

PREVALENCE OF SCHOLASTIC BACKWARDNESS AMONG FIVE TO EIGHT YEAR OLD CHILDREN

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ABSTRACT

The present paper reports the findings of a study of scholastic backwardness among five to eight year old school going children. 1535 children were screened by their class teachers, of which 10.23% were found to have scholastic backwardness. No gender differences were noticed. The rates of specific difficulties such as reading, writing and arithmetic were found to be 4.69%, 5.15% and 15.96% respectively. About 26% of the scholastically backward children were also found to have psychological disturbance. In addition, they most often came from families which could not afford basic amenities, had fathers with alcohol dependence, inconsistent disciplining and poor parental interaction. They also had more frequent school changes, tuition attendance and fewer hobbies compared to the scholastically superior children.

Key words : Scholastic backwardness, reading difficulty, arithmetic difficulty, writing difficulty, psychological disturbance.

INTRODUCTION

Scholastic backwardness is being increasingly recognized as one of the important problems in children which is of concern to both parents and teachers alike (Dorr et al., 1980). Viewing scholastic backwardness in terms of poor academic achievement or repeated failure in grades, several Indian school surveys in the past decade have recorded prevalence rates that range between 20 and 50% (Kapur, 1985; Rozario, 1988; Sarkar, 1990; Venugopal and Raju, 1988).

In the West however, specific aspects of scholastic backwardness such as reading retardation have been studied (Rutter et al., 1970). In recent times, the prevalence of specific arithmetic difficulty has also been recorded, and the rates are found to range between 1.3% (Lewis et al., 1994) and 6% (Baker and Cantwell, 1985). Further, specific associations have been recorded between scholastic difficulties and poor concentration and school absence (Rutter et al., 1976), poor school functioning (Minde, 1975), large family size (Berger et al. 1975), father's occupational status (Shepperd et al., 1971), and adverse family conditions (Esser et al., 1990). Association between scholastic difficulties and psychological distur-

bance have also been recorded (McGee et al. 1986; Minde, 1975; Rutter et al., 1970; Schachter et al., 1991).

In India however, very little work has gone into the understanding of scholastic backwardness, despite the increasing recognition of this area as an important one, at least in clinical practice. The study of scholastic backwardness was therefore incorporated into a larger project studying psychological disturbance among school going children (Shenoy, 1992). This paper presents the findings regarding the prevalence of scholastic backwardness and related difficulties, its various psychosocial associates, as well as its association with psychological disturbance.

MATERIAL AND METHODS

The study was cross-sectional in nature, and involved two phases. In the first phase, 1535 children (810 boys and 725 girls) in the age range of five to eight years from five schools of Bangalore city were screened for scholastic backwardness. Scholastic backwardness was operationally defined in terms of poor overall scholastic performance as reflected by the overall mark

percentage below 35%, and was assessed in response to question 1 on proforma A of the Children's Behaviour Questionnaire (CBQ) (Rutter, 1967). Likewise, those identified by the teachers as scoring over 75% of marks indicating "excellent" performance were considered to be scholastically superior (Q1. Proforma A, CBQ). In all, 157 and 324 children (164 boys and 160 girls) were identified as scholastically backward and scholastically superior respectively.

62 of the 157 scholastically backward children were included in the study based on the parental response to the call to participate in the study. Similarly, 67 scholastically superior children were included for the second phase, after matching them with the former group on age, gender and the class in which they studied. The mean ages of the scholastically backward and superior groups were 7.34 ± 2.64 years and 7.42 ± 2.58 years respectively, with the difference between the two not being statistically significant.

MEASURES

1. The Children's Behaviour Questionnaire (Rutter, 1967) or CBQ.

The CBQ was primarily designed to be used as a screening instrument to be completed by teachers for purposes of screening the 'disturbed' from the 'non disturbed' children in a school setting. The CBQ has two parts - proformas A and B. Proforma A has 9 items which seek information about educational performance, consistency in academic work, attendance, sports, reading and writing difficulties, nicknames, physical handicaps and teacher's opinion about the need for psychological help. One item dealing with arithmetic difficulty was added to this proforma by the investigator in the present study.

