CHAPTER 2

REVIEW OF LITERATURE

This section aims to review research in the area of childhood psychiatric epidemiology and psychopathology that has been published over the last two to three decades. Although this review attempts to be comprehensive, it does not claim to be exhaustive. The reports included under this section have been selected on the basis of their relevance to the present investigation. In order to structure the review, the following outline has been used:

1. **Prevalence of psychological disturbance and scholastic backwardness - studies from outside India.**
2. **Prevalence of psychological disturbance and scholastic backwardness - studies in India.**
3. **Factors associated with psychological disturbance.**
4. **Evaluation.**

1. **P**REVALENCE OF CHILDHOOD PSYCHOLOGICAL DISTURBANCE:

   a) **Prevalence:**

   Following the first systematic wide scale epidemiological study undertaken by Lapouse and Monk (1964), psychiatric epidemiology has both burgeoned and strengthened (Rutter, 1989). The Rutter et al. (1970) study which was the first large scale epidemiological investigation in Britain, is now considered a milestone in child psychiatric
epidemiology (Offord, Boyle, Fleming, Blum and Rae-Grant, 1989). Several other surveys undertaken at about the same time and later have also added to our knowledge regarding children's problems. This rapid growth of research in the area has been made possible largely due to the availability of certain well developed screening measures (Boyle and Jones, 1985).

In this section, an attempt has been made to review a few of the major studies pertaining to children in the age range of 5 to 10 years. The studies reviewed are presented in the following table (Table A).
<table>
<thead>
<tr>
<th>S1. Authors</th>
<th>Year</th>
<th>Site, Country</th>
<th>Age group</th>
<th>Sample size</th>
<th>Informants</th>
<th>Tools used</th>
<th>Prevalence</th>
<th>% Boys</th>
<th>% Girls</th>
<th>% All</th>
<th>Other findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lapouse and Monk</td>
<td>1964</td>
<td>Buffalo, USA</td>
<td>6-12 years</td>
<td>482</td>
<td>Mothers</td>
<td>Interview</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Boys and younger children (6-8 yrs) more vulnerable to behavioural disturbance than girls and older children respectively.</td>
</tr>
<tr>
<td>2. Rutter</td>
<td>1967</td>
<td>Aberdeen, UK</td>
<td></td>
<td>286</td>
<td>Teacher</td>
<td>Children's Behaviour Questionnaire (CBQ)</td>
<td>9.7</td>
<td>4.6</td>
<td>7.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Shepherd, Oppenheim &amp; Mitchell</td>
<td>1977</td>
<td>Buckinghamshire, UK</td>
<td>5-15 years</td>
<td>6,304</td>
<td>Parents and Teachers</td>
<td>Interview</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4. Werry &amp; Quay</td>
<td>1971</td>
<td>Urbana, USA</td>
<td>5-8 years</td>
<td>1753</td>
<td>Mother, Teachers</td>
<td>Quay-Peterson Problem Checklist</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Girls more neurotic than boys; boys more disruptive and immature than girls.</td>
</tr>
<tr>
<td>5. Rutter, Cox</td>
<td>1975</td>
<td>Isle of Wight, UK</td>
<td>10-11 years</td>
<td>1279</td>
<td>Teacher</td>
<td>CBQ</td>
<td>13.8</td>
<td>7.1</td>
<td>10.6</td>
<td>-</td>
<td>Antisocial (A) = 57%; Neurotic (N) = 34% and AN = 8%.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A = 51%, N = 30%, AN = 11%.</td>
</tr>
<tr>
<td>6. Minde</td>
<td>1975</td>
<td>Buganda, Uganda</td>
<td>7-15 years</td>
<td>577</td>
<td>Teacher</td>
<td>CBQ</td>
<td>24.6</td>
<td>13.27</td>
<td>19.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S. No.</td>
<td>Authors</td>
<td>Year</td>
<td>Site, Country</td>
<td>Age group</td>
<td>Sample size</td>
<td>Informants</td>
<td>Tools used</td>
<td>Prevalence</td>
<td>Sex</td>
<td>%</td>
<td>Other findings</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>------</td>
<td>-------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>-----</td>
<td>----</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Zimmerman, Tansella, Kingbotti, Tacconi &amp; Tansella</td>
<td>1978</td>
<td>Verona, Italy</td>
<td>6-13 years</td>
<td>418</td>
<td>Teacher</td>
<td>CBQ</td>
<td>11.9</td>
<td>5.5</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Venables et al.</td>
<td>1983</td>
<td>Mauritius</td>
<td>7-8 years</td>
<td>1063</td>
<td>Teacher</td>
<td>CBQ</td>
<td>29.0</td>
<td>17.0</td>
<td>23.3</td>
<td>A=59%; M=52%; AN=9%</td>
</tr>
<tr>
<td>10</td>
<td>McSkeen, Silva &amp; Williams</td>
<td>1984</td>
<td>Dunedin, New Zealand</td>
<td>7</td>
<td>951</td>
<td>Teacher</td>
<td>CBQ</td>
<td>9.0</td>
<td>8.9</td>
<td>A=60%; M=32%; AN=8%</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Stevenson, Richman &amp; Graham</td>
<td>1985</td>
<td>London, UK</td>
<td>8</td>
<td>535</td>
<td>Teacher</td>
<td>CBQ</td>
<td>28</td>
<td>15</td>
<td></td>
<td>M: F = 2.8:1.5</td>
</tr>
<tr>
<td>12</td>
<td>Verhulst, Borden &amp; Sanders-Meudstra</td>
<td>1985</td>
<td>Netherlands</td>
<td>8</td>
<td>400</td>
<td>Parent</td>
<td>Child Behaviour Checklist (CBCL)</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Vikan</td>
<td>1985</td>
<td>North Troendelag County, Norway</td>
<td>10</td>
<td>1510</td>
<td>Parent, Teacher</td>
<td>Symptom checklist developed by author</td>
<td>-</td>
<td>-</td>
<td>5%  Hyperkinesia = 0.4%; Mental Retardation = 2.6%</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Offord et al.</td>
<td>1987</td>
<td>Ontario, Canada</td>
<td>4-16</td>
<td>3289</td>
<td>Mother</td>
<td>Measures developed by authors</td>
<td>19.2</td>
<td>16.9</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Wang, Shen, Gu, Jia &amp; Zhan</td>
<td>1989</td>
<td>Beijing, China</td>
<td>7-14</td>
<td>2432</td>
<td>Teachers</td>
<td>CBQ</td>
<td>13.5</td>
<td>2.75</td>
<td>8.3</td>
<td>A=89%; M=7%; AN=4% M:F 4.9:1.</td>
</tr>
<tr>
<td>No.</td>
<td>Authors</td>
<td>Year</td>
<td>Site, Country</td>
<td>Age group</td>
<td>Sample size</td>
<td>Informants</td>
<td>Tools used</td>
<td>Prevalence %</td>
<td>Boys</td>
<td>Girls</td>
<td>All</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------</td>
<td>------</td>
<td>------------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>------------</td>
<td>----------------------------------</td>
<td>--------------</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>16.</td>
<td>Bird et al.</td>
<td>1988</td>
<td>Puerto Rico</td>
<td>4-16</td>
<td>I stage: 777</td>
<td>Parent</td>
<td>Structured psychiatric interview</td>
<td></td>
<td>-</td>
<td>-</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>II stage: 386</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Natsuura et al.</td>
<td>1989</td>
<td>Chiba prefecture and Tokyo, Japan</td>
<td>6-12</td>
<td>1860 Teacher</td>
<td>CBQ</td>
<td>5.0 0.9 3.0</td>
<td>A=83.6%; M=7.3%; AM=9.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Esser, Schmidt &amp; Hoerner</td>
<td>1990</td>
<td>Mannheim, Germany</td>
<td>8</td>
<td>216 Parent</td>
<td>CBQ</td>
<td>16.2</td>
<td></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Psychiatric interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Sawyer, Sarris, Baghurst, Cornish &amp; Kalucy</td>
<td>1990</td>
<td>Adelaide, Australia</td>
<td>10-11 years</td>
<td>358 Mother</td>
<td>CBCL</td>
<td>2.3±2.2%</td>
<td></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Hackett, Hackett &amp; Taylor</td>
<td>1991</td>
<td>Manchester, UK</td>
<td>4-7 years</td>
<td>100 Mother</td>
<td>Gujarathi 100 British children</td>
<td>Rutter's Questionnaire for parents</td>
<td>5% 3% emotional &amp; 2% conduct disorder</td>
<td>21% 7% emotional &amp; 14% conduct disorder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is evident from the above table that the prevalence rates of psychological disturbance vary markedly from study to study with a range of 3% (Matsuura et al., 1990) to 32.2% (Kolvin et al., 1977). Several reasons could be attributed to this wide variation - variations in the definition of psychiatric/psychological disturbances employed, the informants used, the methodology employed and the age groups studied.

