Gender Gap in Higher Education in Puerto Rico: Immediate Transfer of Males and Females to College

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Acknowledgments

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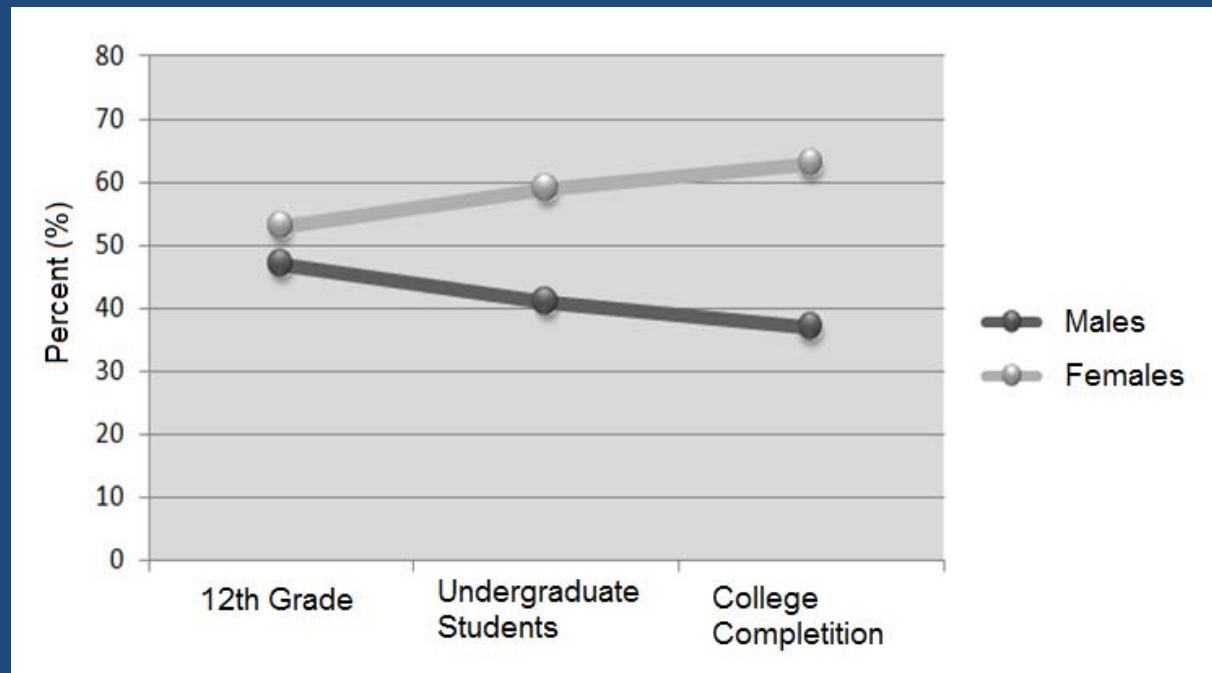Institutions of Higher Education Participants

Public Schools Participants

Overview

- Introduction
- Objectives
- Investigation at Higher Education Institutions
- Investigation at High Schools
- Conclusions

Introduction

Gender Gap in Different Educational Phases. Year 2009-10

Source: CEPR (2011), Disdier-Flores et al. (2011).

Introduction

- 60% females and 40% Males at Higher Institutions in Puerto Rico (CES, 2011).

- 55% females and 45% males in rest of the world (UNESCO, 2012).

- This world wide phenomenon is called gender gap.

Introduction

- Greatest gender gap found in East Europe.

- No gender gap in Asia, ratio 1:1

- In Africa gender gap biased towards males with ratio 3:1

- Wealth of countries favors gender gap.

UNESCO, Global Education Digest, 2010

Puerto Rico

- Gender gap occurs in undergraduate and graduate studies, unlike Latin America (Bonilla, et al., 2005).

- Gender gap does not affect selection of careers (Bonilla, et al., 2005).

- Women valuate education more than males (Martínez et al., 2007).

Reasons of Gender Gap

- Social, economical, demographic and educational.

- Females are getting married later

- Less segregation in the working market for females.

- Changes in the family composition.

Vincent-Lancrin, 2008, Jacob, 2002, and Averett & Burton, 1996.

Is Gender Gap Something to Worry About?

- Less number of marriages.

- Smaller life expectations for males (Cutler & Lleras-Muney, 2006).

- Gender gap might decrease income disparity between males and females.

Transition from High School to College

- Males delaying enrollment to college more than 7 months are less likely to finish a bachelor degree.

- Males have the feeling that delaying college will not have consequences.

Bozic & DeLuca, 2005.

Focus of this Study

- Importance of knowing what occurs during transition from high school to college in Puerto Rico.

- Unlike other studies, we focus our attention on males.

Objectives

Objective 1: Determine the number of students transferred directly from high school to college from 2005 to 2009.

Objective 2: Determine the variables affecting the decision-making of male' students in high school to enroll in college.

Methodology

Objective 1: Determine the number of students transferred directly from high school to college from 2005 to 2009.

Objective 1.
Methodology

- Non-experimental and descriptive investigation of tendencies.

- Twelve (12) higher education institutions of Puerto Rico, selected by convenience and randomly.

Objective 1.
Methodology

- Institutions submitted statistical data of direct transferred students from high school from 2005 to 2009.

- Information segregated by gender, academic load and degree.

