

## A STUDY OF FACTORS AFFECTING ACADEMIC PERFORMANCE OF INTERMEDIATE SCHOOL PUPILS IN BASRAH

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### ABSTRACT

*This is a cross sectional study carried out to study the factors that may affect the academic performance of 3<sup>rd</sup> intermediate school pupils. Ten intermediate schools were chosen randomly from different areas in Basrah Governorate for the period from 1<sup>st</sup> march-1<sup>st</sup> of May in 2004 (5 schools for girls and 5 schools for boys). The study involved 480 pupils (240 girls & 240 boys), chosen randomly systematically (one of two). They were interviewed and examined by the researcher using special questionnaire designed for the purpose of the study. The school performance of the pupils were classified in 2 classes according to the result of the mid year exam. It was found that the factors that had a significant effect on school performance include father's education level and occupation, mother's education level, vision and hearing problems, school attendance, crowding index and birth order. The study recommended provision of and proposal for education program to the parents to help them to motivate their children, improve communication with teachers and administration staff, periodic screening of vision and hearing, and education of teachers to be aware of pupils with problem and to recognize their needs.*

### INTRODUCTION

Over the past decade, issues of child development and behavior have moved into a prominent position in the mainstream of general pediatric care. This has been characterized by an expanded definition of health to include not only "quantity of life" but also "quality of life" for the child. Efficient learning and appropriate behavior have become significant measures of outcome of high quality primary health care for the child. The role of the physician in the identification, assessment and development of individualized educational programs for all children is mandated. As a consequence of increased awareness of the interrelationship of educational and health factors, educational professionals and parents have increasingly turned to pediatricians, general practitioners and otolaryngologists among others for consultation when problems arise in child's learning or behavior. This frequently takes the form of asking the physician to provide a simple etiology such as vision, hearing or speech problems, to explain the problem.<sup>[1]</sup> Many terms have been used to describe children who do not succeed at school; dyslexia, minimal brain dysfunction, perceptual disorder and congenital word blindness. These terms are difficult to define objectively and cause much confusion among parents and professionals. The use of terms which don't have widespread acceptance and understanding is not helpful in either understanding the causes

of child's problems or in developing an effective intervention plan. It is preferable to develop a broad description of these children in terms of their developmental strength and weakness.<sup>[2]</sup> The number of children with learning problems is impossible to estimate accurately, depending on what is considered to be learning disability.<sup>[2,3]</sup> Children with school problems are at risk of developing a number of associated or secondary problems.<sup>[4]</sup> Most children with school problems do not have a single identifiable cause. It is usual to identify a number of factors that are likely to be contributing to a child's problem. These can include constitutional factors (general health, vision, hearing, speech deficits and genetic factors) and environmental factors (socio-economic status and family structure). It is the interaction between these factors which, overtime leads to the dysfunction which presents as school learning difficulties.<sup>[3,5,6,7]</sup> No previous study was carried out to study the factors, which may affect school performance of intermediate school pupils in Basrah, so this study was carried out to fulfill this aim.

### METHODOLOGY

This cross-sectional study was carried-out during the period from March-May 2004. Ten intermediate schools were chosen randomly from different areas in Basrah (5 schools for boys and 5 schools for girls). The study

involved 480 3<sup>rd</sup> year intermediate pupils (240 boys and 240 girls). The pupils were chosen randomly systematically (one of two), they were interviewed and examined by the researcher directly by filling a standardized questionform designed for the purpose of the study. The results of mid-year examination were used for classification of children’s school performance into 2 groups (group one, those who passed the exam successfully in all subjects, and group 2; those who failed even in one subject). Assessment of vision (for visual acuity and strabismus) was carried out by the researcher, by using Snellen chart and cover test. Assessment of hearing was also carried out by the researcher, according to the methods mentioned in Macleod’s clinical examination.<sup>[8]</sup> The school attendance was classified into three

scores, good (for those who had absence for less than a week in the term), moderate (for those who had absence for a week to less than two weeks in the term) and bad (for those who had absence more than two weeks in the term). Crowding index was calculated as number of persons per a room. The X<sup>2</sup> -test was used as a test of significance. Data were analyzed by the computer using Excel version 1997.

**RESULTS**

Out of 480 pupils interviewed, 304 (63.3%) had passed the mid-year examination successfully, with a slightly higher rate among males than females (66.3% & 61.1%) respectively. (Table-1).

**Table 1. Distribution of studied pupils according to sex & school performance.**

Sex	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Male	159	66.3	81	33.7	240	50.0
Female	145	61.4	95	39.6	240	50.0
Total	304	63.3	176	36.7	480	100.0

X<sup>2</sup>=1.758                      D.F. = 1                      P>0.05

(Table-2) shows the distribution of pupils according to father’s education and school performance. It showed that the children performance improved with the increase in the educational level of their fathers where the percentages of children passing the exam

successfully were increasing from (46.5%) for those with illiterate or just literate fathers to (80.0%) for those with high education fathers and the difference was statistically highly significant (P<0.01).