These studies have employed one of the following four methods to define deviance (Links, 1983). They are: (i) The prevalence of individual symptoms exemplified by the approach of Lapouse and Monk (1964) and Werry and Quay (1971). (ii) The prevalence of a critical sum of symptoms or syndromes, as seen in Rutter et al. (1970). Others who have followed this approach are Hackett et al. (1991), Matsuura et al. (1989), McGee et al. (1984), Minde (1975), Wang et al. (1989), and Zimmerman-Tansella et al. (1978). (iii) The statistical definition of disorder as employed by Shepherd, et al. (1971) where any behaviour that occurred in fewer than 10% of the children was considered deviant. (iv) The clinical diagnoses arrived at after conducting an interview either with the child or with the parent (Rutter et al., 1970). Several studies have used a combination of these approaches for defining deviance. Rutter et al. (1970) used a symptom-loading and statistical approach for the screening survey and
then used a clinical assessment for the intensive phase of the study.

There are several difficulties that one faces while attempting to compare and integrate findings, owing to these differences in the definitions employed. In view of the high frequency of some of the behavioural symptoms in the general population, the clinical/diagnostic significance of the symptom approach has often been questioned. (Werry and Quay, 1971). Perhaps, a better estimate of prevalence as well a clearer understanding of behaviour problems could be obtained by assessing the severity of the symptoms, in terms of the impairment caused, rather than in the assessment of the presence or absence of such symptoms alone. Bird et al. (1988) and Vikan (1985) are among the few who have incorporated the severity dimension in their operational definition of "caseness".

Findings from epidemiological surveys often vary due to the differences in the tools used across studies. A few workers have compiled their own behaviour problem checklists (eg: Lapouse and Monk (1964); Werry and Quay (1971). Others have employed standardized and well validated measures (Rutter et al., 1970; Wang et al., 1989). Still others have developed their own measures using the existing measures as their item pools (Boyle et al., 1987; Vikan 1985).
Methodology is another issue that deserves comment. Studies are of two types—those employing a single-stage research strategy (Wang et al., 1989) and those using a two-stage approach (Rutter et al., 1970). A two-stage approach is employed to confirm the "caseness" of possible cases, as also to avoid the possibility of missing out 'cases' from the 'normal' group. The two-stage prevalence studies generally report a corrected prevalence of disorder which is often vastly discrepant from the prevalence rates obtained just on screening. Hence, comparison of prevalence rates across studies employing different research strategies may lead to erroneous conclusions.

Another important issue is the situational specificity of children's behaviour, due to which, rates across settings are not comparable. One other difficulty is with reference to the comparison of prevalence rates across studies which focus on different age groups. In such instances, inferences cannot be made from a developmental point of view.

The preceding section points out the need for the use of common methodology across studies and the use of refined instruments with established validity and reliability. It is also important to report sample and population characteristics, so that the extent of generalizability of the findings could be ascertained. More important is to keep in mind the developmental stage in which the child is, so
that age-specific disturbances and gender differences in children's problems could be understood better.

b) Age trends:

No clear-cut findings have emerged with reference to age trends. The only meaningful finding has been that obtained by Offord et al. (1987, 1989). They found that the prevalence of emotional disorder and hyperactivity were higher in the younger group (4 to 11 years), and that the prevalence of conduct disorder was higher in the older group (12 to 16 years). However, the studies by Matsuura et al. (1989) and Werry and Quay (1971), who also studied age trends, failed to replicate this finding.

The age-specificity of certain behaviour problems have also been studied. O'Donnel, Stein, Machabanski and Cress (1982) found that the five year old children were significantly more distractible and hyperactive than their younger peers. Lapouse and Monk (1964) reported that the 6-8 years old group in their study had significantly more 'speech difficulties', 'tension phenomena', 'wild behaviour', 'bed-wetting', 'sleep behaviour', 'nightmares', and 'masturbation'. The 9-12 year old group on the other hand, had significantly more nail biting, compulsive behaviour, physical inactivity, and speech production. Matsumoto, Kaku, Nagakawa and Kaneko (1975) reported that the 6-11 year old school children in their study frequently exhibited
psychosomatic problems such as dizziness and sleep disturbance. In general, the findings with reference to age trends have been varied and have not been studied further.

A variety of findings have emerged from longitudinal investigations studying the stability of behaviour problems. (Eg: Esser et al., 1990; Richman et al., 1982; Robins, 1966). Lapouse and Monk (1964) reported that the number of behaviour problems reduced with age, and Glavin (1972) found that when reassessed after a four-year interval, about 70% of his public school sample had remitted spontaneously.

The course of individual symptoms has also been studied by a few workers. McFarlane, Allan and Honzik (1954) found that all symptoms except 'nail biting' decreased with age. Weisz et al. (1989) found that problems such as 'cries a lot', 'fears' and 'underactive' reduced with age.

Contrary to the findings of Lapouse and Monk (1964), Anderson, Williams, McGee and Silva (1987) found that the number of symptoms, especially those related to hyperactivity increased with age. Weisz et al. (1989) noted that behaviours such as arguing, sulking, swearing and temper tantrums increased with age. Silverman and Nelles (1989) noted that anxiety in children continued even after one year of its initial assessment. Kashani, Orvaschel, Rosenberg and Reid (1989) reported that anxiety symptoms reduced with age, conduct problems increased with age for males, affective
problems increased with age for females, and substance abuse and social anxiety increased with age for both sexes.

The stability of specific syndromes has also been investigated. Robins (1978b) reported that 50% of the clinic referred young children with conduct disorder continued to have adjustment problems through into adulthood, and for about half of these cases, problems were severe. Rutter et al. (1976) found that conduct disorders diagnosed at age 10 years, ran true to form when reassessed at age 14 years. A similar finding was reported also by Esser et al. (1990). A related and consistent finding that deserves mention is the relatively good prognosis of emotional disorder vis-a-vis conduct disorder. (Esser et al., 1990; Lo, 1973; Rutter et al., 1976).

To sum up, it is evident that the age-specific prevalence rates are not clear, that some problems may be age-specific, and that individual symptoms follow a unique course. Conduct disorders seem to remain more or less stable in the absence of intervention and emotional disorders appear to have a better prognosis.

c) Gender Differences:

The importance of studying gender differences in the prevalence and psychopathology of psychiatric disturbances has been well emphasized by Eme (1979). Evidence indicates
that gender differences in the pre-school period are minimal. The only differences noted have been a tendency for the boys to be encopretic and overactive, and for girls to be fearful (Earls, 1980). Coleman, Wolkind and Ashley (1977) however noted that significant gender differences in the overall prevalence rates began to emerge only around the age of 5 years.

Studies of school-aged children have thrown up certain consistent findings. Lapouse and Monk (1964) found a greater number of symptoms in boys. Extending this finding, Esser et al. (1990), and Matsuura et al. (1989) found that boys had a higher prevalence and severity of behavioural problems than girls. Rutter et al. (1975a) found a higher prevalence of behaviour problems for boys as compared to girls both in the Isle of Wight and in an inner London Borough (see Table A). Bird et al. (1988) confirmed this finding in their Puerto Rican study. They not only found a male preponderance for overall rates of disturbance, but also for oppositional and attention deficit disorders. Anderson et al. (1987) and Esser et al. (1990) also reported a higher prevalence of hyperactivity among boys than in girls.

