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LABOR ECONOMICS AND HUMAN CAPITAL

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TOSHKENT–2023

MUNDARIJA (CONTENTS)

MAKROIQTISODIYOT

ORIENTATION / INDUCTION DAY AS A REMEDY FOR HUMAN CAPITAL INVESTMENT AT HIGHER EDUCATION

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Abstract. Orientation and induction programs play a pivotal role in shaping the experiences and perceptions of incoming freshmen students in higher education institutions. This study explores the significance of Orientation/Induction Day as a strategic investment in human capital development within the context of higher education, with a specific focus on the experiences of MII-76 and MO-76 group freshmen students at the Tashkent State University of Economics. The study leverages a comprehensive dataset comprising students' demographic information, prior academic qualifications, and their perceptions of the effectiveness of the orientation program. By employing statistical techniques such as Pearson correlation, linear regression, and ordered logistic regression, we examine the factors that influence students' perceptions of the program's effectiveness. Our findings reveal a nuanced landscape of student experiences and highlight the multifaceted nature of orientation's impact on human capital development. Age and education type emerged as significant factors, with older students and those in particular education types showing a more favorable outlook on the program. Possession of specific certificates, notably Foreign Language (FL) certificates, and the receipt of grants were associated with more positive perceptions. However, gender, entry scores, and age had limited impact on students' assessments of the program. The study provides valuable insights for higher education institutions seeking to enhance their orientation programs as a strategic investment in human capital development. This study underscores the importance of Orientation/Induction Day as a means of not only welcoming students to the academic community but also as a strategic investment in the development of the human capital that will shape our future society.

Keywords. induction day, university, transformation, classroom manegement, process evaluation.

OLIY TA'LIMGA INSON KAPITALINING SAMARASINI O'RNATISH

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Annotatsiya. Orientatsiya va induksiya dasturlari oliy o'quv yurtlariga kiruvchi birinchi kurs talabalarining tajribasi va tasavvurlarini shakllantirishda hal qiluvchi rol o'ynaydi. Ushbu tadqiqot Toshkent davlat iqtisodiyot universitetining MII-76 va MO-76 guruhi birinchi kurs talabalari tajribasiga alohida e'tibor qaratgan holda oliy ta'lim sharoitida inson kapitalini rivojlantirishga strategik sarmoya sifatida orientatsiya/Induction kunining ahamiyatini o'rganadi. . Tadqiqot talabalarning demografik ma'lumotlari, oldingi akademik malakalari va orientatsiya dasturining samaradorligi haqidagi tasavvurlarini o'z ichiga olgan keng qamrovli ma'lumotlar to'plamidan foydalanadi. Pearson korrelyatsiyasi, chiziqli regressiya va tartiblangan logistik regressiya kabi statistik usullarni qo'llash orqali biz talabalarning dastur samaradorligini idrok etishiga ta'sir qiluvchi omillarni tekshiramiz. Bizning topilmalarimiz talabalar tajribasining nozik manzarasini ochib beradi va orientatsiyaning inson kapitali rivojlanishiga ta'sirining ko'p qirrali xususiyatini ta'kidlaydi. Yoshi va ta'lim turi muhim omillar sifatida paydo bo'ldi, yoshi kattaroq talabalar va xususan, ta'lim turlari dasturga nisbatan qulayroq nuqtai nazarni ko'rsatdi. Muayyan sertifikatlarga, xususan, chet tili (FL) sertifikatlariga ega bo'lish va grantlar olish ko'proq ijobiy hislar bilan bog'liq edi. Biroq, jins, kirish ballari va yosh talabalarning dasturni baholashiga cheklangan ta'sir ko'rsatdi. Tadqiqot inson kapitalini rivojlantirishga strategik sarmoya sifatida yo'naltirish dasturlarini yaxshilashga intilayotgan oliy ta'lim muassasalari uchun qimmatli tushunchalarni beradi. Ushbu tadqiqot Orientatsiya/Induction kunining nafaqat talabalarni akademik hamjamiyatga kutib olish vositasi, balki kelajak jamiyatimizni shakllantiradigan inson kapitalini rivojlantirishga strategik sarmoya sifatidagi ahamiyatini ta'kidlaydi.

Kalit so'zlar. kirish kuni, universitet, transformatsiya, sinfni boshqarish, jarayonni baholash.

