



Parenting styles, temperament, and anxiety in children: preliminary findings in the Indian population

Abstract

Background: Anxiety disorders are the most frequent mental disorders in children, and contribute to development of secondary complications such as later risks of anxiety disorders, major depression, substance dependence, suicidal behaviour, and other adverse developmental outcomes. Childhood anxiety has been associated with various environmental factors including parenting styles. Temperament influences the way children interact with their parents, and how parents respond to them. **Materials and methods:** The present pilot study was designed to examine the association between parenting styles, temperament, and child's anxiety. A total of 12 children, six in Clinical Group (CG) and six in Healthy Control Group (HG) were recruited. CG consisted of children who met the DSM-IV-TR diagnostic criteria for anxiety disorders. HG consisted of healthy children matched on age and gender. **Results:** Anxiety in children was positively associated with father's authoritarian and permissive parenting style, and negatively associated with mother's authoritative parenting style. Anxiety in children was also negatively associated with temperament dimensions sociability and emotionality, and positively associated with distractibility. There were also significant associations between temperament dimensions and parenting styles, specifically permissive parenting style was negatively associated with sociability and emotionality. **Conclusions:** The effect of parenting styles in Indian context did not differ from those of West as the study finds both authoritarian and permissive parenting style to be associated with child anxiety. Temperament dimensions were also associated with parenting style and child outcome. This study emphasises the importance of examining dyadic parent-child relationships, and demonstrates that father's parenting style also has a significant effect on the child, and having authoritative mother may be a protective factor against anxiety.

Keywords: Mental Disorders. Environmental Factors. Protective Factors.

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INTRODUCTION

Anxiety is characterised by heightened distress or avoidance and withdrawal from perceived threat,[1] and is the earliest of all forms of psychopathology.[2] It is one of the most common psychiatric problems experienced by children.[3] While fears such as social evaluative fears are quite normal, it can lead to disorder when the distress is great, interferes with typical functioning, and is characterised by immediate anxiety responses that seem irrational.[4]

The role of anxiety has been considered central to the understanding of the entire range of childhood psychopathology.[5] Anxious children have academic difficulties, such as under performance, attendance issues, and classroom participation; they struggle in social situations and suffer personal distress that negatively impacts their self-image,[6] which left untreated can have both short- and long-term negative consequences,[7] such as development of secondary psychopathological complications like later risks of anxiety disorders, major depression, substance dependence, suicidal behaviour, and other adverse developmental outcomes, such as

educational underachievement.[8] Long-term consequences of anxiety include difficulties in academic, vocational, and social domains of functioning that can even reach into adulthood.[9] Although the problem is widespread, the cause, maintenance, and long-term consequences of childhood anxiety are complex and not well-understood.

Childhood anxiety has been associated with various environmental factors, including parenting styles.[10] Models describing development and maintenance of childhood anxiety disorders have highlighted the central role of parental behaviours[11] as parents play a considerable role in shaping children's emotional health.[12] Each of the parenting styles has different effects on children. Permissive parenting style has been found to promote the development of social and performance anxieties more than other parenting styles.[13] Studies have also shown association between authoritarian and permissive parenting with internalising problems in children, including anxiety.[14] Over-protectiveness has also been associated with children's anxiety and shyness.[15] Children with authoritative parenting style have been found to have better social-emotional development compared to children

raised by other parenting styles.[16] However, most of this research comes from the West; hence, available literatures on parenting styles focus on Western cultural beliefs and images about child rearing practices.[17] Child rearing practices are often determined by parent's cultural background. Parenting practices in West promotes independence, while in Asia, more emphasis is placed on social interdependence.[18] Therefore, it is possible that specific parenting practice may not have the same effects in India as it does in West. However, recent studies in India are reflecting the findings from the West. Two studies[19,20] in India found an association between anxiety and authoritarian parenting. In order to generalise these findings, more studies are required to establish the association between parenting styles and child anxiety in Indian context.