Another often replicated finding is the high prevalence of conduct disorder among boys and of neurotic disorder among girls (Minde, 1977; Offord et al., 1987, 1989; Rutter et al., 1975a). An interesting observation made in the Ontario Child
Health Study (OCHS) was that the rates of emotional and somatization disorders increased for girls, especially in the 12-16 years age group (Offord et al., 1987, 1989).

Several explanations have been put forth to account for these gender differences. These include - (i) differences in response styles between males and females to intrafamilial discord (Rutter et al., 1975b) and to sibling influences (Jones, Offord and Abrams, 1980). (ii) differences in the perception and reporting of problematic behaviour in boys and girls by adult informants (Werry and Quay, 1971) and (iii) the stress induced by the roles ascribed to individuals on the basis of their gender and ordinal position in the family (Bassa, 1962). Emes (1979) has attempted to understand gender differences in psychopathology by looking into biological and social factors. She speculated that biological vulnerability (eg: hormonal), in an interaction with societal pressures (eg: sex role typing) might induce stress in the roles (especially feminine) played by individuals. This perhaps explains the increased rates of disturbance in girls, especially after puberty.

Studies presented in this section indicate that findings regarding gender differences are more consistent and clear-cut than those regarding age trends. However, work needs to be done to understand the reasons for these gender
differences. At present, our understanding of this issue is only at the level of speculation.

Scholastic backwardness:

Scholastic backwardness is being increasingly recognized as one of the important problems in children. Scholastic backwardness could be viewed in terms of poor academic achievement or repeated failure in grades. Several specific aspects of scholastic backwardness have been studied. Eg: specific reading retardation.

Rutter et al. (1976) defined specific reading retardation or SSR as the attainment of a reading level which was at least 28 months below that predicted on the basis of age and IQ. They found that 4% of their Isle of Wight (IOW) sample had SSR and 6 1/2% had general reading backwardness. In another study comparing 10 year old children of IOW and an inner London Borough, (ILB), Berger, Yule and Rutter (1975) found that the prevalence of SSR in ILB was three times more (9.9%) than in the IOW sample (3.3%).

Ekblad (1990) reported sex differences in the type of scholastic problems. She noted that scholastically backward Chinese boys more often had reading and writing difficulty, whereas girls had poor concentration.

Certain significant associations have been found between scholastic backwardness and school absence and poor
concentration (Rutter et al., 1976), poor school functioning (Minde, 1975), large family size (Berger et al., 1975), father's occupational status (Shepherd et al., 1971) and adverse family conditions (Esser et al., 1990).

Significant associations have been obtained consistently between reading retardation and antisocial behaviour, in the earlier studies (Kolvin et al., 1977; Minde, 1975; Rutter et al., 1970), but not between reading retardation and neurotic disorder. Recently, Schachter, Pless and Bruck (1991) reported that 43% of the learning disabled children in their sample also had behavioural problems. McGee, Williams, Share, Anderson and Silva (1986) showed that in their sample, behaviour problems predated reading disability, while reading failure further exacerbated existing problem behaviours.

Research in the 1980s has suggested that association exists between poor academic performance and emotional problems such as anxiety, depression and social withdrawal (Quay and LaGreca, 1986). Links, Offord and Boyle (1990) found that poor school performance contributed independently and significantly to the presence of emotional disorder.

Minde (1975) attempted to account for these associations. He observed that scholastically backward children were primarily maladjusted. An emotionally disturbed individual on the other hand, tended to 'create' a non-learning atmosphere around him. Another possibility
considered by Minde is the lack of motivation to learn, caused by a variety of social or cognitive reasons.

Scholastically backward children have been found to perform poorly on a host of cognitive measures including the Bender Gestalt Test (John, 1989). John also found that the BGT performance could effectively distinguish scholastically backward children from average achievers, thereby highlighting the utility of the BGT.

It is clear from the above review that scholastic backwardness is one of the major problems among children which requires early identification and prompt intervention.

2. PREVALENCE OF PSYCHOLOGICAL DISTURBANCE IN INDIA:

Although epidemiological studies of psychiatric disorders have been carried out in the last three decades in India, on the adult population, relatively little was known about the epidemiology of childhood mental disorders till about a decade ago. This was perhaps because child psychiatry itself had not received the attention it deserved. (Seshadri, 1989). In recent years several investigations have been carried out with a focus exclusively on children (Dalal, 1989; John, 1980; Kurup, 1982; Rao, 1978; Rozario, 1988; Sarkar, 1990; Vardhini 1983). These studies have helped fill the void left by the earlier population surveys, which although studied children, contributed little by way of meaningful information. The epidemiological studies done in India will be reviewed below:
a) General population studies where children formed a subsample: Table B.
The studies marked with an asterisk (*) are exclusive surveys of children.

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Year</th>
<th>Centre</th>
<th>Age group</th>
<th>Population</th>
<th>U/R</th>
<th>Total (Rates/1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surya, Datta, Gopalakrishna, Sundaram &amp; Kutty</td>
<td>1964</td>
<td>Pondicherry</td>
<td>0-15</td>
<td>2731</td>
<td>U</td>
<td>0.7 (M.R)</td>
</tr>
<tr>
<td>Sethi, Gupta &amp; Kumar</td>
<td>1967</td>
<td>Lucknow</td>
<td>0-10</td>
<td>540</td>
<td>U</td>
<td>94.4</td>
</tr>
<tr>
<td>Dube</td>
<td>1970</td>
<td>Agra</td>
<td>5-14</td>
<td>8035</td>
<td>M</td>
<td>11.69</td>
</tr>
<tr>
<td>Elnagar, Maitra &amp; Rao</td>
<td>1971</td>
<td>Hoogly</td>
<td>0-14</td>
<td>635</td>
<td>R</td>
<td>13</td>
</tr>
<tr>
<td>Sethi, Gupta, Rajkumar &amp; Kumari</td>
<td>1972</td>
<td>Lucknow</td>
<td>0-10</td>
<td>877</td>
<td>R</td>
<td>32.6</td>
</tr>
<tr>
<td>Verghese &amp; Beig</td>
<td>1974</td>
<td>Vellore</td>
<td>4-10</td>
<td>747</td>
<td>U</td>
<td>82</td>
</tr>
<tr>
<td>Nandi et al.</td>
<td>1975</td>
<td>West Bengal</td>
<td>0-11</td>
<td>462</td>
<td>R</td>
<td>25.97</td>
</tr>
<tr>
<td>Thacore, Gupta &amp; Suraiya</td>
<td>1975</td>
<td>Lucknow</td>
<td>0-15</td>
<td>1191</td>
<td>U</td>
<td>69</td>
</tr>
<tr>
<td>Lal and Sethi.</td>
<td>1977</td>
<td>Lucknow</td>
<td>0-12</td>
<td>272</td>
<td>U</td>
<td>172.7</td>
</tr>
<tr>
<td>Kurup</td>
<td>1982</td>
<td>Bangalore</td>
<td>5-12</td>
<td>451</td>
<td>R</td>
<td>164</td>
</tr>
<tr>
<td>Vardhini</td>
<td>1983</td>
<td>Bangalore</td>
<td>5-12</td>
<td>174</td>
<td>R</td>
<td>431</td>
</tr>
<tr>
<td>Sen et al.</td>
<td>1984</td>
<td>Calcutta</td>
<td>0-4</td>
<td>NR</td>
<td>U</td>
<td>5.56</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5-14</td>
<td>NR</td>
<td>U</td>
<td>31.19</td>
</tr>
<tr>
<td>Banerjee et al.</td>
<td>1986</td>
<td>W.Bengal</td>
<td>0-4</td>
<td>146</td>
<td>U</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5-14</td>
<td>174</td>
<td>U</td>
<td>11.49</td>
</tr>
<tr>
<td>Nandi et al.</td>
<td>1986</td>
<td>Calcutta</td>
<td>0-11</td>
<td>551</td>
<td>R</td>
<td>4.8</td>
</tr>
<tr>
<td>Sachdeva, Singh</td>
<td>1986</td>
<td>Faridkot</td>
<td>0-14</td>
<td>660</td>
<td>R</td>
<td>3.52</td>
</tr>
</tbody>
</table>

