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Relationship between Multiple Intelligence (MI) and Academic Achievement (AA) of School-going children

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ABSTRACT

Howard Gardner's proposal of Multiple Intelligence (MI) has shifted the paradigm and paved the way for personalized learning. Since then, the impact of Multiple Intelligence on the academic achievement of school-going children has gained importance. This is being explored by many in different ways. This study also attempts to explore the relationship between multiple intelligence and academic achievement of school-going children but the uniqueness was that the MI was associated with the academic performance in each of the major subjects that a child has in their curriculum. 3026 school going children aged 11-15 years were chosen as the sample. Multiple Intelligence Scale by Agarwal and Pal (2018) was used to assess the multiple intelligence of children based on nine types given by Howard Gardner. Apart from this, a self-formulated questionnaire was used to gather the general profile of the selected children. Their yearly academic report/mark cards were also procured to assess their Academic Achievement (AA). The socio-demographic factors, put together were found to be significant in impacting the multiple intelligence levels of the children. The mother's education as a separate entity was found to be a very strong determinant of MI. Further, almost all MI contributes to academic achievement in Science, Mathematics and English. However social science learning is predicted by three MIs and that of learning the regional language (Tamil), only spatial intelligence was associated.

Keywords: Multiple Intelligence, Academic Achievement and School-going children

Introduction

Multiple intelligence is a theory that was first posited by developmental psychologist Howard Gardner in 1983. Rather than defining Intelligence as a single, general ability, this theory proposes that Human Intelligence can be differentiated into the following nine models - Linguistic, Logical, Bodily-kinesthetic, Musical, Naturalistic, Spatial, Interpersonal, Intrapersonal and Existential.

The basic idea behind this theory is that people learn in different ways. It describes the various ways in which students learn and acquire information, ranging from the usage of words, number, pictures and music to the importance of social interactions, introspection physical movement and also being in accordance with nature.

An understanding of which type of intelligence a student may possess can aid the teachers in adjusting the learning styles and thereby also suggest a suitable career path for all learners. Gardner believes that the main purpose of 'schooling' should be to develop intelligence and to aid people to reach vocational and non-vocational goals to their particular spectrum of intelligence. He believes that learners who are facilitated in this process turn out to be more competent and are more inclined to constructively serve society.

'Multiple Intelligence' theory argues that children will be better served with a 'broader vision of education, wherein the teachers use various teaching methodologies, exercise and activities to reach out to all types of children possessing different types of intelligence skills.

However, a critical review of MI theory argues that there is very little empirical evidence to support it. There haven't been published studies that offer evidence for validation of the MI right up to 2004, though James Traub's article 'The New Republic' mentions that Gardner's system has been accepted by most academics.

Gardner believes that while MI theory is consistent with much empirical evidence, it has not been subjected to strong experimental tests. But, in the area of education, the applications of the theory are being examined in many projects.

Jerome Bruner agreed with Gardner and is of the opinion that his approach needs to be lauded. An interesting thing to note is that despite all this Gardner's theory has been adopted by many schools where it is often conflated with learning styles. Many books have been written about its application in education.

Gardner conclusively talks about three recommendations for education. 1) To individualize the teaching style (to suit the most effective method for each child). 2) Pluralize the teaching (teach important materials in multiple ways) 3) To avoid the term 'styles'.

By realizing the importance of recommendations of Gardner, this piece of the study was an attempt to assess the nine dimensions of multiple intelligence among school-going children but unlike other studies, goes one step further and tries to understand the association between multiple intelligence and the subject wise academic achievement of those children. The findings of the study would help the academicians to understand the predictor intelligence for each of the subjects that the child studies in middle school and thereby it could also be a base to stimulate the needed type of intelligence in a child to perform.

Objectives

- To determine the influence of socio-demographic factors on Multiple Intelligence (MI) of selected children
- To identify the association between Multiple Intelligence (MI) and subject wise Academic Achievement (AA) of school-going children

Methodology

The study adopted a descriptive cross-sectional research design. Certain inclusion criteria were set to identify the schools of study. With the schools identified for the study, the criteria for selection of the sample were also formulated. A total of 3026 school going children enrolled in 6th, 7th and 8th classes within the age ambit of 11 - 15 years were selected for the study. To identify the intelligence potential of the selected respondents, two tools were used. The first one was a self-formulated questionnaire to elicit the general profile and the second tool was a standardized tool, the Multiple Intelligence Scale (MIS) by Surabhi Agarwal and Suraksha Pal (2018). The MI consisted of nine dimensions with each dimension having ten statements. Out of 90 statements, 60 items were positive and 30 were negative. The maximum time allowed to fill in the MI scale was 20 minutes. The minimum to the maximum range of scores is 90 to 450 and it has been grouped into seven categories namely - Extremely high (42 & above), High (36-41), Above average (31-35), Average (23-30), Below average (18-22), Low (12-17), Extremely Low (11and below). To assess the Academic Achievement (AA), report/mark cards of the children were obtained. The subject–wise average marks scored in five major exams (of an academic year) were computed. Based on the average marks, the children's academic performance was categorized into six grades namely – Outstanding (95%-100%), Excellent (81%-94%), Very good (61%-80%), Good (60%-41%), Average (40%-21%), and Poor (20%-1%). The grading was done as per the Likert scale. The data were subjected to statistical analysis through SPSS.

Results and Discussion

General Profile of the identified sample

Class-wise distribution: 34.1 per cent of the children were in the 7th class, closely followed by standard 8 students (33.5 per cent) and 32.4 per cent belonged to class 6.

Gender-based distribution: Out of 3026 school children, girls had a higher representation of almost 52 per cent when compared to their counterparts, who were only 48 per cent

Father's education: 34 per cent of the fathers of the selected children have completed their secondary level of education. 31 per cent of them were graduates. 21.5 per cent have completed higher secondary level education and only 13.5 per cent of the fathers were postgraduates.

Mother's education: 36.3 per cent of the mothers have completed their secondary level of education only. However, 28 per cent were degree holders, while 1/10th of them were postgraduates. 25 per cent of them have had higher secondary level of education.

Parents' occupation: 33 per cent of the fathers and 44.5 per cent of mothers were in the private sector. Fathers doing business were nearly three times greater than mothers involved in the business. An equal percentage of parents (13.6%) were found to be government employees. However, more than 1/4th of the mothers were homemakers.

Type of family: A good percentage of them are from nuclear families (64.4%), whereas 27.9 per cent of them were from joint families. Only 7.7 per cent hailed from extended families. The observation is as per the reality that the extended family system has faded out.

Type of school: The enrolment rate in aided school was higher (45.5%), followed by the private school (39.4%). On the other hand, just 15 per cent were studying in the government school. This finding confirms that government school has lost it importance. Moreover, the findings point out that, parents in the present scenario, strive for expensive education for their children.

Birth order: More than half of the children (51.9%) under study are firstborn, followed by 39.9 per cent who were middle born. Only 8.2 per cent of them were last born.

Area of residence: 45 per cent of the children hail from semi-urban areas followed by 34.8 per cent who come from urban areas. The percentage of students residing in rural areas was comparatively lower (20.6%).

Objective 1: To determine the influence of socio-demographic factors on Multiple Intelligence (MI) of selected children

The table 1 to 9 portrays the multiple regression analysis carried out to determine the influence of socio-demographic factors on the nine Multiple Intelligences of selected children.

Table 1 Influence of Socio-demographic Factors on the respondents' Linguistic Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-11)**	**Sig.**
	B	**Std. Error**	**Beta**	**Check**						
(Constant)	**29.859**	**.779**								
Class	-0.014	0.257	-0.002	-0.055^{ns}	0.957					
Gender	-0.804	0.177	-0.084	**-4.549****	**000**					
Father's Education	-0.047	0.094	-0.01	-0.497^{ns}	0.619					
Mother's Education	0.225	0.097	0.048	**2.325****	**0.002**	**.137**	**0.019**	**0.015**	**5.278 ****	**.000**
Father's Occupation	-0.114	0.052	-0.041	**-2.213***	**0.027**					
Mother's occupation	-0.029	0.06	-0.009	-0.488^{ns}	0.626					
Type of family	0.126	0.137	0.017	0.92^{ns}	0.357					
Type of School	0.237	0.111	0.046	**2.133***	**0.033**					
Birth order	-0.083	0.091	-0.017	**-0.915***	**0.036**					
Area of Residence	0.495	0.136	0.076	**3.638 ****	**000**					

****Significant at 1 per cent level, * Significant at 5 per cent level, ns- not significant**

The results of multiple regression shows that $R^2 = 0.015$, F= 5-278, P< 01. The R^2 value strongly indicates that there was a 1.5 per cent variance in children's Linguistic intelligence scores, and was explained by the selected independent variables.