Methodology

Objective 2: Determine the variables affecting the decision-making of male' students in high school to enroll in college.
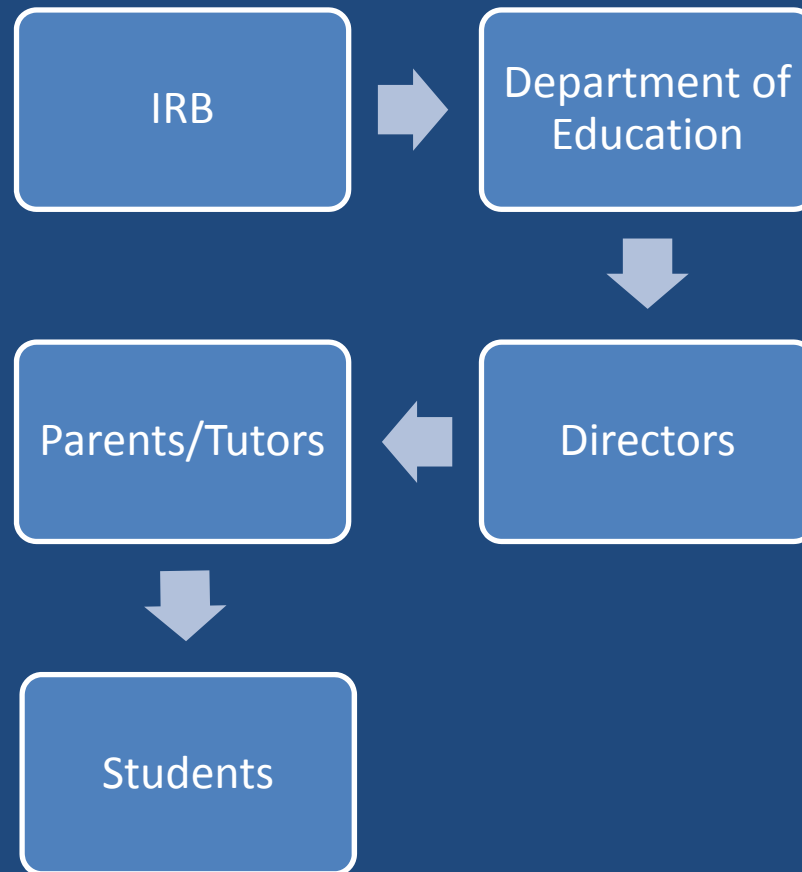
Objective 2.
Methodology

- Non-experimental study, inferential and transversal.
- Eleven (11) schools selected randomly.
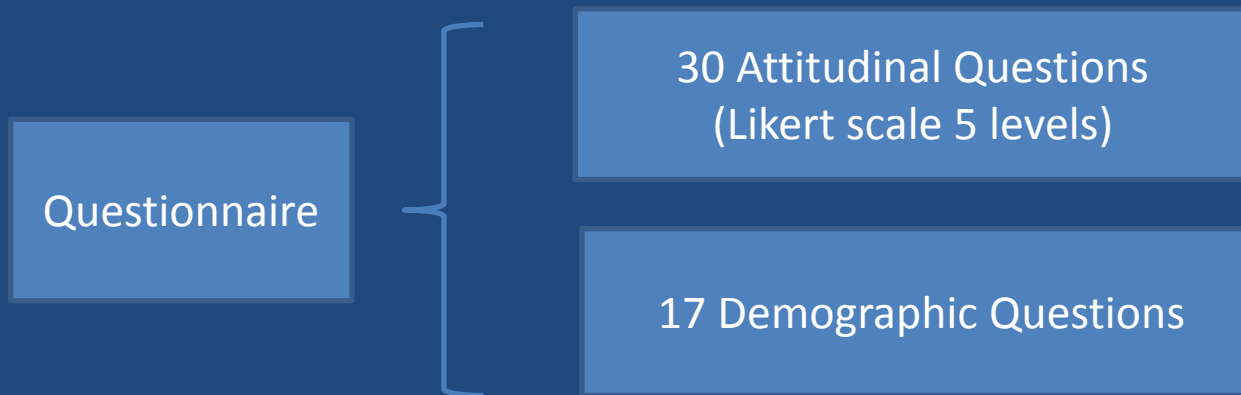- Male students selected from Grade 12.

Retrieved from: http:/images.yahoo.com

Objective 2. Methodology

Objective 2.
Questionnaire

- We delivered a questionnaire to students.

- Attitudinal questions included geographical, social, economical and educational topics.

Questionnaire

30 Attitudinal Questions
(Likert scale 5 levels)

17 Demographic Questions

Objective 2.
Questionnaire

- Data obtained during August to December of 2011.

- Data analyzed using Statistical Package of Social Sciences (SPSS).

- Median, T-test, Mann-Whitney U-Test, Chi-Square, and Spearman Correlation.

Results

Objective 1: Determine the number of students transferred directly from high school to college from 2005 to 2009.
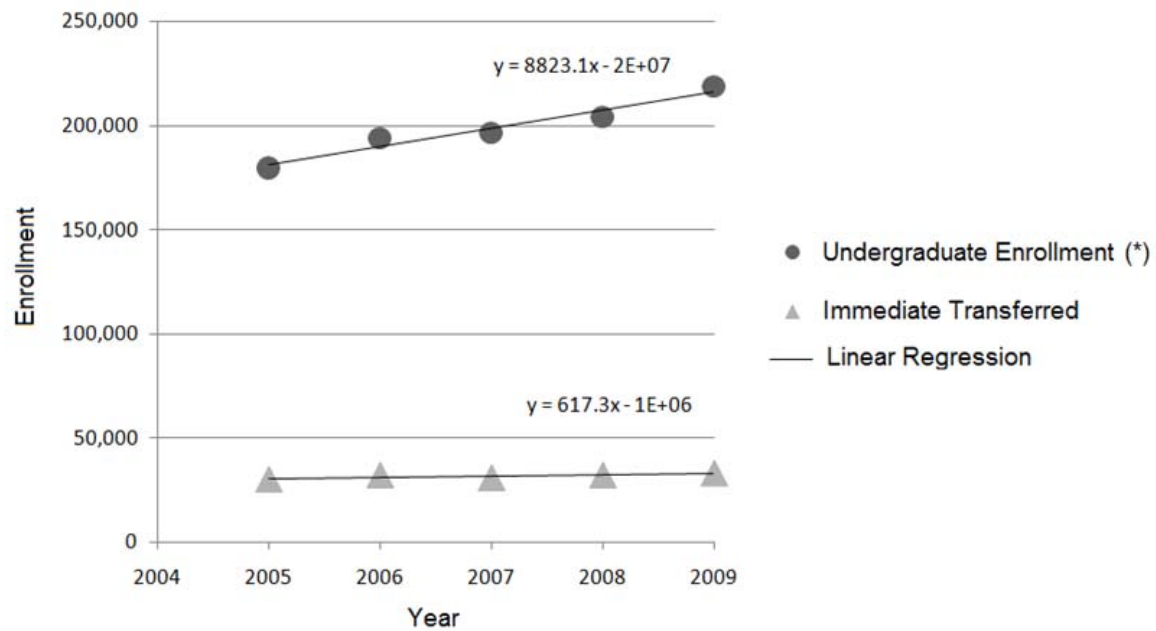
Objective 1.
Results