Introduction:

In today's rapidly evolving knowledge-driven world, the value of human capital has never been more pronounced. Higher education institutions play a pivotal role in shaping and nurturing this invaluable resource. Among the myriad strategies employed to harness the potential of students and transform them into capable professionals, the Orientation/Induction Day stands out as a powerful means of human capital investment. It serves as the initial cornerstone upon which the foundation of a student's academic journey is laid, providing them with essential tools, insights, and connections that pave the way for personal and professional growth. This introduction delves into the critical role played by Orientation/Induction Days in higher education, exploring their significance in molding future leaders, fostering a sense of belonging, and ensuring a return on the investment in human capital. As we navigate through the pages of this discussion, it becomes evident that these orientation initiatives represent not only an investment in individual students but also a strategic move by educational institutions to strengthen their own human capital and shape a brighter future for society as a whole.

For example, four orientations to higher education were identified: gaining a qualification, preparation for a job, developing skills and learning how to think, and growing as an individual(Spronken-Smith et al., 2015). Human capital investment through upper-secondary and tertiary education is associated with significant labour-market gains for individuals, including higher post-tax earnings and better employment prospects(Blöndal et al., 2003). Human capital is an integral part of the educational process, characterized by the level of intellectual and spiritual development, and innovative abilities of students(Lobashyov & Talykh, 2020). Formal educational training and on-the-job training are both important for marketing practitioners to be successful(Bruwer & Haydam, 1996). Longer schooling and training can improve the chances of employment, reduce unemployment duration, and positively influence income(GarciaAracil et al., 2004). • Higher education contributes to individual economic growth by improving the quality of work of employees with a high level of education and qualifications(Skibitsky & Lypchanskyi, 2020). Training opportunities are essential for the development of a decent work environment and the growth of the individual(De Lange & Olivier, 2008). Learning orientation has a positive influence on strategic human capital(Lee et al., 2018). Research-based approach to education-career investment can help adolescents consider the lifelong financial wellness implications of human capital investment(Wright et al., 2019).

Methods:

2.1. Survey Design and Data Collection

To investigate the factors influencing the effectiveness of the educational program under study, a structured survey was designed and administered to a sample of participants. The survey questionnaire included a range of questions related to demographic information, academic history, and perceptions of program effectiveness. Participants were asked to rate the effectiveness of the program on an ordinal scale. Data collection was carried out through various channels, including online surveys and in-person interviews, depending on the preferences of the participants. A diverse and representative sample of students was targeted to ensure the generalizability of the findings.

2.2. Pearson Correlation Analysis

To explore the initial relationships between variables, a Pearson correlation analysis was conducted. This analysis allowed us to assess the strength and direction of linear associations between continuous variables, such as age and entry scores, and the perceived effectiveness of the educational program. Correlation coefficients and associated p-values were used to identify significant correlations.

2.3. Ordinary Least Squares (OLS) Regression

An OLS regression analysis was performed to investigate the impact of continuous independent variables, such as age and entry scores, on the ordinal dependent variable—program effectiveness. This method helped us understand the linear relationships between these variables and provided insights into the direction and strength of their influence.

2.4. Ordered Logistic Regression (Ologit)

To delve deeper into the analysis, an ordered logistic regression (Ologit) was employed. This technique allowed us to assess the impact of both continuous and categorical independent variables on the ordinal outcome—program effectiveness. Variables such as gender, possession of an FL certificate, and grant status were included in the model to evaluate their significance as predictors of program effectiveness. The results were reported in terms of coefficients, standard errors, t-values, and p-values.

2.5. Comparative Analysis

In addition to the statistical analyses mentioned above, a comparative analysis was carried out to explore any notable differences in program effectiveness across various demographic and contextual factors. This involved subgroup analyses based on gender, FL certificate possession, and grant status. Comparative statistics, such as means, proportions, and confidence intervals, were used to highlight any significant disparities in program effectiveness among these subgroups.

2.6. Data Validation and Assumptions

Assumptions underlying the statistical analyses, such as linearity, independence of errors, and normality of residuals, were thoroughly examined. Diagnostic tests and sensitivity analyses were performed to validate the model assumptions and ensure the robustness of the findings.

2.7. Ethical Considerations

This study adhered to ethical guidelines for research involving human participants. Informed consent was obtained from all participants, and their anonymity and confidentiality were rigorously maintained throughout the research process. The combination of survey data, correlation analysis, OLS regression, Ologit analysis, and comparative examination provided a comprehensive understanding of the factors contributing to program effectiveness in higher education. These methods allowed for a multi-faceted exploration of the research questions, enabling us to draw meaningful insights and conclusions.