Looking at each predictor, It was clear that few variables gender (-4.549, P<.01), mother's education (2.325, P<.01), area of residence (3.638, P<.01), father's occupation (-2.213, P<.05), type of school (2.133, P<.05) and birth order (-0.915, P<.05) significantly influences the linguistic intelligence of children. Further, the negative regression weight in gender indicates that boys display a higher level of linguistic intelligence as compared to girls. However, the study carried out by Kaur and Chhikara (2008) had slightly different findings wherein, the girls seemed to be slightly ahead of the boys. One of the reasons for the difference in findings may be that the supportive study was carried out among rural school-going children and generally, in rural atmosphere girls are perceived to be more communicative than boys; whereas, the present study targeted the urban and semi-urban school-going children, wherein boys are perceived to be competing with girls equally.

As far as mother's education is concerned, a supportive study carried out by Shahzada (2011), is in concurrence with the present study. It states that the level of a mother's education plays a key role in the linguistic intelligence of school-going children. Higher the level of

mother's education, higher is the level of linguistic intelligence among school-going children.

When it comes to 'area of residence', the table indicates that the children living in urban areas possess a higher level of linguistic intelligence and understandably so as they are more exposed to a strong social life and have easy access to various learning sources.

Father's level of occupation emerges as an influencing factor. Fathers doing business seem to play a significant role in influencing the linguistic intelligence of school-going children. The researcher suggests that business fathers might spend more time with their children, and many times, their children may also accompany them to various places and get to meet various people from different walks of life. Hence, those children may be better exposed and equipped in improving their linguistic skills. Also, the linguistic smartness of the father (essential for business) may have a rub off on the child.

The table also states that the independent variable 'birth order' predicts the linguistic intelligence of the selected children at a 5 per cent level. The negative regression weight (-0.915) highlights that the linguistic intelligence of the firstborn was better when compared to the middle and the last born.

In the same way, the type of school significantly influences the linguistic intelligence of children. Further, the positive regression weight indicates that private school children have a higher level of linguistic intelligence when compared to other types of schools.

Table 2 Influence of Socio-demographic Factors on the respondents' Logical Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-12)**	**Sig.**
	B	**Std. Error**	**Beta**							
(Constant)	29.493	.889								
Class	.180	.113	.030	1.582 ns	.114					
Gender	-.323	.182	-.034	-1.773 ns	.076					
Father's Education	.110	.096	.024	1.152 ns	.249					
Mother's Education	-.128	.099	-.027	-1.292 ns	.197					
Father's Occupation	-.038	.052	-.013	-.720 ns	.471	**.084**	**.007**	**.003**	**1.803 ***	**.042**
Mother's occupation	-.090	.061	-.028	-1.476 ns	.140					
Type of family	.180	.139	.024	1.294 ns	.196					
Type of School	-.033	.119	-.006	-.279 ns	.781					
Birth order	-.203	.182	-.030	-1.113 ns	.266					
Area of Residence	-.069	.092	-.014	-.747 ns	.455					

*** Significant at 5% level, ns – not significant**

Table 2 illustrates the findings of multiple regression, which reveals the nature of the relation of the dependent variable (Logical Intelligence) vis-à-vis the socio-demographic factors. The results of Multiple regression shows R^2=.007, F=1.803, df =12, p<.05, where R^2 revealed that there was 0.7 per cent of the variance in children's logical intelligence scores concerning various factors. It showed significance at a 5 per cent level.

The t and P-value of each predictor namely, clearly indicates that none of the selected socio-demographic factors significantly influences the children's logical intelligence. A supportive study was done by Aydemir and Karali (2014) among seventh-

grade school-going children indicates that factors like gender and father's education played a mildly significant role in influencing the logical intelligence of children. Whereas the other factors like mother's education, birth order, parent's occupation do not play any significant role.

Table 3 Influence of Socio-demographic Factors on the respondents' Kinesthetic Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig.**
	B	**Std. Error**	**Beta**							
(Constant)	**30.033**	**0.783**		**38.348**	**.000**					
Class	.091	.110	.015	.8355^{ns}	.404	**.105**	**.011**	**.008**	**3.330****	**.000**
Gender	.253	.179	.026	1.415^{ns}	.157					
Father's Education	.065	.095	.013	.607^{ns}	.544					
Mother's Education	-.371	.098	-.079	**-3.784****	**.000**					
Father's Occupation	-.257	.052	-.023	-1.243^{ns}	.214					
Mother's occupation	-.108	.061	-.033	-1.775^{ns}	.076					
Type of family	.257	.139	.034	1.849^{ns}	.065					
Type of School	-.189	.113	-.036	-1.677^{ns}	.098					
Birth order	.013	.092	.003	.140^{ns}	.888					
Area of residence	.074	.136	.011	.547^{ns}	.547					

**** Significant at 1% level, ns – Not significant**

Table 3 states the findings of multiple regression, F value = 3.330, df = 10, p<.01 and it confirms that children's kinesthetic intelligence is dependent on the socio-demographic variables at 1 per cent level. The R^2 =.011 states that there was a 1.1 per cent variance in the bodily-kinesthetic intelligence score of the selected respondents and was explained by the selected independent variables.

The factor mother's education (-3.759, P<.01) alone showed a 1 per cent level of significance in influencing the bodily-kinesthetic intelligence of children. However, a study done by Aydemir and Karali (2014) indicated that there was no significant correlation between the mother's education and bodily-kinesthetic intelligence of school-going children.

The negative regression weight indicates that the metric pass mothers' children are better in their kinesthetic intelligence. A thorough analysis of the situation gives a reason for the finding. The metric pass mothers seem to be mostly engaged in carrying out micro-business (mainly tailoring, designing clothes etc.) that involves physical activity. Hence, they value the importance of body smartness. Likewise, they play a pivotal role in training their children by engaging them in household activities and their business activities.

Table 4 Influence of Socio-demographic Factors on the respondents' Musical Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig**
	B	**Std. Error**	**Beta**							
(Constant)	**30.334**	**.883**		**34.352**	**.000**					
Class	.076	.123	.011	.615^{ns}	.539					
Gender	-.039	.202	-.004	.192^{ns}	.848					
Father's Education	.036	.107	.007	333 ^{ns}	.739					
Mother's Education	-.410	.110	-.077	**-3.711****	**.000**					
Father's Occupation	-.035	.059	-.011	-.598 ^{ns}	.550	**.088**	**.008**	**.005**	**2.380****	**.008**
Mother's occupation	-.103	.068	-.028	-1.509 ^{ns}	.131					
Type of family	.162	.157	.019	1.038 ^{ns}	.299					
Type of School	-.165	.127	-.028	-1.299 ^{ns}	.194					
Birth order	.049	.104	.009	.473 ^{ns}	.636					
Area of residence	.160	.153	.022	1.048 ^{ns}	.295					

****Significant at 1% level, ns – not significant**

The above table represents the findings of multiple regression with F=2.380, df =10, P<.01 and it confirms that children's musical intelligence is dependent on the demographic variables at 1 per cent level. The R^2 value of .008 indicates a 0.8 per cent variance in the children's musical intelligence and was explained by the selected independent variables.

From the t and p-value of each factor, it was clear that mother's education (-3.711, p<.01), as seen in the kinesthetic intelligence, displays a 1 per cent level of significance in influencing school-going children's musical intelligence. A study carried out by Shahzada (2011) reveals that there is a significant correlation between the mother's education and school-going children's musical intelligence.

Table 5 Influence of Socio-demographic Factors on the respondents' Spatial Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig**
	B	**Std. Error**	**Beta**							
(Constant)	30.739	.658		46.749	.000					
Class	-.049	.092	-.010	-.536^{ns}	.592					
Gender	.015	.150	.002	.098 ^{ns}	.922					
Father's Education	.135	.080	.035	1.685 ^{ns}	.092					
Mother's Education	-.288	.082	-.073	**-3.501****	**.000**	**.094**	**.009**	**.005**	**2.690****	

Father's Occupation	-.075	.044	-.031	-1.708 ns	.088					**.003**
Mother's occupation	-.107	.051	-.039	**-2.100***	**.036**					
Type of family	.032	.117	.005	.271 ns	.796					
Type of School	-.072	.095	-.016	-.757 ns	.428					
Birth order	.134	.078	.031	1.728 ns	.084					
Area of residence	-.137	.114	-.025	-.1.202 ns	.230					

****Significant at 1% level, * significant at 5% level, ns – not significant**

The results of multiple regression R^2=.009, F-2.690, P<.01 confirms that children's spatial intelligence is significantly influenced by socio-demographic factors, The R^2 value further revealed that there was 0.9 per cent of the variance in children's spatial intelligence scores and it has been explained by selected independent variables.