Sector	Sample Total Enrollment	Population Total Enrollment(*)
Public	65,699 (33%)	71,569 (29%)
Private	132,031 (67%)	177,803 (71%)
Total	197,730 (100%)	249,372 (100%)

Sample enrollment correspond to 79% of the population
(*) Source: CEPR, 2011. Year: 2009-10

Objective 1.
Results

Enrollment of Undergraduate Students from 2005 to 2009

(*) CEPR (2011)

Objective 1.
Results

- Undergraduate students increased at a rate of 8,823 students per year in Puerto Rico, during 2005 to 2009.

- Immediate Transferred students increased at a rate of 617 students per year in Puerto Rico, during 2005 to 2009.

Objective 1.
Results

Comparison of Enrollment of 12th Graders for 2008-09 and Immediate Transferred Students for 2009-10

Gender	12th Grade (*)	Immediate Transferred Students (**)	%
Masculino	19,631	14,699	75
Femenino	21,316	18,637	87
Total	40,947	33,337	81

(*) El Burai, et al. (2010)
(**) Data obtained in the present study

Objective 1.
Results

Enrollment of Immediate Transferred Students to College by Gender. Years 2005-06 to 2009-10
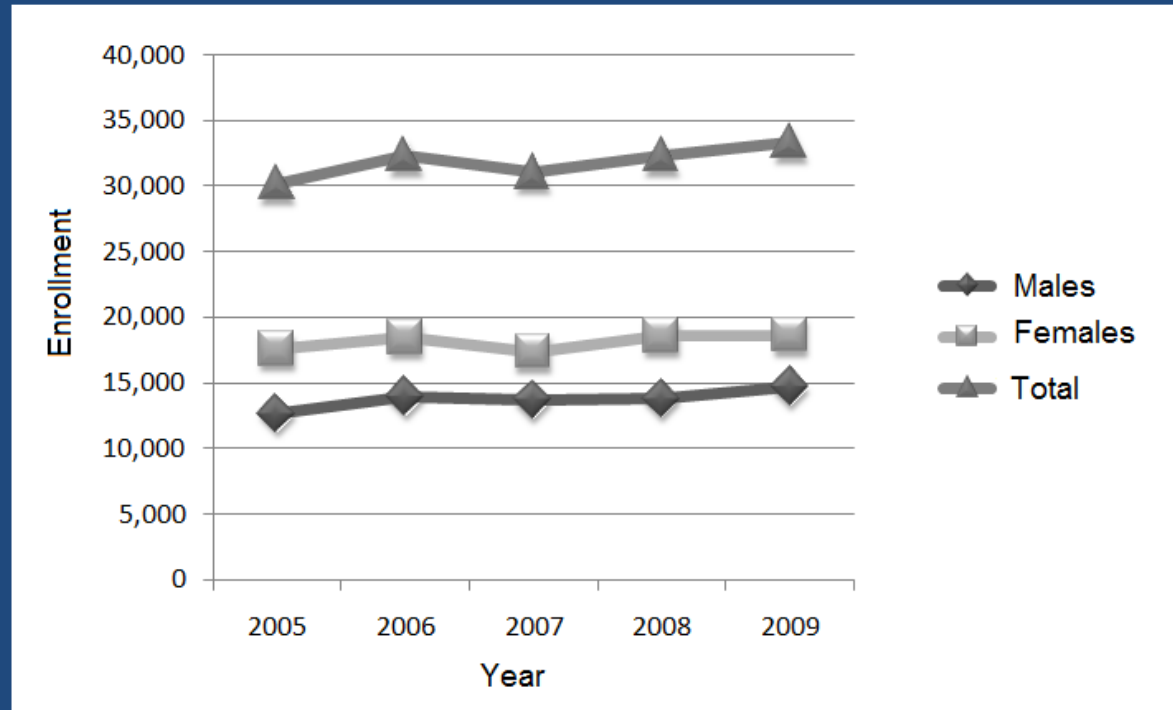
Objective 1.
Results