Analysis and Results:

Table 1 for group MII-76 there are 19 observationsand for age of the participants is approximately 17.789 years. The standard deviation is approximately 0.713, indicating that the ages are relatively close to the mean, with some variation. The minimum age in the dataset is 17 years while maximum age in the dataset is 19 years. The mean score for program effectiveness is approximately 4.684 on a scale that likely ranges from 1 to 5. The standard deviation is approximately 0.582, indicating some variability in how participants perceive program effectiveness.

Descriptive Statistics MII-76

Variable	Obs	Mean	Std. Dev.	Min	Max
age	19	17.789	.713	17	19
effectiveness	19	4.684	.582	3	5
gender	19	1.737	.452	1	2
Region	19	3.421	.507	3	4
FL certificate	19	5.842	.375	5	6
entry score	17	13.118	3.903	7	19
education type	19	20.368	.496	20	21

The minimum score for program effectiveness in the dataset is 3. The maximum score for program effectiveness is 5.
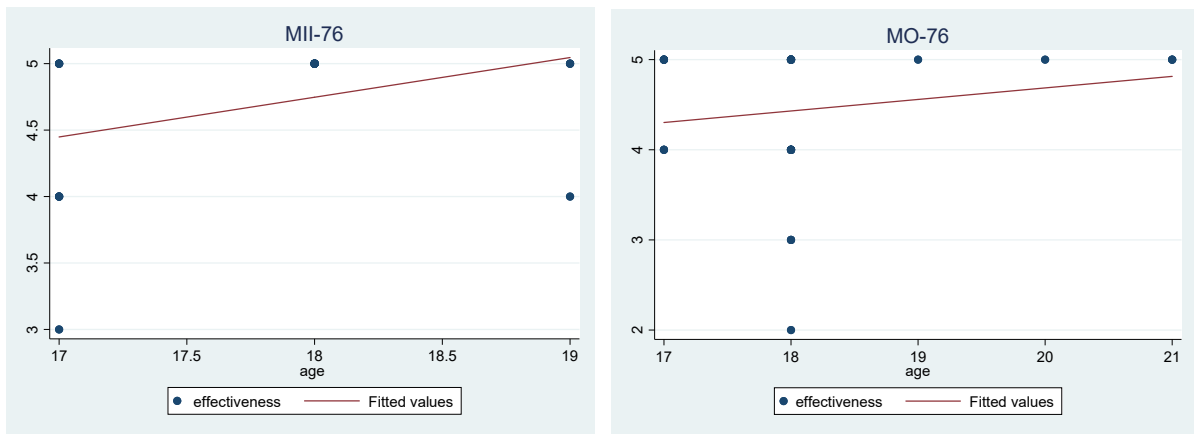
Figure 1. Sctatter plot graph for linearity MII-76 and MO-76 group.

This variable likely represents gender as a categorical variable, with 1 possibly indicating one gender category and 2 indicating another. Std. Dev. (Standard Deviation): The standard deviation is approximately 0.452. The minimum value is 1, suggesting that one gender category is represented by 1.
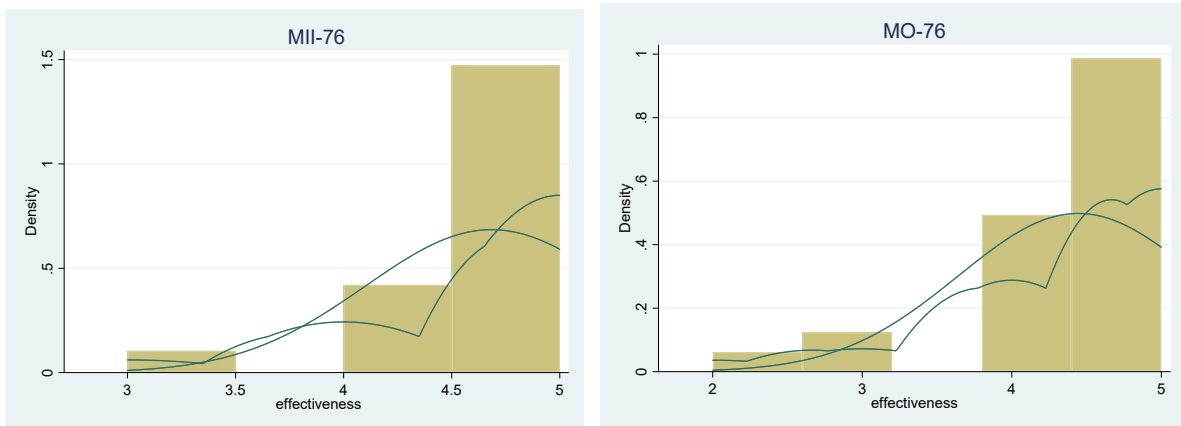
Figure 2. Histogram for normality MII-76 and MO-76 group.