**Table 2. School performance & father’s education.**

Father’s Education	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Illiterate & Just Literate	59	46.5	68	53.5	127	26.5
Primary	64	59.3	44	40.7	108	22.5
Intermediate	70	68.6	32	31.4	102	21.3
Secondary	71	76.3	22	23.7	93	19.4
High	40	80.0	10	20.0	50	10.4
Total	304	63.3	176	36.7	480	100.0

X<sup>2</sup>= 30.34                      D.F. = 4                      P<0.01

The school performance of pupils whose fathers were workers (unskilled or skilled), or unemployed was less than those whose fathers were involved in professional, administrative or merchandized jobs (47.6%, 44.8% & 47.6%) compared to (91.7%, 77.7% & 67.5%) respectively, and the difference was statistically highly significant ( $P < 0.01$ ) (Table-3).

Table 3. *School performance and father's occupation.*

Father's Occupation	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Professional	55	91.7	5	8.3	60	12.5
Administration	94	77.7	27	22.3	121	25.2
Merchandized	52	67.5	25	32.5	77	16.0
Skilled Worker	43	44.8	53	55.2	96	20.0
unskilled Worker	40	47.6	44	52.4	84	17.5
Unemployed	20	47.6	22	52.4	42	8.3
Total	304		176		480	100.0

$X^2 = 59.67$

D.F. = 5

$P < 0.01$

Mother's education was significantly affecting school performance of children, where (41.3%) of pupils for illiterate or just literate mothers had passed the exam compared to (88.2%) for those whose mothers had higher education and the difference was statistically highly significant ( $P < 0.01$ ) (Table-4).

Table 4. *School performance & mother's education.*

Mother's Education	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Illiterate & Just Literate	31	41.3	44	58.7	75	15.6
Primary	69	48.3	74	51.7	143	29.8
Intermediate	98	71.0	40	29.0	138	28.8
Secondary	61	83.6	12	16.4	73	15.2
High	45	88.2	6	11.8	51	10.6
Total	304		176		480	100.0

$X^2 = 59.626$

D.F. = 4

$P < 0.01$

Pupils for working mothers had performance nearly similar to the performance of those for housewife mothers, where 65.2% had pass the examination successfully for pupils of working mothers and 62.9% for pupils of housewife mothers and the difference was statistically not significant ( $P > 0.05$ ) (Table-5).

**Table 5. School performance & mother's occupation.**

Mother Occupation	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Housewife	246	62.9	145	37.1	391	81.1
Working	58	65.2	31	34.8	89	18.9
Total	304		176		480	100.0

$\chi^2 = 0.158$

D.F. = 1

P>0.05

The overall prevalence of reported vision problems was (15.2%), school performance was lower for those reported vision problem, where only (30.1%) of those reported vision problem

had pass the examination successfully compared to (69.3%) of those had no vision problem and the difference was statistically highly significant (P<0.01). (Table-6).

**Table 6. School performance & vision problem.**

Vision Problem	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Present	22	30.1	51	69.1	73	15.2
Absent	282	69.9	125	30.9	407	84.8
Total	304		176		480	100.0

$\chi^2 = 40.855$

D.F. =1

P<0.01

The overall prevalence of hearing problems was (6.7%), and pass rate was lower among those reported hearing problems than those had no

hearing problem (34.4% Vs 65.4%) respectively and the difference was statistically highly significant (P<0.01) (Table-7).

**Table 7. School performance & hearing problem.**

Hearing Problem	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Present	11	34.4	21	65.6	32	6.7
Absent	293	65.4	155	34.6	448	93.3
Total	304		176		480	100.0

$\chi^2 = 12.381$

D.F. = 1

P<0.01

Pass rate was higher among those having good school attendance & the reverse was true for those having bad school attendance and the

difference was statistically highly significant (P<0.01) (Table-8).

**Table 8. School performance & school attendance.**

School attendance	Pass		Fail		Total	
	No.	%	No.	%	No.	%
Good & V. good	268	82.0	59	18.0	327	68.1
Moderate	31	29.5	74	71.5	105	21.9
Bad	5	10.5	43	89.5	48	10.0
Total	304		176		480	100.0

$\chi^2 = 158.41$

D.F. = 2

P<0.01

The pass rate has an inverse relationship with crowding index, where pass rate was (73.5%) among those living in a house with CI≤5 and (35.1%) for those living in a house with

crowding index 11<sup>+</sup> and the difference was statistically highly significant (P<0.01) (Table-9).

**Table 9. School performance & crowding index.**

Crowding Index	Pass		Fail		Total	
	No.	%	No.	%	No.	%
≤ 5	194	73.5	70	26.5	264	55.0
6-10	90	56.6	69	43.4	159	33.1
11+	20	35.1	34	64.9	57	11.9
Total	304		176		480	100.0

$\chi^2 = 31.01$

D.F. = 2

P<0.01

Nearly (56%) of children having rank 4 or above. From (Table-10), it is evident that children whose rank is the first or second in his

family having better school performance than those rank 6<sup>th</sup> or more, and the difference was statistically highly significant (P<0.01).

