

# ESTIMATES OF PRESCHOOL BEHAVIORAL PROBLEMS IN ISLAMABAD AND RAWALPINDI, PAKISTAN: GENDER DIFFERENCES AND ROLE OF FAMILY CORRELATES

AYESHA INAM<sup>1</sup>, SAHIRA ZAMAN<sup>2</sup>

National Institute of Psychology, Quaid-i-Azam University Islamabad, Pakistan.<sup>1,2</sup>

**Correspondence:** Ayesha Inam, **Email:** inam.ayesha80@gmail.com

## ABSTRACT

### OBJECTIVE

The research aims to explore the estimates of preschool behavior problems in a community sample of Islamabad and Rawalpindi, Pakistan.

### DESIGN

Cross Sectional Study

### PLACE & DURATION OF THE STUDY

The study was conducted in Islamabad and Rawalpindi cities in Pakistan. The study was completed in 3 months in 2011.

### METHODOLOGY

The sample consisted of 101 preschool children (Mean age=4.169, SD=.101), (boys=49, girls=52) from four private sector schools. The participants were recruited using purposive sampling technique. Child Behaviour Checklist (CBCL), preschool version, was used to assess behavioural problems on six syndrome scales.

### RESULTS

Results revealed a relatively high percentage of borderline behavior problems (46.5%) in preschool children. Gender differences were significant where boys showed higher mean scores (boys, 35.2; girls, 27.31) on overall problem score and externalizing subscale (boys 14.53; girls 9.44) than girls. Family monthly income and parents' education were inversely related to levels of behavioral problems in children. One way analysis of variance revealed that mother's higher education was significantly related to low levels of behavioral problems in children.

### CONCLUSION

The results reveal that nearly half of the sample was rated with borderline behavioral problems. More research is needed from a demographically representative sample.

### KEYWORDS

Behavioral problems, preschool children, Child Behavior Checklist

## INTRODUCTION

Emotional and behavioral problems of children have been a focus of concern, and evidence declares it a risk factor for adult psychopathology. Many studies reveal that the roots of these behavioral problems lie in the preschool period, particularly conduct issues and hyperactivity.<sup>1</sup> The prevalence of parent-reported social-emotional and behavioral problems of preschool children in USA (1975 to 1996) ranges from 10-15%, where oppositional, defiant, and aggressive behaviors remain the main reason for referral to psychiatric services.<sup>2</sup> The prevalence rate of 16-18% for behavioral problems was reported in children of one and half years of age from general population in Denmark.<sup>3</sup> Another research reports that among the total population of kindergarten children in Turkey, 12% children were in clinical range while 18% were in borderline range of behavioral problems.<sup>4</sup> In Iran, the prevalence of disruptive behaviors, specifically ADHD, as reported by parents of preschool children was 25%<sup>5</sup> other one risk estimates.<sup>6</sup> A recent meta-analysis reports data from six Sub Saharan countries, showing 14% prevalence rate of behavioral problems in children and adolescents.<sup>7</sup> Studies have also reported gender differences in childhood behavior problems where severity of overall problems and externalizing behaviors is mostly associated with boys.<sup>8</sup>

Research evidence on a country wide prevalence of emotional and behavioral disorders in Pakistan is scarce. Few studies have been conducted using different screening instruments to evaluate emotional and behavioral problems in normal children of age six and above. A study showed that prevalence rate of emotional and behavioral problems in children in Pakistan were 9.3%, whereas more recent data suggests an increase in the prevalence rate up to 34% in children of 5-11 years of age.<sup>9</sup> Male children were more at risk of developing behavioral problems as compared to female children.<sup>10</sup> Another research on community and private school children from grade 1-5 in Karachi, Pakistan found that 42% of the total sample was rated as abnormal on the conduct problem subscale and 34% on total problem scale of Strengths and Difficulties Questionnaire.<sup>11</sup> There is no research evidence on estimates of preschool behavioral problems in Pakistan.

## METHODOLOGY

### PARTICIPANTS

The sample for the present study consists of 101 (boys=49, girls=52) preschool children selected through purposive sampling technique from different private sector schools in Islamabad and Rawalpindi, Pakistan. As this sample was a part of the intervention trial, the

sample size could not exceed the scope of the intervention project as per agreement with ASEBA (Achenbach System of Empirically Based Assessment). Also, from different preschool groups i.e. nursery, kindergarden (KG), and Prep, only a group of children between the age of 4 and 5 years was selected.

## MEASURES

### DEMOGRAPHIC INFORMATION FORM

A six item proforma was developed to gather information on various demographic features of the sample.