Enrollment of Immediate Transferred Students (2009-10)
12th Graders (2008-09) and Undergraduate Students
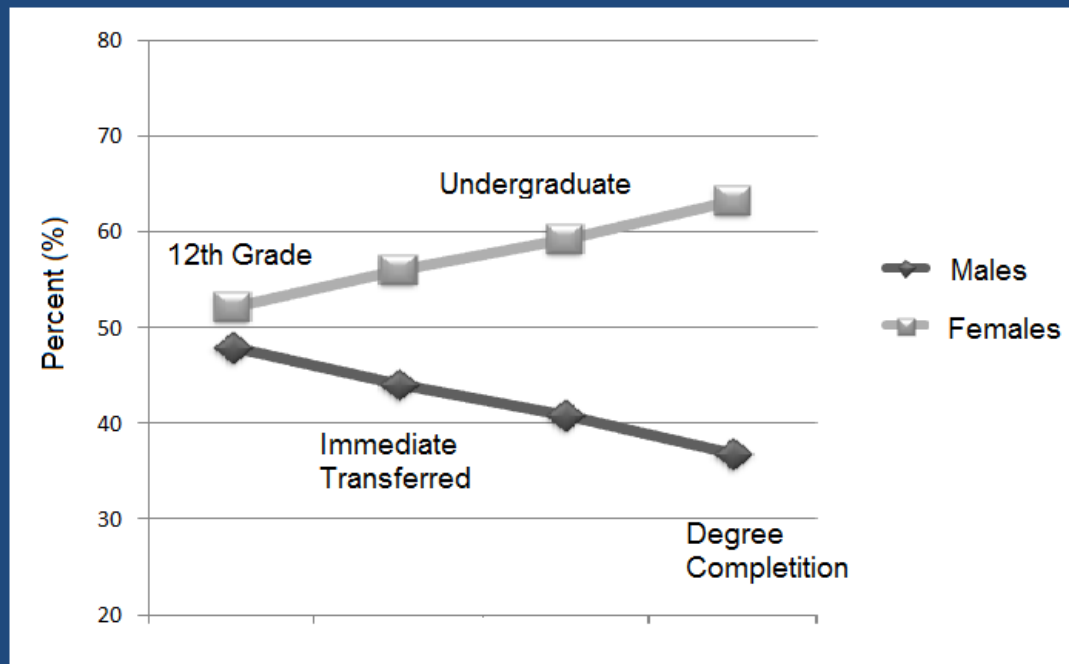
44% Males and 56% Females Transferred
directly to college

Objective 1.
Results

Gender Parity Index (GPI)*

GPI = Percent of Females / Percent of Males

GPI > 1 Means Larger Percent of Females
GPI = 1 Means Gender Parity
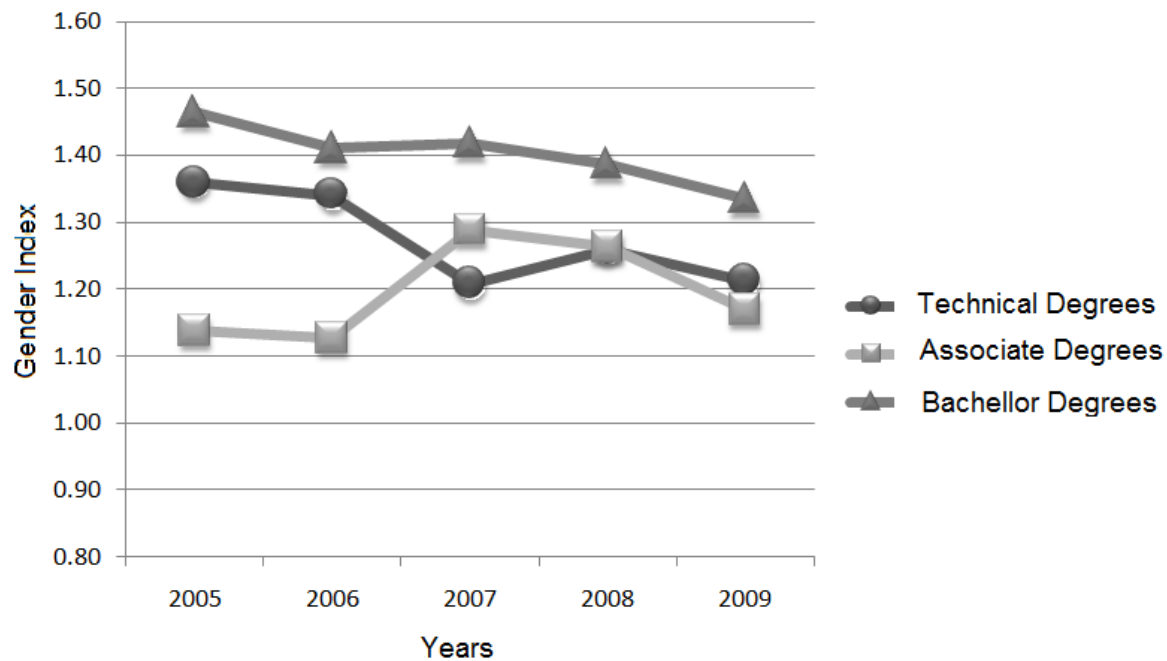GPI < 1 Means Larger Percent of Males

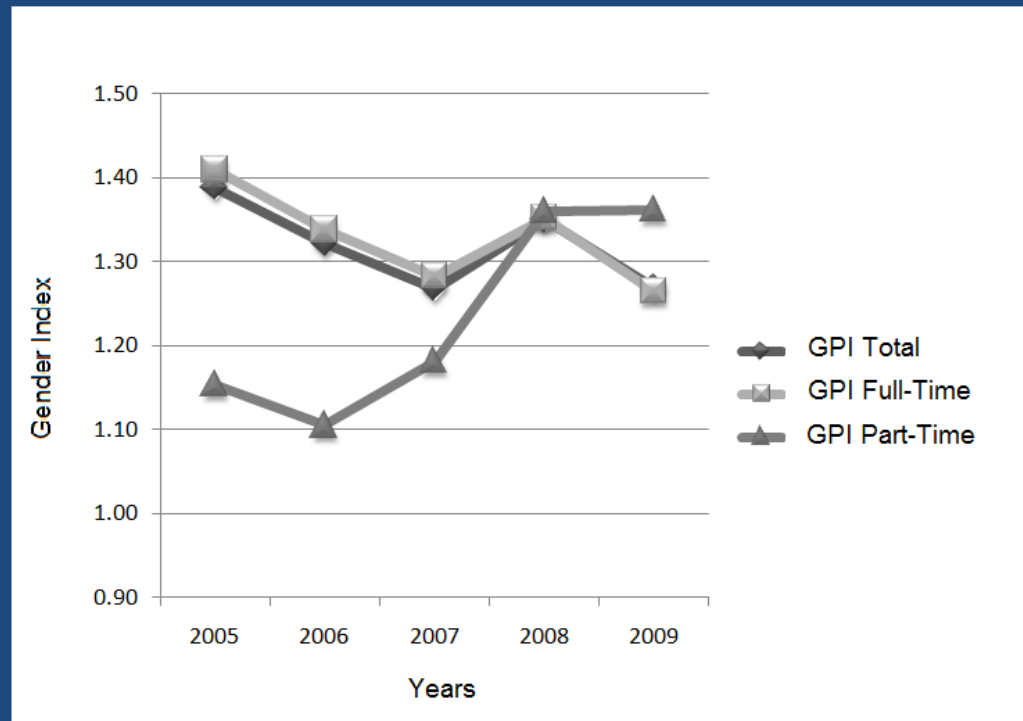(*) UNESCO, Global Education Digest, 2010

