

THE EFFECTS OF SOCIO-ECONOMIC FACTORS ON STUDENT'S ACHIEVEMENTS; A CASE STUDY OF MOBILE STUDENTS

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ABSTRACT

This research focuses on determining the factors in context of mobility which profoundly affects students' academics. Variables like distance from home, time taken, age, gender, scholarships, socio-economic status and number of siblings were tested against the CGPA of the students. The research states that the distance is the most important factor in determining students' grades; it also proves that the socio economic background and age of the students also significantly affect their academics. Scholarship provision also plays as an important incentive for better grades. Gender is the variable most strikingly affecting the students' grades. Number of siblings and socio-economic status of family also determine the probable achievements of students. Low income and number of siblings act as a reinforcing factor for higher CGPA of the students.

KEYWORDS: Students' mobility, students' achievements, CGPA

INTRODUCTION

The purpose of this study is to find out the relationship between the mobility of students and their academic. Many researchers have sorted out the link between the mobility and achievement (Alcoser & Shoho, 2001; Pribesh, 1999; Fried & Whalen, 1973; Kerbow, 1996; Levine, 1966; Rumberger & Larsen, 1998; Rumberger, 2003; Schafft, 2002, 2003; Sewell, 1982; Wood, 1993; Temple & Reynolds, 1999; Gruman, 2008; Hanushek, 2004; Heinlein & Shinn, 2000; Kristi, 2010; Goebel, 1978). There is a remarkable link between the mobility of the students and their achievements (Temple & Reynolds, 1999). Mobility plays two ways, as an independent & indirect factor in academic achievements (White & Thomas, 1991). Establishing the relationship between mobility and achievement is difficult due to the fact that mobility is related to many factors (Long, 1992; Smith, Fien & Paine, 2008, Eddy, 2011). Frequent mobility causes loss of cognitive performance in students (Alcoser & Shoho, 2001). Mobility affects students emotionally, behaviourally, and academically, particularly in high poverty schools (Kerbow, 1996; Rumberger and Larson, 1998; Rosa, 2004; Kris, 2005; Jean, Hank F. & Stan C., 2008). Number of moves significantly increases the risk of emotional and behavioural problems and are at 60% greater odds of repeating a grade and 80% more likely to expel (Virginia L. Rhodes, 2015). Highly mobile students are found isolated, over whelmed lost and less socialized, ending up in new conflicts and defiance (Virginia L. Rhodes;

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Kirkpatrick & Lash, 1990; Simpson and Fowler, 1994; Kerbow, 1996; Sanderson, 2003; T. Falch, P. Lujala & B. Strom, 2011). Living close to the educational institution the students are enrolled in, averts many problem of commuting, relocation and psychological issues. According to Do (2004), good public colleges are more likely to have higher percentage of students living in the periphery, particularly those belonging to a low financial background (Griffith and Rothstein, 2009).

There is a negative association between mobility and academics (Nelson, Simoni, & Adelman, 1996; Reynolds, 1989, 1991; Temple & Reynolds, 1999; Alexander, 1996; Heinlein & Shinn, 2000; Mehana & Reynolds, 2004; Rumberger, 2003; Mehana & Reynolds, 2004; Rumberger, 2003; Strand & Demie, 2006; Strand & Demie, 2007; Temple & Reynolds, 1999). The average grades of students' in highly mobile schools are specifically low (Hanushek, 2004; Rumberger, Larson, 1999). Isolation of impact of Geographical constraints upon students' education is difficult due to the presence of many un-observable factors; which may result in to students' performance and location of their families. Students' prior achievements are influential for their grades after mobility (Falch & Strøm; 2011). Regardless of the earlier academic profile; disadvantaged students with reference to humble parental education and earning have more chances of giving-up high school (Eckstein & Wolpin, 1993; Belley & Lochner, 2007).

With the increase in the distance between the home and the nearest university, statistically significant negative effects begin to influence students (Kjellström and Regnér, 1999). Another study says that the distance matters for participation decisions although there is profound proof of travel time and distance influencing students' grades.

