



Students' Commitment, Engagement and Locus of Control as Predictor of Academic Achievement at Higher Education Level

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The purpose of this study was to analyze commitment, engagement and locus of control as predictors of academic achievement at higher education level. The researchers selected 369 students using multistage sampling technique from three public sector general universities of the Punjab (Pakistan). Three instruments namely commitment scale, engagement scale and academic locus of control scale were used for data collection through personal visits of the sampled universities. After data cleaning 315 responses were found fit for statistical analysis. Analysis of data revealed significant positive impact of commitment, engagement and locus of control on academic achievement.

Keywords: commitment; engagement; academic locus of control; academic achievement; higher education

Prediction of academic achievement has been a topic of researchers' interest worldwide. Predictor can be defined as independently changing variable which influences the dependent variable. In this study commitment, engagement and locus of control are predictors and academic achievement is predicted. This study may be helpful to predict academic achievement at higher education level in Pakistan. Moreover the study tried to explore effect of demographic variables (department, income, father's education, mother's education, age, years of stay in the university, gender, residence and program) on commitment, engagement, locus of control and academic achievement at higher education level in Pakistan.

The purpose of study was to analyze the effect of commitment, engagement and locus of control on academic achievement. Then study intended to explore the effect of family, individual and university related variables on commitment, engagement, locus of control and academic achievement. Results of the study may suggest administrators, policy makers, curriculum planners and other stakeholders to consider the effect of commitment, engagement and locus of control on academic achievement. Parents and teachers may guide

the students

to be committed to their institutions, engaged in studies and have internal locus of control to improve academic achievement. The researchers may get help from the present study to do future research in the area.

Students' Commitment

Commitment refers to affective factors involving interest, faith and acceptance of positive attitudes toward certain things (Kim & Ok, 2009). Institutional commitment refers to overall impression, satisfaction, sense of belonging, perception of quality and attraction to a particular institution (Meyer & Allen, 2004). Commitment is a factor of student persistence in higher education (Strauss, 2001; Strauss & Volkwein, 2004). The higher commitment with the institution fosters higher performance as students achieve good marks (Lundberg, 2010). Gill, Biger, and Dhaliwal (2008) explored that the degree of students' perceived commitment to continuing study is positively related to the degree of student dependence on faculty to learn course material.

Students' Engagement

Students' engagement refers to the amount of time and effort students put into their studies and other purposeful activities in educational field (Kuh, 2001).

Engagement is influenced by many factors including: campus climate, students' experience of engagement, and students' willingness to participate. The student engagement is related to campus climate and students' experience of engagement (Dunleavy & Milton, 2009). Campus climate is influenced by the way institution manages its resources, organizes the curriculum and other learning opportunities to get students to participate in activities (Coates, 2010). The students will be more engaged if the teacher has created a safe learning environment that encourages students to meet challenges and apply higher order skills (Jones, 2009). Positive perceptions of school environment enhance academic achievement through engagement (Wang & Holcombe, 2010). Engagement is also influenced by students' willingness to participate in educational activities such as attending class, submitting assignments, and observing class instructions (Chapman, 2003). Students with favourable ratings on their academic engagement perform better academically (Lee-Nagarajah, Tek, Hashim, & Meng, 2011; Wang & Holcombe, 2010). Lower-ability students benefit more from engagement than their other classmates (Carini, Kuh, & Klein, 2006).

Students' Locus of Control

Locus of control focuses on the degree to which individuals generally believe that they, rather than other people or uncontrollable factors are responsible for the outcomes of events in their lives (Kang, Chang, Chen, & Greenberger, 2013). Locus of control can be internal or external. People who consider themselves able to control their outcomes are known as possessing internal locus of control. On the other hand people who consider themselves unable to control their outcomes are known as possessing external locus of control (Zaidi & Mohsin, 2013). Research shows that individuals with internal locus of control have high motivation for achievement and consequently have higher achievement than the individuals with external locus of control (Bozorgi, 2009; Cetinkalp, 2010; Ghonsooly & Elahi, 2010; Kutanlıs, Mesci, & Övdür, 2011; Lee, 2012; Rastegar, Heidari, & Akbarzadeh, 2012; Rotter, 1966; Zaidi & Mohsin, 2013). Bulus (2011) suggested that teachers should motivate their students to develop and use internal locus of control to increase their academic performance.

Objectives

The following were the major objectives of the study:

- to analyze whether students' commitment, engagement and locus of control are significant predictors of academic achievement at higher education level in Pakistan.
- to determine the effect of demographic variables (department, income, father's education, mother's education, age, years of stay in the university, gender, residence and program) on students' commitment, engagement, locus of

control and academic achievement at higher education level in Pakistan.

