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DIFFERENTIAL DEMOGRAPHICS IN MULTIPLE INTELLIGENCE OF UNDERACHIEVERS IN ENGLISH: A SECONDARY SCHOOL EXPERIENCE

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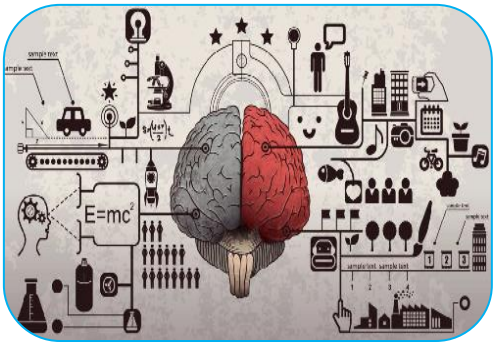
ABSTRACT



The descriptive study aimed to find out the differential effect of demographic factors such as gender, residential locale, type of school, medium of instruction, and socio-economic status on multiple intelligence of underachievers in English. Data were collected from a sample of 16 ninth grade underachievers sieved out from a random sample of 847 ninth grade students by employing regression method. The instrumentation part of the study involved the administration of the Multiple Intelligence Scale for Secondary School Students developed by the investigators apart from a standardized achievement test in English and the Raven's Progressive Matrices Test for identifying the underachievers. Analysis exposed the presence of significant gender difference in verbal-linguistic intelligence, logical mathematical intelligence, and interpersonal intelligence of underachievers. Rural and urban differencewas found to be significant in verbal-linguistic intelligence, logical mathematical intelligence, musical intelligence and interpersonal intelligence of underachievers in English. Interpersonal intelligence is the only multiple intelligence factor that significantly discriminate among underachievers from government, aided and unaided schools. Medium of instruction was found to exert a significant differential effect on verbal-linguistic intelligence, visual-spatial intelligence, and interpersonal intelligence of underachievers. Verbal-linguistic intelligence is the only MI-factor that discriminate underachievers in English on the basis of their socio-economic status.

KEYWORDS: *Underachievers, Multiple intelligences, Demographic factors.*

INTRODUCTION

The teaching of English to children in India has become especially important in recent years. The increasing attention paid to English communicative skills by educational institutions and the corporate world indicate that educators are aware of the fact that excellent language skills in English enhances the employability of youth in the present context, providing for advancement and knowledge in all fields of developments and activities (Kanwal & Khurshid, 2012).The quality of English teaching in our school, however, is poor and marked with two distinct achievement phenomena, *viz.,*lower achievement and under achievement.Lower achievement is mostly a pedagogical phenomenon. The causes of lower achievement in English, as in the case of any other school subject, areevident and remediation thereofis numerous (Crosling, Thomas & Heagney, 2008; Moxley, Najor-Durack &

Dumbrigue, 2001). Underachievement is more a psychological phenomenon than pedagogical. It refers to the discrepancy between potential (ability) and performance (achievement) or discrepancy between predicted achievement and actual achievement (Reis & McCoach, 2002;Ford & Thomas, 1997). Eggen & Kauchak (2004) views underachiever as students who are average or above average but despite the teacher's effort in teaching, they have difficult time in learning. Researchers have suggested that underachievement can be improved if students make specific goals, proximal, and challenging (Schunk, 2008). Fuligni (2007) recognized goal setting as the key aspect of achievement. In spite of much research into underachievement, it appears that not much has been done to provide lasting solutions to the problem of underachievement at school, especially in secondary schools.

The multiple intelligence theory has shown that human cognitive ability is pluralistic rather than unitary and that learners of any subject will make greater progress if they have the opportunity to use their areas of strength of master the necessary material. Research in the use of multiple intelligence theory in diverse second language classrooms indicates that MI theory implementation has been successful in producing resource-rich environment for diverse language learners and has allowed for a greater capacity for learning (Green, 2001).Multiple intelligence theory emerged as a major strategy for improving students' achievement across the curriculum even those of learning disabilities or underachievers (Fathi, 2008). Learning does not occur incidentally, but we should go seeking it using techniques that stimulate our minds in specific ways in different fields including arts, manipulations, music, body tools, scientific stories, narratives, trips….etc (Al Assar, 2005).Multiple Intelligence approach tries to accommodate the need of the students in learning English based on their intelligences. Multiple intelligence based teaching seems to be a viable remedy to underachievement in English for students who learn English as second language. Since both underachievement in English and multiple intelligence are influenced by socio-cultural factors of the learner, an attempt has been made to investigate the differential effect of selected demographic factors on the multiple intelligence of secondary school students.

OBJECTIVES

The major objective of the study is to find out the differential effect of demographic factors such as gender, residential locale, type of school, medium of instruction, and socio-economic status on multiple intelligence of underachievers in English.