Frequent mobility causes a delay in students' academic progress of an average six months, lagging behind non mobile students in grades which further aggravates with the low income (Temple and Reynolds, 1999; Jason; 1992; Rausch & Skiba, 2004). According to researches travel time of 30 min. decrease the chances of graduation by 2.3 percent than those students who have a school in their neighbourhood (T. Falch, P. Lujala & B. Strom, 2011).

OBJECTIVES

1. To identify the socio-economic factors affecting students' grades.
2. Gender determination of high grade achievers.
3. Analysing the relationship between the distances from home student's achievements.

METHODOLOGY

The primary data gathered through questionnaires (860) and secondary data comprised of students gender, age, spatial location, time taken to reach university and economic status, number of siblings, parental income and education and CGPA of the students. All the independent variables were

analyzed against the CGPA, The Dependent Variable. Many other researches have been conducted to analyze the relationship between these variables. The collected data was subjected to statistical and spatial analysis; 1 sample t-test, Chi- Square, Regression Analysis, ANOVA, MANOVA (multivariate analysis), Cluster analysis, and Discriminative Analysis were performed keeping in view the dependency of different variables with respect to CGPA and their relationships. The multi variant analysis was performed to sort out relation between the more than two dependent and independent variable. MANOVA and multiple regression analysis are applied on different variables, keeping the CGPA as the dependent variable to determine the most affecting variable. Multi variant Regression analysis was applied on CGPA as a dependent variable while distance from of home town from the educational institution, time taken to reach the university, availed scholarships and gender as independent variable.

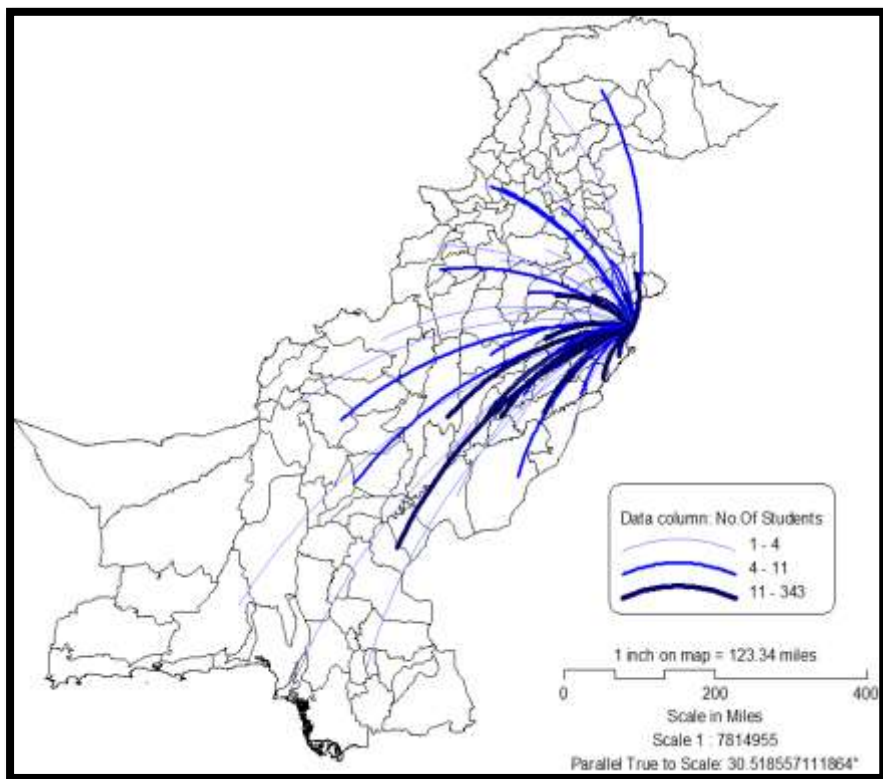


Figure 1: Flow map of the students coming to Punjab University

RESULTS & DISCUSSIONS

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The collected data was subjected to certain statistical tests. The result of independent t-test and chi-square reflects that female students get more affected by the mobility than male students with respect to their grades. A strong dependent relation exists between mobility and students' grades. Male students tend to have high mean of CGPA than female students. The one sample t-test reveals statistically reliable relationship between the mean of distance travel and the CGPA ($M=145.93$, $SD=197$), $t(826) = 21.290$, $p < .05$, $\alpha = .05$