Another factor which has not received attention, but may influence child, is temperament. Early temperament traits play a significant role in the aetiology and maintenance of early anxiety.[21] Few studies have documented relationships between temperament traits like negative emotionality and anxiety disorders;[22] however, very little research has been conducted in this area to arrive at a conclusion, especially in India.

There is a dearth of literature exploring Indian parenting styles. Therefore, the present pilot study attempts to investigate parenting styles of mothers and fathers, as well as child temperament, and its association with anxiety in the child.

Aim

The aim of the study is to understand factors contributing to anxiety in children.

Objectives

The main objectives of the study are:

1. To compare parenting styles and temperament between children with anxiety disorders and healthy controls.
2. To study the association between parenting styles, child's temperament, and anxiety in children.

METHOD

Participants

A sample of 12 children (eight male and four female), aged eight to 12 years and their parents took part in the study. Of these, six children met diagnostic criteria for a primary diagnosis of an anxiety disorder and formed Clinical Group (CG), and six children matched on age and gender formed Healthy Control Group (HG).

Children in CG were recruited from children attending Child Guidance Clinic (CGC) of St John's Medical College Hospital, Bangalore, India, and were included if they met DSM-IV-TR[23] criteria on any of the primary anxiety disorders, based on initial interview and detail workup. Primary anxiety disorders of the group were as follows: panic disorder, separation anxiety disorder, generalized anxiety disorder, and social anxiety disorder. Of the six children in CG, three children had social anxiety disorder, one child had panic disorder, and two children had generalized anxiety disorder. All the children had comorbid separation anxiety disorder.

HG participants were volunteers, recruited from community through convenient sampling. Inclusion criteria across both groups required that children were enrolled in school and were living with both parents at home. Children who were adopted or where both the parents were not available; or those children who had intellectual impairment, comorbid psychiatric, medical, or neurological disorders; or presence of mood disorder, psychosis, or substance abuse in parents; and children exposed to acute stressful or traumatic life events were excluded from both the groups.

Demographic features of the children who participated in the study are depicted in Table 1. As shown in Table 1, CG and HG did not differ according to child age or gender. The majority of children came from nuclear families and had mothers who were homemakers.

Tools

Sociodemographic proforma

A demographic variable proforma was used to explore sociodemographic information of children.

Raven's coloured progressive matrices

Raven's Coloured Progressive Matrices (CPM)[24] is a measure of non-verbal intellectual functioning of children and was used to rule out children with intellectual disability. Children whose scores were below 25th percentile were excluded from both the groups.

Developmental psychopathology check list for children

Developmental Psychopathology Check List for Children (DPCL)[25] is a screening tool to assess for psychopathology in children and was administered to rule out comorbidity in children.

Mini international neuropsychiatric interview

Mini International Neuropsychiatric Interview (MINI)[26] is a short structured diagnostic interview. It was administered to both the parents to rule out mood disorder, psychosis, and substance abuse.

Table 1: Sociodemographic information of children in Clinical Group (CG) and Healthy Control Group (HG)

Sociodemographic information	CG (n=6)	HG (n=6)
Male	4	4
Female	2	2
Mothers working full time	2	1
Mothers working part time	1	1
Mothers homemaker	3	4
Nuclear families	5	4
Extended family	1	2
Mean age (SD) in years	10.32 (1.8)	10.50 (1.3)
Mean score on SCARED-P	29.83 (5.85)	10.67 (4.37)

SCARED-P=Screen for Child Anxiety Related Emotional Disorders-Parent version

Screen for Child Anxiety Related Emotional Disorders-Parent version

Screen for Child Anxiety Related Emotional Disorders (SCARED)-Parent version[27] is a parent rated screening tool to screen for childhood anxiety disorders and has been shown to have strong psychometric properties. It was administered to confirm the diagnosis of anxiety disorder in CG, to rule out anxiety disorder in HG, and also to assess the level of anxiety in the child. This measure contains 41 items. Parents are asked to rate how often their child experiences the various symptoms using a three-point Likert scale (zero=not true or hardly ever true, one=somewhat true or sometimes true, two=very true or often true). In order to get a broad measure of anxiety, the scores can be summed to yield a total anxiety score. A total score of 25 or above indicates the presence of an anxiety disorder.