Methodology

We examined a wide range of research methodologies to find a best fit for the purpose. Analytical model was considered appropriate for this study. The analytical model actually consists of a set of variables which illustrates the effect of different variables and their interrelationships (Cherian & Jacob, 2013; Montgomery, Peck, & Vining, 2012; Zikmund, Carr, & Griffin, 2012). This survey study aimed at analysis of commitment, engagement and locus of control as predictor of academic achievement at higher education level in Pakistan. Commitment, engagement and locus of control were taken as independent variables whereas academic achievement was dependent variable.

Sampling and Sample

There were 136 universities in Pakistan in 2011, when the data were collected. The population is defined as the entire set of individuals to which findings of the survey are to be generalized (Levy & Lemeshow, 2013). Total enrolment in 136 universities of Pakistan was 804,000 students (Higher Education Commission of Pakistan, 2011). It was very difficult to prepare a list of all these students and randomly select sample. So it was decided to go for multistage sampling. Multi-stage sampling is a complicated form of cluster sampling in which larger clusters are further subdivided into smaller, more targeted groupings from which the researcher randomly selects the sample (Bryman & Bell, 2007). Due to law and order situation in rest of three provinces the study was delimited to only Punjab province. There were 18 universities in Punjab, including seven professional and 11 general universities. We excluded professional universities and 11 general universities made accessible population for the study. There were 117,770 students enrolled in these 11 universities. We selected three universities out of eleven universities of the Punjab through simple random sampling. There were 33173 students in these three universities. Again it was difficult to prepare a list of all these students. So it was decided to select four departments from each sampled university through random sampling after preparing a list of all departments in each university. The information about departments was taken from respective university websites. We selected randomly one class of master level students from each department. In this way 12 classes were selected. There were 369 students in these 12 classes. The university wise distribution of sample was as under: 123 students from the University of Sargodha, 104 students from the University of Gujrat, and 142 students from the Government College University, Faisalabad. The average age of sample students was 21.81 years with minimum age 20 and maximum 28 years. As majority of students in Pakistani universities are females. The sample consisted of 75.6% females and 24.4% males.

Research Instruments

We used five-point scales to measure students' commitment, engagement, and locus of control. The achievement was taken as cumulative grade point average, the students had achieved in the previous semesters. Commitment, engagement, and locus of control were independent variables and achievement was dependent variable. The three scales (commitment, engagement, and locus of control) originally developed in western cultures, were adapted to accommodate local Pakistani context. These scales were discussed with experts one by one to ensure face and content validity. The experts were ten senior faculty members of the department of education, university of Sargodha. They checked the face and content validity of the scales. They ensured that the items belong to the same construct, which the items claim to measure and the language and context suitability for respondents. The experts were competent enough to check these characteristics, as they were busy in teaching such class and were well conversant in research. This activity improved the validity of the scales. Some modifications were made to incorporate the suggestions of the experts. Keeping in view the limited English language ability of some of the respondents, it was decided to translate the scales into Urdu (National language of Pakistan). Again there was a problem that most of the respondents understand the terminology only in English. So, finally bilingual scales were used. The scales were pilot tested on a sample of 100 students taken from the University of Sargodha. These respondents were not included in the main study. More description of scales is as follows.

Students' Commitment Scale

Students' commitment scale was adapted from employee commitment survey scale developed by (Meyer & Allen, 2004). This scale has three components: affective commitment (desired-based), continuance commitment (obligation-based) and normative commitment (cost-based). Items in each category were modified keeping in view the students' commitment with the institution. We added Urdu translation to make it a bilingual scale for the better interpretability and convenience of respondents. Measuring instruments should have validity, and reliability (Bagó, Climent, Pérez-Grueso, & Pellisé, 2013). Validity is the extent to which an instrument measures what it is intended to measure and reliability is the ability of an instrument to measure consistently (Tavakol & Dennick, 2011). The scale was discussed with experts (senior faculty members) to ensure face and content validity. At this stage the scale consisted of 45 items. The scale was pilot tested on a sample of 100 students. On the basis of pilot study five items were dropped due to weaker item-total correlation. The final scale had 40 items. The reliability (Cronbach's Alpha) of the commitment scale was 0.858 as calculated from pilot study and 0.912 as calculated from main study.

Students' Engagement Scale

We adapted students' engagement scale from ("National Survey of Students Engagement", 2011) and Coates (2010). The scale has two parts: experience at the institution and participation in different activities. Some modifications were made and Urdu translation was added to make the scale a bilingual one. The scale was discussed with experts (senior faculty members) to ensure face and content validity. At this stage the scale consisted of 37 items. The scale was pilot tested on a sample of 100 students taken from the university of Sargodha. On the basis of pilot study data five items were dropped due to weaker item-total correlation. The final scale had 32 items. The reliability (Cronbach's Alpha) of the engagement scale was 0.850 as calculated from pilot study and 0.928 as calculated from main study.