The mother's education (-3.501, p<.01) was observed to be a significant predictor of spatial intelligence among the selected children. The study of Shahzada (2011) on mother's education and students' multiple intelligences shows an insignificant correlation between mother's education and children's visual/spatial intelligence, which contradicts the present finding.

Similarly, the table showing the variable 'mothers occupation' (-2.100, p<.05) also indicates that it does play a role in influencing school going children's spatial intelligence. Spatial Intelligence can be perceived more as a natural flair or a talent also which may be in-born, genetically influenced too. Hence, there is every possibility that mothers who are the tenth pass and engaged in business (mainly tailoring, designing clothes etc.) possess this kind of talent themselves and could spot this flair in their children and aid them in developing this type of intelligence.

Table 6 Influence of Socio-demographic Factors on the respondents' Naturalistic Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig.**
	B	**Std. Error**	**Beta**							
(Constant)	30.608	.901		33.961	.000					
Class	.165	.126	.024	1.312ns	.190					
Gender	-.242	.206	-.012	-1.175 ns	.240					
Father's Education	.117	.110	.022	1.068 ns	.286					
Mother's Education	-.317	.113	-.059	**-2.816****	**.005**					
Father's Occupation	-.078	.060	-.024	-1.293 ns	.196	**.088**	**.008**	**.004**	**2.338****	**.010**
Mother's occupation	-.108	.070	-.029	-1.542 ns	.123					
Type of family	.182	.160	.021	1.138 ns	.255					
Type of School	-.136	.130	-.022	-1.044 ns	.297					
Birth order	.075	.106	.013	.703 ns	.482					
Area of residence	.217	.156	.029	1.391 ns	.164					

****Significant at 1% level, ns – not significant**

From the results of multiple regression R^2=.008, F=2.338, p<.01, it is confirmed that the socio-demographic variables when put together, play a significant role in influencing the children's naturalistic intelligence. The R^2 value further revealed that there was 0.8 per cent of the variance in children's level of naturalistic intelligence score and was explained by selected independent variables.

As observed with a few of the other domains of intelligence, the mother's education as a separate entity (-2 .816, p<.01) seems to plays a significant role in influencing their child's naturalistic intelligence. The study done by Karali (2014) was not in concurrence with the present findings and it states that the naturalistic intelligence of seventh-grade school going children are not influenced by mother's education.

Table 7 Influence of Socio-demographic Factors on the respondents' Interpersonal Intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig.**
	B	**Std. Error**	**Beta**							
(Constant)	31.521	.715		44.094	.000					
Class	-.011	.100	-.002	-.111 ns	.911					
Gender	.067	.163	.008	.411 ns	.681					
Father's Education	.063	.087	.015	.726 ns	.468					
Mother's Education	-.345	.089	-.080	**-3.857****	**.000**					
Father's Occupation	-.042	.048	-.016	-.889ns	.374	**.092**	**.008**	**.005**	**2.563****	**.004**
Mother's occupation	-.100	.055	-.034	-1.797 ns	.072					
Type of family	.119	.127	.017	.935 ns	.350					
Type of School	-.173	.103	-.036	-1.681 ns	.093					
Birth order	.058	.084	.012	.684 ns	.494					
Area of residence	.028	.124	.005	.222 ns	.824					

****Significant at 1% level, ns – not significant**

The results of table 7 revealed R^2=.008, F=2.563, p<.01 and the R^2 value indicates that a variance of 0.8 per cent exists in school going children's interpersonal intelligence, and it was explained by the independent variables.

Again, from the t and p-value of the mother's education (-3.857, p<.01) it can be inferred that it plays a significant role in influencing the school going children's interpersonal intelligence too. This may be due to the reason that nowadays mothers are smart and end up shouldering most of the family responsibilities, as they mostly live in nuclear families. They train their children too likewise. Moreover, children follow their mothers and that aids them in developing their interpersonal skills.

Table 8 Influence of Socio-demographic Factors on the respondents' Intrapersonal Intelligence

Predictors	**Unstandardized Coefficients**	**Standardized Coefficients**	**t**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig**

	B	**Std. Error**	**Beta**							
(Constant)	**31.064**	**.902**		**34.436**	**.000**					
Class	.134	.126	.020	1.066^{ns}	.287					
Gender	.008	.206	.001	.258 ^{ns}	.796					
Father's Education	.099	.110	.040	.968^{ns}	.329					
Mother's Education	-.538	.113	-.119	**-4.774****	**.000**					
Father's Occupation	-.095	.060	-.029	-1.577 ^{ns}	.115					
Mother's occupation	-.171	.070	-.046	**-2.447***	**.014**					
Type of family	.218	.160	.025	1.364 ^{ns}	.173	**.127**	**.016**	**.013**	**4.910****	**.000**
Type of School	-.277	.130	-.046	**-2.126***	**.034^{sig}**					
Birth order	.055	.106	.009	.520 ^{ns}	.603					
Area of residence	.246	.156	.032	1.573 ^{ns}	.116					

****Significant at 1% level,* Significant at 5% level, ns – not significant**

Table 8 shows R^2 =.16, F=4.910, P<.01. Hence, it can be inferred that all factors aggregately play a role in influencing children's intrapersonal intelligence score. The R^2 value shows a variance level of 1.6 per cent and it was explained by the selected independent variables.

Going by the t and p values of the factors, it is clear that mother's education (-4.774, P<.01) and mother's occupation (-2.447, p<.01) were significant at 1 per cent level. Following them, the factor, the type of school (-2.126, p<.05) was also found to be significant but at a 5 per cent level. Children studying in government-aided schools scored slightly higher on intrapersonal intelligence when compared to their counterparts.

Table 9 Influence of Socio-demographic Factors on the respondents' Existential intelligence

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**	**R**	**R Square**	**Adjusted R Square**	**F (df-10)**	**Sig.**
	B	**Std. Error**	**Beta**							
(Constant)	**31.032**	**.864**		**35.909**	**.000**					
Class	.087	.121	.013	.720^{ns}	.471					
Gender	.061	.198	.006	-.309 ^{ns}	.757					
Father's Education	.126	.105	.025	1.194 ^{ns}	.233	**.108**	**.012**	**.008**	**3.536****	**.000**
Mother's Education	-.487	.108	-.094	**-4.507****	**.000**					
Father's Occupation	-.026	.058	-.008	-.446 ^{ns}	.656					

Mother's occupation	-.179	.067	-.050	**-2.680****	**.007**
Type of family	.193	.153	.023	1.260 ns	.208
Type of School	-.174	.125	-.030	-1.395 ns	.163
Birth order	.046	.102	.008	.451 ns	.652
Area of Residence	.079	.150	.011	.529 ns	.597

****Significant at 1% level, ns-not significant**

The multiple regression of the existential intelligence score of the selected respondents and the identified independent variables produced R^2=.013 and F=3.536, P<.01. In other words, the independent variables put together significantly influence the existential intelligence score.

By looking at the p and t value of each predictor, it is clear that the variables mother's education (-4.507, p<.01) and mother's occupation (-2.680, p<.01) significantly influence the existential intelligence of children.

Existential intelligence will be better for children who think philosophically. Hence, the mother's way of living facilitates these children to use collective values and intuition in understanding others and the society around them.