Proforma B has 26 items tapping behavioural and emotional problems shown at school, to be rated on a three-step response scale of 2, 1 and 0

for 'certainly applies', 'applies somewhat' and 'doesn't apply' respectively. A total score of 9 or more was considered to show evidence of some disorder, as suggested by Rutter (1967).

2. Pre-coded Semi-structured Interview Schedule (compiled by the authors) was employed in this study. This was based in parts on the case history taking proforma used for disturbed children at the Child and Adolescent Mental Health Unit of NIMHANS, Bangalore, as well as the proforma used in a multicentered study of child and adult psychiatric disorders, sponsored by the ICMR (ICMR, 1984) and modified to suit the requirements of the present study. Information was obtained in the following major areas : a) Sociodemographic data b) Family history c) Amenities available to the child's family d) Family interaction patterns e) Developmental details f) Schooling details.

PROCEDURE

In the first phase, the class teachers of the 1535 children rated them on the CBQ to screen them for scholastic backwardness and superiority. In all, 48 teachers (46 females, 2 males) participated in the screening phase.

In the next phase, the parents of the 62 and 67 scholastically backward and superior children respectively were interviewed and information recorded on the precoded semi-structured interview schedule.

RESULTS

The overall prevalence of scholastic backwardness in the sample was found to be 10.23% with no differences in rates according to gender ($X^2 = 1.08$, $df = 1$, NS), age ($X^2 = 3.31$, $df = 3$, NS), medium of instruction ($X^2 = 0.21$, $df = 1$, NS), as well as the family income ($X^2 = 2.03$, $df = 2$, NS) (Table 1).

SCHOLASTIC BACKWARDNESS AMONG CHILDREN

TABLE - 1
PREVALENCE OF SCHOLASTIC BACKWARDNESS IN THE SAMPLE

SL. VARIABLES NO.	Number	Scholastic backwardness		
		f	%	
1. Overall	1535	157	10.23	
2. Gender				
	Boys	810	89	10.99
	Girls	725	68	9.38
3. Age				
	5 years	261	29	11.11
	6 years	374	29	7.75
	7 years	414	45	10.87
	8 years	486	54	11.11
4. Medium				
	English	1041	109	10.47
	Kannada	494	48	9.72
5. Religion				
	Hindu	1478	147	9.95
	Muslim	34	7	20.59
	Christian	20	3	15.00
6. Language				
	Kannada	936	62	17.63
	Telugu	308	56	20.13
	Tamil	131	54	22.14
	others	160	15	15.63
7. Income in Rs/month				
	0-999	244	26	10.66
	1000-1999	794	88	11.08
	2,000 and above	497	43	8.65

The overall prevalence rates for writing, reading and arithmetic difficulties were found to be 5.15%, 4.69% and 15.96% respectively. Girls were found to have significantly more writing difficulties and much reduced participation in extracurricular activities than the boys. Boys to a greater extent had irregular attendance, nicknames and physical defects compared to girls (Table 2).

TABLE - 2
PREVALENCE OF SPECIFIC SCHOLASTIC DIFFICULTIES

Sl. Variables No.	Boys(n=810)		Girls (n=725)		X ² (df=1) P	
	f	%	f	%		
1. Overall difficulty	32	3.95	47	6.48	5.03	<0.05
2. Reading difficulty	34	4.20	38	5.24	0.93	NS
3. Arithmetic difficulty	125	15.43	96	13.24	1.49	NS
4. Inconsistent performance	104	12.84	109	15.03	2.74	NS
5. Poor attendance	15	1.85	2	0.28	8.68	<0.01
6. Lack of participation in extra curricular activities	432	53.33	450	62.07	11.94	<0.01
7. Nicknames	8	0.99	1	0.14	0.01*	<0.01
8. Physical defects	9	1.11	0	0.00	0.003*	<0.01
9. Physical problems	3	0.37	2	0.28	0.55*	NS
10. Need psychological help	6	0.74	1	0.14	0.08*	NS

+ Fisher's Exact Probability Test.

