

# Campus Adaptations Vary On Source of College Expense among Engineering Undergraduate Students

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**Abstract – Objective:** - The study aims to empirically test the relationship between types of campus adaptations and sources of college expenses across engineering undergraduate B. Tech students pursuing a four-year study at Indian Institute of Technology (IIT's) and National Institute of Technology (NIT's) in India.

**Method:** - The Multivariate Analysis of Variance (Manova) test was run with SPSS vs. 21 to compare the student's campus adaptations of IIT's and NIT's by student's academic year level. Multistage random sampling with  $n = 1420$  students were selected with parents income ( $n = 956$ ), bank loan ( $n = 144$ ), government scholarship ( $n = 85$ ), private scholarship ( $n = 06$ ), loan from private source or money lender for stipulated interest ( $n = 1$ ) borrowing from relatives ( $n = 1$ ), income from internship project at institute ( $n = 1$ ), parents income and bank loan ( $n = 52$ ) parents income and government scholarship ( $n = 121$ ), parents income, government scholarship and private scholarship ( $n = 09$ ), government scholarship and bank loan ( $n = 16$ ), parents income, government scholarship and bank loan ( $n = 07$ ), parents income and private scholarship ( $n = 09$ ), parents income, private scholarship and bank loan ( $n = 3$ ), government scholarship, income from internship project ( $n = 1$ ), parents income and income from internship project ( $n = 2$ ), parents income and donor donation ( $n = 3$ ), parents income and borrowing from relatives ( $n = 7$ ).

**Result:** -. The source of expenses delve on derived multiple sources that heavily influences students adaptability at campuses.

**Conclusion:** - Campus adaptations do vary across source of college expense influencing student's experiences at IIT's and NIT's.

**Key words:** - Loan, Scholarship, Expenses, Higher Education and College Students

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## INTRODUCTION

The reflection on cuts in resources in engineering education (Chretien & Gaillard, 1982) though not new to the education system; have relentlessly stressed on affordability in quality education (Aguerrondo, 1997). The ever daunting question of cost sharing in education by government, household expenses on education reveals that the economic or financial aspects do influence students to attend college (Sedaie, 1998).

It is been noted that in post-independence India, higher education has been of those who are culturally dominant and economically stronger sections of society (Kumar, 1998). The cost and price of college

determined the value of higher education (Casse & Manno, 1998) where the economics of attending college depended on returns to investment and responsiveness to price in education in terms of salary earned and fees paid by students (Paulsen, 1998).

Engineering education of 21st century has Global financial and economic impact (Cheong, 1999) with student Loans as the answer to lack of resources as funds in higher education (Tilak, 1999) and the amiable student loan default risk (Monteverde, 2000) hits down to the historical roots of enrolment indicating that student aid does play an important role in college expense (Coomes, 2000). In addition it could be said that non cognitive factors influence enrolment in college

(Jacob, 2002). Further the feverish poverty amongst students in tertiary education (Bessant, 2003) with overburdened tuition fees impacts sensitivity of students enrolment at higher education (Vasigh & Hamzaee, 2004) as more evidently the fees unmask different faces of marketisation of higher education and of the various factors involved.(Tilak, Jandhyala, 2004).

The life course contingencies lead to delayed enrollment in the High School to College Transition (Bozick & DeLuca, 2005). However scholarships and student support services could arrive to promote engineering education (Sorkin, Tingling, Beiderman, & Walker, 2005). An Integrated model of application, admission, enrollment, and Financial Aid at higher education institution especially in undergraduate education (S. L. DesJardins, Ahlburg, & McCall, 2006) could steal up the status as earnings are private returns at higher education(Salas-Velasco, 2006) that could undoubtedly determine student outcomes (M. a. Titus, 2007).

The economics of higher education (Gérard & Vandenberghe, 2007) has though by far explored alternative sources of financing higher education (Chattopadhyay, 2007) along with traditional sources of financing education (Shah, 2007) also on bandwagon thoughts of the Kothari commission on financing of education (Tilak, Jandhyala, 2007),the role of scholarships or financial aid contributing to student success cannot be nullified (Bensimon, 2007). The trends in growth of financing higher education has ever been uneven in allocation (Prakash, 2007) clearly pointing out the imbalance in student learning educational policies and educational scholarships (Heywood, Carter, & Kelly, 2007) that possibly makes educational investment dearer on students educational experiences (Pyvis & Chapman, 2007).

An equity perspective on access to, enrolment in and finance of tertiary education(Asplund, Adbelkarim, & Skalli, 2008)is essential especially when merit financial aid programs leverages eligibility effects on college access among under represented students(Ness & Tucker, 2008)acting on student enrolments differ in different academic major due to tuition fee cost (Shin & Milton, 2008). Thus credit constraints has led to imbalance in human capital investment in college education (Cao, 2008)

Economic resources leaves a mark on postsecondary destinations of youth (Bozick, 2009). The public expenditure on education creeps inequality(J. W. Xu, 2009) making life planning for engineering students by scholarship or financial aid (Anderson-Rowland & Rodriguez, 2009) scalable for critical participation in engineering education(Downey, 2009). The state support for higher education appropriations versus need-based financial aid (Toutkoushian & Shafiq, 2009)increases the assessment effectiveness in a time of decreasing budgets (Tech, 2009).