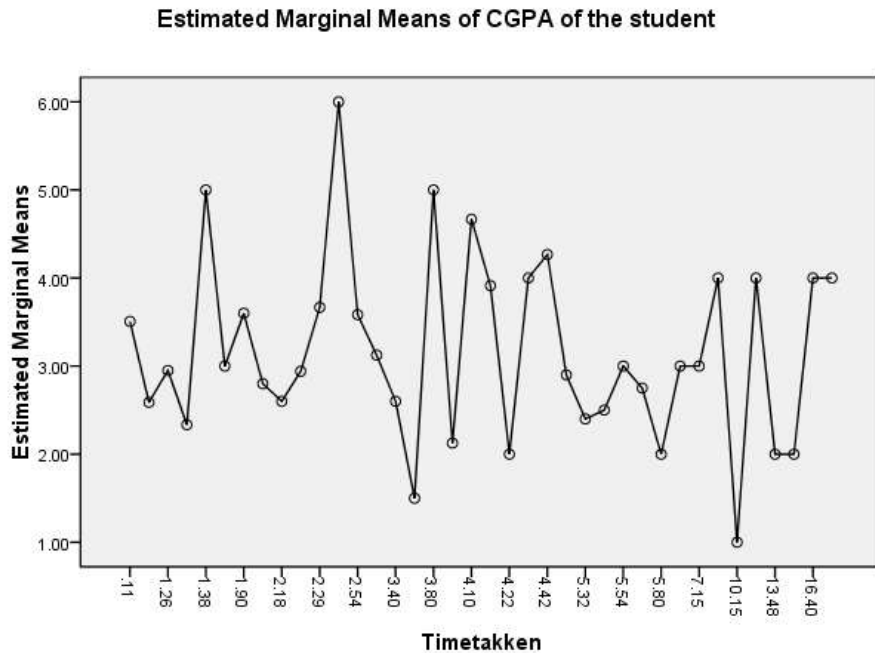


Figure 2: Estimated marginal means of the CGPA of the students with respect to their Travelling time to university

Regression test result of the relationship of gender and age with the CGPA proves that there is a significant relationship between the grades and gender and the students' age. ($F(2, 508) = 4.488$, $p < .05$).

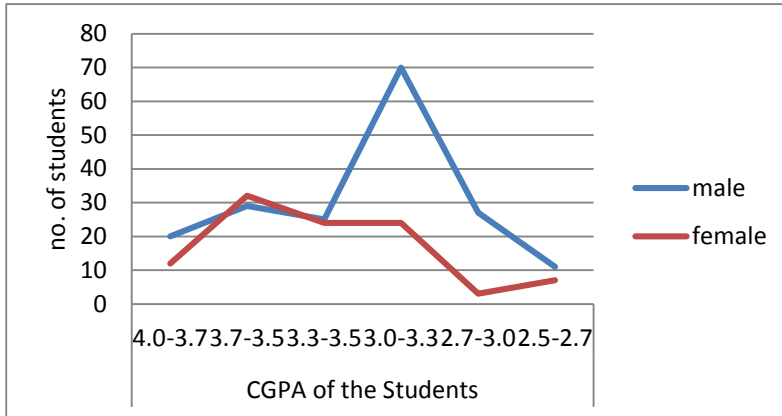


Figure 3: Gender based comparison of students' grades

Age and economic status of the student has significant effect on the students' achievements. Factor analysis is used to point out major factors affecting students' achievements. KMO and Bartlett's test reflects that the sample size is adequate for the distinct results. The R-matrix are different from zero to warrant factor analysis as $\chi^2(28) = 264.142$, $p < .001$. Factor analysis brings forward three variables which are further narrow down to 2. The result shows that the two variables; socio-economic background of the student and his age strongly determine the students' achievements.