Objective 1.
Results

Immediate Transferred Students. Gender Parity Index
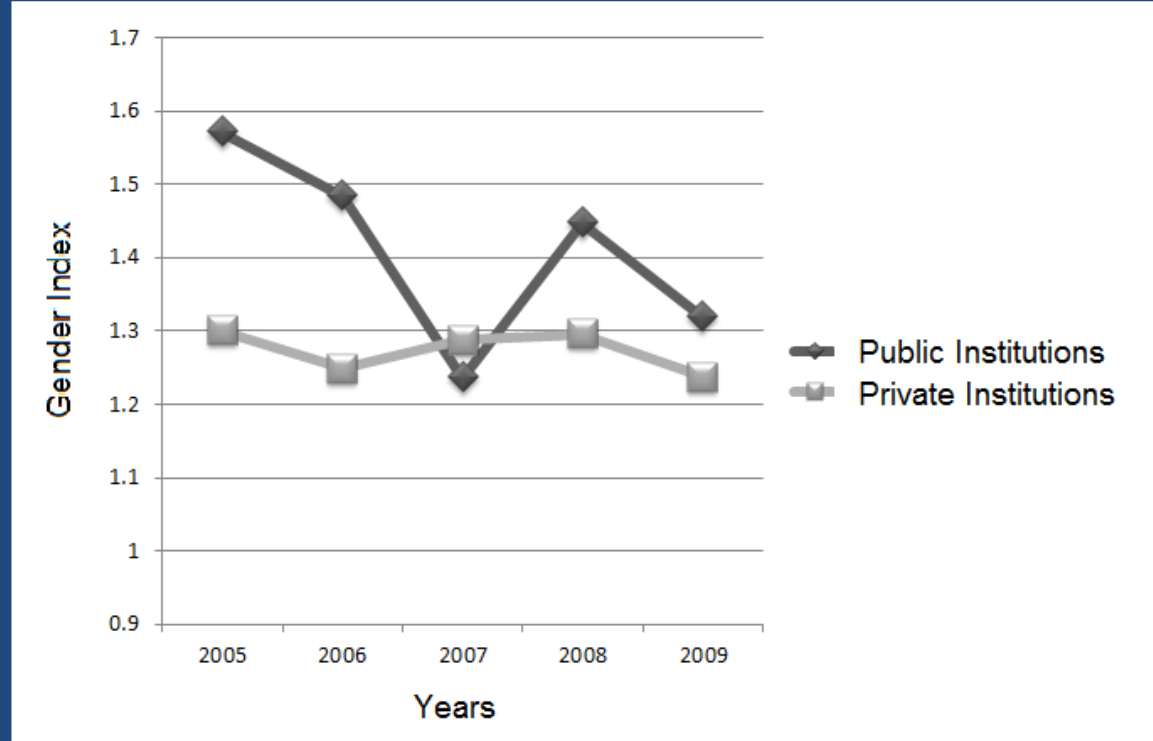by Degree. Years 2005-06 to 2009-10

Objective 1.
Results

Immediate Transferred Students. Gender Parity Index by Academic Load Years 2005-06 to 2009-10

Objective 1.
Results

Immediate Transferred Students. Gender Parity Index
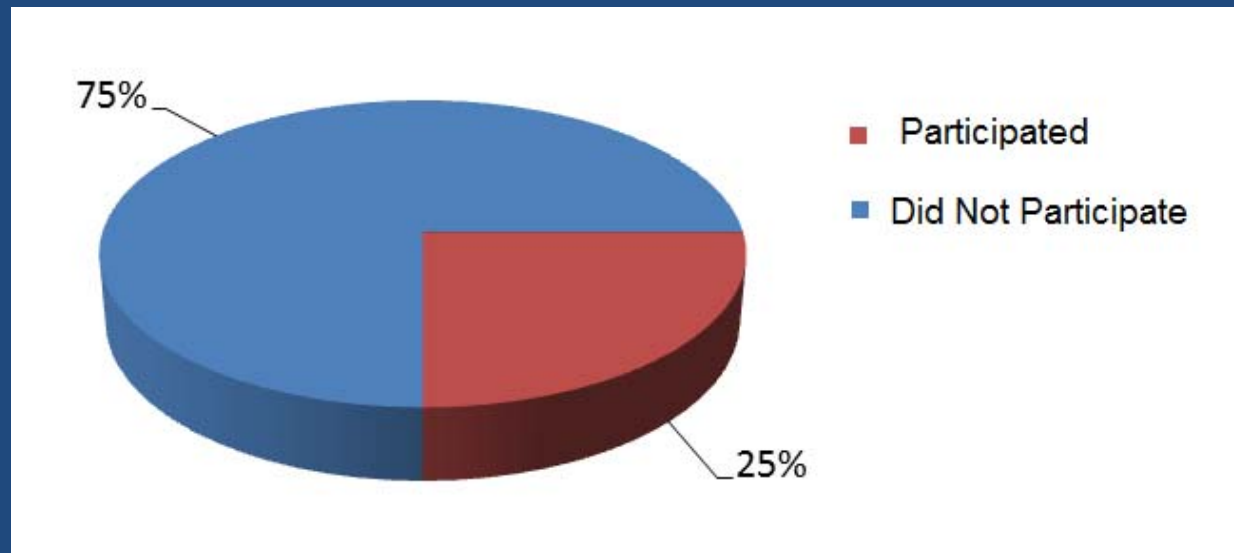by Type of Institution. Years 2005-06 to 2009-10

Results

Objective 2: Determine the variables affecting the decision-making of male' students in high school to enroll in college.

