FAMILY RELATED VARIABLES AND THEIR IMPACT ON ACADEMIC ATTAINMENT

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ABSTRACT

For a welfare state like India, public education should be inclusive and non-discriminatory. Academic attainment of all Indians should be independent of prejudices of gender, caste, economic status or level of living. We studied the impact of these variables against a real-life backdrop of 3500 rural adult population of rural Malwa area of Punjab. Significant finding are noted which warrant for replication of such studies with wider sample and probably, a refashioning of the education / reservation policy.

Keywords: *Gender, Caste, Economic Status, Level of Living, Academic Attainment, Rural Malwa, Punjab*

INTRODUCTION

Today's Indian state of Punjab has 50,362 sq. kms area, i.e. 1.5% of the total land area of India. It has a total population of 24,289,296, i.e. 2.37% of India's total population. Out of this, 12,963,362 (53.37%) are men and 11,325,934 (46.63%) are women. 2001 Planning Commission data revealed that Punjab ranks among the most developed but least gender sensitive States of India.

Punjab has high per capita income, high GDP and low levels of poverty. It is primarily an agrarian State. About 70% of the population is engaged in agriculture. About 85% of its total land area is under cultivation as against all India average of 51%. It had achieved the target of 100% electrification as early as May 1976.

NFHS-II Survey [1988-99] pointed out that only 3.8 %of Punjab households reside in kacha houses. 43.9% live in semi-pucca and 52.1% in pucca houses. 95.5% of households have the benefit of receiving electricity and only 4.5% have to manage without this essential facility. Drinking water is available to 98.9% of the households. There is 100% availability of sanitation facilities in the State. Wood is used as fuel by 47.3 % of the households, followed by dung-cakes. Only 31.7% use LPG, mostly in urban areas.

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Education is one of the most vital processes of social progress. It promotes intelligence, enriches knowledge and inculcates wisdom which the 'educated' uses to change the society.

However, in most situations, level of education is graded by 'academic attainment,' which is the core measurable index in assessing the scholastic development of human resource.

India being a welfare state with an inclusive policy for human development, academic attainment of its citizens is supposed to be independent of gender, caste, occupation, economic status or level of living. The study is designed to estimate the current ground reality in rural malwa region of Indian Punjab. This field study consisted of 3500 adults, randomly selected from 6 villages around Raikot, a small town on district. Ludhiana, Punjab. They were interviewed with a standardized questionnaire to document their gender, caste, current occupation, economic status, and level of living

Impact of Gender & Caste on academic attainment

This historically progressive social scenario of Punjab veils a highly patriarchal and feudal mindset wherein women are regarded as inferior beings. There are a declining proportion of women and a highly masculine sex ratio. In 2001 census, Punjab ranked 29th among Indian States. Its sex ratio was 874:1000. Ludhiana ranked as 17th district of Punjab with abysmally low sex ratio of 824:1000.

In 1971, Punjab had Female Literacy rate of 24.65%. In 2001, it had a total literacy rate of69.95%, male literacy rate of 75.63% and female 63.55%. It is one of the few States with lower female school drop-out rate. Dist. Ludhiana had female literacy rate of 72.11%. The gender gap of literacy in Ludhiana is 8.08%. This indicates increasing availability and accessibility of educational facilities for women.

However, there is no correlation between sex ratio and literacy rate. Ludhiana ranked 17th in sex ration among Punjab districts and 4th in literacy.

As per NHHS II, common reasons for not opting for further education are : institution too far away, Further education considered unnecessary, Required for Household work, Required for work on farm/ family business, Required for outside work for income, Costs too much, Absent facilities for girls, Not interested in Studies, Repeated failures and marriage.

In many studies, it is revealed that educational attainment of females is higher than male members of same community. Aggarwal (1983), Ryckman et al. (1986), Vijayalakshmi and Natesen (1992), Joshi (2000), Devi and Mayuri (2003), Sunitha (2005), Bruni et al. (2006) and Asthana (2011) demonstrated that academic attainment of girls are significantly higher than boys.

Traditionally in Punjab, lower castes formed major social deterrents to academic attainment, scholastic learning or personal growth. Exposure to Learning Environment was an inaccessible 'dream' for many of them.

Impact of Economic Status of Family on academic Attainment

"Children from low-SES environments acquire language skills more slowly, exhibit delayed letter recognition and phonological awareness, and are at risk for reading difficulties…. Socio-economic status differences in children's reading and educational outcomes are ubiquitous, stubbornly persistent and well documented" (Aikens and Barbarin, 2008).