Bar Chart

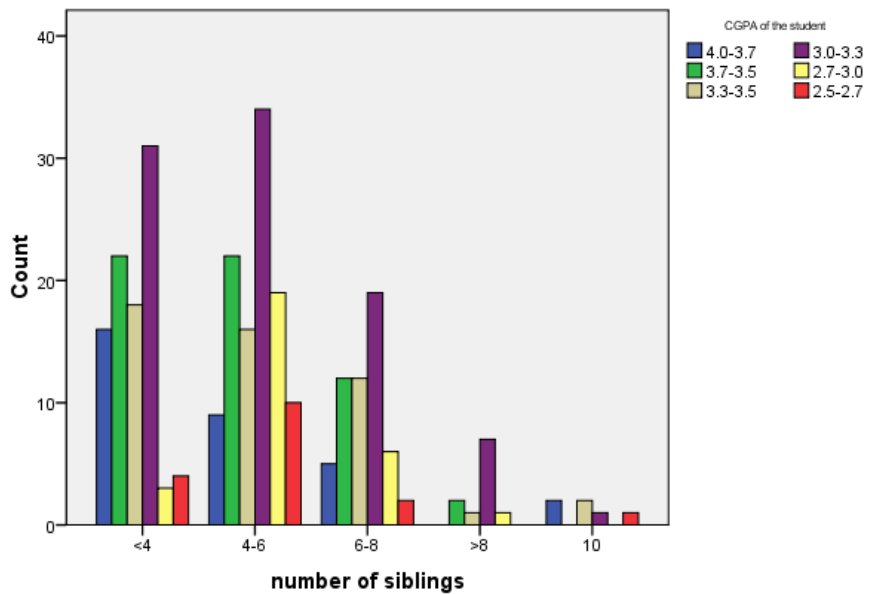


Figure 4: Relationship between the CGPA and no. of siblings of the student.

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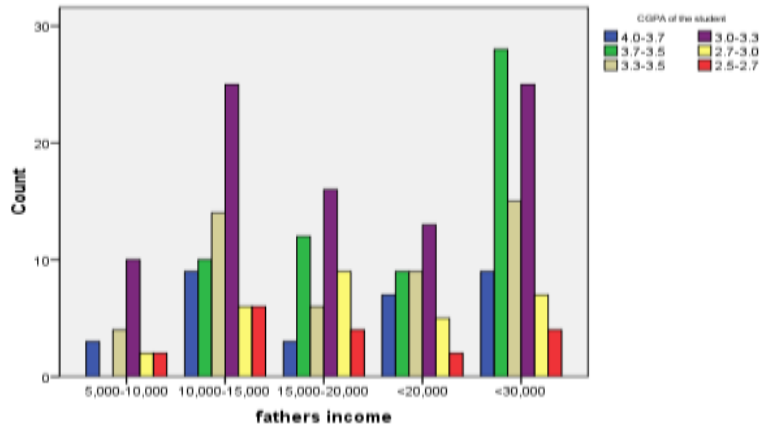


Figure 5: Relationship between the CGPA and the Guardian's income

Students with low guardian income ranging from 10,000 – 20,000 rupees tend to have higher achievements in grades. Significant relationship was found between the number of siblings and the CGPA achievement of the students. Age of the student is most important factor in determining the academic out-put of the students, followed by gender of the students and number of siblings. The ANOVA results, $F(4, 428) = 4.497, p < .05 (.001)$ reflects that the independent variables significantly predict the dependent variables. According to coefficient, with the reduction of every one hour in the time taken to reach the university from the students' home there is an increase of .035 in the CGPA of the student. The provision of scholarship increases the students' grade by .327. The most significant relationship is found between the CGPA and the distance student has to cover from his home town. ($p < .005$).