HYPOTHESES

The following null hypotheses were tested for the study:

1. Gender has nosignificant differential effect on multiple intelligence of underachievers in English in secondary schools.
2. Residential locale has no significant differential effect on multiple intelligence of underachievers in English in secondary schools.
3. Type of school has no significant differential effect on multiple intelligence of underachievers in English in secondary schools.
4. Medium of instruction exerts no significant differential effect on multiple intelligence of underachievers in English in secondary schools
5. Socio-economic Status of the family exerts no significant differential effect on multiple intelligence of underachievers in English in secondary schools.

METHODOLOGY

Normative Survey method was adopted for the present study. The study made use of 164 Grade IX underachievers in English who were selected from a random sample of 847 Grade IX students from different secondary schools of Ernakulam district (Kerala). The underachievers were identified on the basis of their performance on a standardized Achievement Test in English and their score on an intelligence test (Raven's Progressive Matrices Test). The Regression Method suggested by Farquhar (1963) was adopted to classify the participants into three levels of English achievement, viz.,

underachievers, normal achievers, and overachievers. It is based on the deviation of the students' score from the regression line of the achievement measure on the intelligence score. Students are considered as underachieving if this deviation is negative and greater than one standard error of estimate (σ_{esty}). The multiple intelligences of participants were measured by administering the Multiple Intelligence Scale for Secondary School Students (MIS) developed by (Heera & Arjunan, 2016). It is a 100 item Likert-type five-point scale covering 10 component factors of multiple intelligences, viz., (1) Verbal-linguistic intelligence (VLI), (2) Logical-mathematical intelligence (LMI), (3) Visual-spatial intelligence (VSI) (4) Bodily-kinesthetic intelligence (BKI), (5) Musical intelligence (MUI), (6) Intrapersonal intelligence (IAI), (7) Interpersonal intelligence (IEI), (8) Naturalistic intelligence (NAI), (9) Existential intelligence (EXI), and (10) Moral-ethical intelligence (MEI). The instrument was reported to have a concurrent validity of 0.76 with the Multiple Intelligences Inventory for Secondary School Students (Kapadia, 2014), and reliability from 0.92 to 0.77, established by test-retest method. A Personal Data Sheet cum Socio-Economic Status Scale, developed by the researchers, was employed for collecting demographic information needed for the study. The instruments were administered on the basal sample under standardized conditions, followed by identification and separation of underachievers by applying regression method. The data collected bystudents identified as underachievers were then subjected to statistical analysis by keeping the hypotheses in mind.

ANALYSIS AND INTERPRETATION

Table 1 presents the data and result of the independent sample t-test performed to compare underachieving boys and girls with respect to their multiple intelligences.

Table 1: Comparison of the Multiple Intelligences of Underachieving Boys and Girls

No.	MI Factor	Statistical Indices				t	Sig.
		Boys (n = 78)		Girls (n = 86)			
		M	SD	M	SD		
1	Verbal-linguistic intelligence	36.41	5.77	32.84	5.23	4.16	.01
2	Logical mathematical intelligence	22.01	2.68	17.94	1.21	12.73	.01
3	Visual-spatial intelligence	27.76	4.14	26.98	4.10	1.21	NS
4	Bodily-kinesthetic intelligence	24.50	3.85	24.13	3.41	0.66	NS
5	Musical intelligence	28.79	4.38	29.63	4.03	1.27	NS
6	Intrapersonal intelligence	20.21	3.53	20.10	3.19	0.19	NS
7	Interpersonal intelligence	27.53	3.93	25.78	4.06	2.79	.01
8	Naturalistic intelligence	27.51	4.50	28.63	3.66	1.74	NS
9	Existential intelligence	17.74	2.14	17.62	3.01	0.31	NS
10	Moral-ethical intelligence	25.35	5.15	24.20	5.89	1.32	NS

The t-values estimated on comparing the multiple intelligences show that underachieving boys and girls differ significantly with respect to their Verbal-linguistic intelligence ($t = 4.16$; $p<.01$), Logical mathematical intelligence ($t = 12.73$; $p<.01$) and Interpersonal intelligence ($t = 2.79$; $p<.01$). Inspection of the mean estimates shows that boys excels girls in all the three multiple intelligence components.No significant difference was observed between boys and girls regarding the remaining seven factors of multiple intelligences.