More evidently the educational stage bestows income inequality i.e., higher the educational stage lower the income inequality (Katarina R.I. Keller, 2010) revealing that the fiscal impacts of college attainment (Trostel, 2010) relies on tuition fees standards of higher education (L.-B. X. L.-B. Xie, Zhang, & Wang, 2010) evidenced by the application of analytic hierarchy process in higher education tuition model(Li, Xie, Liu, & Wang, 2010) and the tuition pricing model of higher education (Hai-feng, 2010). Naturally the scholarships morphed into financial aid (Toby, 2010) makes choice of engineering rely on image and status, the influence of society and peer groups, as well as financial rewards and career aspects (Becker, 2010).

Promoting the accessibility and affordability in higher education (Cerdeira & Patrocínio, 2011) makes Access and equity in financing higher education (Bougroum & Ibourk, 2011) seep the differences in opportunity (H. Wang, 2011). Public education spending has a shift in priorities across educational stages in globalised world (Baskaran & Hessami, 2012) where students choose community private college than public institution when considering of costs of college education (Romano & Djajalaksana, 2011). This reasserts the fact that college costs influences students and their risky behaviour in college as investment (Cowan, 2011). The consumption trend in higher education depends on resource allocation (Tian, 2011) as poverty has a bearing on education and educational attainment of students (Xiaobing Wang et al., 2011). Educational expenditures determines student engagement and learning outcomes (Pike, Kuh, McCormick, Ethington, & Smart, 2011) having its contribution rate to economic growth (W. Xu & Yang, 2011) has also the nature of making higher education finance work for a nation (Devarajan, Monga, & Zongo, 2011). Further on higher education, globalization, labor market transformation have metropolitan earnings inequality (Wallace, Gauchat, & Fullerton, 2011). Education has economic returns (Dickson & Harmon, 2011)as skills on par as part of education enhances the margin on earnings (van de Werfhorst, 2011). This usually reveres presence in terms of escalating monetary returns in higher education (Choodambigai, 2011). Never the less, with poor financial knowledge on part of college students (Robb, 2011) with economic competitiveness ushering transition towards knowledge economy (Elias, 2011); the investment efficiency in higher education (Nan, 2011) depends on financing options of higher education (Nkrumah-Young & Powell, 2011) with persistent loan defaults disrupting education (C. Zhang, 2011). In short. financial aid impacts college enrolment(Rubin, 2011).

The economic reforms and financing of higher education in India has been dwindling the long-term equilibrium and short-term dynamic between educational input and economic output(L. H. Wang, Guo, & Liu, 2012) with high-poverty youth self-determination and involvement in educational planning (Washington, Hughes, & Cosgriff, 2012) making

financial aid at institution and differential student tuition fees differentiating low socio economic status students into engineering (George-jackson, Rincon, Martinez, & George-, 2012). This could also debilitate graduate school enrolment (Malcom & Dowd, 2012). Added on public funding of higher education has college and universities use their resources inefficiently and focus insufficiently on their mission to expand students' human potential (Viaene & Zilcha, 2013). Moreover viewed from benefit cost analysis in appraisal and planning projects of higher learning institutions (Javed, Mahmood, & Sulaiman, 2013) economics of higher education states that education has its reverence on economic outcomes with return to college with decision to attend college (Nica & Popescu, 2014). Hence much noticeably, on the one hand finance policies leverage higher education access (Yang & McCall, 2014) while on the other financial incentives determine study duration of students in higher education (Gunnes, Kirkebøen, & Rønning, 2013). Therefore cost of accessing institution versus the monetary value of attaining an academic major (Davidovitch, Byalsky, Soen, & Sinuani-Stern, 2013) also relies on parents and financial knowledge along with students credit card use (Hancock, Jorgensen, & Swanson, 2013)

The cost benefit analysis of university undergraduate education with heterogeneity in the unit cost of higher education (Iyomo & Olayiwola, 2014) seeks to abolishing tuition costs from higher education leading to increase in enrollment of lower socio economic students into higher education (Denny, 2014). Thus decentralised university setting with a flexible tuition structure impacts students (Fethke, 2014) making their withdrawal from higher education based on cost reflecting its intensity on efficiency of institution (Merrill, 2015)

The study seeks to analyse the relationship among academic years on campus adaptations of students with the following research question and research objective: -

Research Question - What makes campus adaptations of academic, social, physical - psychological and institutional attachment be unique across sources of college expense?