NS = Not Significant.

A significantly large proportion of scholastically backward children were also found to be having psychological disturbance (Table 3).

TABLE - 3
ASSOCIATION BETWEEN SCHOLASTIC BACKWARDNESS AND PSYCHOLOGICAL DISTURBANCE

Variable	Number	Scholastic backwardness		X ²	df	p
		f	%			
Psychological disturbance						
Present	281	73	25.98			
Absent	1254	84	6.70	92.94	1	<0.01

TABLE - 4
FACTORS ASSOCIATED WITH SCHOLASTIC BACKWARDNESS AND SCHOLASTIC SUPERIORITY

Sl. No.	Variables	Scholastically backward (n=62)		Scholastically superior (n=67)		X ² (df=1)	p
		f	%	f	%		
		1. Regular drinking in father	26	41.94	16		
2. Water supply absent	14	22.58	5	7.46	6.06	<0.05	
3. Electricity absent	7	11.29	1	1.49	0.02+	<0.05	
4. Drainage absent	21	33.87	5	7.46	14.04	<0.01	
5. Inconsistent disciplining	34	54.84	11	16.42	20.93	<0.01	
6. Poor father - mother interaction	10	16.13	2	2.99	6.62	<0.05	
7. Frequent school changes	52	83.87	43	64.18	6.43	<0.05	
8. Tuition attendance	34	54.84	11	16.42	20.93	<0.01	
9. Hobbies present	6	9.68	31	46.27	21.08	<0.01	

+ Fisher's Exact Probability Test.

The association between scholastic backwardness and psychosocial variables covering the six domains of sociodemographic details, family history, family amenities, family interaction patterns, developmental and schooling details were analyzed. Only 10 of these 118 variables covering the 6 major domains were found to be significantly associated with scholastic backwardness and are presented in table 4. On the other hand, no association was noted between scholastic backwardness and family type, family size, birth order, sibship, parental education, income or occupation, modes of disciplining, parental attitudes toward child, relationship with siblings and developmental milestones.

DISCUSSION

A) PREVALENCE OF SCHOLASTIC BACKWARDNESS

Scholastic backwardness was defined as a scholastic performance with a total mark percentage of less than 35% and was assessed through a single question on proforma A (Ques. 1). In all 10.99% of the boys and 9.38% of the girls fell into this category giving an overall prevalence of 10.23%. Viewing scholastic backwardness in similar terms, Rozario (1988) found an overall prevalence of 32.02% in a sample of 12-16 year old urban school children. Sarkar (1990) reported a prevalence of 29.90% for a sample of 8 to 12 year old urban school children. In general, higher prevalence rates have been reported at higher age levels, perhaps owing to the inability of the children at these age levels to cope with the increasing complexities in the syllabi. In another study Venugopal and Raju (1988) using a tool to specifically screen out the learning disabled children reported a prevalence of 20.6%. Studies done abroad however have more often focussed on specific scholastic difficulties rather than on general scholastic backwardness.

B) PREVALENCE OF SPECIFIC SCHOLASTIC DIFFICULTIES

The overall prevalence of reading difficulty was found to be 4.69% in our sample. The rates for reading difficulty among Western studies