Table 2: Comparison of the Multiple Intelligences of Underachievers from Rural and Urban Areas

No.	MI Factor	Statistical Indices				t	Sig.
		Rural (n = 109)		Urban (n = 55)			
		M	SD	M	SD		
1	Verbal-linguistic intelligence	33.67	5.38	36.25	6.13	2.77	.01
2	Logical mathematical intelligence	19.28	2.64	21.05	3.02	3.87	.01
3	Visual-spatial intelligence	27.39	4.11	27.25	4.20	0.21	NS
4	Bodily-kinesthetic intelligence	24.65	3.55	23.62	3.69	1.74	NS
5	Musical intelligence	29.94	3.87	27.84	4.52	3.10	.01
6	Intrapersonal intelligence	20.22	3.41	20.02	3.25	0.36	NS
7	Interpersonal intelligence	25.99	4.23	27.84	3.51	2.79	.01
8	Naturalistic intelligence	28.45	4.01	27.40	4.27	1.55	NS
9	Existential intelligence	17.53	2.61	17.96	2.66	0.99	NS
10	Moral-ethical intelligence	24.87	5.59	24.49	5.54	0.41	NS

Comparison of the multiple intelligences of underachievers from rural and urban areas shows that significant difference exists between rural and urban underachievers with respect to their Verbal-linguistic intelligence ($t = 2.77$; $p<.01$), Logical mathematical intelligence ($t = 3.87$; $p<.01$), Musical intelligence ($t = 3.10$; $p<.01$) and Interpersonal intelligence ($t = 2.79$; $p<.01$). Scrutiny of mean scores estimated for the locale groups show that while the urban underachievers surpasses their rural counterparts in verbal-linguistic, logical mathematical and interpersonal intelligences, the rural underachievers outshines the urban underachievers in their musical intelligence. No significant rural-urban difference was notice in the remaining six MI-components of underachievers in English.

Table 3: Comparison of the Multiple Intelligences of Underachievers from Government, Aided and Unaided Schools (Summary of ANOVA)

No.	MI Components	Source	Sum of Squares	df	Mean Square Variance	F	Sig.
1	Verbal-linguistic intelligence	Between	40.297	2	20.149	0.604	NS
		Within	5368.483	161	33.345		
2	Logical-mathematical intelligence	Between	24.357	2	12.179	1.473	NS
		Within	1331.204	161	8.268		
3	Visual-spatial intelligence	Between	24.655	2	12.328	0.722	NS
		Within	2748.534	161	17.072		
4	Bodily-kinesthetic intelligence	Between	12.347	2	6.174	0.469	NS
		Within	2120.409	161	13.170		
5	Musical intelligence	Between	81.658	2	40.829	2.348	NS
		Within	2799.537	161	17.388		
6	Intrapersonal intelligence	Between	17.764	2	8.882	0.791	NS
		Within	1807.425	161	11.226		
7	Interpersonal intelligence	Between	137.352	2	68.676	4.283	0.01
		Within	2581.672	161	16.035		
8	Naturalistic intelligence	Between	77.159	2	38.580	2.317	NS
		Within	2681.280	161	16.654		
9	Existential intelligence	Between	40.479	2	20.239	3.008	NS
		Within	1083.393	161	6.729		
10	Moral-ethical intelligence	Between	8.190	2	4.095	0.131	NS
		Within	5037.054	161	31.286		

Comparison of underachievers from government, aided and unaided schools with regard to different components of multiple intelligences shows that the groups differ significantly only in one of

the MI-components, i.e., interpersonal intelligence (F = 4.283; p<.01). Underachieversfrom government, aided and unaided schools were found almost alike with regard to the remaining nine multiple intelligence components. Scheffe's post hoc test of multiple comparisons were further carried out to find out the locale-based groups that differ significantly in their interpersonal intelligence. The mean differences estimated revealed that the observed difference is limited to underachievers from government and unaided schools (mean difference = 2.195; p<.05).

Table 4: Comparison of the Multiple Intelligences of Underachievers from English medium and Malayalam medium Schools

No.	MI Factor	Statistical Indices				t	Sig.
		Eng. Medium (n =64)		Mal. Medium (n =100)			
		M	SD	M	SD		
1	Verbal-linguistic intelligence	36.23	7.03	33.45	4.49	3.10	NS
2	Logical mathematical	19.48	2.85	20.13	2.89	1.40	NS
3	Visual-spatial intelligence	26.55	4.06	27.86	4.11	2.01	NS
4	Bodily-kinesthetic intelligence	24.23	3.43	24.47	3.69	0.25	NS
5	Musical intelligence	28.75	4.05	29.54	4.29	1.18	NS
6	Intrapersonal intelligence	20.34	3.39	20.03	3.33	0.59	NS
7	Interpersonal intelligence	24.89	3.99	27.71	3.77	4.57	NS
8	Naturalistic intelligence	29.19	4.41	28.0	3.94	0.22	NS
9	Existential intelligence	18.09	3.21	17.41	2.15	1.64	NS
10	Moral-ethical intelligence	25.02	5.63	24.57	5.54	0.50	NS

Comparison of multiple intelligences of underachievers studying in English medium and Malayalam medium classes produced t-values which are significant for verbal-linguistic intelligence (t = 3.10; p<.01), visual-spatial intelligence (t = 4.11; p<.01) and interpersonal intelligence(t = 3.77; p<.01). No significant difference were observed between underachievers in English medium and Malayalam medium classes regarding the remaining seven multiple intelligence factors.