In 1966, Coleman proved that social status prevailing as family background works as the strongest factor determining individual academic achievement in school environment. However, the ground situation is far more complex in public domain where many other independent factors also influence academic development of the population.

Binklay & Williams (1996) studied in 32 countries and showed the direct relationship between economic status with reading literacy. Chall, analysing school data in USA in 1996 also showed the high difference between children of lower and higher socio-economic status. This difference was smaller in younger children and higher in older. Payne & Biddle, in their study involving 23 countries in 1999, also exhibited that economic status (poverty) greatly influenced achievement in school academics. Biddle (1997) concluded that the child poverty/achievement correlation was $r = .700$ ($p < .001$). Many other studies in different nations, including India, also exhibited the significant and inverse correlation between poverty and academic achievement.

Goswami (1982) found that in both urban and rural areas, the upper socio- economic status group has done significantly better than the lower socio-economic group in the achievement tests of science, languages and humanities. Rothman's (2003) analysis revealed that within the same school, a student who comes from a higher socio-economic group will achieve better test results than a student from a lower socio-economic group.

These may be attributed to 1. Accessibility of academic opportunities 2.Maintainability of cost of academics 3.Provision to extra-learning facilities 4. Aspiration and Attitude of guardians

Drummond & Stipek (2004) discussed "Low-income Parents' beliefs about their role in children's academic learning." Few of these parents indicated that their responsibilities were limited to meeting children's basic, social & emotional needs, such as providing clothing, emotional support, and socializing manners. These parents' shortsightedness toward educational development of their children and scarcity of fund to intensify child education pose a major challenge in public academics

Impact of Level of Living of Family on academic attainment

Level of Living is defined as a minimum of necessities, comforts, or luxuries that are essential to maintain a person or group in customary status. This includes not only privately purchased goods and services but collectively consumed goods and services such as those provided by public utilities and governments. The term 'Level of Living'

is preferred here as it denoted the actual state of consumption of goods and services than 'Standard,' i.e. aspired for.

Comber and Keeves (1973) concluded that student performance is overwhelmingly determined by home background factors than by school quality. However, Heyneman & Loxley (1983) argued that whereas in developed countries home background of students mattered much more, the reverse was true in low-income (developing) countries. In a study on children aged 13-14 years, Geeta Kingdon (1998) found that home background and school influences are both important to student achievement. Some studies found personal characteristics of students such as gender, self-effort, taking tuitions etc. and socio-economic factors like parents education, family income, number of siblings etc. as significant determinants of the student performance. Piar Chand and Himanshu Sharma in Himachal Pradesh showed that family income and higher social group emerge as significant predictors of academic performance.

AIMS & OBJECTIVES

The present study was aimed at achieving the following objectives

i) To ascertain academic achievement among male and female societal members of rural Punjab
ii) To ascertain academic achievement among different caste.
iii) To ascertain academic achievement among population with high, low and very low economic status
iv) To ascertain academic achievement among high and low standards of living

HYPOTHESIS

i) There is no difference in academic achievement among male and female societal members of rural punjab.
ii) There is no difference in academic achievement among different caste.
iii) There is no difference in academic achievement among high as well as low economic status population
iv) There is no difference in academic achievement among high and low standards of living

MATERIALS & METHODS

A standardized and validated interview format developed by Ministry of Information & Broadcasting, Govt. of India is used for Doorstep Survey. Random selection of responsible adults and interview technique are used to elicit correct response. A team of trained volunteers, supervised by trained faculty members of Sadbhavna College of Nursing conducted the survey.

Male and female respondents were segregated. To assess caste, the population was divided into General Category, SC, ST, BC (+OBC). To assess economic status, population was divided into APL, BPL and Red-Card members. Level of living is characterized by 1. Type of Housing : Hut / Semi Pucca / Pucca / Apartment / Bunglow; 2. Availability of Electricity in House; 3. Type of source of Drinking Water; 4.

Type of Cooking System at home; 5. Type of vehicle ownership; 6. Type of information-entertainment facilities; 7. Ownership of Assets; Mobile, Tape Recorder, CD Player, Food Processor, Air Cooler, Washing Machine, Computer, AC, Refrigerator, Geyser

Academic Attainment of the population interviewed was determined by individual qualification of following 10 levels :

1. Illiterate,
2. Literate Without Formal Education,
3. Schooling Up To 5th Standard,
4. School Upto 9th Standard,
5. 12th Pass,
6. Under-Graduate,
7. Graduate,
8. Post-Graduate,
9. Professional,
10. Technical