Estimated Marginal Means of have you received any scholarships in P.U

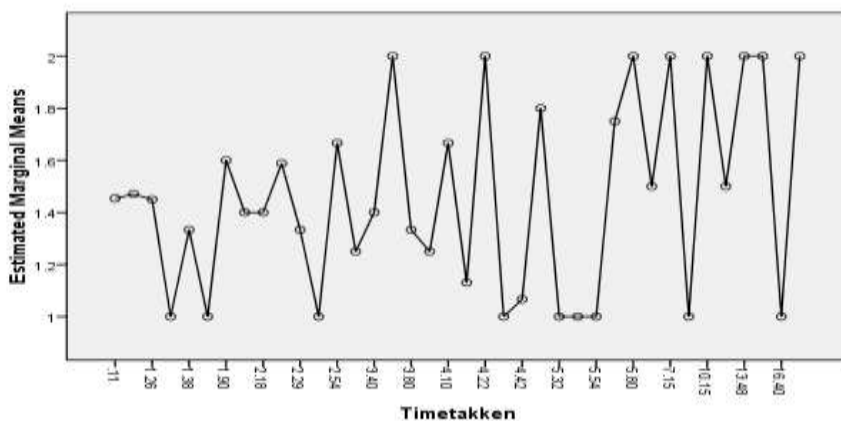


Figure 6: Relationship between scholarship received and the time taken by the students to reach university

The Wilks' Lambda test of MANOVA shows a significant difference of the CGPA of the students and based on the distance they cover to reach the university. ($F(74, 806), p < .001$). The Bonferroni procedure results that time required to reach university and CGPA of the students are significantly affected at 0.25 alpha levels and for scholarships it is vice versa. According to the multi-variant regression analysis, the students living within 30 min of drive distance tend to have higher means of CGPA than those living at a farther distance than this. The limit for higher mean CGPA lie at the distance of 2 hours' drives, behind that the mean CGPA begins to descend. According to ANOVA results the students grades improve by 0.35 with the decrease of time by 1 hour. The student living at around 30 min of distance from there university tend to have 2.3 % improved grades than the students living at a farther distance. The provision of scholarship also helps improve the grades. ANOVA results prove that the scholarships improve the grades by 0.327. The cluster analysis gives the measure of closeness between different variables. Students' grades to an extent are affected by the guardians' profession and availability of scholarships. Age of the student number of siblings and the distance from the home town have also found to be closely related with the CGPA of the students.

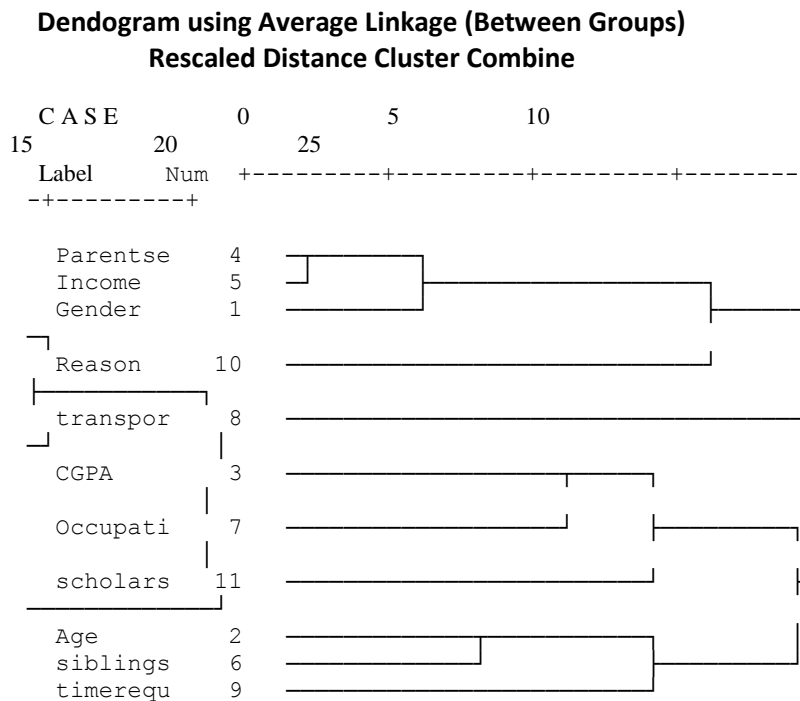


Figure 7: Dendrogram of Cluster Analysis
When the data of students' CGPA and their age patterns are compared spatially; out-comes showed that the maximum mobile students studying in