Objective 2: To identify the association between Multiple Intelligence (MI) and subject wise Academic Achievement (AA) of school-going children

Tables 10 to 14 present the association of the nine types of Multiple Intelligences with every curricular subject of study of the school-going children

Table 10 Association between multiple intelligences and academic achievement in Tamil

Level of Multiple Intelligence		**Achievement level in Regional Language - Tamil**						**Chi-square (df-20)**	**Sig**
		Excellent	**Very good**	**Good**	**Average**	**Poor**	**Total**		
Linguistic	**Extremely high**	1(4.5%)	9(40.9%)	9(40.9%)	3(13.6%)	00	22(0.7%)	20.009 ns	.457
	High	36(12.0%)	119(39.4%)	116(38.7%)	27(9.6%)	2(0.7%)	300(9.9%)		
	Above average	107(10%)	465(43.5%)	407(38%)	68(6.4%)	23(2.1%)	1070(35.4%)		
	Average	133(9.3%)	601(41.9%)	577(40.2%)	86(6.0%)	39(2.7%)	1436(47.5%)		
	Below average	18(10.0%)	67(37.2%)	79(43.9%)	13(7.2%)	3(1.7%)	180(5.9%)		
	Low	1(5.6%)	7(38.9)	9(40.9%)	00	1(1.5%)	18(0.6%)		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Logical	**Extremely high**	4(9.8%)	17(41.5%)	13(31.7%)	6(14.6%)	1(2.4%)	41(1.4%)	17.756 ns	.338
	High	20(11.2%)	77(43.3%)	70(39.3%)	7(3.9%)	4(2.2%)	178(5.9%)		
	Above average	114(10.0%)	484(42.6%)	432(38%)	83(7.3%)	24(2.1%)	1137(37.6%)		
	Average	130(9.5%)	575(41.9%)	550(40.1%)	89(6.5%)	28(2.0%)	1372(45.3%)		

	Below average	28(9.4%)	115(38.6%)	132(44.3%)	12(4.0%)	11(3.7%)	298(9.8%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Bodily-Kinesthetic	**Extremely high**	1(2.8%)	17(47.2%)	13(36.1%)	5(13.9%)	00	36(1.2%)	21.115 ns	.174
	High	61(10.7%)	226(39.8%)	224(39.4%)	46(8.1%)	11(1.9%)	568(18.8%)		
	Above average	105(9.7%)	458(42.5%)	418(38.8%)	67(6.2%)	30(2.8%)	1078(35.6%)		
	Average	102(9.8%)	449(43.1%)	406(39.9%)	67(6.4%)	17(1.6%)	1041(34.4%)		
	Below average	27(8.9%)	118(38.9%)	136(44.9%)	12(4.0%)	10(3.3%)	303(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Spatial	**Extremely High**	4(22.2%)	7(38.9%)	3(16.7%)	1(5.6%)	3(6.7%)	18(1%)	**39.701 ** **	**.005**
	High	4(18.2%)	9(40.9%)	9(40.9%)	00	00	22(1%)		
	Above average	87(10.6%)	335(41.0%)	310(37.9%)	69(8.4%)	17(2.1%)	818(27%)		
	Average	156(8.8%)	754(42.4%)	725(40.8%)	102(5.7%)	41(2.3%)	1778(58%)		
	Below average	45(11.7%)	160(41.5%)	149(38.6%)	25(6.5%)	7(1.8%)	386(13%)		
	Low	00	3(0.2%)	1(0.1%)	00	00	4(0%)		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Musical	**Extremely High**	00	00	00	00	00	00	12.536 ns	.404
	High	59(19.9%)	221(41.8%)	202(38.2%)	39(7.4%)	8(1.5%)	529(17.5%)		
	Above average	54(11.2%)	251(42.0%)	233(39.0%)	44(7.4%)	15(2.5%)	597(19.7%)		
	Average	121(8.9%)	579(42.6%)	547(40.2%)	86(6.3%)	27(2.0%)	1360(45%)		
	Below average	62(11.5%)	217(40.2%)	215(39.8%)	28(5.2%)	18(3.3)	540(17.8%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		

Naturalistic	**Extremely High**	00	00	00	00	00	00	12.427 ns	.412
	High	53(11.4%)	187(40.1%)	180(38.6%)	38(8.2%)	8(1.7%)	466(15.4%)		
	Above average	75(10%)	331(44.0%)	285(37.8%)	47(6.2%)	15(2%)	753(24.9%)		
	Average	108(8.7%)	528(42.5%)	493(39.7%)	83(6.7%)	29(2.3%)	1241(41%)		
	Below average	60(10.6%)	222(39.2%)	239(42.2%)	29(5.1%)	16(2.8%)	566(18.7%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Interpersonal	**Extremely High**	00	5(41.7%)	5(41.5%)	2(16.7%)	00	12(0.4%)	17.138 ns	.377
	High	52(12%)	174(40.2%)	162(37.4%)	37(8.5%)	8(1.8%)	433(14.3%)		
	Above average	51(9.3%)	245 (44.5%)	200(36.4%)	40(7.3%)	14(2.5%)	550(18.2%)		
	Average	186(9.4%)	824(41.5%)	813(41%)	116(5.8%)	45(2.3%)	1984(65.6%)		
	Below average	7(14.9%)	20(42.6%)	17(36.2%)	2(4.3%)	1(2.1%)	47(1.5%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Intrapersonal	**Extremely High**	2(8.0%)	12(48.0%)	9(36.0%)	2(8%)	00	25(0.8%)	11.258 ns	.793
	High	69(10.5%)	274(41.8%)	252(38.8%)	49(7.5%)	11(1.7%)	655(21.6%)		
	Above average	104(9.6%)	459(42.1%)	421(38.7%)	76(7%)	29(2.7%)	1089(36%)		
	Average	65(8.6%)	322(42.8%)	307(40.8%)	44(5.9%)	14(1.9%)	752(24.9%)		
	Below average	56(11.1%)	201(39.8%)	208(41.2%)	26(5.1%)	14(2.8%)	505(16.7%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7%)**	**1268(42%)**	**1197(39.5%)**	**197(6.5%)**	**68(2.2%)**	**3026(100%)**		
Existential	**Extremely High**	00	2(33.3%)	2(33.3%)	2(33.3%)	00	6(0.2%)	19.093 ns	.516
	High	47(11.1%)	175(41.3%)	160(37.7%)	34(8%)	8(1.9%)	424(14%)		
	Above average	79(10.6%)	318(42.7%)	284(38.2%)	46(6.2%)	17(2.3%)	744(24.6%)		

	Average	116(8.5 %)	580(42.6 %)	548(40.3%)	88(6.5%)	29(2.1 %)	1361(45%)		
	Below average	54(11.0 %)	193(39.4 %)	202(41.2%)	27(5.5%)	14(2.9 %)	490(16.2 %)		
	Low	00	00	1(100%)	00	00	1(0.0%)		
	Extremely low	00	00	00	00	00	00		
	Total	**296(9.7 %)**	**1268(42 %)**	**1197(39.5 %)**	**197(6.5 %)**	**68(2.2 %)**	**3026(100 %)**		

****Significant at 1% level, ns-not significant**

Tamil being the regional language of the selected school-going children, is also a compulsory subject of study. From the table, it can be inferred from the Chi-square value that among all the domains of MI, spatial intelligence alone is significant at a 1 per cent level (39.701^{a}, $p<.01$) concerning achievement in learning Tamil.

Out of the 18 children who fall under the 'extremely high' category of spatial intelligence, 14 of them have scored well in Tamil and of all 22 children belonging to the 'high' category of spatial intelligence, had performed well in Tamil. In the meanwhile, among children with above average and average spatial intelligence, only 10 and eight per cent of the children respectively scored low in Tamil.

A supportive study done by Ahvan and Pour (2016) states that all domains of intelligence except musical exert a moderate level of significance on the academic achievement of school-going children. However, while probing into the fact of spatial intelligence being a significant predictor of Tamil learning might be owed to the characteristic nature of spatial intelligence. A child with strong spatial intelligence has a strong visual memory and would be artistic. They also could respond well to organizing vocabulary using a mind map (British Council, 2021). Hence the spatially intelligent children could score well in Tamil by organizing the vocabulary effectively and artistically writing.