Research Objective - To examine variance among campus adaptations of academic, social, physical psychological and institutional across sources of college expense

## **1. CAMPUS ADAPTATIONS**

### **1.1. Academic Adaptation**

Scholarships and academic recognition should be given to gifted learners to support high aspirations towards excellence in academic performance (Robinson, 1997). The financial pay off on academic majors influences educational choices of students (Y. Xie & Goyette, 2003). The reasons for non-attendance or absenteeism also relies on financial hardships (Paisey & Paisey, 2004) as more evidently it's the access to resources that determines students achievements in academics (Darling-Hammond, 2004). Never the less, one could always say that the cost and benefit factors influence academic expectation (Pasternak, 2005). Further as educational expenditure impacts student engagement (Pike, Smart, Kuh, & Hayek, 2006) it is the academic scholarship program for engineering as per one's academic major acts as a survivor (Anderson-Rowland, 2006). As already known abolishing school fees influences education access and equity (Al-Samarrai & Zaman, 2007) that could change the course equity effects and institutional risk amid policy shift in financing higher education (Munene & Otieno, 2008) focusing students perceptions of higher education services - academic advising, instructional effectiveness, "recruitment and financial aid" and "student centeredness (Nadiri, 2006). Debt constrain influences choice of academic major (Callender & Jackson, 2008a) making college attendance embark on college earnings (Fan, Zhang, & Chen, 2009) revering always that financial aid determines post-secondary choices even by students of race (J. Kim, DesJardins, & McCall, 2009).

Scholarships aid in improving success rates of students in undergraduate engineering academic majors (Navarra-Madsen, Bales, & Hynds, 2010) making student success dependable on academic scholarship (Anderson-Rowland, 2011). undergraduate students who are not satisfied with their financial status and academic achievement were depressed (Shalini, Geap, Harveen, & Bakri, 2011) students continued to remain stressed mainly due to financial and academic reasons (Al-Dubai, Al-Naggar, Alshagga, & Rampal, 2011). Thus merit based financial aided academic programs could only positively lead to students degree attainment in engineering (L. Zhang, 2011). Further financial aid policy contribute to postsecondary enrolment choices (J. Kim, 2012) determining person-job fit and financial rewards on career choice of engineers (Choo, Norsiah, & Tan, 2012). College academic integration and financial aid receipt exhibit differential effects on entering engineering (Xueli Wang, 2013). The financial information students borrowing behaviour and academic performance (Schmeiser, Stoddard, & Urban, 2015). Lastly poverty impact attendance (E. Chen,

Miller, Brody, & Lei, 2015) and its poverty that leaves a huge manoeuvring on academic abilities of especially of low income students (Kaya, Stough, & Juntune, 2016).

## 1.2. Social Adaptation

The evaluation of college education on earnings and productivity is usually made by comparing private gains and social gains from college education (Gary S. Becker, 1975). The high school grades is said to predict career plans which varies by students of low socio economic status and race in terms of paying towards college expense (Rosenbaum, 1998). Therefore person factors (interest) contextual factors (financial aid and social support) determines career choice among students (Lent et al., 2002) with gender bias in resource allocation in Indian household especially towards education expenditure of girls being observed (Jose, 2003). Further scholarship incentive influences minority students enrollment in college (Bergin, Cooks, & Bergin, 2007) as college financing negotiating family support and responsibility, and campus racial dynamics perceived and behavioural affect student adjustment with sense of integration (Hurtado et al., 2007). It is thus the Ethical dilemmas in individual and collective rights-based approaches to tertiary education scholarship (Lehr, 2008) reflecting family and institutions personnel dominance on students willingness to borrow loans to pay institutional fee price (Perna, 2008). A glommed picture emerges in this regard where much noticeably household expenditure on education in India depends on returns to education in terms of employment and academic major (Fang & Mohnen, 2008) and uneven childhood investment in education impacts skills formation in later stage of one's career (Esping-Andersen, 2008). Hence engineering education is a debt trap for poor students (Venkataraman, 2009).

Social differences in the students' concern for the student loan repayment persists (Opheim, 2011) where gender ethnicity and work experience impacts college students debt experience (A. Wang, 2011). Increasing access of engineering education to for economically disadvantaged students by financial aid and mentoring (Wilson, Iyengar, Pang, Warner, & Luces, 2012) could be meted out by feminist scholarship in engineering education which owes to its own challenges and tensions (Beddoes, 2012). However parents socio economic status is related to students loan debt (Houle, 2013) which varies on repayment rates among minority students of race (Belfield, 2013) influencing students attainment (Gross, Torres, & Zerquera, 2013). The negative trends with respect to financial resources on institutional priorities also influences minority race students participation in engineering education (Rotberg, 2013). In India tackling social exclusion and marginality it is only poverty reduction on higher education experiences that could be counted on (Thorat, 2014). In short, life course resources impacts minority students educational aspirations (Paat, 2015)

where as a solution college personal finance courses may serve as positive inputs for financial socialization among young adults regardless of their demographic backgrounds (Mimura, Koonce, Plunkett, & Pleskus, 2015).