**Table 10. School performance and birth order.**

Birth Order	Pass		Fail		Total	
	No.	%	No.	%	No.	%
1	58	90.6	6	9.4	64	13.3
2	63	78.8	17	21.2	80	16.7
3	41	58.8	27	41.2	68	14.2
4	5	56.4	41	43.6	94	19.6
5	6	51.8	54	48.2	114	23.8
6+	29	48.3	31	51.7	60	12.3
Total	304		176		480	100.0

$\chi^2 = 88.35$

D.F. = 5

P<0.01

## DISCUSSION

Child development concerns not merely physical health but the process of changes where by a child learn to handle over more difficult levels of thinking, speaking, and relating to others.<sup>[5]</sup> Unfortunately, the health sector not always appreciating the long impact of the interactions of child care nurturing on cognitive and social development.<sup>[5]</sup> The mechanisms that promote physical and mental development are not unidirectional from caregivers to children; in fact it is the interaction between the two that is critical.<sup>[5]</sup> The child's ability to think don't only depend on brain structure, but it also depends on physical health, on the environment which is characterized by emotional stability and continuous searching for science and knowledge, that means home environment and experience has an important role to determine child's performance.<sup>[7]</sup> School performance is difficult to measure but results of an exam can be used as a measure to compare between children.<sup>[2]</sup> The pass rate of the studied pupils was (63.3%), with a higher rate among males than females, which is comparable to other studies.<sup>[2,4]</sup> Mother's and father's education were significantly affecting school performance of their children which is comparable to other studies, which stated that educated parents are more aware to the educational needs of their children and help them to meet their educational demands.<sup>[2,7]</sup> Father's occupation also showed significant effects on improving school performance of their children which could be also reflect the effect of education, which is comparable to another study.<sup>[4]</sup> The overall prevalence of vision problem was (15.2%) which is slightly higher than a study carried out in 1988 in Al-Falloja,<sup>[9]</sup> where the percentage was (10.1%). The difference may be due to the difference in the sampling procedure or due to the difference in the method of assessment. The performance of children with vision problem was lower than those with normal vision, because normal vision is important for leading a normal life and for good educational activities. School child may suffer from impairment of vision due to amblyopia (lazy eye) which is defined as reduced visual acuity without visible damage to structures in the eye; it may be caused by strabismus or any other disorder that

causes blurred retinal image in one or both eyes i.e. high degree of hypermetropia or myopia. If amblyopia is not treated early enough, before the development of central vision, it will persist and will not be corrected by occlusion therapy or by optical devices and the results of treatment are regarded very poor after the age of 8 years. The main way to decrease the incidence of amblyopia is early detection through effective visual screening program for school children at early age.<sup>[10]</sup> Hearing problem present in (6.7%) of studied pupils which is nearly comparable to that found in a study carried out in 1988 in Al-Falloja where the prevalence was (5.3%).<sup>[9]</sup> It is stated that significant disturbances in auditory processing, with deficits in auditory sequential memory, auditory-visual integration, and academic proficiency, were found among group of children with history of severe chronic otitis media early in their life, which is associated with subsequent educational relation. Auditory processing deficits involve the distribution of such skills as auditory sequential memory, sound blending and auditory discriminative which often impair academic development especially reading.<sup>[11]</sup> So it is important for the physician to have an understanding of the relationship of auditory problem and other aspect of learning behavior and an awareness of basic principles of child development.<sup>[12]</sup> Children living in less crowded houses (CI≤5) have better educational performance than those living in over crowded houses (CI=6<sup>+</sup>). This is because many factors in the environment may contribute significantly to school problems. Crowded houses mean low socioeconomic circumstances and children will be at risk of school dysfunction. There are children in whom multiple environmental stresses seen to have a confounding effect in contributing to their school problems. Poverty is associated with sub-optimal health, housing and attending schools which are disadvantaged in terms of resources.<sup>[5]</sup> Children who rank between the first and fifth had better performance than others who rank 6<sup>th</sup> or more, because family size affected by the education and expectations of parents, which affect family situation and composition.<sup>[5]</sup> This factor also affect the child's attendance.<sup>[5]</sup> The study, therefore, recommends that provision of appropriate educational

programs to the parents, may help them to motivate their children. These programs also encourage them to counsel the teacher or school administration if they notice any change in the school performance of their children by improvement of communication between parents and school staff. It is also recommended that screening of school pupils periodically for vision and hearing to pick up any change in their vision or hearing with the aim of early intervention is important. Teachers should be encouraged to recognize the pupils with problems and to be aware of their needs and to modify teaching curriculum and make some compensation for the pupils with difficulty, lastly, provision of appropriate family planning methods for women at antenatal care center or family planning clinic, may also help.

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