Table 12 Association between multiple intelligences and academic achievement in English

Level of Multiple Intelligence		**Achievement level in English**						**Chi-square (df-16)**	**Sig**
		Excellent	**Very good**	**Good**	**Average**	**Poor**	**Total**		
Linguistic	**Extremely high**	00	00	00	2(9.1%)	20(91%)	22(1%)	**183.843 ****	**.000**
	High	43(14.3%)	41(13.7%)	90(30.0%)	41(13.7%)	85(28.3%)	300(10%)		
	Above average	180(16.8 %)	130(12.1 %)	240(22.4 %)	164(15.3 %)	356(33.3 %)	1070(35.5 %)		
	Average	263(18.3 %)	210(14.6 %)	405(28.2 %)	174(12.1 %)	384(26.7 %)	1436(47.5 %)		
	Below average	50(27.8%)	42(23.3%)	77(42.8%)	11(6.1%)	00	180(5%)		
	Low	3(16.7%)	4(22.2%)	10(55.6%)	1(5.6%)	00	18(1%)		
	Extremely low	00	00	00	00	00	00.00		
	Total	539(18%)	427(14.1 %)	822(27.2 %)	393(13%)	845(28%)	3026(100 %)		
Logical	**Extremely high**	9(22.0%)	8(19.5%)	23(56.1%)	1(2.4%)	00	41(1.4%)		**.001**
	High	27(15.2%)	32(18%)	40(22.5%)	24(13.5%)	55(30.9%)	178(6%)		

	Above average	213(18.7%)	152(13.4%)	305(29%)	144(12.7%)	323(28.4%)	1137(37.6%)	**38.343****	
	Average	246 (17.9%)	194(14.1%)	369(27%)	188(13.7%)	375(27.3%)	1372(45%)		
	Below average	44(14.8%)	41(13.8%)	85(28.5%)	36(12.1%)	92(30.9%)	298(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13.0%)**	**845(28%)**	**3026(100%)**		
Bodily Kinesthetic	**Extremely high**	6(16.7%)	3(0.7%)	24(66.7%)	3(8.3%)	00	36(1%)	**87.252****	**.000**
	High	106(18.7%)	90(15.8%)	195(34.3%)	67(11.8%)	110(19.4%)	568(19%)		
	Above average	209(19.4%)	139(12.9%)	261(24.2%)	134(12.4%)	335(31.1%)	1078(36%)		
	Average	167(16.0%)	148(14.2%)	247(23.7%)	153(14.7%)	326(31.3%)	1041(34%)		
	Below average	51(16.8%)	47(16%)	95(31.4%)	36(11.9%)	74(24.4%)	303(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
Spatial	**Extremely High**	7(39%)	2(11.1%)	9(50%)	00	00	18(.5%)	**33.856***	**.027**
	High	2(9.1%)	6(27.3%)	5(23%)	1(4.5%)	8(36.4%)	22(.7%)		
	Above average	141(17.2%)	117(14.3%)	213(26%)	108(13.2%)	239(29.2%)	818(27%)		
	Average	318(17.9%)	259(15%)	502(28.2%)	223(13%)	476(27%)	1778(59%)		
	Below average	70(18.1%)	43(11.1%)	92(23.8%)	61(16%)	120(31.1%)	386(13%)		
	Low	1(0.2%)	00	1(25%)	00	2(0.2%)	4(%)		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
Musical	**Extremely High**	00	00	00	00	00	00	**26.599****	**.009**
	High	102(19.3%)	79(15%)	154(29.1%)	69(13%)	125(24%)	529(17.4%)		
	Above average	106(18%)	95(16%)	178(30%)	70(12%)	148(25%)	597(19.6%)		
	Average	232(17.1%)	183(14%)	333(25%)	177(13%)	435(32%)	1360(45%)		
	Below average	99(18.3%)	70(13%)	157(29.1%)	77(14.3%)	137(25.4%)	540(18%)		
	Low	00	00	00	00	00	00		

	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
Naturalistic	**Extremely High**	00	00	00	00	00	00	18.860^{ns}	.092
	High	88(19%)	70(15%)	152(33%)	53(11.4%)	103(22.1%)	466(15.4%)		
	Above average	134(18%)	104(14%)	191(25.4%)	96(13%)	228(30.3%)	753(25%)		
	Average	216(17.4%)	173(14%)	322(26%)	162(13.1%)	368(30%)	1241(41%)		
	Below average	101(18%)	80(14.1%)	157(28%)	82(15%)	146(26%)	566(18.6%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
Interpersonal	**Extremely High**	1(8.1%)	1(8.3%)	10(83.3%)	00	00	12(.3%)	**59.237****	**.000**
	High	87(20.1%)	70(16.2%)	130(30%)	53(12.2%)	93(22%)	433(14.1%)		
	Above average	91(17%)	76(14%)	148(27%)	73(13.3%)	162(30%)	550(18.1%)		
	Average	343(17.3%)	272(14%)	516(26%)	264(13.3%)	589(30%)	1984(66%)		
	Below average	17(36.2%)	8(17%)	18(38.3%)	3(6.4%)	1(2.1%)	47(1.5%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
Intrapersonal	**Extremely High**	4(16%)	00	15(60%)	4(16%)	2(8%)	25(.8%)	**53.912**	**.000**
	High	122(19%)	114(17.4%)	203(31%)	72(11%)	144(22%)	655(21.6%)		
	Above average	215(20%)	144(13.2%)	279(26%)	142(13%)	309(28.4%)	1089(36%)		
	Average	115(15.3%)	104(14%)	197(26.2%)	94(13%)	242(32.2%)	752(25%)		
	Below average	83(16.4%)	65(13%)	128(25.3%)	81(16%)	148(29.3%)	505(16.6%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		
	Extremely High	00	00	6(100%)	00	00	6(.1%)		

Existential	**High**	78(18.4%)	63(15%)	141(33.3%)	49(12%)	93(22%)	424(14.3%)	**40.162** **	**.005**
	Above average	146(20%)	113(15%)	186(25%)	94(13%)	205(28%)	744(24.5%)		
	Average	232(17%)	187(14%)	361(27%)	174(13%)	407(30%)	1361(45%)		
	Below average	83(17%)	64(13.1%)	128(26.1%)	76(16%)	139(28.4%)	490(16.1%)		
	Low	00	00	00	00	1(100%)	1(00%)		
	Extremely low	00	00	00	00	00	00		
	Total	**539(18%)**	**427(14.1%)**	**822(27.2%)**	**393(13%)**	**845(28%)**	**3026(100%)**		

****Significant at 1% level,*significant at 5 %level, ns-not significant**

The table infers that except naturalistic intelligence all other domains of multiple intelligences are significantly associated with academic achievement in learning English. The t and P-value of Linguistic Intelligence (183.843, p<.01), Logical Intelligence (38.343, p<.01), Bodily-Kinesthetic Intelligence (87.252, p<.01), Musical Intelligence (26.599, p<.01), Inter-personal Intelligence (59.237, p<.01), Intra-personal Intelligence (53.912, p<.01) and Existential Intelligence (40.162, p<.01) were found to be significant at 1 per cent level. Spatial Intelligence alone (33.856, p<.05) was significant at a 5 per cent level.

Ghonchepour and Moghaddam (2018), in their study on 'The role of intelligence in learning English as a foreign language' observed a positive correlation between verbal and non-verbal intelligence and learner's English language development. The study further confirmed that the relationship between intelligence scores and those of comprehension and grammar was significant and proved that intelligence, on the whole, is one important predictor in the acquisition of English as a foreign language. The current finding is also in concordance with the above-stated study, but the only difference is that the model of intelligence used by Ghonchepour and Moghaddam was Spearman's G factor model.

Table 12 Association between multiple intelligences and academic achievement in Mathematics

Level of Multiple Intelligence		**Achievement level in Mathematics**					**Total**	**Chi-square (df-16)**	**Sig**
		Excellent	**Very good**	**Good**	**Average**	**Poor**			
Linguistic	**Extremely high**	00	00	1(4.5%)	6(27.3%)	15(68.2%)	22(.7%)	**170.467** **	**.000**
	High	48(16%)	83(27.7%)	37(12.3%)	63(21%)	69(23%)	300(10%)		
	Above average	202(18.9%)	236(22.1%)	111(10.4%)	216(20.2%)	305(28.5%)	1070(35.5%)		
	Average	273(19%)	366(25.5%)	190(13.2%)	252(17.5%)	355(24.7%)	1436(47.3%)		
	Below average	60(33.3%)	54(30%)	52(28.9%)	1(0.6%)	13(7.2%)	180(6%)		
	Low	6(33.3)	6(33.3%)	5(27.8%)	00	1(0.1%)	18(.5%)		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6%)**	**396(13.1%)**	**538(18%)**	**758(25%)**	**3026(100%)**		
	Extremely high	16(39%)	15(36.6%)	6(14.6%)	2(4.9%)	2(4.9%)	41(1.3%)		