Note: U=urban; R=rural; M=mixed; NR=not reported.
As can be seen from the table, the prevalence rates vary markedly, ranging from 3.52 per thousand to 431.00 per thousand. As in the Western studies, comparisons between these rates become tenuous due to variation in the age groups, sample size and methodology used. A large number of studies cited in Table B have included children only as a part of a general population survey. The exceptions are the studies by Kurup and Vardhini, who surveyed children exclusively from the general population. Most of the investigators have used a single-stage design and therefore, corrected prevalence rates are rarely reported. Only a limited number of diagnostic categories have been studied. Since wide class intervals of age ranges were used, meaningful observations from the developmental perspective were not possible. Moreover, the measures used to assess disorder appear rather crude by present day standards.

b) School based studies:

Since the 1970s there has been a growing interest in the study of psychological deviance in the school population. However, findings from school surveys cannot be generalized to the general population as not all children from the community go to schools. The studies are presented in Table C.
Several of these studies have employed a two-stage design (Dalal 1989; John, 1980; Rao, 1978; Rozario, 1988; Sarkar, 1990). Targetting the school population for study has facilitated the reporting of difficulties relating to academics to which hitherto scant attention had been paid. Rozario (1988) found that 47% of the disturbed group and 31% of the 'normal' control group had scholastic backwardness. Sarkar found 27% and 30% of her disturbed and control group respectively to have scholastic backwardness. Kapur (1985) found the rate of scholastic backwardness to be at 36% in a residential school. Further prevalence rates for reading, writing and arithmetic difficulty have also been reported (Sarkar 1990). These findings not only highlight the high rates of educational difficulties among the Indian school
children, but also the association between psychological disturbance and scholastic backwardness.

One limitation of these school based studies has been the reliance on single informants to obtain information about their subjects. (Eg: Sarkar, 1990). In view of the 'situational specificity' of children's behaviour it is necessary to use multiple informants. This is an area which needs attention in future research.

c) Clinic-based studies: Table D:

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Year</th>
<th>Centre</th>
<th>Population Size</th>
<th>Total Prevalence %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chacko</td>
<td>1964</td>
<td>Vellore</td>
<td>70</td>
<td>9%</td>
</tr>
<tr>
<td>Murthy, Ghosh &amp; Verma</td>
<td>1974</td>
<td>Chandigarh</td>
<td>950</td>
<td>3.37%</td>
</tr>
<tr>
<td>Manchanda &amp; Manchanda</td>
<td>1978</td>
<td>Lucknow</td>
<td>279</td>
<td>8.2%</td>
</tr>
<tr>
<td>ICMR</td>
<td>1984</td>
<td>Multicentre</td>
<td>1835</td>
<td>18.26%</td>
</tr>
</tbody>
</table>

The above studies also show a wide variation in prevalence rates. However, it would be erroneous to presume these as 'true' rates, as there is a large majority of those who do not seek help at the clinic. A positive note about these studies is the identification of scholastic problems (4%) and specific development delays (3% each for enuresis, stammering and stuttering). This finding along with those of
Kapur (1985), Rozario (1988), and Sarkar (1990) signifies the importance of scholastic backwardness as an important problem area in children.

Only a few studies have reported age trends with reference to childhood psychological problems. Vardhini (1983) found the highest prevalence at the age of 8 years. Sarkar (1990), however did not find any significant age trends. Rozario (1988) studying adolescents found that the prevalence was highest at age 13 after which it reduced gradually. He speculated that adolescents either outgrew their problems with age, or teachers lacked the necessary knowledge about older children on the basis of which they could rate them.

The findings on gender differences appear to be more or less consistent. A preponderance of males over females has been reported for disturbance in general, and for externalizing disorder in particular. (Murthy et al., 1974; Rozario, 1988; Vardhini, 1983). Gada (1987), Hoch (1967) and Prakash (1984) have also reported a higher frequency of attention deficit disorder with hyperactivity (ADDH) in boys vis-a-vis girls. Girls on the other hand, have been found to have a high frequency of internalizing problems (Dalal, 1989; Sarkar, 1990).
The screening measures used in these studies deserve comment. While earlier population based studies used the Reporting Questionnaire of Geil et al. (1981) (Eg: Kurup 1982), the school based studies have employed Rutter's (1967) Children's Behaviour Questionnaire (CBQ) for completion by teachers. Yet, no systematic attempt had been made by the users of these measures to study the validity, reliability, sensitivity, specificity and efficiency of these tools. The sole published study in this regard has been that by Sekar, Eshawari, Indiramma, Shariff and Murthy (1983), where it was found that only 53% of the clinically disturbed children obtained a score above the cut-off on the CBQ, suggesting a very high percentage of misclassification possible with this tool.

Summing up, it is clear that child psychiatric epidemiology is just beginning to take roots in India. In comparison with the progress made in the West with reference to instrumentation and methodology, Indian research has just made a beginning. There is a need for uniformity in the definitions of deviance and the methodology applied in studies carried out across the country. Edelbrock (1989) has pointed out that further epidemiological studies in general need to "capitalize on the previous trials, successes and errors of other investigators around the world", which applies equally to India.
It has been pointed out by Garmezy (1985) that for decades, mental health workers have devoted their energies to the study of patterns of maladaptation. However, it is also important to understand why only some children show deviance and others do not. It is also necessary to study the factors associated with deviance and the mechanisms that bring about disturbance, so that this information could be used to develop preventive programmes. (Rae-Grant, Thomas, Offord and Boyle, 1989).

Rutter and Garmezy (1985) have suggested that there are three classes of variables which are salient in determining an individual's risk for developing disturbance. These are: (1) Within-the-child variables, e.g. temperament, (2) Family and environmental variables e.g. family structure (3) Significant relationships in the child's life. The following section would attempt a review of some of these variables and their relation to psychological disturbance.

a) **Within-the-child-factors**

(i) Developmental details: Developmental details are among the several factors identified as risk factors for the development of psychological disturbance in children. Knoblock and Passamanick (1966) reported that a history of abnormal pregnancy, delivery, prematurity, asphyxia etc was common in children attending psychiatric clinics. The
relationship between birth weight and psychological disturbance has also been studied. Chamberlian, Chamberlian, Howlett and Claireaux (1976) found that birth weight was directly related to social class. Davie, Butler and Goldstein (1972) found only trivial differences in the social adjustment of normal and low birth weight children at 7 years of age after social class had been taken into account. They further found slight but significant associations between low birth weight and reading attainment at 7 years of age.

Graham, Ernhart, Thurston and Craft. (1962) found no difference in behaviour at 3 years of age between children who had asphyxia at birth and their carefully matched controls. Hertzig (1983) reported no temperamental differences during 1 to 3 years of age between babies with and without low birth weight. Citing several other studies done on neonatal asphyxia, Shaffer (1985) concluded that its relationship with later psychological disturbance was inconclusive.

There is evidence also to support the association between developmental delays and later behaviour problems. Cantwell, Baker and Mattison (1980) found that developmental delay in the area of language development was more common amongst boys and was found associated with the presence of behaviour difficulties. Richman et al. (1982) found that 3% of the 3 year olds showed delayed language development and
half of these children also had behaviour problems, compared with a prevalence of 14% of behaviour problems in the total population. They also found that the language ability of children with behaviour problems was below that of a control group. They also found that speech and language delay at the age of 3 years was associated with behaviour problems at the age of 8 years (Richman et al., 1982).

Chronic health problems in children, involving hospitalization has also been found to be associated with later behaviour disturbances in children (Fergusson et al., 1990; Rutter et al., 1975b).