SAMPLE PROFILE

Random sample of 3500 adult population, both men and women was interviewed in the following 6 villages around 10km of Raikot town, i.e. Rajgarh, Gobindgarh, Dadahoor, Jalaldiwal, Sahbazpura, and Kalsan. The sample profile is detailed in figure A, B &C :

Table A

Village	Total Sample	AGE			Gender		Caste		
		18-40	41-60	>60	Male	Female	General	SC	BC
1.Rajgarh	214	110	71	33	108	106	133	59	22
2.Gobindgarh	307	182	102	23	163	144	164	108	35
3.Jalaldiwal	1344	806	491	47	698	646	1021	221	102
4.Shehbazpura	563	338	205	20	296	267	468	71	24
5.Dadhahoor	698	414	261	23	313	385	497	152	49
6.Kalsan	374	184	151	39	192	182	271	68	35
Total Sample	**3500**								

Table B

Village	Economic Status			Level Of Living	
				High	Low
	APL	BPL	Red Card		
1.Rajgarh	154	45	15	140	74
2.Gobindgarh	176	93	38	186	121
3.Jalaldiwal	834	289	221	788	556
4.Shehbazpura	418	118	27	395	168
5.Dadhahoor	443	185	70	412	286
6.Kalsan	283	40	51	295	79

Table C

Village	Academic Attainment						
	Illit.	Cl. 1-5 Prof.	Cl. 6-9 Dip.	SSC /HSC	U- Grad	Grad.	
1.Rajgarh	44	26	52	36	27	29	0 0
2.Gobindgarh	84	16	91	57	18	39	2 0
3.Jalaldiwal	399	156	319	223	105	125	9 8
4.Shehbazpura	101	108	88	120	82	52	7 5
5.Dadhahoor	147	61	175	149	79	69	8 0
6.Kalsan	67	20	110	72	44	44	9 8

OBSERVATIONS AND RESULTS

The present study was aimed to ascertain the impact of gender, caste, economic status and level of living on academic attainment of inhabitants of rural Punjab. For this purpose, data was collected from 3500 randomly selected rural persons and analyzed to test the above stated objectives and hypotheses employing the appropriate statistical techniques and presented in tabulated form below along with the graphic representation.

Table 1
Relationship between Gender and Academic Attainment of Rural Inhabitants (N=3500)

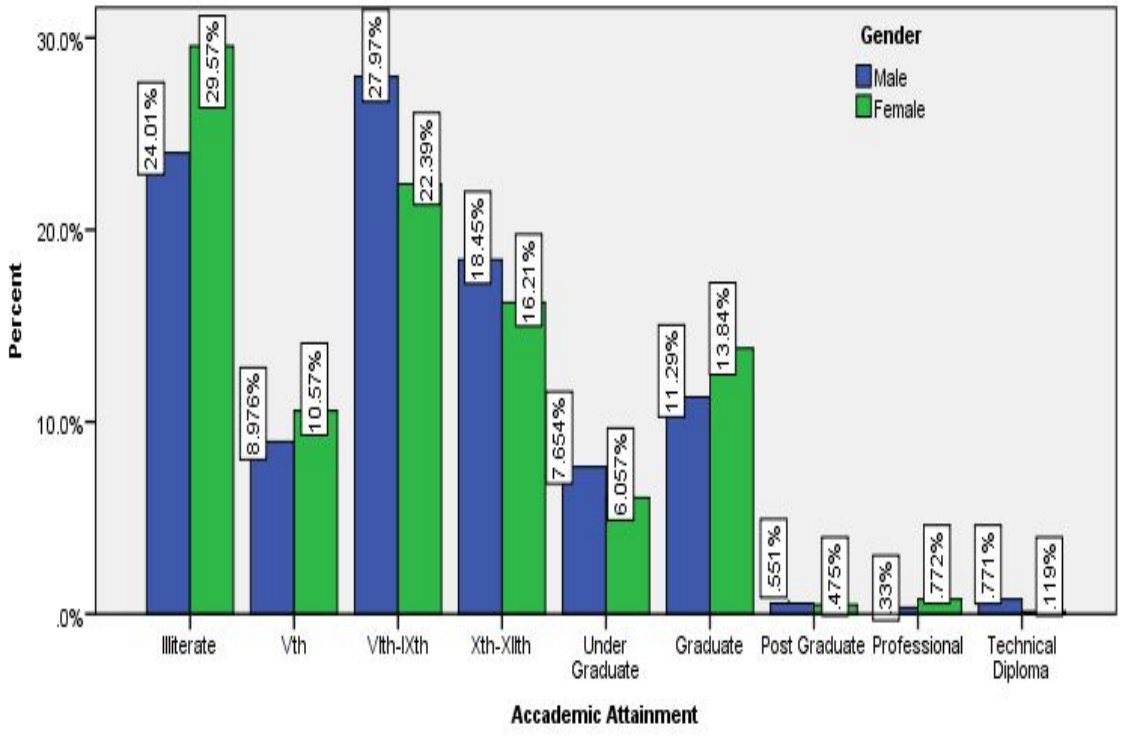
Sr. No.	Academic Attainment		Gender		Total
			Male	Female	
1.	Illiterate	Count	436	498	934
		% age	12.5%	14.2%	26.7%
2.	V^{th}	Count	163	178	341
		% age	4.7%	5.1%	9.7%
3.	VI^{th}-IX^{th}	Count	508	377	885
		% age	14.5%	10.8%	25.3%
4.	X^{th}-XII^{th}	Count	335	273	608
		% age	9.6%	7.8%	17.4%
5.	Under Graduate	Count	139	102	241
		% age	4.0%	2.9%	6.9%
6.	Graduate	Count	205	233	438
		% age	5.9%	6.7%	12.5%
7.	Post Graduate	Count	10	8	18
		% age	.3%	.2%	.5%
8.	Professional	Count	6	13	19
		% age	.2%	.4%	.5%