Logical	**High**	31(17.4%)	50(28.1%)	16(9%)	38(21.3%)	43(24.2%)	178(6%)	**33.319[a]***	**.007**
	Above average	233(21%)	269(23.7%)	148(13%)	208(18.3%)	279(24.5%)	1137(37.4%)		
	Average	251(18.3%)	351(25.6%)	186(13.6%)	235(17.1%)	349(25.4%)	1372(45.3%)		
	Below average	58(20%)	60(20.1%)	40(13.4%)	55(18.5%)	85(28.5%)	298(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6%)**	**396(13.1%)**	**538(17.8%)**	**758(25%)**	**3026(100%)**		
Bodily-Kinesthetic	**Extremely high**	7(19.4%)	15(41.7%)	13(36.1%)	00	1(2.8%)	36(1.1%)	**71.679***	**.000**
	High	121(21.3%)	167(29.4%)	93(16.4%)	75(13.2%)	112(19.7%)	568(18.8%)		
	Above average	214(19.9%)	253(23.5%)	125(11.6%)	199(18.5%)	287(26.6%)	1078(35.7%)		
	Average	184(17.7%)	245(23.5%)	120(11.5%)	209(20.1%)	283(27.2%)	1041(34.4%)		
	Below average	63(20.8%)	65(21.5%)	45(14.9%)	55(18.2%)	75(24.8%)	303(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6%)**	**396(13.1%)**	**538(17.8%)**	**758(25%)**	**3026(100%)**		
Spatial	**Extremely High**	9(50%)	2(11.1%)	6(33.3%)	1(5.6%)	00	18(0.6%)	**44.015***	**.001**
	High	5(22.7%)	5(22.7%)	4(18.2%)	2(9.1%)	6(27.3%)	22(0.7%)		
	Above average	165(20.2%)	189(23.1%)	107(13.1%)	141(17.2%)	216(26.4%)	818(27%)		
	Average	343(19.3%)	454(25.5%)	246(13.8%)	300(16.9%)	435(24.5%)	1778(58.8%)		
	Below average	66(17.2%)	94(24.4%)	33(8.5%)	93(24.1%)	100(25.9%)	386(12.8%)		
	Low	1(25.0%)	1(25%)	00	1(25%)	1(25%)	4(0.1%)		
	Extremely low	00	00	00	00	00	00		
	Total	**589(17.8%)**	**745(24.6%)**	**396(13.1%)**	**538(17.8%)**	**758(25%)**	**3026(100%)**		
Musical	**Extremely High**	00	00	00	00	00	00	**37.867***	**.000**
	High	102(19.3%)	154(29.1%)	74(14%)	82(15.5%)	117(22.1)	529(17.5%)		
	Above average	130(21.8%)	138(23.1%)	107(17.9%)	85(14.2%)	137(22.9%)	597(19.7%)		
	Average	250(18.4%)	331(24.3%)	151(11.1%)	263(19.3%)	365(26.8)	1360(45%)		

	Below average	107(19.8%)	122(22.6 %)	64(11.9%)	108 (20%)	139(25.7 %)	540(17.8%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6 %)**	**396(13.1%)**	**538(17.8 %)**	**745(25%)**	**3026(100 %)**		
Naturalistic	**Extremely High**	00	00	00	00	00	00	12.860^{ns}	.379
	High	91(19.5 %)	140(30%)	55(11.8%)	75(16.1%)	105(22.5 %)	466(15.4%)		
	Above average	153(20.3%)	175(23.2 %)	98(13%)	138(18.3 %)	189(25.1 %)	753(24.9%)		
	Average	236(19%)	295(23.8 %)	177(14.3%)	217 (17.5%)	316(25.5 %)	1241(41%)		
	Below average	109(19.3%)	135(23.9 %)	66(17.7%)	108 (19.1%)	148(26.1 %)	566(18.7%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6 %)**	**396(13.1%)**	**538(17.8 %)**	**758(25%)**	**3026(100 %)**		
Interpersonal	**Extremely High**	4(33.3%)	5(41.7%)	3(25%)	00	00	12(0.4%)	**47.687**	**.000**
	High	92(21.2%)	122(28.2 %)	59(13.6%)	64(14.8%)	96(22.2%)	433(14.3%)		
	Above average	107(19.5%)	134(24.4 %)	83(15.1%)	89(16.2%)	137(24.9 %)	550(18.2%)		
	Average	365(18.4%)	471(23.7 %)	246(12.4%)	380(19.2 %)	522(26.3 %)	1984(65.5 %)		
	Below average	21(44.7%)	13(27.7%)	5(10.6%)	5(10.6%)	3(6.4%)	47(1.6%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6 %)**	**396(13.1%)**	**538(17.8 %)**	**758(25%)**	**3026(100 %)**		
Intrapersonal	**Extremely High**	5(20%)	11(44%)	5(20%)	2(8%)	2(8%)	25(0.8%)	**46.741**	**.000**
	High	141(21.5%)	196(29.9 %)	84(12.8%)	93(14.2%)	141(21.5 %)	655(21.5%)		
	Above average	226(20.8%)	248(22.8 %)	159(14.6%)	191(17.5 %)	265(24.3 %)	1089(36%)		
	Average	130(17.3%)	177(23.5 %)	96 (12.8%)	144(19.1 %)	205(27.3 %)	752(25%)		
	Below average	87(17.2%)	113(22.4 %)	52 (10.3 %)	108(21.4 %)	145(28.7 %)	505(16.7%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		

	Total	**589(19.5%)**	**745(24.6%)**	**396(13.1%)**	**538(17.8%)**	**758(25%)**	**3026(100%)**		
Existential	**Extremely High**	2(33.3%)	2(33.3%)	2(33.3%)	00	00	6(0.2%)	**40.679****	**.004**
	High	84(19.8%)	129(30.4%)	59(13.9%)	62(14.6%)	90(21.2%)	424(14%)		
	Above average	171(23%)	166(22.3%)	100(13.4%)	121(16.3%)	186(25%)	744(24.6%)		
	Average	245(18%)	336(24.7%)	188(13.8%)	249(18.3%)	343(25.2%)	1361(45%)		
	Below average	87(17.8%)	112(22.9%)	47(9.6%)	106(21.6%)	138(28.2%)	490(16.2%)		
	Low	00	00	00	00	1(100%)	1(0%)		
	Extremely low	00	00	00	00	00	00		
	Total	**589(19.5%)**	**745(24.6%)**	**396(13.1%)**	**538(17.8%)**	**758(25%)**	**3026(100%)**		

****Significant at 1% level, ns-not significant**

It can be inferred from the above table that, as like in learning English, except naturalistic intelligence, all other domains of multiple intelligence are significantly associated with the academic achievement of the subject – Mathematics. The t and P-value of Linguistic Intelligence (170.467, p<.01), Logical Intelligence (33.319, p<.01), Bodily-Kinesthetic Intelligence (71.679, p<.01), Musical Intelligence (37.867, p<.01), Inter-personal Intelligence (47.687, p<.01), Intra-personal Intelligence (46.741, p<.01), Existential Intelligence (40.679, p<.01) and Spatial Intelligence (40.015, p<.01) were significant at 1 per cent level.

Gardner's theory of Multiple Intelligences (MI) states that people learn through a combination of nine types of intelligence rather than one intelligence as was originally believed, this itself strongly supports the present finding. A study done by Ruiz et al (2014) states that it was logical-mathematical intelligence that showed a significant relationship concerning academic performance. However, the present study indicates that along with logical-mathematical intelligence other intelligence too (Linguistic, Bodily-Kinesthetic, Musical Intelligence, interpersonal, intrapersonal, Spatial and Existential) show a significant relationship concerning academic achievement in Mathematics. This could be attributed to the factor that now a day's children get a lot of exposure via various social media forums to develop different types of intelligence and make use of them in their academic performance. Moreover, the supportive study and the present study belong to entirely two different countries; this too may have its implications.