Parenting Styles and Dimensions Questionnaire

Parenting Styles and Dimensions Questionnaire (PSDQ)[28] is a self-report instrument designed to measure authoritarian, authoritative, and permissive parenting styles of four to 12 years old children's parents. It has good reliability: Cronbach's alphas for authoritative, authoritarian, and permissive parenting were 0.91, 0.86, and 0.75 respectively. The scale assesses three parenting styles and their sub-dimensions, and consists of 62 items. Parents are asked to rate how often they exhibit a certain behaviour towards their child using a five-point scale (one=never, two=once in a while, three=about half the time, four=very often, five=always). The authoritative style consists of four sub-dimensions: warmth/involvement, reasoning/induction, democratic participation, and good nature/easygoing. The authoritarian style contains four sub-dimensions: verbal hostility, corporal punishment, nonreasoning/punitive strategies, and directiveness. The permissive style contains three sub-dimensions: lack of follow-through, ignoring misbehaviour, and self-confidence. Both the parents filled the questionnaire. Mean score in each parenting style dimension ranges from one to five and is used for analysis.

Malhotra Temperament Schedule

Malhotra Temperament Schedule (MTS)[29] is an Indian adaptation of Thomas and Chess's temperament questionnaire. It measures five temperament dimensions, namely sociability, emotionality, energy, distractibility, and rhythmicity. Each of these dimensions consists of items which explore routine activities of the child. The items are scored on a five-point Likert scale, where three denotes average, one and two indicate lower, and four and five are higher than average frequency and intensity of the concerned behaviour. Mean score in each temperament dimension ranges from one to five and is used for analysis.

Procedure

The present study was approved by the institute ethics committee. All children who came to CGC underwent interview and detailed workup by a team of professionals (psychiatrist and consultant clinical psychologist). Children who met the diagnostic criteria for a current anxiety disorder were identified and referred for research assessment before beginning treatment at the clinic. HG children matched on age and gender were recruited from the community.

Before taking part, both parents and children were informed about the research and the assessment. Participation in research assessment was voluntary and decisions regarding whether to take part did not affect access to treatment. Written informed consent was obtained from the parents and oral assent was obtained from the children.

Children were first administered CPM and screened on the basis of parent report on DPCL and SCARED-P. MINI was administered to the parents. If the scores were within normal limits on all the tools, further research assessment was carried out. Those children who were found to have difficulties as identified through DPCL/SCARED-P/CPM were offered more detailed evaluation and treatment, and not included in the study. Parents of children included in the study then filled out PSDQ questionnaire and were interviewed for child temperament.

The administration of tests occurred in one session which lasted for approximately one hour. Data was collected from a total of 12 children. The raw scores were subjected to both descriptive and inferential statistical analysis.

Statistical analysis

The data obtained from assessment tools were tabulated and analysed using the IBM SPSS Statistics (Version 22.0. Armonk, NY: IBM Corp). Due to small sample size non-parametric test (Mann-Whitney U test) was used to compare the two groups. As the data was normally distributed (SD was less than half of mean), Pearson's correlation was administered to find associations between the variables. Statistically significant levels were reported for p-values less than or equal to 0.05. Highly significant levels were p-values less than 0.01.

RESULTS

Table 2 shows the differences in parenting styles between parents of children in HG and parents of children in CG. Mann-Whitney U test results indicated that fathers of children in CG (median=2.22) scored higher on authoritarian parenting style than fathers of children in HG (median=1.65), which was statistically significant at 0.05 level ($U=5.00$, $p=0.036$). Fathers of children in CG (median=2.66) also scored higher on permissive parenting style than fathers of children in HG (median=1.80), which was statistically significant at 0.05 level ($U=5.00$, $p=0.036$). Mothers in HG obtained statistically significant ($p<0.05$) high scores on authoritative parenting style when compared to Mothers in CG ($U=4.00$, $p=0.024$).