Objective 2.
Results

- Sample of male' students from 12th Grade.
- Only 208 students (25%) participated out of 848 total students.

Objective 2.
Demographic Overview

- 81% of male' students between 17 and 18 years.

- 87% of students are single.

- 76% of students live with both parents or with their mother only.

- 92% of students do not have children.

Objective 2.
Academic Overview

- Students declared an average GPA of 2.8

- 61% of students had taken College Board.

- 59% of students admitted a good or very good College Board performance.
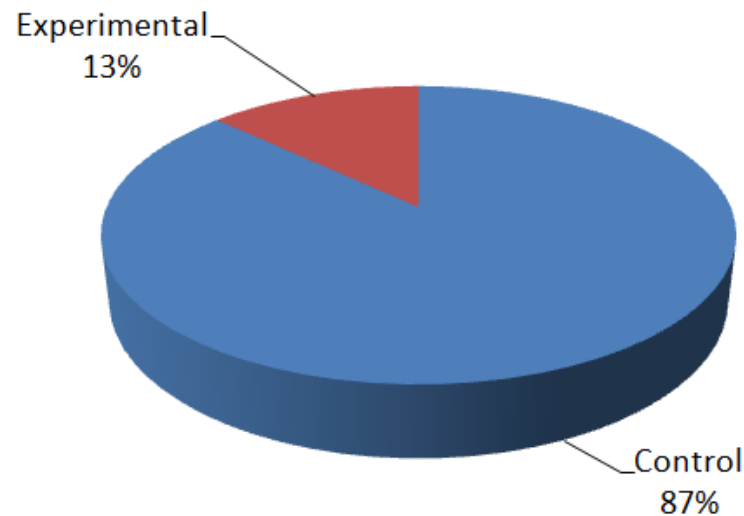
Objective 2.
Samples

- We separated the male' students in two (2) samples.

- Control Sample: Students declare they will enroll in any Higher Education Institution.

- Experimental Sample: Students affirming they will not enroll in Higher Education Institutions.

Composition of Samples

- Only 28 students (13%) declared they will not enroll in Higher Education Institutions.
- This result is contradicting.

Composition of Samples: Experimental and Control
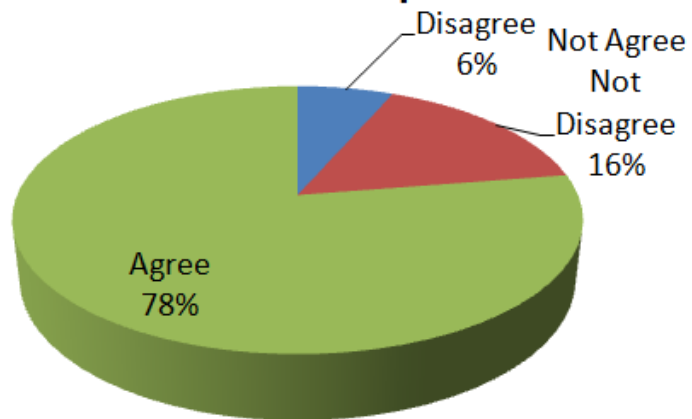
Objective 2.
Attitudinal Questions

- We detected questions showing differences between control and experimental samples.

- Statistical significance was derived from Mann-Whitney U-Test and Chi-square test.

- Statistical significance in both test simultaneously at a level of 0.05 two-tailed.
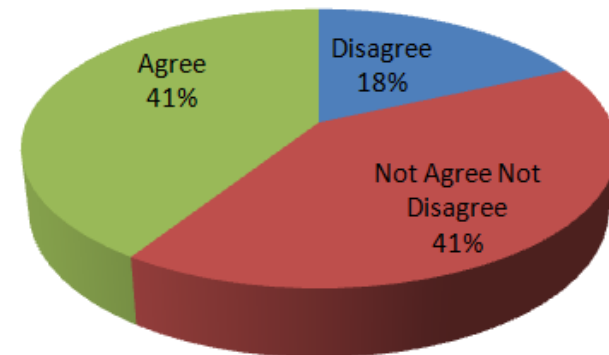
Objective 2.
Academic
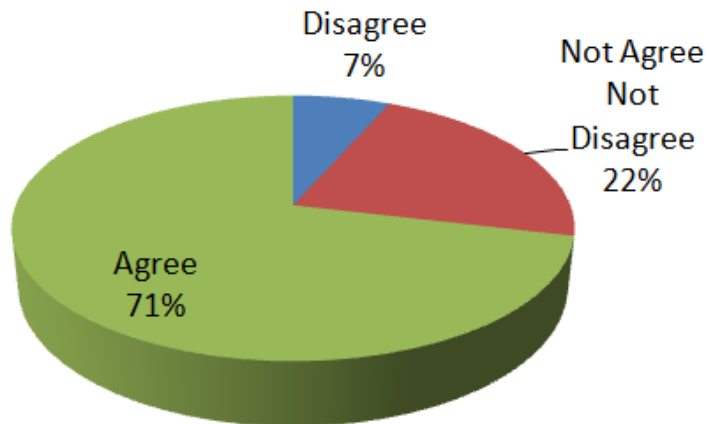

I feel prepared to go to college.
Control Sample
- Disagree 6%
- Not Agree Not Disagree 16%
- Agree 78%

I feel prepared to go to college.
Experimental Sample
- Agree 41%
- Disagree 18%
- Not Agree Not Disagree 41%