9.	Technical Diploma	Count	14	2	16
		% age	.4%	.1%	.5%
	Total	Count	**1816**	**1684**	3500
		% age	51.9%	48.1%	100.0%

	Value	**d_f**	**Sig./Not sig.**
χ^2	44.85	8	Sig. at .01 level

Table 1 indicates the number of males and females falling in each of the nine categories of academic attainment namely illiterate, upto Vth standard, VIth to IXth, Xth to XIIth, under graduate, graduate, post graduate, professional degree and technical diploma holders. The value of $\chi 2$ came out to be 44.85 (d_f =8) which is significant at .01 level of confidence indicating a significant association between gender and academic attainment with males having higher academic attainmentas compared to their female counterparts which is indicated in Fig 1.

Fig. 1
Gender wise Percentage distribution of Rural Inhabitants according to Academic Attainment (N=3500)



Thus Hypothesis 1 stating that '*there is no significant association between academic attainment and gender of societal members'* stands rejected.

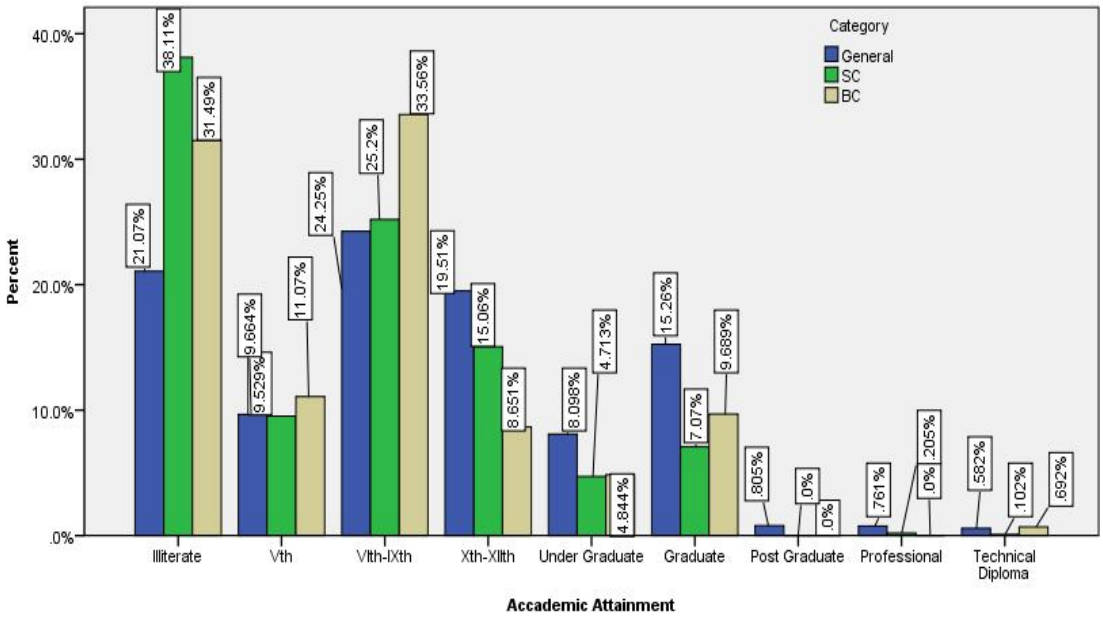
Table 2
Relationship between Caste and Academic Attainment of Rural Inhabitants (N=3500)