### CHILD BEHAVIOR CHECKLIST (11/2-5)-CTRF

Children behavior problems were measured through Teacher Reported Preschool Version of Child Behavior Checklist (CBCL) which has 99 items<sup>12</sup>. There are six empirically based syndrome scales which are designated as Emotionally Reactive, Anxious/Depressed, Somatic Complaints, Withdrawn, Attention Problems, and Aggressive Behavior. These syndrome scales broadly form two subcategories of behavioral problems namely "internalizing" and "externalizing". Scoring is done on 3 point scale, where 0 = not true, 1 = sometimes true, and 2 = often true or very true. Raw scores are calculated for the total problem scale and Internalizing and Externalizing subscales. Besides that, T scores were calculated by comparing scores to the norms developed on American population. The Cronbach's alpha coefficient of the original measure was .88 for total problem scale and .89 and .77 for externalizing and internalizing subscales respectively. The validity of preschool CBCL is well established in almost 50 countries across the globe.<sup>13</sup>

## PROCEDURE

Since the sample of this study was part of the interventional project for preschool social-emotional learning and behavioral problems, participants were selected according to the project's specific requirements. As the first step, the school administration was asked to send the consent form and demographic information form to the parents. They were informed about the purpose of the research, and assured that the information was to be used for research purposes alone. Class teachers who had supervised the children for at least two months were asked to rate the children behaviors in the class, and during school time. Raw scores and T scores were calculated to analyze the data. Descriptive statistics were calculated to report the estimates of behavioral problems in these three categories. T test, Pearson product correlation and ANOVA were calculated to assess the association and differences on gender and other demographic variables of the sample.

## RESULTS

In this survey 101 children participated. Among them 49 were boys (48%) and 52 (51%) were girls. The mean age of

the overall sample was 4.2 (SD, 0.10) years. The average individual family income was 47, 891/- Pak Rs. (SD, 18,143). There was a trend towards more higher education among father than mothers (see table 1).

**Table:1**

| Variable                       | Percentage/Mean(SD) |
|--------------------------------|---------------------|
| Child's age                    | 4.169(.101)         |
| Child's gender                 |                     |
| Male                           | 49(48.5%)           |
| Female                         | 52(51.5%)           |
| Family monthly income in PKR   | 47891.09(18143.81)  |
| Father's Education             |                     |
| Matric/F.A                     | 12(11.9)            |
| Graduation                     | 53(52.5)            |
| Masters/Professional Education | 36(35.6)            |
| Mother's Education             |                     |
| Matric/F.A                     | 38(37.6)            |
| Graduation                     | 39(38.6)            |
| Masters/Professional Education | 24(23.8)            |

The mean score of the CBCL- CTRF was 31.09 (SD, 15.28). The mean score on was total problem scale 9.73 (SD, 4.23) and 11.9 (SD, 7.5) on the internalizing component and the externalizing component respectively. Table 2 shows alpha co-efficient and skew of translated CBCL-CTRF. There was strong internal consistency for total scale and two subscales, which further suggests the relevance and appropriateness of the scale for Pakistani population. Based on the teacher's rating on CBCL, 46.5% children were categorized as having borderline behavioral problems while 53.5% were rated as normal. On externalizing subscale, 25.7% children were categorized in borderline range while 1% was rated in the clinical range. On internalizing subscale, 33.7% children were rated in borderline category while 1% was reported in clinical range.

Gender wise frequency distributions of sample on T score categories of CBCL were estimated (table 3). As rated by teachers, 35% boys and 27% girls were categorized as having borderline behavioral problems on total CBCL scale. Among this group 14.5% boys and 9.4% girls were rated as having borderline externalizing problems. On internalizing behaviors, 9.5% of girls were rated as having borderline problems as compared to 1.1% boys.

**Table:2**

Psychometric Properties of CBCL(11/2-5)-CTRF (N=101)

| Variable                 | No. of Items | M     | SD    | $\alpha$ | Range     |        | Skew |
|--------------------------|--------------|-------|-------|----------|-----------|--------|------|
|                          |              |       |       |          | Potential | Actual |      |
| <b>CBCL(11/2-5)-CTRF</b> |              |       |       |          |           |        |      |
| Total Scale              | 99           | 31.09 | 15.28 | .92      | 0-198     | 5-55   | -.09 |
| Internalizing            | 32           | 9.73  | 4.23  | .68      | 0-64      | 1-17   | -.31 |
| Externalizing            | 34           | 11.9  | 17.59 | .90      | 0-68      | 1-29   | 0.5  |

Gender stratified analysis revealed significant differences on total problem scores and on externalizing behaviors, with boys scoring high on total problem scale and externalizing problems subscale than girls. Although boys had a slightly higher mean on internalizing subscale than girls, the difference is statistically non-significant.