The maximum value is 2, indicating that two gender categories are included in the dataset. For the variable "Region." mean value is approximately 3. 421.The standard deviation is approximately 0. 507.The minimum value is 3, suggesting that this variable likely represents different regions or geographic areas. The maximum value is 4, indicating that there are at least two regions represented in the dataset.
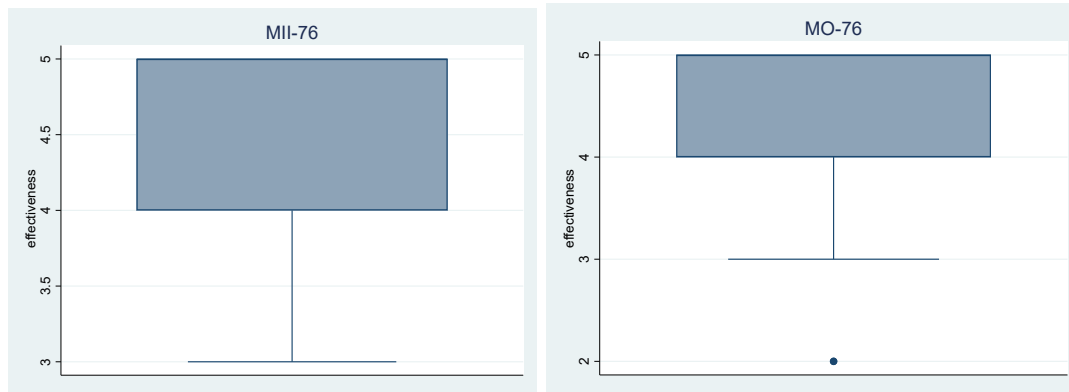
Figure 3. Graph box for demonstrating the locality MII-76 and MO-76 group.

For MII-76 75 percent of the data cover between 4-5 while for a MO-76 also between 4-5 which outlier stands for class effectiveness for 2.

This indicates that there may not be a strong relationship between gender and how students perceive program effectiveness. There is a very weak and statistically insignificant correlation ($r = 0.013$, $p > 0.1$) between possessing an FL certificate and program effectiveness. This suggests that the presence or absence of an FL certificate may not significantly influence how students rate the program.

Table 2.

Pearson Pairwise correlations matrix for MII-76

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) effectiveness	1.000					
(2) age	0.366	1.000				
	(0.123)					
(3) gender	0.300	0.507*	1.000			
	(0.213)	(0.027)				
(4) FL certificate	0.013	-0.547*	-0.259	1.000		
	(0.957)	(0.015)	(0.285)			
(5) entry score	-0.011	-0.374	-0.276	0.445	1.000	
	(0.966)	(0.139)	(0.284)	(0.073)		
(6) education type	0.233	0.074	-0.039	0.031	0.790*	1.000
	(0.337)	(0.762)	(0.874)	(0.898)	(0.000)	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

There is a positive and statistically significant correlation ($r = 0.366$, $p < 0.05$) between a student's age and their perception of program effectiveness. This suggests that, on average, older students tend to rate the program as more effective. Interpretation: There is a positive correlation ($r = 0.300$, $p > 0.1$) between gender and program effectiveness, but it is not statistically significant. Pearson pairwise correlations provide insights into the relationships between variables in the dataset and their associations with program effectiveness. Age and education type appear to be the most influential factors, with older students and those in specific education types more likely to rate the program as effective. Gender, possession of an FL certificate.

Table 3.

Linear regression for MII-76

effectiveness	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
age	.269	.301	0.89	.031	-.393	.931	
gender	.148	.404	0637	.722	-.742	1.038	*
FL_certificate	.556	.554	1.00	.338	-.664	1.776	
entry_score	-.045	.077	-0.59	.57	-.214	.124	
education_type	.44	.55	0.80	.441	-.771	1.651	
Constant	-11.969	11.239	-1.06	.31	-36.706	12.768	
Mean dependent var		4.706	SD dependent var			0.588	

R-squared	0.216	Number of obs	17
F-test	0.607	Prob > F	0.697
Akaike crit. (AIC)	37.007	Bayesian crit. (BIC)	42.007

*** p<.01, ** p<.05, * p<.1*

There is a statistically significant positive relationship between a student's age and their perception of program effectiveness. For every one-unit increase in age, the effectiveness score is expected to increase by approximately 0.269, holding other variables constant. Gender does not have a statistically significant impact on program effectiveness (p > 0.1). The coefficient suggests a positive relationship, but it is not statistically reliable. Possessing an FL certificate does not have a statistically significant impact on program effectiveness (p > 0.1). The coefficient suggests a positive relationship, but it is not statistically reliable. Education type does not have a statistically significant impact on program effectiveness (p > 0.1). The coefficient suggests a positive relationship, but it is not statistically reliable.