## 1.3 Physical – Psychological Adaptation

### 1.3.1 Physical Adaptation

Student loans impacts suicide where an engineering student Rajani's suicide urgently address issues of equity in our educational system where student loans and lack of repayment impacts suicide (Kanitkar, 2004)

### 1.3.2 Psychological Adaptation

Early resources results in psychological adjustment influencing college adjustment (Zamostny, Slyter, & Rios, 1993). The financial difficulties bereaves psychological well-being among university staff as well. (Winefield et al., 2003). Though a solution persist where seminar participation can change college students financial knowledge attitudes and behaviours (Borden, Lee, Serido, & Collins, 2008) ; sensation-seeking and risk-taking add on more to problematic financial behaviours of college students (Worthy, Jonkman, & Blinn-Pike, 2010). The financial behaviour on financial well-being of college students (Gutter & Copur, 2011) creates tendencies of loan aversion among students (Johnson, Montmarquette, & Canada, 2011) as it is known that students financial attitude vary over time among college students (NORVILITIS, 2014). Moreover with financial knowledge contributing subjective risk tolerance among college students (Ramudzuli & Muzindutsi, 2015); the correlations between materialism, spending tendencies and debt are prominently significant among college students (Naruetharadhol, Ketkaew, Kerdpech, Kaoplod, & Kannarat, 2015).

## 1.4 Institutional Adaptation

The ability to pay to college influences persistence of students (Cabrera, Stampen, & Hansen, 1990) with financial aid adding on to the mileage of students persistence at college (Cabrera, Nora, & Castaneda, 1992). Pricing and financial aid vary by institutions diversifying students responses towards college experiences (Basch, 1997) even when increase in government funding by student aid prude on persistence (E. P. S. John, 1999). However academic and social integration have seeped into persistence than financial aid (Wetzel, O'Toole, & Peterson, 1999). It is observed that financial and academic problem led to attrition (Errico et al., 2000) but appropriate financial aid impacts retention (E. P. St. John, 2000) and influences persistence especially of underrepresented minority students in engineering (Fenske, Porter, & DuBrock, 2000). The short term budget cuts by government can have long term impact on functioning of higher



educational institutions or university (De Pillis & De Pillis, 2001) where frequent changes in institutional aid and policy by government lowers enrolment (Desjardins, 2001) and state grants in terms of financial aid influences persistence (St. Hu, Weber, & John, 2001). The institutional expenditure patterns influence development of leadership competencies in students (Smart, Ethington, Riggs, & Thompson, 2002) and the institution's sponsored research expenditures are positively related to undergraduates' graduation (M. M. Kim, Rhoades, & Woodard, 2003).

The cost and benefit factors (Pasternak, 2005) and financial aid (D. Kim, 2004) influence institutional choice of students. The financial resources enhances students learning and development affecting student engagement and student development (Ryan, 2005). In other words it is resources that have a sway in students retention especially of minority race (Seidman, 2005). The financial context of institutions influences students persistence and completion of college at four year institutions (M. A. Titus, 2006). The government financial aid too is a booster towards persistence and completion (Singell & Stater, 2006). Loans too are not left far behind in impacting students persistence towards college and educational attainment (Dowd & Coury, 2006) resource allocation being uneven in public research universities (Santos, 2007) raises a commoner's brow on successful retention of low income students (Tinto & Tinto, 2007). It is vivid that financial aid impacts students drop out or attrition by income level (R. Chen & DesJardins, 2008) encompassing debt constrain on choice of university too (Callender & Jackson, 2008b).

The scholarship or financial aid that by far known to influence college student retention (Kelley, 2009) where financial knowledge impacts institutional choice of student of race (O'Connor, Hammack, & Scott, 2010) but being poor on financial factors with lack of financial availability leads to student drop out or attrition in higher education (S. DesJardins & McCall, 2010) (Breier, 2010) (Melguizo, Torres, & Jaime, 2011). Further financial aspects like debt and credit issues delivers persistence of students towards second year of higher education (Buzynski, 2010). Added on though scholarship lead to students' college attendance, choice, financial aid renewal, persistence, and graduation (L. Zhang, Hu, & Sensenig, 2013) with economic composition of institution stressing on persistence of students (Niu & Tienda, 2013); the education policy always needs to determine access to college a reconsideration of the national education (Daun-Barnett, 2013). Never the less, the seeming funding has its large foot hold on institutional engagement (Weerts, 2014) revering growing costs of attending college fall on retention (Marsh, 2014). Student loan thus has a bearing on persistence (McKinney & BurrIDGE, 2014) with institutional diversity

related to funding of university (Piché, 2015) predetermining that money influences life-satisfaction among students especially between new and old Indian Institutes of IIT's students institution (Mukherjee, Nargundkar, & Manjaly, 2014)

The study proposes the following research hypothesis

H1: - Campus adaptations of academic, social, physical – psychological and institutional environments do not vary among undergraduate students by sources of college expenses

H1a:- There is a significant difference among undergraduate students on sources of college expenses in campus adaptations of academic, social, physical – psychological and institutional adaptations.