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Punjab University belong to the province of Punjab particularly from the adjoining areas. The CGPA pattern follow a crescent shape starting from the areas around Lahore to the southern Punjab (starting from Gujranwala, Sheikhpura, Kasur, Faisalabad, Nankana sahib, Okara Pakpattan, Hafizabad, Jhung, Toba Taik Singh, Sahiwal and Vehari to D.G.Khan, Muzaffargarh and R.Y.Khan) while the areas in the north and south are home of the students with comparatively less CGPA. The comparative study of CGPA and age of students reflects that students belonging to the areas of highest CGPA's largely fall in the age groups ranging from 21-26 years of age. Findings revealed that mobile students performed less than non-mobile students, low-income status affected mobile students negatively. Lee & Burkam, Rumberger, Larson, Eddy, Zeiser & Kristina second the finding of the research.

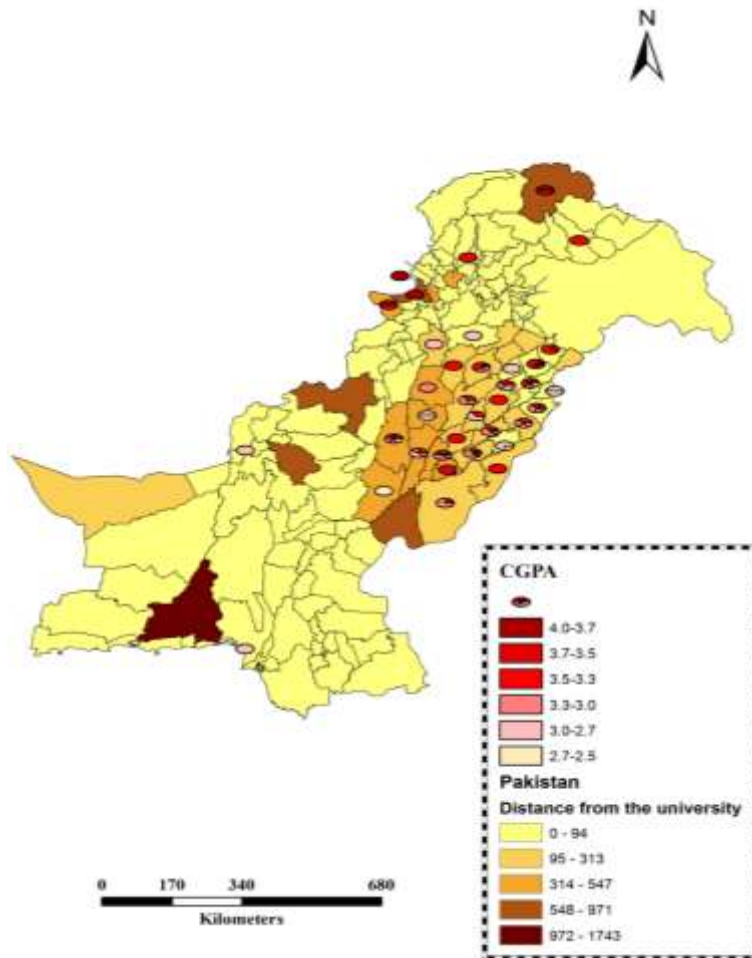


Figure 3: Comparison between the distance and the CGPA of the students
CONCLUSION

The gender of the student is most important factor in students' mobility. According to the analysis the students with the poor social and academic background tend to score poor in grades, so does the students who belong to the far flung areas of the country. The scholarship awarding significantly affects the students' grade. Male students tend to get higher average of the CGPA than the mobile female students. Age of the students also hold significant influence on their academics. Guardian's income and economic background affects students' grades. The mobile students belonging to the low income families tend to have higher academic out-put than those of the high economic status and non- mobile students of low income families. Thus no significant relationship was found between students' grade and their parents' education. Number of sibling seems to be affecting students' achievements, the lesser the number of siblings the higher will be the students' academic out-put. Students' age turns out to be the most significant factor acting upon the CGPA of the student. Thus concluding that, the mobility strongly affects the students' academics, largely based upon the gender and age of the students. The travel time, family's finances and number of siblings also are important in determining students' achievements; so does the chances of acquiring a scholarship. Mobile students perform lower academically than their peers; and persistence of behavioural problems and grade retention among the students is also more profound in them.

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