Table 13 Association between multiple intelligences and academic achievement in Science

Level of Multiple Intelligence		**Achievement level in Science**							
		Excellent	**Very good**	**Good**	**Average**	**Poor**	**Total**	**Chi-square (df-20)**	**Sig**
Linguistic	**Extremely high**	5(22.7%)	4(18.2%)	2(9.1%)	8(36.4%)	3(13.6%)	22(0.7%)	**398.745****	**.000**
	High	16(5.3%)	39(13%)	11(3.7%)	39(10.4%)	195(65.0%)	300(10%)		
	Above average	61(5.7%)	119(11.1%)	26(2.4%)	124(11.6%)	740(69.2%)	1070(35%)		
	Average	124(8.6%)	224(15.6%)	44(3.1%)	159(11.1%)	885(61.6%)	436(47.6%)		
	Below average	50(27.8%)	80(44.4%)	9(5%)	39(21.7%)	2(1.1%)	180(6%)		
	Low	5(27.8%)	8(44.4%)	00	5(27.8%)	00	18(0.7%)		

	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Logical	**Extremely high**	14(34.1%)	21(51.2%)	2(4.9%)	4(9.8%)	00	41(1.4%)	**103.623****	**.000**
	High	15(8.4%)	28(15.7%)	5(2.8%)	16(9%)	114(64.0%)	178(5.9%)		
	Above average	95(8.4%)	174(15.3 %)	43(3.8%)	153(13.5%)	672(59.1%)	1137(37.6 %)		
	Average	104(7.6%)	210(15.3 %)	34(2.5%)	171(12.5%)	853(62.2%)	1372(45.3 %)		
	Below average	33(11.1%)	41(13.8%)	8(2.7%)	30(10.1%)	186(62.4%)	298(9.8%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Bodily Kinesthetic	**Extremely high**	5(13.9%)	20(55.6%)	3(8.3%)	8(22.2%)	00	36(1.2%)	**166.589****	**.000**
	High	76(13.4%)	129(22.7 %)	20(3.5%)	85(15%)	258(45.4%)	568(18.8 %)		
	Above average	81(7.5%)	139(12.9 %)	33(3.1%)	131(12.2%)	694(64.4%)	1078(35.6 %)		
	Average	61(5.9%)	132(12.7 %)	28(2.7%)	116(11.1%)	704(67.6%)	1041(34.4 %)		
	Below average	38(12.5%)	54(17.8%)	8(2.6%)	34(11.2%)	169(55.8%)	303(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Spatial	**Extremely High**	5(27.8%)	10(55.6%)	2(11.1%)	1(5.6%)	00	18(0.6%)	**106.428****	**.000**
	High	5(22.7%)	5(22.7%)	1(4.5%)	2(9.1%)	9(40.9%)	22(0.7%)		
	Above average	72(8.8%)	116(14.2 %)	36(4.4%)	113(13.8%)	481(58.8%)	818(27%)		
	Average	169(9.5%)	306(17.2 %)	43(2.4%)	217(12.2%)	1043(58.7 %)	1778(58.8 %)		
	Below average	10(2.6)	37(9.6%)	10(2.6%)	41(10.6%)	288(74.6%)	386(12.8 %)		
	Low	00	00	00	00	4(100%)	4(0.1%)		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
	Extremely High	00	00	00	00	00	00		

Musical	**High**	51(9.6%)	103(19.5 %)	16(3%)	65(12.3%)	294(55.6%)	529(17.5 %)	**109.703****	**.000**
	Above average	84(14.1%)	120(20.1 %)	23(3.9%)	101(16.9%)	269(45.1%)	597(19.7 %)		
	Average	84(6.2%)	164(12.1 %)	35(2.6%)	149(11%)	928(68.2%)	1360(45%)		
	Below average	42(7.8%)	87(16.1%)	18(3.3%)	59(10.9%)	334(61.9%)	540(17.8 %)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Naturalistic	**Extremely High**	00	00	00	00	00	00	**25.057***	**.015**
	High	46(9.9%)	98(21%)	23(4.9%)	58(12.4%)	241(51.7%)	466(15.4 %)		
	Above average	60(8%)	113(15%)	21(2.8%)	96(12.7%)	463(61.5%)	753(24.9 %)		
	Average	105(8.5%)	179(14.4 %)	33(2.7%)	153(12.3%)	771(62.1%)	1241(41%)		
	Below average	50 (8.8%)	84(14.8%)	15(2.7%)	67(11.8%)	350(61.8%)	566(18.7 %)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Interpersonal	**Extremely High**	3(25%)	6(50%)	1(8.3%)	2(16.7%)	00	12(0.4%)	**168.364****	**.000**
	High	50(11.5%)	96(22.2%)	24(5.5%)	56(12.9%)	207(47.8%)	433(14.3 %)		
	Above average	48(8.7%)	92(16.7%)	17(3.1%)	87(15.8%)	306(55.6%)	550(18.2 %)		
	Average	144(7.3%)	260(13.1 %)	49(2.5%)	224(11.3%)	1307(65.9 %)	1984(65.6 %)		
	Below average	16(34%)	20(42.6%)	1(2.1%)	5(10.6%)	5(10.6%)	47(1.5%)		
	Low	00	00	00	00	00(%)	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6 %)**	**474(15.7 %)**	**92(3%)**	**374(12.4%)**	**1825(60.3 %)**	**3026(100 %)**		
Intrapersonal	**Extremely High**	3(12%)	12(48%)	00	4(16%)	6(24%)	25(0.8%)	**81.726****	**.000**
	High	68(10.4%)	137(20.9 %)	30(4.6%)	87(13.3%)	333(50.8%)	655(21.6 %)		
	Above average	103(9.5%)	168(15.4 %)	30(2.8%)	145(3838%)	643(59%)	1089(36%)		
	Average	53(7%)	98(13%)	20(2.7%)	88(11.7%)	493(65.6%)	752(24.9 %)		

	Below average	34(6.7%)	59(11.7%)	12(2.4%)	50(9.9%)	350(69.3%)	505(16.7%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6%)**	**474(15.7%)**	**92(3%)**	**374(12.4%)**	**1825(60.3%)**	**3026(100%)**		
Existential	**Extremely High**	1(16.7%)	3(50%)	1(16.7%)	1(16.7%)	00	6(0.2%)	**80.726****	**.000**
	High	45(106%)	91(21.5%)	15(3.5%)	65(15.3%)	208(49.1%)	424(14%)		
	Above average	88(11.8%)	126(16.9%)	26(3.5%)	96(12.9%)	408(54.8%)	744(24.6%)		
	Average	94(6.9%)	195(14.3%)	39(2.9%)	163(12%)	870(63.9%)	1361(45%)		
	Below average	33(6.7%)	58(11.8%)	11(2.2%)	49(10%)	339(69.2%)	490(16.2%)		
	Low	00	1(100%)	00	00	00	1(0%)		
	Extremely low	00	00	00	00	00	00		
	Total	**261(8.6%)**	**474(15.7%)**	**92(3%)**	**374(12.4%)**	**1825(60.3%)**	**3026(100%)**		

****Significant at 1% level, * significant at 5% level, ns-not significant**

The academic achievement concerning the subject – Science, was found to be strongly associated with every type of MI. The t and P-value of Linguistic Intelligence (398.745, p<.01), Logical Intelligence (103.623, p<.01), Bodily-Kinesthetic Intelligence (166.589, p<.01), Musical Intelligence (109.703, p<.01), Inter-personal Intelligence (168.364, p<.01), Intra-personal Intelligence (81.726, p<.01), Existential Intelligence (80.726, p<.01), Spatial Intelligence (106.428, p<.01) were significant at 1 per cent level and Naturalistic Intelligence (25.057, p<.05) was alone at 5 per cent level.

More importantly, the theory of multiple intelligences implies that people learn better through certain modalities than others and that science learning addresses as many modalities as possible. And that is the reason for all the nine types of intelligence being significantly associated with learning science among school-going children. A supportive study carried out by Kenneth and Williamson (2018) stated a significant positive correlation between spatial abilities and academic achievement, specifically Science.

Table 14 Association between multiple intelligences and academic achievement in Social Science

Level of Multiple Intelligence		**Achievement level in Social Science**							
		Excellent	**Very good**	**Good**	**Average**	**Poor**	**Total**	**Chi-square (df-20)**	**Sig**
Linguistic	**Extremely high**	2(9.1%)	10(45.5%)	2(9.1%)	00	8(36.4%)	22(0.7%)	**57.184****	**.000**
	High	34(11.3%)	46(15.3%)	93(31%)	43(14.3%)	84(28%)	300(10%)		
	Above average	91(8.5%)	134(12.5%)	335(31.3%)	180(16.8%)	330(30.8%)	1070(35.4%)		
	Average	149(10.4%)	239(16.6%)	426(29.7%)	229(15.9%)	393(27.4%)	1436(47.3%)		
	Below average	25(13.9%)	46(25.6%)	47(26.1%)	27(15%)	35(19.4%)	180(6%)		
	Low	2(16.7%)	3(16.7%)	7(38.9%)	2(11.1%)	3(16.7%)	18(0.6%)		