## **2. METHODS**

### **2.1. Participants**

The reference population were undergraduate 4-year B. tech students enrolled on a regular study mode at IIT's and NIT's. A total of 1460 students participated with 1420 of valid responses for an overall 97.26 percent participation rate after deducting the questionnaire that contained empty answers. Data was collected for 20 weeks across institutions of IIT's and NIT's. Of the 1420 undergraduate respondents on their academic year, 11.26% were first year students, 19.22% second year students, 32.39% third year students and 39.50% fourth year students.

### **2.2. Sampling**

Probability sampling technique with multistage sampling followed by cluster sampling in identification of institutes of IIT's and NIT's was adopted. This is followed up with stratified sampling in sample choice of undergraduate students' population and simple random in collecting data from the chosen student population stated above.

### **2.3. Instrument and Procedure**

The survey was conducted using a structured online questionnaire with reference to student's campus and non - campus email accounts. At all times, the students were informed of the anonymous, confidential, and voluntary nature of their participation and any doubts that arose were clarified.

### **2.4. Measures**

All the 21 items in the questionnaire were measured with rating on a five-point Likert scale ranging from "1 =

strongly disagree” to “5 = strongly Agree”. Reliability and validity of the questionnaire was tested.

### 3. DATA ANALYSIS

Multivariate analyses of variance (MANOVA) were conducted to assess age group differences in campus adaptation. This was followed by discriminant analysis to determine the nature of effect of campus adaptations by each age group. There are several assumptions behind a MANOVA, including multivariate normality, linearity of relationships, low influence of univariate and multivariate outliers, homogeneity of variance-covariance matrices and an absence of multicollinearity. Each assumption was tested, and no serious violations were noted.

Table 1 Pearson Correlation

| Campus Adaptation                     | 1     | 2     | 3     | 4    | M    | SD   |
|---------------------------------------|-------|-------|-------|------|------|------|
| 1.Academic Adaptation                 | 1.00  |       |       |      | 2.60 | 0.70 |
| 2.Social Adaptation                   | 0.581 | 1.00  |       |      | 2.72 | 0.75 |
| 3.Physical – Psychological Adaptation | 0.523 | 0.578 | 1.00  |      | 2.28 | 0.77 |
| 4.Institutional Adaptation            | 0.574 | 0.617 | 0.791 | 1.00 | 2.14 | 0.78 |

Note n = 1420 Correlations greater than 0.05 are statistically significant ( $p < 0.5$ )

A Pearson product moment correlation analysis, that examined the relationship between campus adaptations revealed correlations greater than 0.05, hence statistically significant

Table 2 Distribution of difference in dimensions of campus adaptations

| financial support for college expense                                     | Academic |           | Social |           | Physical - Psychological |           | Institutional |           |
|---------------------------------------------------------------------------|----------|-----------|--------|-----------|--------------------------|-----------|---------------|-----------|
|                                                                           | Mean     | Std. Dev. | Mean   | Std. Dev. | Mean                     | Std. Dev. | Mean          | Std. Dev. |
| Parents income (n = 956)                                                  | 2.62     | 0.69      | 2.73   | 0.75      | 2.33                     | 0.78      | 2.13          | 0.78      |
| Bank loan (n = 144)                                                       | 2.62     | 0.72      | 2.70   | 0.76      | 2.25                     | 0.75      | 2.16          | 0.78      |
| Government scholarship (n = 85)                                           | 2.43     | 0.74      | 2.67   | 0.73      | 2.20                     | 0.78      | 2.09          | 0.78      |
| Private scholarship (n = 06)                                              | 2.25     | 0.40      | 2.63   | 0.55      | 2.03                     | 0.48      | 1.86          | 0.39      |
| Loan from private source – a money lender for stipulated interest (n = 1) | 3.00     | 0.44      | 3.13   | 0.64      | 3.00                     | 0.20      | 2.93          | 0.70      |
| Borrowing from relatives (n = 1)                                          | 2.67     | -         | 1.40   | -         | 1.20                     | -         | 1.20          | -         |
| Income from internship project at institute (n = 1)                       | 3.67     | -         | 2.80   | -         | 1.00                     | -         | 3.00          | -         |
| Parents income and bank loan (n = 52)                                     | 2.72     | 0.60      | 2.80   | 0.76      | 2.27                     | 0.62      | 2.16          | 0.74      |
| Parents income and government scholarship (n = 121)                       | 2.56     | 0.76      | 2.67   | 0.79      | 2.13                     | 0.71      | 2.07          | 0.75      |

