. The poor quality of education and lack of discipline usually results in behavioral problems. Nearly half the number of community school children was rated to be having behavioral problems by their parents. The same trend was also seen in the Brazilian study where children attending public schools had a higher prevalence of oppositional-conduct disorders (Fleitlich & Goodman, 2004).

One limitation of the present study is the reliance on rating scale measures rather than interviews with children and parents. Unlike rating scale methods, interview-based procedures come close to reproducing the results one might expect from a clinical evaluation and are better able to incorporate the impairment and pervasiveness criteria of diagnoses for conduct disorder. Further interview-based studies assessing the prevalence of conduct problems as defined by the ICD-10 criteria, and directly comparing the prevalence in different countries, are required to provide a clearer picture of the burden of conduct problems amongst Pakistani school children.

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