Sr. No.	Academic Attainment		Caste			Total
			General	SC	BC	
1.	Illiterate	Count	471	372	91	934
		% age	13.5%	10.6%	2.6%	26.7%
2.	V^{th}	Count	216	93	32	341
		% age	6.2%	2.7%	.9%	9.7%
3.	VI^{th}-IX^{th}	Count	542	246	97	885
		% age	15.5%	7.0%	2.8%	25.3%
4.	X^{th}-XII^{th}	Count	436	147	25	608
		% age	12.5%	4.2%	.7%	17.4%
5.	Under Graduate	Count	181	46	14	241
		% age	5.2%	1.3%	.4%	6.9%
6.	Graduate	Count	341	69	28	438
		% age	9.7%	2.0%	.8%	12.5%
7.	Post Graduate	Count	18	0	0	18
		% age	.5%	0.0%	0.0%	.5%
8.	Professional	Count	17	2	0	19
		% age	.5%	.1%	0.0%	.5%
9.	Technical Diploma	Count	13	1	2	16
		% age	.4%	.0%	.1%	.5%
	Total	Count	2235	976	289	3500
		% age	63.9%	27.9%	8.3%	100.0%

	Value	d_f	Sig./Not sig.
$\chi 2$	178.71	16	Sig. at .01 level

Table 2 indicates the number of persons belonging to general, scheduled caste and backward class falling in each of the nine categories of academic attainment namely illiterate, upto V^{th} standard, VI^{th} to IX^{th}, X^{th} to XII^{th}, under graduate, graduate, post graduate, professional degree and technical diploma holders. The value of $\chi 2$ came out to be 178.71 (d_f =16) which is significant at .01 level of confidence indicating a significant association between caste and academic attainment with persons belonging to general category having higher academic attainment as compared to persons belonging to SC and BC categories which is indicated in Fig. 2.

Fig. 2
Caste wise Percentage distribution of Rural Inhabitants according to their Academic Attainment (N=3500)



Thus Hypothesis 2 stating that '*there is no significant association between academic attainment and caste of societal members*' stands rejected.

Table 3
Relationship between Economic Status and Academic Attainment of Rural Inhabitants (N=3500)

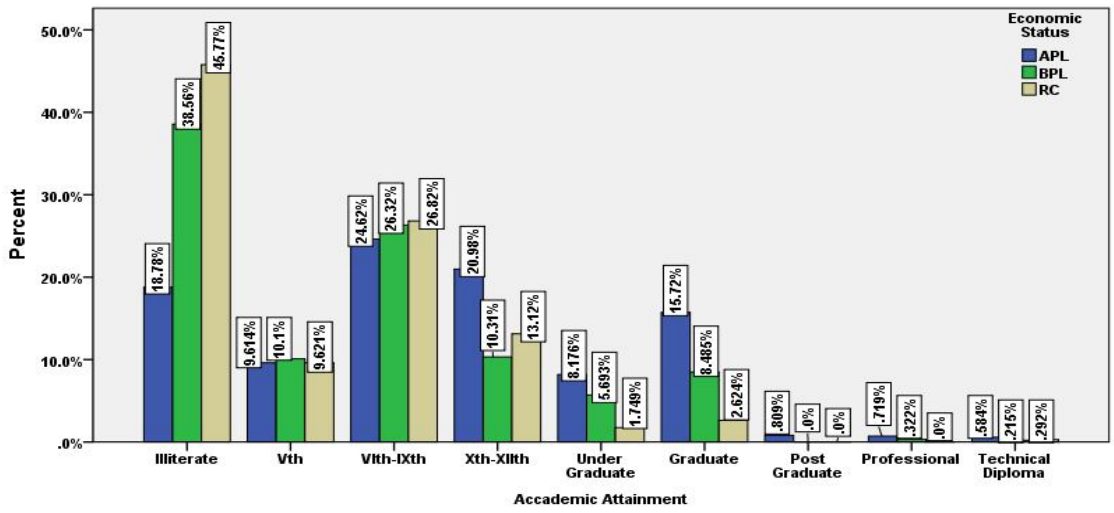
Sr. No.	Academic Attainment		Economic Status			Total
			APL	BPL	RC	
1.	Illiterate	Count	418	359	157	934
		% age	11.9%	10.3%	4.5%	26.7%
2.	Vth	Count	214	94	33	341
		% age	6.1%	2.7%	.9%	9.7%
3.	VIth-IXth	Count	548	245	92	885
		% age	15.7%	7.0%	2.6%	25.3%
4.	Xth-XIIth	Count	467	96	45	608
		% age	13.3%	2.7%	1.3%	17.4%
5.	Under Graduate	Count	182	53	6	241
		% age	5.2%	1.5%	.2%	6.9%
6.	Graduate	Count	350	79	9	438
		% age	10.0%	2.3%	.3%	12.5%