Although the association between pregnancy and birth details and psychological disturbance is inconclusive the association between developmental delays, chronic health problems and psychological and disturbance appears to have been well established.

ii) Temperament:

Although the study of the temperament of children has received considerable attention during the last 30 to 40 years, researchers have not been able to agree on a definition of temperament. (Goldsmith et al., 1987). However, they tend to agree that to some extent temperament is biologically based and that it explains the 'why' rather than the 'what' of behaviour (Thomas and Chess, 1977).
Thomas and Chess (1977) viewed temperament from a transactional point of view, where temperament and the environment are seen as reinforcing or modifying each other through a constantly evolving process of development. It was postulated that a 'goodness of fit' occurred when the environmental demands were in accordance with the individual's capacity. Conversely, "poorness of fit" occurred when there were discrepancies between environmental demands and the organism's capacities, resulting in maladaptive functioning.

Several dimensions of temperament have been proposed, of which Thomas and Chess's (1977) is the most frequently cited and researched. From their New York Longitudinal Study (NYLS) data, they derived nine dimensions which are: Activity level; prevailing positive or negative mood, intensity of response, threshold to respond; persistence; approach versus withdrawal to new stimuli; adaptability over time to new experiences; distractability or ease of soothing, and rhythmicity or regularity of biological functions.

Due to the considerable overlap among these dimensions, temperament has been conceptualized in terms of clusters. Analysing for clusters, Thomas, Chess and Birch (1968) found that the NYLS sample consisted of 40% easy children, 10% difficult children, 15% slow-to-warm-up children, and 35% of them who did not fall into any of the above clusters.
Of these clusters, the difficult temperament cluster-defined as arrhythmic, low adaptability, withdrawal, negative and intense mood—has been the most extensively researched. (Thomas and Chess, 1977; Thomas, Chess and Korn, 1982). However, the conceptual and psychometric robustness of the 'difficult temperament' concept is suspect owing to the lack of agreement among workers on what constitutes the concept (Prior, 1992).

Gender differences in temperament has been an important area of study. Several reports suggest that gender differences begin to appear toddlerhood onwards (Prior, 1992). In general, girls have been found to be less active than boys (Buss and Plomin, 1975). Cultural stereotyping can be considered here as a major influence, as high activity level appears to be better tolerated and expected for boys. Negative emotionality has been found to be greater in boys, especially in terms of more outward expression of anger and aggression. This has been one of the most robust and stable gender differences in clinical and developmental literature (Maccoby, 1990). Fear and anxiety have been traditionally reported as more characteristic of girls, but it is impossible to distinguish between what might be constitutional temperamental characteristics, and what might be a feature of cultural conditioning (Huston, 1983). Research in the area of gender differences in temperament is
only in the beginning stages and remains a fertile area for further study.

The relationship between temperament and behaviour disorders has been highlighted by a number of studies (Graham, Rutter and George, 1973; Prior, Sanson, and Okerblaid, 1989; Thomas, Birch, Chess, Hertzig and Korn, 1963). Cameron (1978) found that boys who later became mild cases had extreme negative mood, high persistence and low adaptability. The girls who subsequently became cases, on the other hand, had low persistence and high withdrawal, adaptability and mood.

Evidence exists to suggest that the specific associations between the types of temperament and behaviour disorders are different (Prior, 1992). The diagnosis of hyperactivity/attention deficit disorder has been linked to temperament. Prior, Leonard and Wood (1983) found that the temperament profile characterized by negative mood, low persistence and adaptability, high intensity, activity and distractibility, was associated with the diagnosis of hyperactivity. Befera and Barkley (1985) noted that hyperactive children tended to be less compliant, more negative and emotionally mobile.

Kolvin, Nicol, Carside, Day and Tweedle (1982) found concurrent associations between aggression and adverse temperament in boys, whilst Olweus (1980) reported
significant associations between early difficult temperament and later antisocial behaviour. These findings are questionable as temperament data is retrospective in nature. Mazaide, Cote, Thivierge, Boutin and Bernier (1989) found that extremely difficult temperament was associated with oppositional disorder in middle childhood. Studying Indian children attending a child guidance clinic, Malhotra (1989) and Malhotra, Varma and Verma (1986) found that conduct disordered children showed high activity and intensity with a persistently negative mood. In another clinic sample, Daniel (1989) found the conduct disordered group to be more sociable adaptable, approaching, responsive, active, intense and fussy in their eating habits than the normals.

A substantial amount of information also seems to have accumulated with reference to internalizing disorders. Thomas et al.'s (1963) suggestion that different temperament characteristics predicted active (i.e. externalizing) and passive (i.e. internalizing) cases appears to have been partially confirmed. Lazarus (1982) reported substantial connections between shyness and later depression, hostility and self-esteem problems. Anxious and fearful behaviour and social withdrawal in terms of shy and inhibited behaviour was found to be a risk factor for internalizing problems, especially depression and anxiety (Kagan, Reznick and Snidman, 1989; Rubin, Hymel and Mills, 1989). Stevenson-Hinde
and Simpson (1982) found that timid children had more illness, worries and fears. Davidson, Faull and Nicol (1986) noted an association between difficult temperament and recurrent abdominal pain.

In India, the emotional disordered group has been found to be less sociable and adaptable, and highly distractible with an extreme negative mood compared to normals (Malhotra and Malhotra, 1988; Malhotra et al., 1986). Daniel (1989) partially replicated this finding in that she found her emotionally disordered group to be less sociable and outgoing, less adaptable, less energetic, and more irritable, discontented, intense and active than normals. In addition they were found to manifest poor reponsivity to the environment and were highly irregular in their sleeping and feeding patterns. However, they were found to have a greater attention span than normals.

The temperamental profile of children with mixed disorder has been studied thus far only by Daniel (1989). She found that their profile matched that of the emotional disordered group in most respects. Studying children with conversion disorder, Malhotra (1989) found them to be less distractible (soothable) than normals. Malhotra and Malhotra (1988) found the temperamental profile of the mentally retarded children to match that of the emotional disordered children.
It has been found in some studies that the temperament of the child has a significant role in determining his/her adjustment in the educational setting and scholastic achievement (Thomas and Chess, 1977). Korn (1977) demonstrated a substantial relationship between low academic achievement scores and temperamental characteristics of non-adaptability. Seegars (1967) found that the easy children were the highest achievers and the difficult children the lowest. Sharma, Malhotra and Malhotra (1983) found no association between teacher's assessment of temperament and the intelligence of the child. They however found that high academic achievers were rated as having low levels of distractibility and high levels of persistence. These attributes have been found to be more conducive to learning (Thomas and Chess, 1977).

One conceptual issue that has been raised is whether there is an overlap between what is measured as 'temperament' and 'behaviour disorder'. (Prior, 1992). Rutter (1987) has rejected such an overlap on the grounds that extreme temperament cannot be equated with symptoms, and that, it is temperament in interaction with other factors that leads to disorder, rather than temperament per se. Other workers have supported the above view, as they found behaviour disorders to result only when an interaction occurred between temperament and parental behaviour (Cameron, 1977), maternal
depression (Wolkind and De Salis, 1982), maternal rejection (Olweus, 1980), family interactions (Stevenson-Hinde and Simpson, 1982), and disciplining patterns (Mazaide et al., 1985), especially permissive child rearing methods (Olweus, 1980).

Summing up, one striking aspect observed in the review is the absence of any specific relationship between 'difficult temperament' and any one type of psychiatric disorder. Specific associations could perhaps be explained on breaking down the aspects of temperament into its basic dimensions. Research evidence obtained thus far seem to strongly suggest the presence of associations between specific temperament dimensions and behaviours (e.g. Lazarus, 1982). Further confirmation of such associations could help in making better predictions of behavioural and emotional disturbances from temperament.

b) Family factors:

Rutter et al. (1975b) claimed that childhood mental disorders were in most cases the reflection of the environment in which they had been brought up. Richman et al. (1982) also noted that children were highly reactive to their environment and therefore it would be somewhat inappropriate to regard children in isolation from their family and environmental contexts. It is therefore important to consider the influences of these factors on the development of
disturbance in children. A few important aspects of the family have been reviewed below.