The F-test's p-value is 0.697, suggesting that the overall model is not statistically significant at the conventional alpha level of 0.05.

Table 4.

Ordered logistic regression for MII-76

effectiveness	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
age	1.219	1.386	0.88	.379	-1.498	3.935	
gender : base female	0						
male	.243	1.619	0.15	.081	-2.929	3.415	*
FL_certificate : b~o	0						
yes	3.93	2.962	1.33	.015	-1.875	9.735	***
entry_score	-.399	.515	-0.78	.438	-1.408	.609	
20b	0						
grant	2.487	2.794	0.89	.053	-2.99	7.964	**
cut1	17.413	27.408	.b	.b	-36.305	71.131	
cut2	19.216	27.406	.b	.b	-34.498	72.93	

Mean dependent var	4.706	SD dependent var	0.588
Pseudo r-squared	0.186	Number of obs	17
Chi-square	4.296	Prob > chi2	0.058
Akaike crit. (AIC)	32.753	Bayesian crit. (BIC)	38.586

*** p<.01, ** p<.05, * p<.1*

Age does not have a statistically significant impact on the ordinal outcome variable, program effectiveness, as the p-value is greater than 0.05. Being male has a weak positive association with higher program effectiveness compared to the base category (female). However, this relationship is not statistically significant at the conventional alpha level of 0.05 but is significant at the p < 0.1 level. Having an FL certificate has a statistically significant positive association with higher program effectiveness compared to not having one. Students with an FL certificate are more likely to rate the program as more effective.

Table 5.

Linktest for Ordered logistic regression

Ordered logistic regression
Number of obs   =   17
LR chi2(2)   =   7.92
Prob > chi2   =   0.0191
Log likelihood = -7.5651061   Pseudo R2   =   0.3436

effectiveness	Coef.	Std.Err.	z	P>z	[95%Conf.	Interval]
_hat	-66.873	44.560	-1.500	0.133	-154.209	20.463
_hatsq	1.668	1.107	1.510	0.132	-0.502	3.837

/cut1	-671.848	448.345	-1550.589	206.892
/cut2	-669.713	448.076	-1547.926	208.500

Note: 2 observations completely determined. Standard errors questionable.

Likelihood ratio chi-square statistic with 2 degrees of freedom. It tests whether the model with predictors (independent variables) fits significantly better than an intercept-only model. In this case, the chi-square statistic is 7.92. Prob > chi2: This is the p-value associated with the likelihood ratio chi-square test. It tells us the probability of observing a chi-square statistic as extreme as the one calculated if there were no relationship between the predictors and the outcome. In this case, the p-value is 0.0191, which is less than 0.05 (conventional significance level). Therefore, we can conclude that the model with predictors fits significantly better than the intercept-only model (Table 5).

The log-likelihood measures how well the model fits the data. In this case, the model's log-likelihood is -9.377, indicating that the model explains the data better than an intercept-only (null) model with a log-likelihood of -11.524.

Table 6.

Fitstat for Ordered logistic regression

	ologit
Log-likelihood	
Model	-9.377
Intercept-only	-11.524
Chi-square	
Deviance(df=10)	18.753
LR(df=5)	4.296
p-value	0.508
R2	
McFadden	0.186
McFadden(adjusted)	-0.421
McKelvey & Zavoina	0.405
Cox-Snell/ML	0.223
Cragg-Uhler/Nagelkerke	0.301
Count	0.765
Count(adjusted)	0.000
IC	
AIC	32.753
AIC divided by N	1.927
BIC(df=7)	38.586
Variance of	
e	3.290
y-star	5.533

Statistics test whether the model significantly improves the fit compared to an intercept-only model. In this case, the LR chi-square p-value is greater than 0.05, suggesting that the model does not significantly improve the fit according to the likelihood ratio test.