7.	Post Graduate	Count	18	0	0	18
		% age	.5%	0.0%	0.0%	.5%
8.	Professional	Count	16	3	0	19
		% age	.5%	.1%	0.0%	.5%
9.	Technical Diploma	Count	13	2	1	16
		% age	.4%	.1%	.0%	.5%
	Total	Count	2226	931	343	3500
		% age	63.6%	26.6%	9.8%	100.0%

	Value	**d_f**	**Sig./Not sig.**
χ2	290.52	16	Sig. at .01 level

Table 3 indicates the number of persons belonging to APL (above poverty line), BPL (below poverty line) and RC (red card holders) falling in each of the nine categories of academic attainment namely illiterate, upto Vth standard, VIth to IXth, Xth to XIIth, under graduate, graduate, post graduate, professional degree and technical diploma holders. The value of χ2 came out to be 290.52 (d_f =16) which is significant at .01 level of confidence indicating a significant association between economic status and academic attainment with persons belonging to APL (above poverty line) having higher academic attainment as compared to persons belonging to BPL (below poverty line) and RC (red card holders) which is indicated in Fig. 3.

Fig. 3
Economic Status wise Percentage distribution of Rural Inhabitants according to theirAcademic Attainment (N=3500)



Thus Hypothesis 3 stating that '*there is no significant association between academic attainment and economic status of societal members*' stands rejected.

Table 4

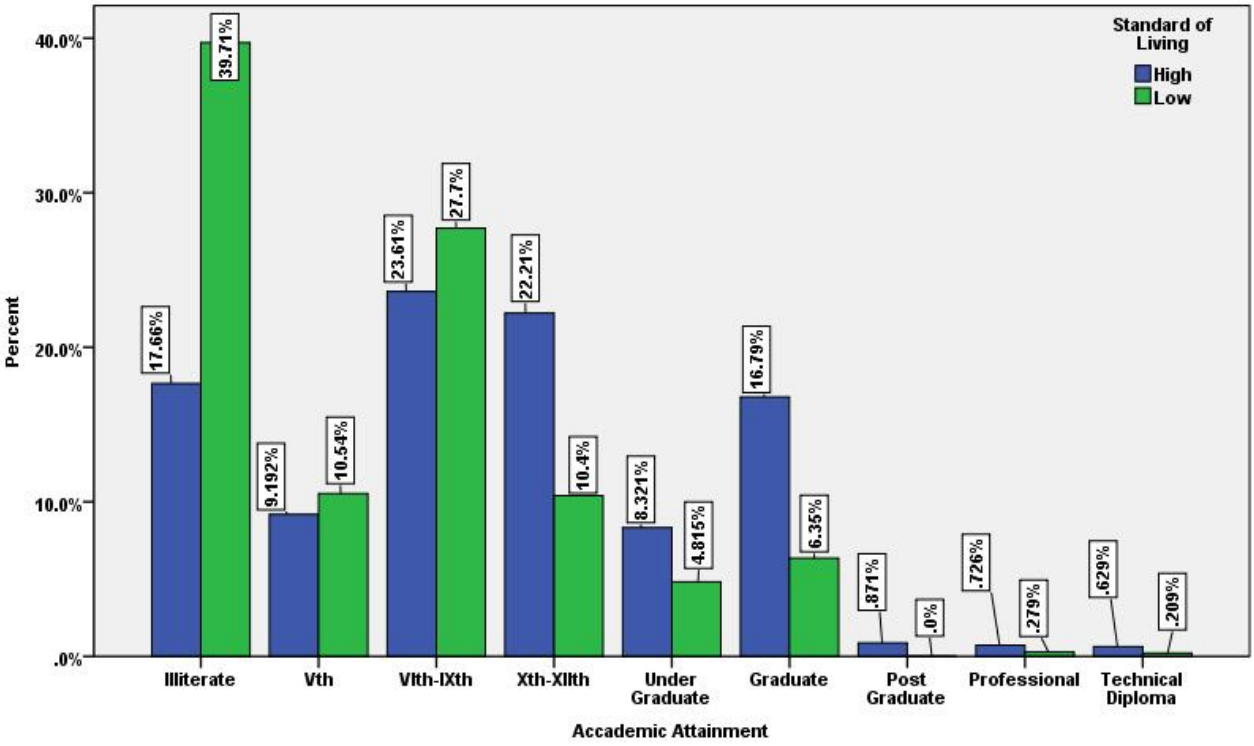
Relationship between Level of Living and Academic Attainment of Rural Inhabitants (N=3500)