|                                                                         |       |      |      |      |      |      |      |      |
|-------------------------------------------------------------------------|-------|------|------|------|------|------|------|------|
| Parents income, government scholarship and private scholarship (n = 09) | 2.38  | 0.86 | 2.86 | 0.82 | 2.02 | 0.89 | 1.64 | 0.60 |
| Government scholarship and bank loan (n = 16)                           | 2.52  | 0.73 | 2.62 | 0.72 | 2.10 | 0.81 | 2.15 | 0.88 |
| Parents income, government scholarship and bank loan (n = 07)           | 2.47  | 0.47 | 2.17 | 0.64 | 1.77 | 0.69 | 1.85 | 0.73 |
| Parents income and private scholarship (n = 9)                          | 2.44  | 0.79 | 2.67 | 0.73 | 1.84 | 0.63 | 1.77 | 0.98 |
| Parents income, private scholarship and bank loan (n = 3)               | 2.44  | 0.75 | 2.73 | 0.23 | 2.33 | 0.64 | 2.26 | 1.13 |
| Government scholarship, income from internship project (n = 1)          | 1.67  | -    | 3.40 | -    | 1.00 | -    | 1.40 | -    |
| Parents Income, Income from Internship project (n = 2)                  | 3.08  | 0.12 | 3.20 | 0.28 | 3.60 | 0.00 | 2.90 | 0.70 |
| Parents Income and donor donation (n = 3)                               | 2.55  | 0.34 | 2.33 | 0.50 | 2.60 | 0.52 | 2.46 | 0.41 |
| Parents Income and Borrowing from relatives (n = 7)                     | 1.83* | -    | 3.20 | -    | 2.00 | -    | 2.60 | -    |
| Total (n = 1420)                                                        | 2.60  | 0.70 | 2.72 | 0.75 | 2.28 | 0.77 | 2.14 | 0.78 |

Source :- SPSS output 21 Version

#### 3.1. Descriptive Statistics

The mean in the descriptive statistics indicate that among undergraduate B.Tech students, across sources

of college expenses, higher level of social adaptation was sorted with parents income (M = 2.73, SD = 0.75), Bank Loan (M = 2.70, SD = 0.76) Government scholarship (M = 2.67, SD = 0.73) Private scholarship (M = 2.63, SD = 0.55) Loan from private source – a money lender for stipulated interest (M = 3.13, SD = 0.64) Parents income and bank loan (M = 2.80, SD = 0.76) Parents income and government scholarship (M = 2.67, SD = 0.79) Parents income, government scholarship and private scholarship (M = 2.86, SD = 0.82), Government scholarship and bank loan (M = 2.62, SD = 0.72), Parents income and private scholarship (M = 2.67, SD = 0.73), Parents income, private scholarship and bank loan (M = 2.73, SD = 0.23), Government scholarship, income from internship project (M = 3.40, SD = 0.00), and Parents Income and Borrowing from relatives (M = 3.20, SD = 0.00). Associated with it students had high academic adaptation at Borrowing from relatives (M = 2.67, SD = 0.00), Income from internship project at institute (M = 3.67, SD = 0.00) and Parents income, government scholarship and bank loan (M = 2.47, SD = 0.47). further students had high level of physical and psychological adaptation from Parents Income, Income from Internship project (M = 3.60, SD = 0.00) Parents Income and Borrowing from relatives (M = 2.60, SD = 0.52).

However, students across sources of college expense had low level of institutional adaptation with Parents income (M = 2.13, SD = 0.78), Bank loan (M = 2.16, SD = 0.78), Government scholarship (M = 2.09, SD = 0.78), Private scholarship (M = 1.86, SD = 0.39), Loan from private source – a money lender for stipulated interest (M = 2.93, SD = 0.70), Borrowing from relatives (M = 1.20, SD = 0), Parents income and bank loan (M = 2.16, SD = 0.74), Parents income and government scholarship (M = 2.07, SD = 0.75), Parents income, government scholarship and private scholarship (M = 1.64, SD = 0.60), Parents income and private scholarship (M = 1.77, SD = 0.98), Parents Income, Income from Internship project (M = 2.26, SD = 1.13), Parents income, private scholarship and bank loan (M = 2.90, SD = 0.70), Borrowing from relatives (M = 1.20, SD = 0.00) Income from internship project at institute (M = 1.00, SD = 0.00), Government scholarship and bank loan (M = 2.10, SD = 0.81), Parents income, government scholarship and bank loan (M = 1.77, SD = 0.69), Government scholarship, income from internship project (M = 1.00, SD = 0.00), Parents income and donor donation (M = 2.33, SD = 0.50), Parents Income and Borrowing from relatives (M = 1.83, SD = 0.00)

Further within Academic Adaptation, students had high level of adaptation with income from internship projects at institute (M = 3.67, SD = 0.00) and government scholarship and income from internship project had low level of adaptation (M = 1.67, SD = 0.00).