Objective 2.
Academic

I feel that school prepared me well to go to college. Control Sample

Disagree 7%

Not Agree Not Disagree 22%

Agree 71%

I feel that school prepared me well to go to college. Experimental Sample

Disagree 23%

Not Agree Not Disagree 23%

Agree 54%
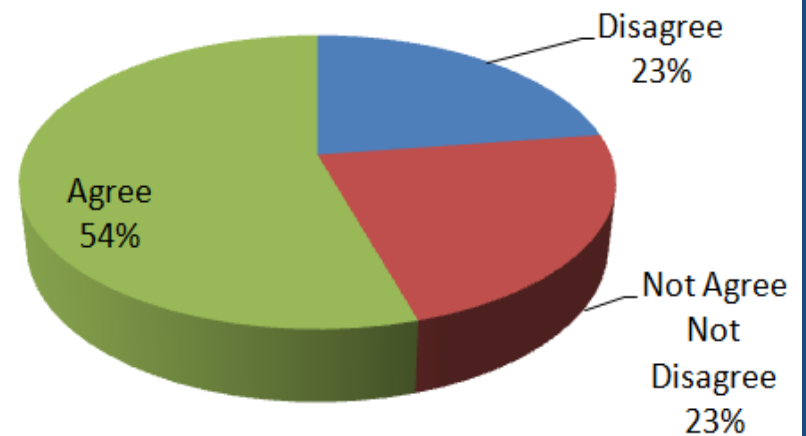
Objective 2. Academic

T-test for the GPA of students. Control and Experimental Samples

Test Parameter	
Number of Students Control Sample	170
Number of Students Experimental Sample	24
GPA Control	2.9
GPA Experimental	2.6
STDEV GPA Control	0.72
STDEV GPA Experimental	0.82
T-Test	1.83
T Critic (2-tailed 0.05)	1.96

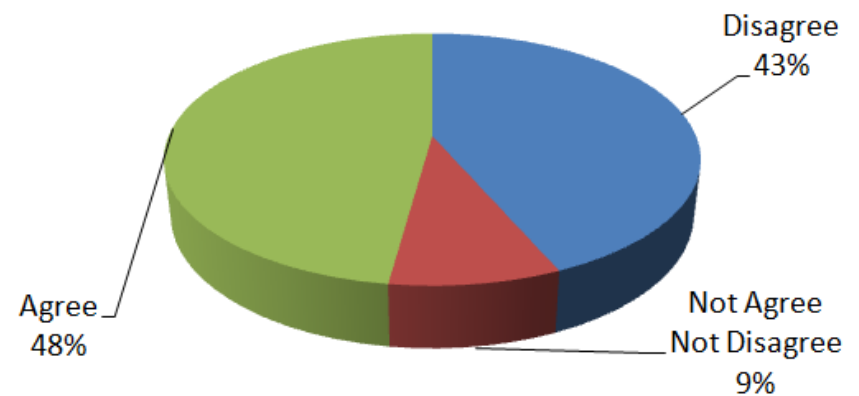Differences between GPA of students do not have statistical significance.

Objective 2.
Family

If I go to college, I will do it because of my parent's request. Control Sample
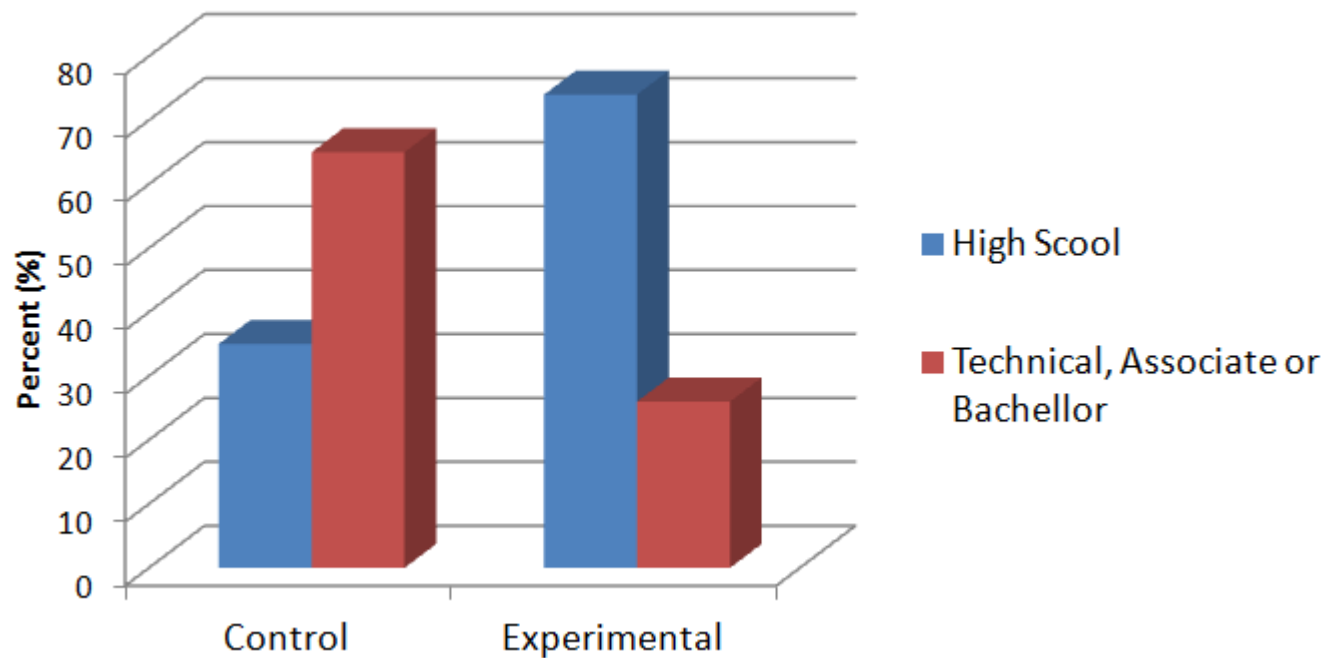
Agree 21%
Not Agree Not Disagree 22%
Disagree 57%