Table 3 shows the differences in child's temperament in CG and HG. Mann-Whitney U test results indicated that sociability was greater among children in HG (median=11.93) than among children in CG (median=8.78), which was highly significant at 0.01 level ($U=1.00$, $p=0.006$). In addition, emotionality was greater in children from HG (median=7.98) than children from CG (median=6.40), which was marginally significant ($U=6.00$, $p=0.054$).

Table 4 shows the association between child's anxiety as rated by SCARED-P, parenting styles, and child's temperament. Pearson's correlation showed strong positive association between child's anxiety and parenting styles which were statistically significant. Anxiety was strongly positively

Table 2: Differences in parenting styles between parents of children in Clinical Group (CG) and parents of children in Healthy Control Group (HG)

Parenting style	CG (n=6)		HG (n=6)		U	W	Z	p
	Mean±SD	Median	Mean±SD	Median				
Authoritative (F)	3.59 (±0.33)	3.65	3.94 (±0.50)	4.00	9.00	30.00	-1.45	0.148
Authoritarian (F)	2.29 (±0.29)	2.22	1.71 (± 0.39)	1.65	5.00	26.00	-2.09	0.036*
Permissive (F)	2.54 (±0.45)	2.66	1.80 (±0.11)	1.80	5.00	26.00	-2.10	0.036*
Authoritative (M)	3.71 (±0.26)	3.77	4.14 (±0.27)	4.21	4.00	25.00	-2.25	0.024*
Authoritarian (M)	2.12 (±0.46)	2.22	1.99 (±0.57)	1.64	16.00	37.00	-0.32	0.746
Permissive (M)	2.62 (0.71)	2.53	1.89 (±0.28)	1.83	7.50	28.50	-1.69	0.090

F=Father's parenting style, M=Mother's parenting style, *p-value is significant at 0.05 level (2-tailed)

Table 3: Differences in temperament between children in Clinical Group (CG) and children in Healthy Control Group (HG)

Temperament	CG (n=6)		HG (n=6)		U	W	Z	p
	Mean±SD	Median	Mean±SD	Median				
Sociability	9.01 (±1.11)	8.78	11.49 (±1.05)	11.93	1.00	22.000	-2.72	0.006**
Emotionality	6.78 (±1.15)	6.40	7.96 (±0.24)	7.98	6.00	27.00	-1.93	0.054*
Energy	7.07 (±1.24)	6.70	6.98 (±0.55)	6.95	14.50	35.50	-0.56	0.574
Distractibility	2.93 (±0.89)	2.90	2.30 (±0.24)	2.20	13.00	34.00	-0.83	0.406
Rhythmicity	3.13 (±0.94)	2.80	3.22 (±0.56)	3.25	15.50	36.50	-0.41	0.686

*p-value is significant at 0.05 level (2-tailed), **p-value is significant at 0.01 level (2-tailed)

Table 4: Correlation coefficients (Pearson's r) between anxiety, parenting styles, and child's temperament

N=12	1	2	3	4	5	6	7	8	9	10	11	12
1. Child anxiety	-											
2. Authoritative (F)	-0.287	-										
3. Authoritarian (F)	0.777**	-0.325	-									
4. Permissive (F)	0.693*	-0.559	0.699*	-								
5. Authoritative (M)	-0.548	0.640*	-0.317	-0.305	-							
6. Authoritarian (M)	0.248	-0.277	0.613*	0.545	0.214	-						
7. Permissive (M)	0.718**	-0.139	0.578*	0.748**	-0.026	0.515	-					
8. Sociability	-0.643*	0.558	-0.574	-0.876**	0.377	-0.546	-0.693*	-				
9. Emotionality	-0.583*	0.430	-0.485	-0.844**	0.095	-0.491	-0.653*	0.760**	-			
10. Energy	0.259	-0.197	0.066	0.261	0.011	0.379	0.299	-0.199	-0.539	-		
11. Distractibility	0.628*	-0.231	0.609*	0.635*	0.000	0.491	0.549	-0.450	-0.848**	0.605*	-	
12. Rhythmicity	-0.121	-0.172	-0.227	-0.429	-0.434	-0.348	-0.295	0.132	0.568	-0.420	-0.660*	-