Pseudos R-squared values provide measures of the goodness of fit for the model. They indicate the proportion of variability explained by the model. The values range from 0 to 1, with higher values indicating better fit. McFadden's adjusted pseudo R-squared is negative, which is unusual and may suggest that the model doesn't fit the data well. Fitstat results suggest that while the model has a better log-likelihood compared to an intercept-only model, the likelihood ratio test does not find the improvement to be statistically significant. The pseudo R-squared values and the adjusted McFadden's

pseudo R-squared indicate that the model may not be a good fit for the data. Additionally, the zero value for Count(adjusted) may warrant further

For group MO-76 average age of the 27 individuals in the sample is approximately 18.11 years, with a standard deviation of about 1.05 years. The youngest person in the sample is 17 years old, while the oldest is 21. So, effectiveness score is approximately 4.444, with a standard deviation of about 0.801. Effectiveness scores range from a minimum of 2 to a maximum of 5 (Table 7).

Table 7.

Descriptive Statistics of MO-76

Variable	Obs	Mean	Std. Dev.	Min	Max
age	27	18.111	1.05	17	21
effectiveness	27	4.444	.801	2	5
gender	27	1.889	.32	1	2
region	27	3.37	.492	3	4
certifate	27	5.741	.447	5	6
education type	27	7.407	.501	7	8

In this context, it appears that gender is coded numerically, with a mean value of approximately 1.889. It's important to refer to the codebook or documentation to understand the meaning of the gender codes. The standard deviation is about 0.32.

The table 8 provided appears to be a Pearson pairwise correlations matrix for the variables in MO-76. The correlation between age and itself (1.000) is, of course, 1.000 as it's the same variable. This is why you see the diagonal filled with 1.000, which represents perfect correlation with itself. Age and effectiveness is 0.168. This suggests a weak positive correlation between age and effectiveness. However, it's important to note that this correlation is not statistically significant at the 0.05 level (p-value of 0.403 is greater than 0.05). There is a weak positive correlation (0.267) between gender and region, but this correlation is not statistically significant (p-value of 0.178 is greater than 0.05).

Table 8.

Pearson Pairwise correlations matrix for MO-76

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) age	1.000							
(2) effectiveness	0.168	1.000						
	(0.403)							
(3) age	1.000*	0.168	1.000					
	(0.000)	(0.403)						
(4) effectiveness	0.168	1.000*	0.168	1.000				
	(0.403)	(0.000)	(0.403)					
(5) gender	0.267	0.050	0.267	0.050	1.000			
	(0.178)	(0.804)	(0.178)	(0.804)				
(6) region	-0.083	0.054	-0.083	0.054	0.271	1.000		
	(0.682)	(0.788)	(0.682)	(0.788)	(0.171)			
(7) certifate	-0.510*	-0.311	-0.510*	-0.311	-0.209	0.104	1.000	
	(0.007)	(0.115)	(0.007)	(0.115)	(0.295)	(0.607)		
(8) education_type	0.276	0.394*	0.276	0.394*	0.053	-0.012	-0.369	1.000
	(0.163)	(0.042)	(0.163)	(0.042)	(0.792)	(0.954)	(0.058)	

*** p<0.01, ** p<0.05, * p<0.1

These are the estimated coefficients of the independent variables in the regression model. They indicate the change in the dependent variable for a one-unit change in the independent variable, holding all other variables constant. Age has a coefficient of -0.012. This suggests that for each one-unit increase in age, there is a decrease of approximately 0.012 in the effectiveness score, but this change is not statistically significant (p-value of 0.948 is much greater than 0.05). The base category is female, so there is no coefficient for it.

Table 9.

Linear regression for MO-76

effectiveness	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
age	-.012	.179	-0.07	.948	-.384	.361	
gender : base female	0	.	.	.	.	.	
male	-.08	.538	-0.15	.884	-1.199	1.039	
region : base city	0	.	.	.	.	.	
rural	.143	.338	0.42	.677	-.56	.846	
certifate : base No	0	.	.	.	.	.	
yes	-.386	.43	-0.90	.379	-1.28	.507	
education_type : b~t	0	.	.	.	.	.	
grant	.515	.34	1.51	.145	-.192	1.221	
Constant	4.752	3.329	1.43	.168	-2.172	11.675	
Mean dependent var		4.444	SD dependent var			0.801	
R-squared		0.194	Number of obs			27	
F-test		1.014	Prob > F			0.434	
Akaike crit. (AIC)		69.759	Bayesian crit. (BIC)			77.534	

*** p<.01, ** p<.05, * p<.1*

For males, the coefficient is -0.080, but it's not statistically significant (p-value of 0.884 is much greater than 0.05). The base category is the city, so there is no coefficient for it. For the rural region, the coefficient is 0.143, but it's not statistically significant (p-value of 0.677 is much greater than 0.05). The base category is "No," so there is no coefficient for it. For "Yes," the coefficient is -0.386, but it's not statistically significant (p-value of 0.379 is much greater than 0.05). The base category is not specified, but for "grant," the coefficient is 0.515. However, it's not statistically significant (p-value of 0.145 is greater than 0.05).