If I go to college, I will do it because of my parent' request. Experimental Sample
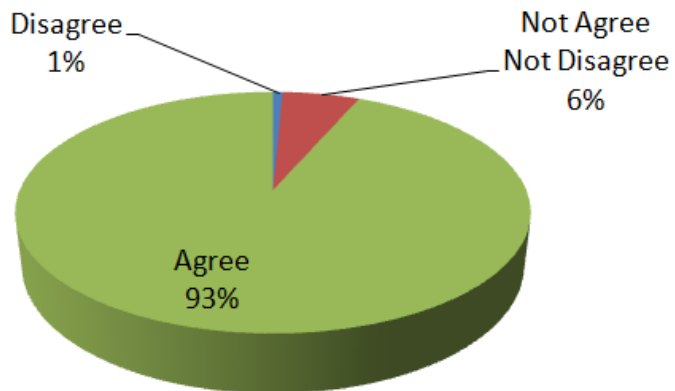
Disagree 43%
Not Agree Not Disagree 9%
Agree 48%

Objective 2.
Family

Level of Education of Mother

Objective 2.
Economic

I need to work to obtain money.
Control Sample

Disagree 1%
Not Agree Not Disagree 6%
Agree 93%

I need to work to obtain money.
Experimental Sample

Disagree 9%
Not Agree Not Disagree 5%
Agree 86%
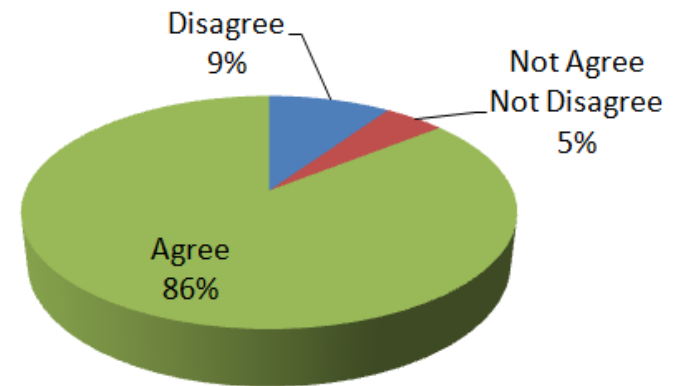
Objective 2.
Economic

I prefer to work instead of studying to obtain materials' goods. Control Sample

- Agree 25%
- Disagree 47%
- Not Agree Not Disagree 28%
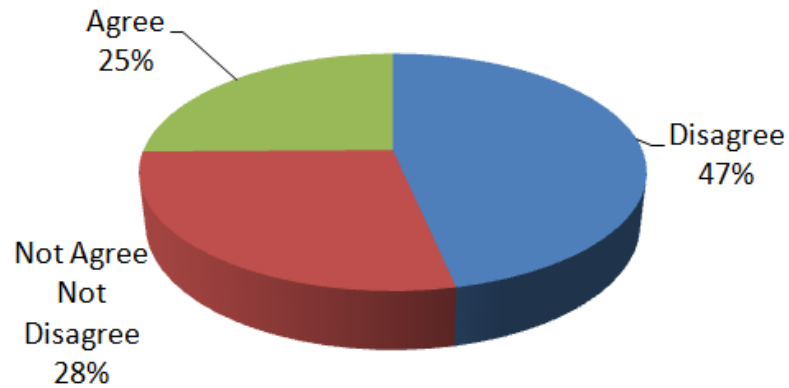
I prefer to work instead of studying to obtain materials' goods. Exp. Sample

- Agree 53%
- Disagree 31%
- Not Agree Not Disagree 16%
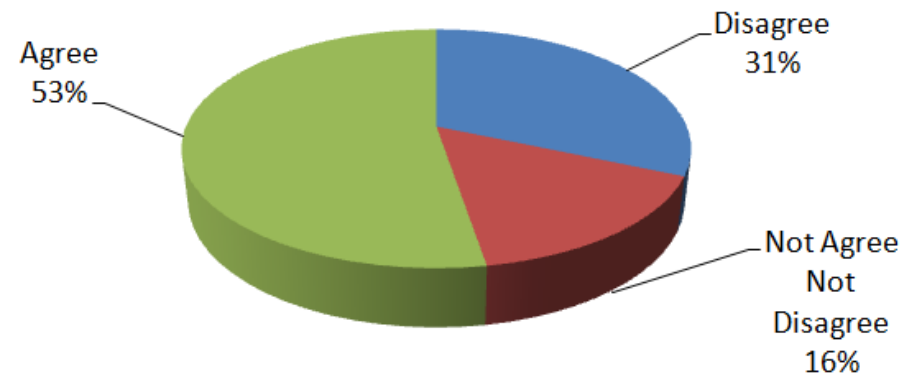
Objective 2.
Other Results

Aspects such as:

- Social (friends)
- Geographical
- Academic Orientation
- Military
- Emigration to the United States

Showed no differences of statistical significance between Control and Experimental samples.

Objective 1. Conclusions

- An average of 81% of students transfer directly from high school to college in PR.

- This percent is larger than in the US (67%) (NCHEMS, 2012).

- Gender gap increases during transition, as follow: 56% females 44% males.

- Annual increase of directly transferred students is smaller than annual rate enrollment of Higher Education Institutions.

Objective 1. Conclusions

- Males transferred immediately to college, do it in a smaller proportion than females either in public or private institutions.

- Males transferred immediately to college, do it in a smaller proportion than females independently of academic load or degree.

- During transfer, males show largest gender gap on bachelor degrees and public insitutions

Objective 2. Conclusions

- Low participation of high school students in this type of studies.

- Decision-making of male's students depends on 3 aspects: Family, Academic and Economical.

Objective 2. Conclusions

- Males who do not want enroll in college feel they are not well-prepared, despite their GPA is similar to other students.

- Family pressure and educational level of mother, might be related with decision-making of male' students.

- Males who do not want to go to college prefer to work, to obtain materials' goods faster.

Questions?

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