(i) Family size:

Strong associations have been found between family size and psychological disturbance in children. Research evidence from the developed societies suggest a positive relationship between large family size and deviance (Shepherd et al., 1971; Lapouse, and Monk, 1964). Matsuura et al. (1989) in Japan found that children from large families more often had neurotic symptoms. In the Western studies, family size, usually defined as four or more children has been associated with increased rates of conduct disorder and delinquency in boys (Farrington and West, 1981; Rutter et al., 1970) but not in girls (Jones et al., 1980). Farrington and West (1981) also suggested that large family size was related to antisocial behaviour and delinquency independent of sociodemographic and parental factors.

Findings contradicting the above have been obtained in the developing societies like Brazil (DeAlmeida-Filho, 1984) and China (Wang et al., 1989). They found large family size to be associated with very low rates of disturbance. DeAlmeida-Filho (1984) has attempted to qualify this finding by viewing it from a social support perspective, where the availability of many family members for emotional and other kinds of support serves to guard against the development of disturbance.
(ii) Sibship size:

Studying the effect of sibship size, Jones et al. (1980) reported that the level of antisocial behaviour among boys was associated with the number of brothers in the family, but not with the number of sisters. Indeed, when the number of brothers and sisters in the sibship was held constant, an increasing number of sisters was associated with lower levels of antisocial behaviour among the brothers. The sisters appeared to suppress antisocial behaviour among boys. In Indian studies, the findings regarding sibship size are less clear-cut. While Muralidharan (1969) found that children with only one or two siblings showed more problems, Daniel (1989) did not find this association.

(iii) Ordinal position:

The role of 'ordinal position' of the child in the development of deviance has been well researched both in India and abroad. Most of the available literature has discussed the role of the 'only child' and 'eldest child' position in relation to psychopathology. First born or earlier born children have been more often found to manifest deviant behaviour (Shepherd et al., 1971) such as conduct disorder (Bhaskar, 1975) attention deficit disorder with hyperactivity (Gada, 1987), neuroses (Sharma, Bhat and Sengupta, 1980) emotional and mixed disorders (Daniel, 1989; Rutter and Gould, 1985).
Matuura et al. (1989) found that the only children had a somewhat higher prevalence of deviance, and that the first born did not show any deviant behaviour. Links et al. (1990) found that being both an isolated child in the sibship as well as being the first born child significantly contributed independently to conduct disorder. Murthy et al. (1974) also found that 81% of the clinic sample with behaviour disorders occupied a special position by either being the eldest or the only child. Kishore, Jain and Manchanda (1972) further corroborated this finding.

In contrast to the above findings, Geetha, Shetty and Venkataramiah (1980) found no association between ordinal position and psychological disturbance. Ganguly and Maitra (1966) and Gowrie Devi (1983) found that the middle born children were more often psychologically disturbed. Although the association between ordinal position and deviance is somewhat established, it is not clear why they should be associated. Kishore et al. (1972) noted that a special position in the family lead the parents into certain wrong attitudes like pampering, overprotection, and inconsistent parental discipline towards the child which acted as etiopathogenic for the development of behaviour deviations in the child. According to Shepherd et al. (1971) the eldest child is subjected to parental inexperience and is subsequently "pushed out" by the "next arrival", causing distress to the child.
(iv) Overcrowding:

Overcrowding has been studied by Rutter et al. (1975b) in their studies in the Isle of Wight and in an inner London Borough. They defined overcrowding as more than one person per room usable for living. They found that four or more children, and overcrowding were associated with psychiatric disorder, more so in the inner London Borough.

(v) Broken homes:

This is another variable which has been consistently researched. The findings emerging from these studies have also been consistent in that children from broken homes were found to have a high rate of emotional, behavioural and educational problems (Minde, 1975, 1977; Rutter et al., 1975b; Wang et al., 1989). A consequence of broken homes is the 'one parent family' or 'single-parenthood' which is also found to exhibit the same kind of association with deviance as does broken homes. (Hackett et al., 1991; Matsuura et al., 1989).

(vi) Family type:

A situation which is specific to the developing world, especially India is that of the extended and joint family. The importance of family type originates from the observation made by Sinha (1984) that psychopathology in Indian children could be due to the shift from traditional joint family systems to nuclear family units. Of the few
studies available in this regard, Manchanda and Manchanda (1978) and Sharma et al. (1980) have reported that a larger number of child guidance clinic patients came from nuclear families. However, this finding needs to be considered carefully in the context of the growing number of nuclear families in the general population itself.

With regard to the studies done abroad, findings are contradictory. DeAlmeida-Filho (1984), studying Brazilian children found that the nuclear families had more children with behavioural deviance than did the extended families. In Uganda (Minde, 1975, 1977) however, found a higher prevalence of behaviour disorder among children living with extended families.

(vii) Socioeconomic status:

Socioeconomic status (SES) is a composite variable covering educational level, type of occupation, and income of the family members. The strong association between symptoms of behaviour disorders and low SES has already been established (Suh and Carlson, 1977). Sawyer et al. (1990) from their study provided support for the hypothesis that the prevalence of emotional and behavioural disorder was higher in lower SES schools. Indian studies have shown that low SES was most frequently associated with conduct disorder (Daniel, 1989), juvenile delinquency (Ganguly and Maitra, 1966), and internalizing disorder in girls (Sudha and Tirth, 1980). From
their review on the correlates of emotional disorder, Rutter and Gould (1985) concluded that low SES was identified as having a general but inconsistent association with childhood psychopathology.

With reference to educational level, Wang et al. (1989) found that high levels of education in the father was associated with lower rates of disturbance in their children. In their review, Offord and Fleming (1991) concluded that there existed a weak relationship between occupational status of the father and child psychiatric disorder (Achenbach and Edelbrock, 1981; Lapouse and Monk, 1964; Rutter et al., 1970). Daniel (1989) and Gowrie Devi (1983) found a strong association between psychological disturbance and educational level in the mother. Lytton (1971) found that the sons of college-educated mothers were more compliant and were less negative in emotional expression and behaviour than the sons of mothers who were educated to a lesser degree. Lytton (1971) and Minton, Kagan and Levine (1971) explained that the college-educated mothers were less prohibitive, more reassuring and talked to their children more often.

With regard to occupational status, child psychiatric disorders have been found to be more common when the father was a labourer or a semiskilled worker (Rutter et al., 1975b), and a farmer (Matsuura et al., 1989). Shepherd et al. (1971), however, found no associations between parents'
occupational status and the presence or absence of behaviour problems. An interesting finding that has been noted by Earls and Richman (1980 a,b) is the association between maternal employment and lower rates of behavioural deviance among West Indian immigrants. They attributed this finding to the increased competency and contentment of the mothers which might have contributed positively to their children's mental health.

A strong and consistent association has been found between economic disadvantage and child psychiatric disorder. (Offord et al., 1987). With reference to the mechanism underlying this association most of the evidence supports the contention that the relationship is mediated by parental characteristics, or attributes of the children associated with economic disadvantage, rather than the economic disadvantage itself. (Robins, 1978b; Rutter and Giller, 1983). For example, economically disadvantaged families have been found to have higher rates of variables associated with child psychiatric disorder such as marital discord, family dysfunction and low intelligence in children (Robins, 1978b; Rutter and Giller, 1983; West and Farrington, 1973).

(viii) Mental illness in parents:
Although there has been an awareness that associations may exist between parental psychiatric disturbance and childhood deviance (Rutter, 1966), this association has been
confirmed only in the 1980s. (Beardslee, Bemporad, Keller and Klerman, 1983; Rutter and Quinton, 1984). Among the Indian studies too, a significant association was found consistently between physical/mental ill health of parents and disturbance in children (Kishore et al., 1972; Murthy et al., 1974), and with conduct disorder in particular (Daniel, 1989; Gowrie Devi, 1983).

Sociopathy and alcoholism are among the parental mental disorders most frequently associated with psychological disturbance in children. Rutter and Quinton (1984) found that personality disorder in the parent was strongly associated with deviance in children. The risk for the development of disorder, especially antisocial in the child has been found to increase substantially when both parents were found to have personality disorder. It has also been pointed out that it is the consequence of disorder such as marital disharmony that was associated with deviance in the child, rather than the disorder in the parent per se (Rutter, 1971).