Sr. No.	Academic Attainment		Standard of Living		Total
			High	Low	
1.	Illiterate	Count	365	569	934
		% age	10.4%	16.3%	26.7%
2.	Vth	Count	190	151	341
		% age	5.4%	4.3%	9.7%
3.	VIth-IXth	Count	488	397	885
		% age	13.9%	11.3%	25.3%
4.	Xth-XIIth	Count	459	149	608
		% age	13.1%	4.3%	17.4%
5.	Under Graduate	Count	172	69	241
		% age	4.9%	2.0%	6.9%
6.	Graduate	Count	347	91	438
		% age	9.9%	2.6%	12.5%
7.	Post Graduate	Count	18	0	18
		% age	.5%	0.0%	.5%
8.	Professional	Count	15	4	19
		% age	.4%	.1%	.5%
9.	Technical Diploma	Count	13	3	16
		% age	.4%	.1%	.5%
	Total	Count	2067	1433	3500
		% age	59.1%	40.9%	100.0%

	Value	d_f	Sig./Not sig.
χ2	336.91	8	Sig. at .01 level

Table 4 indicates the number of persons with high and low level of living falling in each of the nine categories of academic attainment namely illiterate, upto Vth standard, VIth to IXth, Xth to XIIth, under graduate, graduate, post graduate, professional degree and technical diploma holders. The value of χ2 came out to be 336.91 (d_f =8) which is significant at .01 level of confidence indicating a significant association between level of living and academic attainment with persons with high level of living having higher academic attainment as compared to persons with low level of living which is indicated in ***Fig 4***.

Fig. 4
Level of Living wise Percentage distribution of Rural Inhabitants according to theirAcademic Attainment (N=3500)



Thus Hypothesis 4 stating that '*there is no significant association between academic attainment and Level* of living *of societal members*' stands rejected.

DISCUSSIONS AND INFERENCE

The observations made on the bases of Tables 1-4 & Figs. 1-4 indicate:

- 26.7% of rural population of Malwa region of Punjab was found to be illiterate indicating Punjab has a long way to go to attain 100% literacy.
- The gender dichotomy prevalent in case of illiteracy is brought out in the estimation where 12.5% males and 14.20% females were found to be illiterate indicating **the prevalence of higher percentage ofruralfemale illiterates as compared to males**.
- The caste difference in case of illiteracy is indicated in the estimation where 13.5% percentage of rural belonging to general category and 10.6% to scheduled caste were found to be illiterate whereas backward caste had shown much higher level of educational attainment with only 2.6% illiterate. This calls for an **urgent rescheduling of education & reservation policy of government**.

- The prevalence of illiteracy among rural population falling above poverty line (APL) and below poverty line (BPL) was estimated as 11.9% and 10.3% respectively which being quite proximate to each other indicates that **economic status is less contributing factor in academic attainment of rural population of Punjab**. However the finding of higher percentage of illiteracy among people with low level of living (=16.3%) as compared to those with high level of living (=10.4%) indicates that level **of living as contributing factor in academic attainment**.
- 25.3% villagers had attained education up to VIth-IXth standard whereas only 9.7% villagers attained education upto Vth standard. This indicates that most of those who entered the school had completed their study upto IXth standard.
- The percentage of population attaining education upto Xth-XIIth dropped to 17.4% which further declined to 6.9% at under graduates. However the proportion of population attaining graduation increased to 12.5% indicating that the people who enter college completes their graduation at least.
- A sharp decline with only 0.5% population attaining post graduation indicates that the percentage of population in rural Punjab with master's degree is negligible. Same is the case with people with professional degree and technical diploma. This indicates that higher education is still elusive to rural population of Malwa region of Punjab.
- At post graduation level, there was found no significant difference in academic attainment across gender. However a marked difference was found in terms of caste, economic status as well as standard of living with villagers belonging to general category, APL and high standard of living having significantly higher level of attainment as compared to their respective counterparts.
- For professional education, rural women were found to be having edge over their male counterparts. However in technical diploma, men excelled women. It clearly indicates that gender equality is still a distant dream.
- For both professional education and technical diploma, a marked difference was found in terms of caste, economic status as well as standard of living with villagers belonging to general category, APL and high standard of living having significantly higher level of attainment as compared to their respective counterparts.