Academic Locus of Control Scale

Many scales were available to measure internal and external locus of control. Academic locus of control scale developed by (Rossouw, 1996) was considered more appropriate. As the scale was developed in western culture so modifications were made to fit it to the local context. We added Urdu translation to make the scale bilingual one for the better interpretability and convenience. At this stage the scale consisted of 40 items. The scale was pilot tested on a sample of 100 students taken from the university of Sargodha. On the basis of pilot study data five items were dropped due to weaker item-total correlation. The final scale had 35 items. The reliability (Cronbach's Alpha) of the academic locus of control scale was 0.850 as calculated from pilot study and 0.928 as calculated from main study.

Data Collection

The research instruments were administered personally to the selected students of all the three universities. First of all, the respondents were briefed about the guidelines to respond the data collection instrument. The three scales including demographic information were put together to make data collection instrument. The instrument comprised of four parts. First three parts were commitment scale, engagement scale, and locus of control scale. The respondents responded these scales against five-point Likert's scale ranging from strongly disagree to strongly agree. Fourth part was about demographical information (department, income, father's education, mother's education, age, years of stay in the university, gender, residence and program) and cumulative grade point average. This cumulative grade point average was used as a proxy for academic achievement. We approached 369 students out of which 315 agreed to respond. So the response rate was 85%.

Data Analysis

The data were coded and fed into the computer. We calculated total score for each scale by converting each person's responses to the scale items into numerical codes by representing one for strongly disagree (lowest

amount of the measured attribute) and five for strongly agree (highest amount of measured attribute). The preliminary data analysis included data editing, correcting aberrant values and missing values analysis. The data transformation technique was applied for computing the average scores of the above-mentioned three scales. The statistical analysis was carried out to further explore the data.

Descriptive Statistics, Correlation and Regression

We applied the Pearson correlation analysis to find out the value of correlation between students’ commitment, engagement, locus of control and academic achievement. The commitment was taken as average score on 40 items scale having reliability 0.912, engagement as average score on 32 items scale having reliability 0.928 and locus of control as average score on 35 items scale having reliability 0.928. The achievement was taken as cumulative grade point average of the students from previous semesters.

Table 1
Descriptive Statistics

Parameter	N	Mean	Range	Sd
Students’ Commitment	315	3.27	1-5	.59
Students’ Engagement	315	3.62	1-5	.61
Locus of Control	315	3.53	1-5	.44

Table 1 indicates that mean scores of students’ commitment scale (M=3.27, Sd=0.59), engagement scale (M=3.62, Sd=0.61), and locus of control scale (M=3.53, Sd=0.44) show moderate level of commitment, engagement and internal locus of control in students at higher education level in Pakistan.

Table 2
Correlations of Students’ Commitment, Students’ Engagement, Locus of Control and Academic Achievement

Parameter	Students’ Engagement	Locus of Control	Academic Achievement
Students’ Commitment	.576(**)	.308(**)	.585(**)
Students’ Engagement		.434(**)	.684(**)
Locus of Control			.598(**)

** Significance level (p ≤ 0.01)

The correlation values of academic achievement with commitment, engagement and locus of control were 0.585, 0.684 and 0.598 respectively. All these values are

significant at 0.01 levels. We applied the multiple regression analysis for predicting value of the dependent variable (academic achievement) from the predictor variables (students’ commitment, engagement and locus of control). For this purpose, we used the following regression equations.

Regression Equations

$$\text{Academic Achievement} = \text{Intercept} + \text{Coefficient (Commitment)} + \text{Coefficient (Engagement)} + \text{Coefficient (Locus of Control)} + \text{error}$$

$$\text{Academic Achievement} = \alpha + \beta_1 (\text{Commitment}) + \beta_2 (\text{Engagement}) + \beta_3 (\text{Locus of Control}) + \epsilon$$

Academic achievement was taken as grade point average. Commitment, engagement and locus of control were taken as scores on commitment, engagement and locus of control scales. While α , β_1 , β_2 and β_3 are constants, whereas ϵ is random error in measurement. The values of constants as shown in table 4 are as below.

$$\begin{aligned} \alpha &= 0.902 \\ \beta_1 &= 0.256 \\ \beta_2 &= 0.383 \\ \beta_3 &= 0.353 \\ \epsilon &= \text{may assume any value} \end{aligned}$$

If we put values of constants then the equation becomes
Academic achievement =
0.902 + 0.256 (commitment) + 0.383 (engagement) + 0.353 (locus of control) + ϵ

Table 3
Model Summary Presenting Students’ Commitment, Engagement, Locus of Control as Predictor and Academic Achievement as Criterion Variable

Model	R	Adjusted R Square	Std. Error of the Estimate
1	.789	.623	.619

Predictors: (Constant), students’ commitment, students’ engagement, locus of control
Criterion variable: academic achievement

Table 3 indicated that in Pakistani educational institutions students’ commitment, engagement and locus of control explained 61.9% variance in the students’ academic achievement.