The effects of parental alcoholism on children's mental health has been frequently investigated (von Knorring, 1991). In a controlled family study it was found that psychiatric disturbance was found more frequently among children whose parents were alcoholic (Offord and Fleming, 1991). Strong associations have been demonstrated between parental alcoholism and conduct problems (Steinhausen, Gobel and

Several explanations have been proposed to account for the association between parental alcoholism and childhood psychiatric disturbance. The family functioning of alcoholics has often been found to be disturbed with a high incidence of marital discord (von Knorring, 1991). Further alcoholic fathers have been found to be harsh, rejecting and neglecting towards their children (Udaykumar, Mohan, Shariff, Sekar and Eshwari, 1984) and these children are frequently abused and exposed to family violence. (Black, Bucky and Wilder-Padilla, 1986) which might be contributory towards the development of deviance.

Parental depression has also been found associated with children's psychological disturbance. Rutter and Gould (1985) found that children with emotional disorder were more likely to have parents with neurosis. Links et al. (1990) found that the variable "parents treated for nerves" made a significant independent contribution to the presence of emotional disorders in children. Rutter et al. (1975b) found that the presence of neurotic and depressive symptomatology in the mother was strongly associated with child psychiatric disturbance in the Isle of Wight. According to Puckering (1989), maternal depression is clearly
a major health hazard as depressive symptoms such as crying and distress could have a direct effect on the child (Rutter, 1966) as they would be less sensitively tuned to their responsiveness to the child (Radke-Yarrow, Cummings, Kuczynski and Chapman, 1985). Depressed mothers are often found to induce aggression in their child because they are irritable and unable to meet the child's emotional needs (Richman et al., 1982). Maternal depression has been found to be associated also with internalizing disorder (Quay and LaGreeca, 1986), and attention deficit and conduct disorders (Beardslee et al., 1983) in the child.

Thus, it appears that the presence of mental disorders in parents is harmful to the child due to the effects of its consequences, rather than the disorder as such.

(ix) Marital discord

The association between poor parental marriage and children's psychiatric disturbance has been well established (Emery, 1982). Children living in disharmonious homes have been found to show more emotional and behavioural problems than children living in harmonious homes (Block, Block and Morrison, 1981; Emery, 1982; Rutter et al., 1970; Rutter et al., 1975b). More specifically, in India, a close association has been noted between marital disharmony in parents and antisocial disorder (Ganguly and Maitra, 1966).
Poor marriages have been found to be characterized by frequent disagreements about children, frequent arguments, decisions being taken separately rather than jointly and low satisfaction among the couple (Richman et al., 1982). Overt parental conflict in the form of discord (Quinton, Rutter and Rowlands, 1976) and open hostility rather than parental apathy and distance (Porter and O'Leary, 1980) have been found to be strongly associated with deviance in children. Rutter and Giller (1983) have shown that conduct disorders were most commonly associated with family discord, disorganization and disruption. Families with discord have been found to live constantly under tension (Rutter and Cox, 1985). Further, discordant relationships rather than break up per se have been related to the development of behavioural disturbance in children (Rutter, 1985a; Rutter et al., 1970).

Several processes have been found to mediate the association between marital and family discord and psychological disturbance in children. One view is that discord results in disorganized discipline (West and Farrington, 1973). Alternatively, it has been suggested that modelling is important (Bandura, 1969) and that family discord has its ill effects because it constitutes a model of aggression, inconsistency and hostility. Finally, as Bowlby
(1969) has proposed the presence of discord in the family may affect the development of loving relationships between parents and children. Rutter (1971) found that parent-child relationships deteriorated as a result of marital discord.

It has been pointed out that when marital discord occurs as the sole feature in an otherwise well-functioning family, it is a weak risk factor; it is in combination with several family adversities that it has been found to be most damaging (Rutter, 1978). It appears that familial stressors potentiate each other to create a synergistic risk effect in which their combined effect exceeds the sum of each in isolation (Rutter, 1985b).

(x) Discipling:

Hurlock (1981) has described 'discipline' as society's way of teaching children the moral behaviour approved by the social group. For a child to behave appropriately, discipline should be effective. Discipline becomes effective only when rewards and punishments are dispensed with appropriately and consistently. According to Rutter and Cox (1985), discipline is not just a matter of enforcing rules; rather it is a form of social problem solving. In literature, the terms discipline and child rearing have been used interchangeably.

Several workers have noted the association between inconsistent and inadequate disciplining and psychological
disturbance in children (Chacko, 1964; Jenkins and Smith, 1991; Loebner and Dishion, 1981). Bapna and Ramanujam (1976) found that both the emotional and conduct disordered children were subjected to inconsistent and excessive disciplining in their homes. Bassa (1978) postulated that rigid disciplining was responsible for developmental deviance. Ganguly and Maitra (1966) also found the parents of juvenile delinquents to be more rigid and ineffective in their disciplining than the parents of normal controls. Block et al. (1981) found that parental discrepancy in child-rearing issues was associated with problems of undercontrol in boys and problems of overcontrol in girls.

Families of aggressive and delinquent children show that there is a lack of supervision and failure to adequately monitor the children's behaviour (West and Farrington, 1973; Patterson, 1982). These parents tended not to provide expert guidance on what they expected of their children, they failed to react to deviant behaviour (such as stealing) that they did not personally observe, they avoided confrontation on key issues, and generally lacked organization (Rutter and Cox, 1985). Furthermore, they issued more commands, were more often vague, they punished more, they expressed more irritability, they were less discriminating in their responses and they were less effective in stopping their children's behaviour (Patterson, 1982), i.e., they tended to
nag and shout, but did not follow through with any disciplining plan and failed to make an adequate differentiation between praise for prosocial behaviour and punishment for antisocial behaviour (Rutter and Cox, 1985).

Specific associations have been noted between deviance and the types of disciplining methods used. Hackett et al. (1991) found that mothers of English children often smacked and threatened their children with deprivation of love, whereas Minde (1975) found the Ugandan parents to employ harsh disciplining methods such as beating, especially with boys. In both these studies children were found to have high rates of disturbance.

Evidence suggests that disagreement between parents regarding disciplining occurs often as a consequence of marital discord (Rutter, 1972). Since parental psychiatric disorder has also been found to be associated with discord, the presence of either is found to result in the use of poor disciplining methods (Emery, 1982).

(xii) Parental attitudes and behaviour

Often the disciplining practices employed and the parental attitudes and behaviour are closely associated. Unhealthy parental attitudes have been reported to be present in the families of disturbed children. Bapna and Ramanujam (1976), Chacko (1964), Kishore et al. (1972) and Murthy et al. (1974) found 'rejecting' attitudes in the parents of
their disturbed samples, while pampering and overindulgence were found by Kishore et al. (1972) and Murthy et al. (1974). Daniel (1989) found the mothers of clinic children to be hostile and rejecting in their attitudes when compared to mothers of normal children.

Jenkins (1968) described the mothers of anxious children to have an infantalizing and overprotective attitude. Geetha et al. (1980) found an absence of warmth in the parents of anxious children. Baumrind (1967) noted that the parents of insecure and apprehensive children were controlling, less nurturant and more inclined to frighten their children. Berg and McGuire (1974) however found no difference in the parental attitudes of neurotic and normal children.

Schulman, Shoemaker and Moelis (1962) observed more hostile and rejecting behaviour by parents of conduct disordered boys. Baumrind (1967) found that the parents of impulsive and aggressive children were less controlling, less demanding, and less well organized than both the other groups. Gowrie Devi (1983) found overprotection to be present in the mothers of conduct disordered children.