F=Father, M=Mother, *p-value is significant at 0.05 level (2-tailed), **p-value is significant at 0.01 level (2-tailed)

correlated to father's authoritarian parenting style ($r=0.77$, $p<0.01$), father's permissive parenting style ($r=0.69$, $p<0.05$), and mother's permissive parenting style ($r=0.72$, $p<0.05$). The results also indicated association between parenting styles of mothers and fathers. There was a strong positive correlation between father's permissive parenting style and mother's permissive parenting style ($r=0.75$, $p<0.05$), and moderate positive correlation between father's authoritative parenting style and mother's authoritative parenting style ($r=0.64$, $p<0.05$), and father's authoritarian parenting style and mother's authoritarian parenting style ($r=0.61$, $p<0.05$).

Relationship between child's anxiety as rated by SCARED-P and temperament is shown in Table 4. Pearson's correlation indicated that anxiety is negatively related to sociability ($r=-0.64$, $p<0.05$) and emotionality ($r=-0.58$,

$p<0.05$), and positively related to distractibility ($r=0.63$, $p<0.05$).

Table 4 also shows the association between parenting styles and child's temperament. Pearson's correlation indicated that child's sociability was negatively strongly associated with father's permissiveness ($r=-0.88$, $p<0.01$) and negatively moderately associated with mother's permissiveness ($r=-0.69$, $p<0.05$). Child's emotionality was also negatively strongly associated with father's permissiveness ($r=-0.84$, $p<0.01$) and negatively moderately associated with mother's permissiveness ($r=-0.65$, $p<0.05$). Child's distractibility was positively moderately associated with both authoritarian ($r=0.61$, $p<0.05$) and permissive ($r=0.64$, $p<0.05$) parenting style of the father. Temperament dimensions energy and rhythmicity were not associated with parenting styles.

DISCUSSION

Understanding factors contributing to anxiety in children is important in planning interventions for such children. Factors identified in the current study are parenting styles and temperament dimensions.

In our study, mothers of children in HG scored significantly higher on authoritative parenting style than mothers of children from CG. Having authoritative mother may have been protective against anxiety. This is supported by previous research studies,[30-32] which have concluded that children who are raised in an authoritative parenting style are compliant, self-assured, and are able to cope with stress in calm and adaptive ways.

Fathers of children in CG scored significantly higher on authoritarian parenting styles than fathers of children in HG. Even in correlation analysis, father's authoritarian parenting style was strongly positively associated with anxiety. Although the results do not indicate relation between mother's authoritarian parenting style and child anxiety, however, there was a significant association between father's authoritarian parenting style and mother's authoritarian parenting style, indicating that both parents showed tendency to behave in a similar manner, and hence, the child may have been exposed to authoritarian behaviours by both parents. Similar findings have been reported by researchers,[19,20,33] who found a significant association between high anxiety, poor self-esteem, and authoritarian parenting style.

Fathers of children in CG scored significantly higher on permissive parenting styles than fathers of children from HG. Even in correlation analysis, permissive parenting style by father was strongly associated with child's anxiety. There was no association between mother's permissive parenting style and child anxiety, but, there was a significant association between father's permissive parenting style and mother's permissive parenting style, indicating that there appeared to be a consensus between parent behaviours, and hence, the child may have been exposed to permissiveness by both parents. Hence, parent behaviour characterised by lack of follow-through, ignoring misbehaviour, and lack of self-confidence was strongly positively associated with anxiety. This finding is similar to that of Akinsola and Udoka[13] who found that permissive parenting style tended to promote the development of social and performance anxieties more than other parenting styles.