Table 4
Coefficients of regression line presenting students' commitment, students' engagement, locus of control as predictor variable and academic achievement as criterion variable

Model	Unstandardized Coefficients		Standardized Coefficient	T	P-value
	Std. Error		Beta		
	B	Error			
(Constant)	.902	.117		7.730	.000
Students' Commitment	.166	.028	.256	5.981	.000
Students' Engagement	.240	.028	.383	8.492	.000
Locus of Control	.305	.034	.353	9.091	.000

Criterion variable: academic achievement

Table 4 indicates that students' commitment, engagement and locus of control have significant impact on academic achievement at 0.05 levels of significance. It is revealed that students' commitment, engagement and locus of control have positive impact on students' academic achievement at higher education level in Pakistan.

Differences Regarding Demographic Variables

Independent sample t-test revealed no significant differences in students' commitment, engagement, locus of control and academic achievement with respect to department, income, father's education, mother's education, age, and program of study at university level in Pakistan. In Mexico, (Binder, 1998) reported that parental schooling is associated with academic achievement of students at school level. This difference may be due to difference in level of education or culture Differences were noted regarding gender, residence and years of stay in the university.

Independent sample t-test revealed that female students were more committed (t=3.26, p=.001), more engaged (t=2.86, p=.004); had more internal locus of control (t=3.88, p=.000) and higher academic achievement (t=2.82, p=.005) than their male counterparts.

Independent sample t-test further revealed that rural students were more committed (t=2.18, p=.029), more engaged (t=2.40, p=.016); had higher academic achievement (t=2.30, p=.022) than their urban counterparts. But the rural students had less (t=-2.07,

p=.039) internal locus of control than their urban counterparts.

Independent sample t-test results show that students in 2nd and subsequent years in university were more committed (t=3.27, p=.001), more engaged (t=3.30, p=.001); had more internal locus of control (t=2.95, p=.003) and higher academic achievement (t=3.00, p=.003) than their first year counterparts.

Conclusions and Recommendations

On the basis of analysis of data the conclusions were made. Commitment, engagement, and locus of control are predictors of academic achievement at higher education level in Pakistan. This means that an increase in any one of the three aforementioned variables results in corresponding increase in academic achievement. Different studies (Corno & Mandinach, 1983; Duttweiler, 1984; Findley & Cooper, 1983; Krause & Coates, 2008; Lefcourt, 1976; Lodyga, 2009; Marks, 2000; Murk & Addleman, 1992; Strauss, 2001; Strauss & Volkwein, 2004; Walker & Greene, 2009; Wong & Hui, 1995) have reported similar results in other parts of world. This study provides evidence in local context that academic achievement can be predicted based on commitment, engagement, and locus of control. In Pakistan, higher education institutions are struggling to provide state of the art academic facilities to their students after the establishment of higher education commission of Pakistan in 2002. But the quality of higher education needs improvement to be at par with international standards. The students of higher education have moderate level of commitment, engagement and internal locus of control in Pakistan. By improving commitment to the institution, engagement with the studies and internal locus of control the academic performance may be improved. As this study was conducted in Punjab, the future researchers are recommended to conduct more studies in other provinces to provide evidence about the significance of commitment, engagement, locus of control and other related variables to improve academic achievement at higher education level. This may contribute to improve the standard of higher education to narrow the gap between local and international standards.

Most of the demographic variables (department, income, father education, mother education, age, and program) had no effect on students' commitment, engagement, locus of control and academic achievement at higher education level in Pakistan except gender and residence and years of stay in university.

Female students were more committed, more engaged; had more internal locus of control and higher academic achievement than their male counterparts. Similarly rural students were more committed, more engaged; had higher academic achievement than their urban counterparts. But the rural students had less internal locus of control than their urban counterparts. Longer stay in university is associated with more commitment,

engagement; internal locus of control and higher academic achievement. Several studies in Pakistan show that female students are more engaged and have higher academic achievement than their male counterparts, similarly rural students have more positive attitude and higher achievement than their urban counterparts (Awan, Sarwar, Naz, & Noreen, 2011; Sarwar, Bashir, & Alam, 2010; Sarwar, Bashir, Khan, & Khan, 2009). There is need to do further research to explore why female students and rural students were more committed, more engaged, had more internal locus of control and higher academic achievement than their male and urban counterparts respectively.

Finally, it can be said that commitment, engagement, and locus of control are predictors of academic achievement at higher education level in Pakistan. By improving commitment to the institution, engagement with the studies and internal locus of control the academic performance may be improved.

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