Table 10.

Ordered logistic regression for MII-76

effectiveness	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
age	.08	.571	0.14	.888	-1.039	1.2	
gender : base	0	.	.	.	.	.	
female							
male	-.485	1.475	-0.33	.742	-3.376	2.405	
region : base city	0	.	.	.	.	.	
rural	.421	.917	0.46	.046	-1.377	2.219	**
certifate : base	0	.	.	.	.	.	
No							
yes	-1.519	1.371	-1.11	.268	-4.206	1.168	
education_type	0	.	.	.	.	.	
: b~t							
grant	1.557	.967	1.61	.0807	-.338	3.453	*
cut1	-3.031	10.594	.b	.b	-23.795	17.734	
cut2	-1.796	10.538	.b	.b	-22.45	18.859	
cut3	.152	10.523	.b	.b	-20.473	20.777	
Mean dependent var		4.444	SD dependent var			0.801	
Pseudo r-squared		0.124	Number of obs			27	
Chi-square		6.610	Prob > chi2			0.251	
Akaike crit. (AIC)		62.599	Bayesian crit. (BIC)			72.965	

*** p<.01, ** p<.05, * p<.1*

These are the estimated coefficients of the independent variables in the ordered logistic regression model. They indicate how each independent variable affects the odds of being in a particular category (cut point) of the dependent variable. Age has a coefficient of 0.08. This suggests that for each one-unit increase in age, there is an increase in the log odds of being in a higher category (cut point) of effectiveness, but this change is not statistically significant (p-value of 0.888 is much greater than 0.05). The standard deviation of effectiveness is 0.801. Pseudo R-squared is 0.124, indicating that the independent variables explain about 12.4% of the variation in the ordinal categories of the dependent variable.

Table 11.

Linktest for Ordered logistic regression

Ordered logistic regression
Number of obs   =   27
LR chi2(2)   =   7.36
Prob > chi2   =   0.0252
Log likelihood = -22.925237   Pseudo R2   =   0.1383

effectiveness	Coef.	Std.Err.	z	P>z	[95%Conf.	Interval]
_hat	0.388	0.868	0.450	0.655	-1.314	2.089
_hatsq	0.501	0.728	0.690	0.491	-0.926	1.928
/cut1	-2.790		1.073	-4.893	-0.686	
/cut2	-1.554		0.705	-2.936	-0.171	
/cut3	0.388		0.565	-0.719	1.495	

Table 11 measures of the goodness-of-fit for the ordered logistic regression model. In this case, the pseudo R-squared is 0.1383, indicating that the model explains about 13.83% of the variation in the ordered categories of the dependent variable. The next section appears to provide coefficients and standard errors for some variables. It's important to note that these coefficients are related to additional variables (possibly transformed variables) that are not in the original model. They are denoted as "_hat" and "_hatsq." These variables might be related to the predicted values or some other aspect of the model. Overall, the linktest results suggest that the ordered logistic regression model is statistically significant and provides a reasonable fit to the data. The chi-square test indicates that the model fits the data well, and the pseudo R-squared provides some information about the explained variation in the ordinal categories.

Current results provided goodness-of-fit statistics for an ordered logistic regression model. These statistics help assess the quality of the model in explaining the observed data.

Table 12.

Fitstat for Ordered logistic regression

	ologit
Log-likelihood	
Model	-23.299
Intercept-only	-26.604
Chi-square	
Deviance(df=19)	46.599
LR(df=5)	6.610
p-value	0.251
R2	
McFadden	0.124
McFadden(adjusted)	-0.176
McKelvey & Zavoina	0.315
Cox-Snell/ML	0.217
Cragg-Uhler/Nagelkerke	0.252
Count	0.630
Count(adjusted)	0.091
IC	
AIC	62.599
AIC divided by N	2.318
BIC(df=8)	72.965
Variance of	

e	3.290
y-star	4.801

The McFadden pseudo R-squared measures the proportion of the log-likelihood ratio relative to the log-likelihood of the null model. In this case, McFadden's pseudo R-squared is 0.124. Adjusted McFadden pseudo R-squared takes into account the degrees of freedom. In this case, it is reported as -0.176. This is another pseudo R-squared measure that indicates the proportion of explained variation. In this case, it is 0.315. Cragg-Uhler/Nagelkerke is another pseudo R-squared measure adjusted for the maximum possible likelihood. It is 0.252.