It is important to note that given the concurrent, cross-sectional nature of this study, no firm conclusions can be drawn about the direction of the relationship between parenting behaviours and child anxiety, however, prevailing theories indicate that parenting behaviours come first, and hence, authoritarian and permissive parenting style may cause anxiety in the child. On the other hand, it is also plausible that parents of anxious children may become authoritarian or permissive in response to the child's anxiety.

The present study also found significant differences in temperament dimensions between CG and HG. Children in HG scored significantly higher on sociability and marginally significant high on emotionality than children from CG, suggesting that when compared to children from CG, children

in HG were more sociable and were better emotionally adjusted. When subject to correlation analysis, child's anxiety was negatively associated with sociability and emotionality, and positively with distractibility, indicating that higher the child's anxiety, lower was the child's sociability and emotional adjustment, and higher was the distractibility. These findings are supported by a previous research by Winter and Biennu[22] who found a significant association between temperament dimensions, such as negative emotionality and anxiety.

The study also found significant associations between parenting styles and child's temperament. Child's sociability and emotionality was negatively strongly associated with father's permissiveness which was statistically highly significant. They were also significantly negatively moderately associated with mother's permissiveness, indicating that higher the permissiveness in the parents, lower was the child's sociability and emotionality. Child's distractibility was significantly positively moderately associated with both authoritarian and permissive parenting style of the father. Earlier studies on parenting styles have found significant associated with child's temperament.[34,35]. Altay and Gure[36] reported that children of authoritative mothers demonstrated more prosocial behaviours than the children whose parents were permissive in their parenting styles. Another study found that permissive parenting style was associated with child's negative affectivity.[37] Temperament dimensions energy and rhythmicity were not associated with parenting styles. However, we could not draw conclusions about the direction of the relationship between child's temperament and parenting styles. According to current theories of child development,[38] child's temperament and parenting behaviours influence one another. Therefore, it is possible that parents of children who have social and/or emotional difficulties tend to be permissive as a response to child's difficulties, or perhaps, children who are exposed to permissive parenting styles may develop poor sociability and emotionality due to lack of warmth and control. However, in order to clarify directionality, longitudinal studies or experimental methods with larger sample size is required.

The current study has implications for planning interventions for children with anxiety. Certain parenting behaviours and temperament as shown in the study have negative impact on the child's mental health and cause lasting damage. The study shows the importance of addressing temperament dimensions, parent attitude and behaviour as a part of intervention managing the child's anxiety. In addition, the role of the father in parenting has not been evaluated in the Indian context and this study shows that the father's parenting style is closely associated with childhood anxiety.

This study has few limitations. It is based on a very small sample size, carried out in a single centre catering to urban area. Therefore, the findings of this study cannot be generalised. Hence, a multi-centre study with larger sample size, utilising advanced statistical techniques, may be planned for replicating the findings of this study. The present study was cross-sectional in nature. A longitudinal study would

help to get a better understanding of temporal and perhaps causal relationships between parenting style, temperament, and child's anxiety. Nevertheless, the dearth of literature in this area, especially in Indian population makes this study a worthwhile effort for planning appropriate family interventions for children with anxiety.

Summary and conclusions

The current study presents the pilot study findings of an ongoing research. Results of this study provide promising initial evidence that father's parenting style impacts children. Specifically, authoritarian and permissive parenting style of fathers is associated with anxiety in children. The results also show that the effect of parenting styles in Indian context did not differ from those of West as the findings are similar. Children whose parents use authoritarian and permissive parenting style are at greater risk for anxiety, and authoritative parenting style is protective. The present study also associates three important temperament dimensions, i.e., sociability, emotionality, and distractibility, with anxiety. Children with anxiety are less sociable, emotionally difficult, and are easily distractible. The study also found associations between child temperament and parenting style. Children's low sociability and emotionality was associated with permissive parenting style of both parents. The current study has implications for planning interventions for children with anxiety as the findings may be useful in devising parent training programmes.

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