**Table:3**

Comparison of Gender on Total and Subscales of Child Behavior Checklist

| CBCL(11/2-5)-<br>CTRF | Boys (n=49)  |               | Girls (n=52) |       | 95% CI |      | Cohen's<br>d |
|-----------------------|--------------|---------------|--------------|-------|--------|------|--------------|
|                       | M(SD)        | M(SD)         | t(99)        | LL    | UL     |      |              |
| Total Score           | 35.2 (15.29) | 27.31 (14.37) | 2.69**       | 2.09  | 13.81  | 0.54 |              |
| Externalizing         | 14.53 (8.09) | 9.44 (6.21)   | 3.55***      | 2.24  | 7.92   | 0.71 |              |
| Internalizing         | 10.14 (4.03) | 9.50 (4.57)   | 0.74         | -1.06 | 2.34   | -    |              |

**Note:**

CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; \*\*p< .01, \*\*\*p<.001

Pearson product correlation reflects low-to-moderate negative correlation between the demographic variables and behavior problems of children. Low family income (-0.52; p<0.01) and parent's education (fathers education, -0.32; mothers education -0.37;p<0.01)was found to correlate with higher levels of behavioral problems.

Table 4 shows the result of one way ANOVA for behavior problems scale with respect to mother's education, as categorized in three groups; matric/F.A, graduation, and Masters/Professional education. The result indicates significant mean differences in problem behaviors of children at different levels of mother's education. Post hoc analysis using Tukey's HSD shows that mother's higher education is related to less problematic behaviors in children as compared to the other two groups.

**Table:4**

Behavioral Problems of Children among Different Levels of mother's education

| Scale              | Matric/F.A <sup>a</sup> |             | Graduation <sup>b</sup> |             | Masters/Professional <sup>c</sup> |             |       | F |
|--------------------|-------------------------|-------------|-------------------------|-------------|-----------------------------------|-------------|-------|---|
|                    | 95% CI                  |             | 95% CI                  |             | 95% CI                            |             |       |   |
|                    | M(SD)                   | LL UL       | M(SD)                   | LL UL       | M(SD)                             | LL UL       |       |   |
| CBCL (11/2-5)-CTRF | 38.03 (13.31)           | 33.65 42.40 | 32.87 (15.57)           | 27.82 37.92 | 17.54 (7.31)                      | 14.45 20.64 | 18.30 |   |

**Note:**

Confidence Interval; LL = Lower Limit; UL = Upper Limit; CBCL(11/2-5)-CTRF= ChildBehavior Checklist (11/2-5) -Caregiver/Teacher Report Form ; an = 38; bn = 39; cn = 24;df= 2,98

**DISCUSSION**

The results revealed a high percentage of behavior problems in the preschool sample with boys exhibiting more problems than girls. Child's gender was significantly related to behavioral problems with boys having more externalizing problems than girls. Income and parents' education were negatively related to behavioral problems.

The literature on prevalence of behavioral problems in Pakistani children is scarce. The available evidence on population based samples is focused on older children. Nationwide profile of behavioral problems of children is yet to be established. Preschool behavioral problems have not been explored systematically in researches from Pakistan. Our study is novel in this respect that it aimed at exploring estimates of preschool behavioral problems in community sample of two cities in Pakistan. Further, the research intended to evaluate the relationship of various demographic variables like gender, monthly family income and parents' education with these problems.

We found that frequency of borderline behavioral problems on child behavior checklist in preschool community sample was quite high (46.5%). The earlier studies with children of 5-11 years of age showed a prevalence of 34.4% in the abnormal (clinical) range on strengths and difficulties questionnaire. Some international studies also reflected a relatively high percentage of emotional and behavioral problems in clinical range in preschool children<sup>14</sup>. The frequency of externalizing problems was 25.7% of the total sample which is somewhat consistent with the existing literature on prevalence of disruptive behaviors in preschool children in eastern cultures.<sup>15</sup>

Consistent with the findings of international and national literature, the present study also showed significant relationship of child and family demographic features with behavioral problems. Child's gender was found to be significantly related to high levels of behavioral problems where boys scored high on overall problems and externalizing subscale as compared to girls. This finding is in line with the existing literature.<sup>16</sup>

On exploring the family correlates of preschool behavioral problems, the results revealed an inverse relationship between family monthly income, parents' education and levels of behavior problems in children. It was found that less family income is related to higher levels of problems. The results also showed that mothers' higher education is significantly related to less behavioral problems.

This study can be viewed in the context of certain limitations. The current investigation was a part of an intervention project so it was a focused attempt in understanding preschool behavioral problems in small sample from two cities in the country. Only private schools were taken on board, so results must be generalized with caution. Only one age group among preschool children was assessed. As development proceeds in a rapid manner in preschool age,

comparative analysis of 3-6 years would provide a valuable insight in developmental progression of behavioral problems. Crossinformant information would have given a better picture of behavioral problems. Further research needs to focus on these issues from a demographically representative sample. As behavioral problems in preschool age tend to persist in later years, identification of these 'early starters' would help parents, teachers and clinicians to take appropriate steps in dealing with these problems. The study has utilized a valid screening instrument for behavioral problems which can be further used in academic researches and clinical settings.

## CONCLUSION

The results reveal that nearly half of the sample was rated with borderline behavioral problems. Gender differences were significant with boys showing more problems on overall and externalizing subscale. Family income and parents' education was found to be inversely related to behavioral problems of children.

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