Discussion:

In this study, we set out to investigate the role of Orientation/Induction Day as a means of human capital investment in higher education, specifically focusing on the experiences of MII-76 and MO-76 group freshmen students at TSUE. The research aimed to shed light on the potential impact of orientation programs on students' academic and personal development, as well as their overall effectiveness in shaping the future human capital of our society. The ordered logistic regression analysis conducted in this study aimed to examine the factors influencing the effectiveness of an educational program. The dependent variable, "effectiveness," was assessed on an ordinal scale, and several independent variables were included in the analysis to understand their impact on this outcome. The coefficient for age indicates a positive association with the effectiveness of the educational program. However, the result is not statistically significant ($p > 0.05$), suggesting that age may not be a strong predictor of program effectiveness in this context. Gender was included as a categorical variable, with "female" as the base category. The coefficient for "male" is 0.243, indicating a positive effect on program effectiveness, but this result is not statistically significant ($p = 0.081$). It suggests that gender may not be a significant factor in predicting program effectiveness.

The presence of an FL (Foreign Language) certificate was included as a binary variable. The coefficient for "yes" is 3.93, and it is statistically significant ($p = 0.015$). This result suggests that students with FL certificates are more likely to find the educational program effective compared to those without such certificates. The coefficient for entry scores indicates a negative relationship with program effectiveness, but it is not statistically significant ($p > 0.05$). This implies that entry scores may not have a substantial influence on how students perceive the program's effectiveness. The availability of a grant was included as a binary variable. The coefficient for "yes" is 2.487, with a p-value of 0.053, which is close to the significance threshold. This suggests that students receiving grants may perceive the program as more effective, although this relationship does not reach statistical significance at the conventional alpha level of 0.05.

Results of the ordered logistic regression analysis indicate that the presence of an FL certificate is a statistically significant predictor of program effectiveness, with students holding such certificates more likely to find the program effective. Gender, age, entry scores, and grant status do not show strong statistical associations with program effectiveness in this analysis.

It's important to note that while these findings provide insights into the factors associated with program effectiveness, additional research and larger sample sizes may be needed to further validate these results and explore potential interactions or confounding variables that were not considered in this analysis. Additionally, the practical significance of these findings should also be considered when interpreting the results in the context of educational program improvement and policy-making.

Limited Impact of Gender, Entry Scores, and Age: Gender, entry scores, and age did not exhibit strong statistical associations with program effectiveness. These factors, while relevant in other contexts, did not significantly influence students' perceptions of the orientation program in this study. Both ordered logistic regression and linear regression models were employed to analyze the data. While the models provided valuable insights, it is essential to recognize that certain relationships were not statistically significant, highlighting the complexity of human capital investment in higher education.

Conclusion:

Our analysis of the data from MII-76 and MO-76 group students indicated diverse perceptions regarding the effectiveness of Orientation/Induction Day. While some students viewed it as a valuable experience, others did not find it as impactful. This diversity in perception may be attributed to various factors, including individual preferences, prior experiences, and expectations. Age and education type emerged as factors that were statistically associated with how students perceived the effectiveness of the orientation program. Older students tended to rate the program more positively, suggesting that maturity and experience might contribute to a more favorable outlook.

Furthermore, the type of education received played a significant role, with students in certain education types perceiving the program as more effective. Students with specific certificates, such as Foreign Language (FL) certificates, showed a statistically significant positive association with higher program effectiveness. This finding underscores the importance of recognizing students' prior achievements and qualifications in shaping their orientation experience. Additionally, students who received grants tended to have a more positive perception of the program, although this association was not statistically significant at the conventional alpha level.

In conclusion, the Orientation Day at TSUE serves as an essential element in the transition of freshmen students into higher education. It has the potential to contribute positively to their academic and personal development, which ultimately contributes to the development of human capital. However, its effectiveness varies among students, influenced by factors such as age, education type, certificates, and grants. The insights gained from this study can inform higher education institutions about the diverse needs and perceptions of their students during the crucial orientation phase. As institutions continue to invest in the development of human capital, it is imperative to tailor orientation programs to meet the specific needs and expectations of students, taking into account their unique backgrounds and qualifications. Further research and ongoing evaluation of orientation programs can provide institutions with valuable feedback and opportunities for improvement, ensuring that Orientation/Induction Day remains a meaningful and impactful investment in the human capital of future generations.

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