In Social Adaptation, had high level of adaptation with government scholarship and income from internship projects at institute and (M = 3.40 SD = 0.00) and

students who borrowed from relatives had low level of adaptation (M = 1.40 , SD = 0.00)

In Physical – Psychological adaptation, students with parents income and income from projects, had high level of adaptation (M = 3.60, SD = 0.00) and government scholarship with internship from project students had low level of adaptation (M =1.00, SD =0.00 )

In Institutional adaptation, third year students had high level of adaptation (M =3.00, SD = 0.00) and borrowings from relatives' students had low level of adaptation (M = 1.20, SD =0.00)

Overall, across campus adaptations and sources of college expense, students had high level of Academic adaptation with parents' income and income from internship projects (M = 3.60, SD =0.00) and students with income from projects low level of Institutional adaptation (M = 1.00 SD = 0.00).

### **3.2. Inferential statistics**

The Box's M value of 134.889 indicates test of assumption of equality of covariance matrices are roughly equal as assumed with  $p = 0.034$  ( $p > 0.001$ ).

Using Manova test statistic of Pillai's Trace, there was a significant effect of source of college expense on students' Academic, Social, Physical – Psychological and Institutional campus adaptations ( $V = 0.072$  F (68, 5608) = 1.522 and  $p = 0.004$ ) ( $p < 0.05$ ).

Using Manova test statistic of Wilks Lambda, there was a significant effect of source of college expense on students' Academic, Social, Physical – Psychological and Institutional campus adaptations ( $\Lambda = 0.929$ , F (68, 5492) = 1.522 and  $p = 0.004$ ) ( $p < 0.05$ ).

Using Manova test statistic of Hotelling's trace , there was a significant effect of source of college expense on students campus adaptations of Academic, Social, Physical – Psychological and Institutional (T = 0.074, F (68, 5590) = 1.522 and  $p = 0.004$ ) ( $p < 0.05$ ).

Using Manova test statistic of Roy's largest root, there was a significant effect of source of college expense on students campus adaptations of Academic, Social, Physical – Psychological and Institutional ( $\Theta = 0.034$ , F (17, 1402) = 2.766 and  $p = 0.000$ ) ( $p < 0.05$ ).

The univariate test statistic with levenes test of equality of variances for each of the dependent variable is non-significant i.e  $p > 0.05$  with academic adaptation of 0.826, social adaptation of 0.172, physical – psychological adaptation of 0.218 and institutional

adaptation of 0.838 enabling the assumptions of homogeneity of variance being met.

However separate univariate analysis or anova on the outcome with F (17. 1402) for Academic, social, and institutional adaptation too revealed a non-significant effect with F value (1.090), (0.777), (1.110), and p value greater than 0.05 (0.358), (0.721), (0.338) . it had a significant effect on physical – psychological adaptation with F value (2.051) and p value less than 0.05 (0.007)

Further the between – subjects SSCP matrix indicates that the sum of squares for the error SSCP matrix are substantially bigger than in the model (or source of college expense) SSCP matrix, whereas absolute values of cross products are fairly similar. This pattern of relationship indicates that the relationship between dependent variables is significant than individual dependent variables themselves. Thus to determine the nature of effect of academic year among dependent variables Manova is followed with discriminant analysis

The first discriminant function explained 45.1% of the variance with canonical  $R^2 = 0.034$ ; the second discriminant function explained 30.7 % of the variance with canonical  $R^2 = 0.023$ ; the third discriminant function explained 14.3% of the variance with canonical  $R^2 = 0.011$ ; and fourth discriminant function explained 9.9 % Of the variance with canonical  $R^2 = 0.007$ ; indicates that the variance in the canonical derived dependant variable was associated for source of college expense .

In combination these discriminant functions significantly discriminated the source of college expense groups. The first discriminant function significantly differentiated the student source of finance groups, with the first function  $\Lambda = 0.929$ ,  $x^2$  (68) 103.302,  $p = 0.004$  ( $p < 0.05$ ) However the second discriminant function  $\Lambda = 0.960$ ,  $x^2$  (48) 56.898,  $p = 0.178$  ( $p > 0.05$ ) followed with  $\Lambda = 0.982$ ,  $x^2$  (36) 25.189,  $p = 0.716$  ( $p > 0.05$ ) and  $\Lambda = 0.993$ ,  $x^2$  (14) 10.286,  $p = 0.741$  ( $p > 0.05$ ). indicates the non-significant effect of discriminant functions

The correlations between outcomes and the discriminant functions revealed that physical – psychological adaptation loaded highly on first function ( $r = 0.778$ ) indicating it contributed more to the source of college expense group separation (Bragman, 1970) than the relatively fair high loading in positive relationship with second function (  $r = 0.274$ ) third function (  $r = 0.407$ ) and fourth function ( $r = 0.393$ )

Institutional adaptation loaded highly on third function ( $r = 0.701$ ) indicating it contributed more to the source of college expense group separation than the relatively high loading in positive relationship with fourth function



( $r = 0.507$ ) second function ( $r = 0.44$ ) and third function ( $r = 0.239$ )

Social adaptation loaded highly on fourth function with ( $r = 0.912$ ) indicating it contributed more to the source of college expense group separation than the relatively fair high loading in positive relationship with third function ( $r = 0.281$ ) and first function ( $r = 0.209$ ). it had a negative relationship with second function ( $r = -0.211$ )

Lastly, Academic adaptation loaded highly on fourth function with ( $r = 0.784$ ) indicating it contributed more to the source of college expense group separation than the than relatively fair high loading in the second function ( $r = 0.576$ ) first function ( $r = 0.159$ ) while negative relationship with third function ( $r = -0.165$ ).