The above discussion is a glimpse to the scenario of rural Malwa region of Punjab which may help the planners and leaders of the country to focus on the grey areas of educational development and plan accordingly to reach at the level of equality of status and opportunity to al which our constitution call for.

SUGGESTIONS

Punjab by and large, within its diversity, is progressing towards 'education for all.' Today it needs more dedicated '*guru*' and academic institutions to provide holistic

inclusive support to the “Mission of Education.” However, this study may be replicated in a bigger sample.

REFERENCE

Aggarwal, V.R. (1983). A Study of Reading Ability in Relation to Certain Cognitive and Non-cognitive Factors.*Asian Journal of Psychological Education, 11(3),* 41- 44.

Aikens, N. L.; Barbarin, O. (2008). Socio-economic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology, 100(2),* 235-251.

Asthana, M. (2011).Self-Concept, Mental Ability and Scholastic Achievement of Secondary School Students of Varanasi.*Journal of Community Guidance and Research, 28(1)* 82-88

Biddle, B. J. (1997). Foolishness, dangerous nonsense, and real correlates of state differences in achievement [Electronic version].*Phi Delta Kappan, 79(1).*

Binkley, M., & Williams, T. (1996).*Reading literacy in the United States (NCES 96-258).* Washington, DC: Office of Educational Research and Improvement.

Bruni, O., Ferini- Sterambi, L., Russo, P. M., Antignani, M., Innocenzy, M., and Ottaviano (2006). Sleep Disturbances and Teacher Rating of School Achievement and Temperament in Children. *Sleep Medicine, 7(1),* 43- 48.

Chall, J. S. (1996). American reading achievement: Should we worry? *Research in the Teaching of English, 30,* 303-310.

Coleman (1966).Equality of Educational Opportunity, US.Department of Health, Education and Welfare Washington DC.

Devi, S. and Mayuri, K. (2003) The Effects of Family and School on the Academic Achievement of Residential School Children. *Journal of Community Guidance and Research, 20(2)* 139-148.

Drummond & Stipek (2004).Low Income Parent’s Beliefs about Their Role in Children’s Academic Learning.*The Elementary School Journal, 104(3),* 197-213

Goswami.R. (1982).*An Enquiry into Reading Interests of the Pupils of Standard VII to X in Relation to Intelligence.*SES and Academic Achievement.Doctoral Dissertation, M. S. University, Baroda.

International Institute for Population Sciences. India: National Family Health Survey (NFHS-2), 1988-99. Mumbai: International Institute for Population Sciences, 1999.

Joshi, G. (2000). Neuroticism, Extraversion and Academic Achievement as Related to Gender and Culture*. Indian Psychological Review, 54, (2)* 74-78.

Kolawole, C.O. (1998). Linguistic Input and Three Methods of Presentation

Kingdon, G. (1998). How Much Do Schools Matter to Pupil Achievement in India? *Journal of Educational Planning and Administration, 12(1) ,*5- 25.

Payne, K. J., & Biddle, B. J. (1999). Poor school funding, child poverty, and mathematics achievement. *Educational Researcher, 28(6),* 4-13.

Chand, P. & Sharma, H. (2012). Factors Affecting Academic Performance of Senior Secondary Science Students: An Exploratory Study in Himachal Pradesh. *International Interdisciplinary Research Journal, 2(6),* 211

Rothman (2003). "The changing influence of socio economic status on students academic achievement," recent evidence from Australia , Paper presented at the annual meeting of the American education Research Association , Chicago.

Ryckman, David, B.R. and Paula, H. (1986). Gender Relationships Between Intellectual Achievement, Responsibility Questionnaire and Measured Achievement and Grades. *Educational and Psychological Studies, 22,* 23-28.

State of Human Development– Concept, Methodology and Core Indices – Chapter 2 of National Human Development Report 2001, Planning Commission, Govt. of India

Stephen P. Heyneman and William A. Loxley (1983). The Effect of Primary-School Quality on Academic Achievement Across Twenty-nine High and Low-Income Countries. *The American Journal of Sociology, Published by: The University of Chicago Press, 88(6),* 1162-1194

Sunitha, N. H. (2005). *Academic Learning Environment of Students From Aided And Unaided Co-educational High School. Thesis submitted to the University of Agricultural Sciences, Dharwad. Retrieved from* http://etd.uasd.edu.

Vijaylaxmi, O. and Natesan, H. (1992).Factors Influencing Academic Achievement.*Research Highlights, 2(62).*