	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Logical	**Extremely high**	7(17.1%)	11(26.8%)	12(29.3%)	4(9.8%)	7(17.1%)	41(1.4%)	15.871^{ns}	.462
	High	17(9.6%)	25(14%)	51(28.7%)	28(15.7%)	57(32%)	178(5.9%)		
	Above average	119(10.5 %)	180(15.8%)	333(36.6%)	170(15%)	335(29.5 %)	1137(37.6 %)		
	Average	135(9.8 %)	207(15.1%)	428(31.2%)	226(16.5%)	376(27.4 %)	1372(45.3 %)		
	Below average	26(8.7%)	55(18.5%)	86(28.9%)	53(17.8%)	78(26.2%)	298(9.8%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Bodily Kinesthetic	**Extremely high**	4(11.1%)	7(19.4%)	15(41.7%)	4(11.1%)	6(16.7%)	36(1.2%)	15.666^{ns}	.476
	High	62(10.9 %)	104(18.3%)	172(30.3%)	77(136%)	153(26.9 %)	568(18.8 %)		
	Above average	103(9.6 %)	163(15.1%)	319(29.6%)	175(16.2%)	318(29.5 %)	1078(35.6 %)		
	Average	107(10.3 %)	148(14.2%)	311(29.9%)	175(16.2%)	300(28.8 %)	1041(34.4 %)		
	Below average	28(9.2%)	56(18.5%)	93(30.7%)	50(16.5%)	77(25.1%)	303(10%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Spatial	**Extremely High**	4(22.2%)	7(39%)	3(16.7%)	2(11.1%)	2(11.1%)	**18**(0.6%)	**39.977****	**.005**
	High	4(18.2%)	00	11(50%)	00	7(32%)	22(0.7%)		
	Above average	88(10.8 %)	127(16%)	242(29.6%)	121(14.8%)	240(29.3 %)	**818**(27%)		
	Average	172(9.7 %)	291(16.4%)	545(30.7%)	290(16.3%)	480(27%)	1778(58.8 %)		
	Below average	2(15)	53(13.7%)	108(28%)	67(17.4%)	124(32.1 %)	386(12.8 %)		
	Low	00	00	1(25%)	1(25%)	00	4(0.1%)		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(16%)**	**853(28.2 %)**	**3026(100 %)**		
	Extremely High	00	00	00	00	00	00		

Musical	**High**	59(11.2 %)	90(17%)	154(29.1%)	81(15.3%)	145(27.4 %)	529(17.5 %)	19.233^{ns}	.083
	Above average	71(11.9 %)	106(17.8%)	182(30.5%)	77(12.9%)	161(27.0 %)	597(19.7 %)		
	Average	120(8.8 %)	188(13.8%)	418(30.7%)	228(16.8%)	406(29.9 %)	1360(45%)		
	Below average	54(10%)	94(17.4%)	156(28.9%)	95(17.6%)	141(26.1 %)	540(17.8 %)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Naturalistic	**Extremely High**	00	00	00	00	00	00	4.366^{ns}	.976
	High	47(10.1 %)	83(16.4%)	139(29.8%)	70(15%)	127(27.3 %)	466(15.4 %)		
	Above average	74(9.8%)	112(14.9%)	223(29.6%)	120(15.9%)	224(29.7 %)	753(24.9 %)		
	Average	123(10%)	190(15.3%)	385(31%)	196(15.8%)	347(28%)	1241(41%)		
	Below average	60 (10.6 %)	93(16.4%)	163(28.8%)	95(16.8 %)	155(27.4 %)	566(18.7 %)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.7 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Interpersonal	**Extremely High**	00	1(8.3%)	7(58.3%)	00	4(33.3%)	12(0.4%)	**42.652***	**.000**
	High	55(12.7 %)	81(18.7%)	122(28.2%)	57(13.2%)	118(27.3 %)	433(14.3 %)		
	Above average	59(10.7 %)	86(15.6%)	163(29.6%)	82(15%)	160(29.1 %)	550(18.2 %)		
	Average	178(9%)	297(15%)	612(308%)	338(17%)	559(28.2 %)	1984(65.5 %)		
	Below average	12(25.5 %)	13(27.7%)	6(12.8%)	4(8.5%)	12(25.5%)	47(1.6%)		
	Low	00	00	00	00	00(%)	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10 %)**	**478(15.8 %)**	**910(30.1 %)**	**481(15.9%)**	**853(28.2 %)**	**3026(100 %)**		
Intrapersonal	**Extremely High**	2(8%)	3(12%)	10(40%)	3(12%)	7(28%)	25(0.8%)	8.411^{ns}	.936
	High	69(10.5 %)	107(16.3%)	202(30.8%)	93(14.2%)	184(28.1 %)	655(21.6 %)		
	Above average	113(10.4 %)	176(16.2%)	321(29.5%)	162(14.9%)	317(29.1 %)	1089(36%)		

	Average	71(9.4%)	115(15.3%)	231(30.7%)	133(17.7%)	202(26.9%)	752(25%)		
	Below average	49(9.7%)	77(15.2%)	146(28.9%)	90(17.8%)	143(28.3%)	505(16.6%)		
	Low	00	00	00	00	00	00		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10%)**	**478(15.8%)**	**910(30.1%)**	**481(15.9%)**	**853(28.2%)**	**3026(100%)**		
Existential	**Extremely High**	00	1(16.7%)	3(50%)	00	2(33.3%)	6(0.2%)	21.861^{ns}	.348
	High	51(12%)	67(15.8%)	132(31.1%)	58(13.7%)	116(27.4%)	424(14%)		
	Above average	86(11.6%)	137(18.4%)	202(27.2%)	115(15.5%)	204(27.4%)	744(24.6%)		
	Average	122(9%)	196(14.4%)	431(31.7%)	220(16.2%)	392(28.8%)	1361(45%)		
	Below average	45(9.2%)	77(15.7%)	141(28.8%)	88(18%)	139(28.4%)	490(16.2%)		
	Low	00	00	1(100%)	00	00	1(0%)		
	Extremely low	00	00	00	00	00	00		
	Total	**304(10%)**	**478(15.8%)**	**910(30.1%)**	**481(15.9%)**	**853(28.2%)**	**3026(100%)**		

**

Significant at 1% level, ns-not significant

The above table displays the association between the various domains of MI and academic achievement of school-going children based on the AA in Social Science. The table reveals that only three domains of multiple intelligence - Linguistic Intelligence (57.184, p<.01), Inter-personal Intelligence (42.652, p<.01) and Spatial Intelligence (39.977, p<.01) were significantly associated at 1 per cent level with that of the achievement in Social science.

Social science for middle school children is the study of social behaviour or society, including its origins, development, organization, networks and institutions. As it is a science that uses empirical investigation and critical analysis to develop a body of knowledge on social order, disorder and change, the children who scored comparatively better than others in the social science subject are found to possess a good level of linguistic, inter-personal and spatial intelligence. A supportive study carried out by Ahvan and Pour (2016) revealed that there was a moderate level of correlation between linguistic, spatial and interpersonal types of multiple intelligence and academic performance in general.

Conclusion

The study revealed that though the socio-demographic factors, put together seems to be a significant predictor of the level of multiple intelligence (MI) of the school-going children, the mother's education emerges as the important factor that has an impact on almost all the type of intelligence. Moreover, while looking into the effect of the nine types of intelligence on the academic achievement in each of the subjects that the children learn, it was found that English and Mathematics learning is predicted by all types of MI except for naturalistic intelligence. The achievement in the subject of Science is influenced by all domains of MI. Social science learning was found to be associated only with three MI, namely linguistic, interpersonal and spatial intelligence. An important finding towards Tamil learning (Regional language), is that a strong association was confirmed only with Spatial intelligence.

Recommendations

The 11 to 15 years age is the ideal foundation-laying period. What we sow in this period is what we reap at a later stage. Hence, awareness should be created among the children of this age group and particularly their teachers concerning MI and its implications on their overall academic achievement. They should be properly guided in identifying their MI and in improving their MI skills. Parents too should be made aware of this concept of MI so that they can spot the potential of their children and seek appropriate counsel in improving the overall performance of their children.

Limitations

The permission and the cooperation to be sought from schools was a daunting task. Also, the standardized tool used was large and time-consuming.

Implications

The findings of the study do have implications on all those who are connected with school children like parents, teachers as well as peers. The children should be aware of their multiple intelligences and how they can be improved in the companionship of their peers. Parents too should be aware of their children's level of multiple intelligences and how they can be utilized in improving the children's academic performance. The teachers, most importantly, should be aware of the dominant multiple intelligences of the children they cater to and should be able to facilitate better academic performance keeping this in mind.

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