have been around 6% (Baker and Cantwell, 1985) while more recently Lewis et al. (1994) have reported a rate as low as 3.9% among 9 to 10 year old children. Often reading and arithmetic difficulties are found to co-occur, which has led to speculations that the two disabilities originate from an underlying deficit in language related processing (Cohn, 1971). In our study the prevalence of arithmetic difficulty was found to be 15.96%, which is much higher than the rate for overall scholastic backwardness. This high rate is a matter of concern which calls for further research on the causes of this difficulty. The rate of writing difficulty was found to be around 5.15%. Cantwell and Baker (1977) have viewed reading and writing difficulties as originating from a general verbal disability, whereas Yule and Rutter (1985) have pointed out that in young children, arithmetic difficulty could be due to a difficulty with basic operations of addition, subtraction, multiplication and division. Landsdown (1978) has pointed out that these difficulties were more often due to poor teaching methods and excessive anxiety in the children. Gender-wise analysis in this study revealed that girls more often had writing difficulty than boys, while boys more often had arithmetic difficulties. No gender differences were seen however, with reference to reading difficulty. Shaywitz et al. (1990) also reported an absence of gender difference in the ratio of reading difficulty when objective measures were used. However, when teachers were asked to identify children with difficulties, a preponderance of males over females was noticed. In general, most recent findings point towards a higher prevalence for males compared to girls for reading and arithmetic difficulties (Lewis et al., 1994; Share et al., 1988). In view of these consistent findings, genetic or hereditary causation is being suspected with reference to these difficulties (Lewis et al., 1994).

Only a small percentage of children had irregular school attendance, more so the boys. Boys had more physical defects than girls such as squint (3), hare lip (1), polio affected leg (1). Compared to girls, boys more often participated

in extra curricular activities and had nick names. Rozario (1980) also has reported that a small percentage of his group of disturbed children had nick names.

C) SCHOLASTIC BACKWARDNESS VS. PSYCHOLOGICAL DISTURBANCE

An important finding in this study is the association between psychological disturbance and scholastic backwardness. About 26% of the psychologically disturbed children were found to be scholastically backward as against about 7% of the nondisturbed population (Table 3). Among western studies, the association between reading difficulty and psychological disturbance has been demonstrated in several clinic (Yule and Rutter, 1985) as well as epidemiological studies of the general population. (Rutter, et al., 1970). In recent times, Ekblad (1990) found a positive correlation between psychological disturbance and poor school achievement among Chinese children. Several explanations have been put forth to account for this association. While one hypothesis holds that an educational failure causes emotional and conduct disturbance (McGee et al., 1986; Rutter et al., 1970), another view favours a common aetiology for both these disorders (Richman et al., 1982). In future Indian studies it would be worthwhile to examine the association between scholastic backwardness, psychological disturbances and various psychosocial variables thought to be associated with the above two.

D) FACTORS ASSOCIATED WITH SCHOLASTIC BACKWARDNESS

It was found in this study that the scholastically backward children more often came from families which lacked basic amenities such as water supply, electricity and drainage. These two groups however did not differ from each other in terms of family income. Several studies have reported that poor scholastic performance was associated with economic deprivation and disadvantaged family conditions (Davie et al.,

1972; Rutter and Madge, 1976; Silva et al., 1985). Such deprived conditions perhaps resulted in the inability of the parents to provide facilities (stationary, furniture etc) to the child, which are conducive to a good educational performance.

In addition to these deprived conditions, the scholastically backward children also had families more often marked by alcohol dependence in the father, poor parental interaction, and inconsistent disciplining. The association of poor scholastic performance with the above three variables has been well documented in literature (von Knorring, 1991). Although the exact mechanisms by which these produce poor educational achievement is not yet clearly understood, there is reason to believe that the underlying mechanisms are almost the same as those for the development of psychological disturbance. The scholastically backward, as compared to the scholastically superior children, also had more frequent school changes, attended private tuition and had very few hobbies, which is perhaps a reflection of the degree of impairment caused by scholastic backwardness.

The findings of this study have thrown up certain implications for theory, research and clinical practice. That scholastic backwardness and psychological disturbances are both associated with certain common psychosocial variables calls for the study of this association in greater detail. Since a large proportion of the scholastically backward children also show psychological disturbance, the management plan should make place for an intervention approach which handles both the problems.

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