## FINDINGS

The students who relied on parents income had positive outcomes in academic (0.068), social (0.012), and institutional adaptation (0.010) with negative physical – psychological adaptation (-0.005)

The students who relied on bank loan had positive outcomes in social (0.072) and physical – psychological (0.013) adaptation with negative outcomes in academic (-0.080) and institutional adaptation (-0.004)

The students who relied on government scholarship had positive outcomes in physical - psychological (0.137) adaptation with negative outcomes on academic (-0.070) social (-0.180) and institutional adaptation (-0.139).

The students who relied on private scholarship had positive outcomes in physical and psychological adaptation (0.029) with negative outcomes on academic (-0.145), social (-0.180) and institutional adaptation (-0.139)

The students who relied on loan from private source or money lender had positive outcomes in academic (0.466), social (0.502), physical-psychological (0.669) adaptation and institutional adaptation (0.396) with no negative outcomes.

The students who relied on borrowing from relatives had positive outcomes in social adaptation (1.273) with negative outcomes on academic (-1.015), physical – psychological (-1.507) and institutional adaptation (-0.927)

The students who relied on income from internship projects at institute had positive outcomes in social (2.110), physical – psychological (0.604) and institutional adaptation (1.299) with negative outcomes in academic adaptation (-3.876)

The students who relied on parents income and bank loan had positive outcomes in social (0.053) and institutional adaptation (0.171) with negative outcomes on academic (-0.067) and physical – psychological adaptation (-0.108)

The students who relied on parents income and government scholarship had no positive outcomes but only negative outcomes at academic (-0.223), social (-0.025), physical – psychological (-0.032) and institutional adaptation (-0.019)

The students who relied on parent's income, government scholarship and private scholarship had positive outcomes in academic (0.042) and institutional adaptation (0.142) with negative outcomes in social (-0.876) and physical – psychological adaptation (-0.480)

The students who relied on government scholarship and bank loan had positive social (0.067) and physical – psychological (0.157) adaptation with negative outcomes on academic (-0.375) and institutional adaptation (-0.091)

The students who relied on parents income, government scholarship and bank loan had positive outcomes social adaptation (0.444) with negative outcomes on academic (-0.657), physical – psychological (-0.240) and institutional adaptation (-0.473)

The students who relied on parent's income and private scholarship had positive outcomes in institutional adaptation (0.000) with negative outcomes on academic (-0.467) social (-0.351) and physical – psychological adaptation (-0.291)

The students who relied on parent's income, private scholarship and bank loan had positive outcomes in physical and psychological adaptation (0.381) with negative outcomes on academic (-0.024) social (-0.105) and institutional adaptation (-0.123)

The students who relied on government scholarship and income from internship projects had positive outcomes in physical-psychological (0.406) and institutional adaptation (0.663) with negative outcomes on academic (-1.792) and social adaptation (-2.597)

The students who relied on parent's income and income from internship projects had positive outcomes in academic (1.749), social (0.404), physical – psychological (0.313) and institutional adaptation (0.287) with no negative outcomes

The students who relied on parent's income and donor donations had positive outcomes in academic (0.339), social (0.742), physical – psychological (0.439) adaptation with negative outcomes on institutional adaptation (0.607)



The students who relied on parents income and borrowing from relatives had positive outcomes in physical-psychological (1.881) and institutional adaptation (0.085) with negative outcomes on academic (-1.092) and social adaptation (- 1.186).

In Brief the alternate hypothesis (H1) is accepted rejecting the null hypothesis (H0) that campus adaptations did vary across students sources of college expense.

## CONCLUSIONS

College life especially in India is bound with expenses with start of college fess to that spending on stationary items by student. In a student life every penny would count as he or she happens to be individually taking account of their expenditure. Adapting expenses by counterbalancing ones needs versus ones desires when at a long stay at campus calls for a penalizing attitude towards expenses. Thus the spend thrift behaviour when counter checked of depending heavily on source of expenses delve on derived multiple sources that heavily influences students adaptability at campuses.

Implications: - The students' sustenance at campus for long has been viewed only from academics highlighting that grades alone determine student survival, but the larger picture of being a student at campus and on a personal level too relies on sources which keeps his pocket full. The sources of dependency for college expenses could largely regulate students socializing behaviour that could have an imprint on physical – psychological development and also on academic association. As a future take, this cross sectional study could have an longitudinal perspective where research could probably deal with multi campus comparison of spending behaviours of students with specific focus on what, why and how much spending takes place in a student life.

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