Table 5: Comparison of the Multiple Intelligences of Underachievers from High, Averageand Low Socio-Economic Status (Summary of ANOVA)

No.	MI Components	Source	Sum of Squares	df	Mean Square Variance	F	Sig.
1	Verbal-linguistic intelligence	Between Within	205.659 5203.121	2 161	102.830 32.318	3.182	.05
2	Logical-mathematical intelligence	Between Within	6.263 1349.298	2 161	3.131 8.381	0.374	NS
3	Visual-spatial intelligence	Between Within	5.274 2767.915	2 161	2.637 17.192	0.153	NS
4	Bodily-kinesthetic intelligence	Between Within	39.154 2049.407	2 161	19.577 12.729	1.538	NS
5	Musical	Between	33.585	2	16.793	0.949	NS

	intelligence	Within	2847.610	161	17.687		
6	Intrapersonal intelligence	Between Within	27.831 1797.358	2 161	13.915 11.164	1.246	NS
7	Interpersonal intelligence	Between Within	46.089 2672.935	2 161	23.045 16.602	1.388	NS
8	Naturalistic intelligence	Between Within	24.141 2734.298	2 161	12.071 16.983	0.711	NS
9	Existential intelligence	Between Within	7.673 1116.199	2 161	3.837 6.933	0.553	NS
10	Moral-ethical intelligence	Between Within	137.436 4907.808	2 161	68.718 30.483	2.254	NS

The results of the one way ANOVA performed to compared multiple intelligences of underachievers from high, average and low socio-economic status shows that the groups differ significantly only in their verbal-linguistic intelligence ($t = 3.182$; $p<.01$). No significant difference was observed among underachievers from different socio-economic status with respect to the remaining nine multiple intelligences.

CONCLUSIONS

The analysis performed to find out the differential effect of demographic factors on multiple intelligences of underachievers disclosed the following:

1. The underachieving boys and girls differ significantly with respect to their verbal-linguistic intelligence ($t = 4.16$; $p<.01$), logical mathematical intelligence ($t = 12.73$; $p<.01$) and interpersonal intelligence ($t = 2.79$; $p<.01$). Gender is not a significant factor in discriminating underachievers on the basis of the remaining seven multiple intelligences. The null hypothesis formulated in this context, viz., Hypothesis-1 *(gender has no significant differential effect on multiple intelligence of underachievers in English in secondary schools)*, is, therefore, partially accepted.
2. Underachievers from rural and urban areas differ significantly with respect to their verbal-linguistic intelligence ($t = 2.77$; $p<.01$), logical mathematical intelligence ($t = 3.87$; $p<.01$), musical intelligence ($t = 3.10$; $p<.01$) and interpersonal intelligence ($t = 2.79$; $p<.01$). Residential locale is not a significant factor in discriminating underachievers from rural and urban areas with respect to the remaining six multiple intelligence factors. The null hypothesis formulated in this context, viz., Hypothesis-2 *(residential locale has no significant differential effect on multiple intelligence of underachievers in English in secondary schools)*, is, hence, partially substantiated.
3. Interpersonal intelligence is the only multiple intelligence factor that significantly discriminate among underachievers from government, aided and unaided schools ($F = .283$; $p<.01$). Type of school is not a significant factor in discriminating underachievers from government, aided and unaided schools on the basis of remaining nine multiple intelligences components. The null hypothesis formulated in this context, viz., Hypothesis-3 (*type of school has no significant differential effect on multiple intelligence of underachievers in English in secondary schools),* is, thence, partially justified.
4. Significant difference was found to exists between underachievers from English medium and Malayalam medium classes with respect to their verbal-linguistic intelligence ($t = 3.10$; $p<.01$), visual-spatial intelligence ($t = 2.01$; $p<.05$), and interpersonal intelligence ($t = 4.57$; $p<.01$). No significant difference was observed between English medium and Malayalam medium students with respect to the remaining seven MI factors. The null hypothesis formulated in this context, viz., Hypothesis-4 (*medium of instruction exerts no significant differential effect on multiple intelligence of underachievers in English in secondary schools),* is, thence, partially justified.
5. Only one multiple intelligence factor, viz., verbal-linguistic intelligence, discriminates underachievers in English on the basis of the socio-economic status of the family ($F = 3.182$; $p<.05$). Underachievers from high, average and low socio-economic status are almost alike with respect to the remaining nine multiple intelligences components. The null hypothesis formulated in this

context, viz., Hypothesis-5 (*socio-economic Status of the family exerts no significant differential effect on multiple intelligence of underachievers in English in secondary schools,* is, thus, mostly accepted.

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