Parker (1983) systematically studied the associations between overprotection in childhood and adult psychiatric disorders. He found that parental overprotection predisposed children to develop emotional disorders and non-endogenous
depression in adult life. High parental anxiety was associated with excessive constraints; chronic illness or developmental delay in the child also linked with overprotection. Parker suggested that a lack of care interfered with the development of self esteem and that excessive constraint interfered with the development of social competence and autonomy. The low self esteem and lack of social competence in turn rendered the individual less able to deal with life stresses and adaptations. Reviewing studies in this area, Rutter and Cox (1985) also tentatively concluded that the harm probably comes from the parents' uncertainty, and lack of support together with a restriction of social autonomy rather than from the degree of control.

c) Relationships of the child:

It is important to study the influences of the child's significant relationships on psychopathology as they could either be the antecedents or consequences of psychological disturbance. The most important relationships of the child are with their parents, siblings and peers.

(i) Parent-child interactions:

The association between parent-child interactions and childhood behavioural deviance is considered important due to its prognostic significance and its importance in management (Hess and Camara, 1979). There is evidence to show that parent-child relationship deteriorates as a result of marital
turbulence (Rutter, 1971); parent-child violence (Jouriles, Barling and O'Leary, 1987), and critical comments made by parents (Earle and Richman, 1980a,b). A deteriorated parent-child relationship has been found to be associated with disturbance in the child (Rutter, 1971). However, it has also been pointed out that a warm relationship with at least one parent acted as a buffer against psychological disturbance. Rutter and Quinton (1984) provide evidence to prove that parent-child relationships do not always deteriorate in families with parental or child psychopathology. They found that disturbed parents were as loving towards their children as the normal parents. Thomas et al. (1968) have noted that parent-child relationships are often influenced by the children's behaviour itself.

(ii) Child-sibling interactions:

The importance of sibling relationships has been increasingly recognized in the past few years (Dunn, 1988). Siblings have been found not only to influence normal behaviour development, but also to shape aggressive behaviour in children. Several studies of siblings from the second year through middle childhood report correlations between frequent aggressive or hostile behaviour of one sibling and that of the other (Dunn, 1988). The incidence of teasing, bossing, conciliation and physical aggression by second born children have been found to be correlated highly with behaviour disturbance in older siblings (Dunn, 1988).
Epidemiological studies have also reported poor relations with siblings to be more common in children with behaviour problems (Richman et al., 1982). On the other hand, friendliness, cooperation and affection in siblings has been found to be associated with similar behaviour in other siblings (Dunn, 1988).

Brody, Stoneman and Burke (1987) have pointed out that the emotional climate of the family is related to the frequency and intensity of conflict between siblings. It has been argued that if children are deprived of the experience of resolving sibling conflict, this can in certain families lead to serious pathological consequences with the development of bullying, self-seeking, impulsive and antisocial individuals (Dunn, 1988).

(iii) Peer relationship

The importance of friendships for healthy mental development as well as for the promotion of a child's self esteem has been well recognized (Rutter, 1985b). Absence of close relationships with others has been found to increase the risk of psychiatric disorder in children (Rutter, 1985b) conduct disordered and delinquent children have been found to experience difficulty in making and keeping friendships (Rutter, 1985b). Goodyer, Wright and Altham (1989) found poor friendships also among emotionally disturbed children. Daniel (1989) found that children with emotional disorder had
the poorest peer interaction in comparison with conduct and mixed disordered children.

It has been noted that the factors discussed under the three broad sections of within-the-child factors, family factors and relationships of the child, often act in a cumulative fashion rather than in isolation to produce psychological disturbance in children (Rutter et al., 1970; Sanson, Okerblaid, Pedlow and Prior, 1991). In order to assess the impact of psychosocial and familial adversity, Rutter and Quinton (1977) developed the Family Adversity Index (FAI) which included the following items: father unskilled worker, overcrowding, persisting marital discord/one parent family situation, maternal depression/neurosis, delinquency of the father and institutional care of the child exceeding one week. The authors found that the risk for psychiatric disorder in the child increased regularly with the increase in the number of adverse conditions (Rutter and Quinton, 1984). Blanz, Schmidt and Esser (1991) using the FAI not only confirmed the above finding, but also found that chronicity of adversity was equally potent in predisposing the child to develop psychological disturbance.

4) EVALUATION

The studies reviewed in the preceding sections would be evaluated here under two heads - epidemiological studies and
studies on psychopathology. An attempt would be made to provide a comparative critique of Western and Indian research in terms of conceptual and methodological issues as well as in terms of the contributions made to the area.

1) Epidemiological Studies:

From the time Rutter started his British series of studies over 25 years ago, child psychiatric epidemiology has both strengthened and burgeoned (Rutter, 1989). Development has been mainly in the areas of instrumentation (Boyle and Jones, 1985) and in the use of sophisticated methodology (eg. Bird et al., 1988). The development of certain well validated screening measures have drawn researchers to the study of the prevalence of psychological disturbance in various countries (eg. Wiesz et al., 1989). An important methodological issue to be noted here is the efforts made by the workers in different countries to calibrate measures to suit their specific conditions (eg. Fombonne, 1989). Keeping in mind the situational specificity of children's behaviour efforts have been made to employ multiple informants in most of the studies (eg. Verhulst et al., 1985). Most studies have employed structured psychiatric interviews in the intensive phase of the study, and have arrived at diagnoses based on the DSM-III.

The impairment caused by the disturbance have also been covered by the structured interviews. Certain well-designed
studies in the area include those by Bird et al. (1988) and Boyle et al. (1987). Another positive note is the coupling of intervention along with the identification of disturbance (Boyle et al., 1987).

A couple of drawbacks have also been identified in the studies done in this area. One is the use of 'all clinic referred cases' as one homogenous category, in validation studies of measuring instruments. Another refers to the difficulty of integrating meaningfully, the data obtained from multiple sources (Achenbach et al., 1987a).

In comparison with the development that has occurred outside the country, Indian studies appear to have made only a beginning. Although several studies have already been carried out, no clear-cut theoretical orientation has been used in the definition of deviance in these studies. Further, no attempt has been made to assess the impairment caused by the disorder. Epidemiological studies have by and large remained studies of 'head count' of individuals with disturbance. No attempts have been made so far to either determine the correlates of disturbance or to provide intervention systematically to the groups studied.

Most studies have concentrated on older rather than on younger age groups. The pre-school and early-school age group of children have not yet been studied extensively.
There have been practically no studies thus far employing both parents and teachers as informants in the same study. However, one major contribution of these studies has been the identification of scholastic backwardness as a major problem area which is of concern to both parents and teachers alike.

2) Studies on psychopathology:

Research in this area has thrown up certain consistent associations between psychological disturbance and a few family and individual variables such as marital discord, disciplining patterns etc. (Emery, 1982). However, certain flaws have been pointed out in the research in this area. Since most of the associations have been obtained from studies on clinic samples, it is not clear whether they hold true when studied on 'cases' from the general population. The same judges have been used to assess psychological disturbance as well as the psychosocial factors. Most of the concepts used have been poorly defined and measured. All these drawbacks could affect the estimate of magnitude of the associations. One exception to this is a recent study by Jenkins and Smith (1991) where an attempt was made to define in objective terms the various aspects of marital disharmony. A trend noticed in the last few years has been the identifications of 'risk' and 'protective' factors (Rae-Grant et al., 1989). Further, attempts have been made to view vulnerability for developing psychological disturbance in
terms of an interactionist model of risk factors (Fergusson et al., 1990).

Some of the associations found between disturbance and individual/family factors have been replicated in India. With the adoption of the Western framework of research, Indian studies have also inherited the flaws existant in Western research. Inspite of the consistent associations obtained, no attempts have been made as yet to view these factors as acting in combination. Further, no attempts have been made to carry out studies within the 'socioculturally relevant research framework' (Prabhu, 1980). In the area of temperament however, substantial progress appears to have been made. However, there is a need to now shift the focus from temperamental profiles of clinics groups to the study of temperamental factors in relation to other psychosocial factors. Those factors which interact with temperament to produce deviance need to be delineated.

The present study attempts to overcome atleast a few of the drawbacks highlighted above, by focusing on a group of young school going children. It aims to study the rates of psychological disturbance and scholastic backwardness as well as the associated factors. It is hoped that this study would contribute some useful information to the field of childhood psychiatric epidemiology and psychopathology.