

01E018I

Project Number: 51-PPD-1795

01E018I

Affects of the WPI Society on Students Over Time

An Interactive Qualifying Project Report

submitted to the Faculty

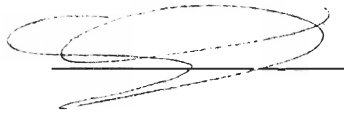
of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

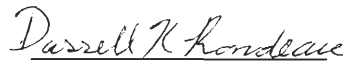
by



Suzanne Armitstead



Michael Krager



Darrell Rondeau

Date: May 1, 2001

Approved:

---

Professor Patrick P. Dunn

1. students
2. society
3. engineering

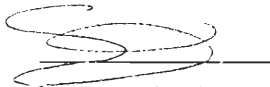
Professor Patrick P. Dunn  
Humanities and Arts Department  
WPI  
Worcester, MA 01609

May 1, 2001

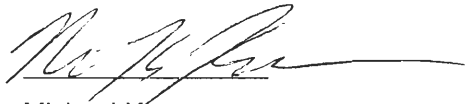
Dear Professor Dunn:

Attached is one copy of the Interactive Qualifying report: *Affects of the WPI Society on Students Over Time*, Project Number PPD 1795.

Sincerely,



Suzanne Armitstead



Michael Krager



Darrell Rondeau

## Abstract

Our study, "Affects of the WPI Society on Students Over Time," was conducted to determine the differences in the effects on students at a male-dominated engineering school as compared to non-male dominated liberal arts school, Assumption College. Some of the major observable results of the WPI society on students as compared to Assumption College are less study time per day, higher sense of comfort with professors, more females pressured into sexual relations, more students attending fraternity parties, fewer female to female social and academic interactions, and more males having negative attitudes towards fellow female students. This study will make recommendations in an attempt to rectify the negative issues that have arisen do to the WPI society.

Table of Contents:

**Chapter One - Introduction**

- 1.0 Goals
- 1.1 Motivation
- 1.2 Report break down
- 1.3 Surveying and Methodology

**Chapter Two – Research and Studies**

- 2.0 Research
- 2.1 Social Interactions
- 2.2 Classroom Behaviors
- 2.3 Professors
- 2.4 Ambitions
- 2.5 Transferring out of Science and Engineering

**Chapter Three – Survey Results**

- 3.0 Survey Results
- 3.1 Majors At WPI
- 3.2 Ratio Effects
- 3.3 Pressure Into Drinking Alcohol
- 3.4 Pressure Into Sexual Relations
- 3.5 Party Attendance At Other Colleges
- 3.6 Greek Party Attendance
- 3.7 Comfort Approaching Professors
- 3.8 Professor Gender
- 3.9 Where To Meet Professor (Office or Lounge/Classroom Setting)
- 3.10 Do Students Respond In Class
- 3.11 Study Hours Per Day
- 3.12 Effort In Major
- 3.13 Study In Group or Alone

**Chapter 4 – Concluding Statements**

- 4.0 Conclusion
- 5.0 Bibliography
- 6.0 Appendices

# Chapter One – Introduction

## **1.0 Project goals**

Ideally, this project will serve as a template from which information about the flaws in the WPI society can be extracted and worked upon. This paper will identify the major changes that students go through as they progress through time. Those changes, when compared to the changes at Assumption College, should enable us to identify where the problems occur as caused by the WPI society.

## **1.2 Motivation**

The motivation behind this project is an attempt to improve the social and academic atmosphere at WPI. Many students are troubled with the current social and academic atmospheres. Socially, males feel there is a high competition for females; males are also lacking positive female influences. Academically, males are mostly interacting with only other males and are missing out on the important skills needed to interact with all people. For females, there is also a lack of positive female influences and a lack of bonds being made with other females. Academically, females are also missing out on important skills needed to interact with all people. These observations are coming from extensive communication with the students of WPI. These observations are what we will try to prove and possibly resolve in our survey and research.

## 1.4 Report Breakdown

In studying the affects that college has on students, it was necessary to ask questions that would reveal all possible information. The survey was broken down into several categories. These categories were determined to be the areas that would expose the most information regarding each subject. The categories were, general information, social issues, non – Greek parties, Greek parties, professor / student relations, and schoolwork. All of these categories are areas that may cause disturbance in the students' frame of mind and how they perceive life.

The categories stated above all had different goals but could all be used to find a common theme. The following are the descriptions of each of the categories.

Starting off with the most basic of the groups is the general information. This category is used to separate the data into groups that are being studied. The four main groups within both of the schools are: freshman males, freshman females, junior males, and junior females. These are the groups of individuals that are being studied. This section made it possible to differentiate between age, year, and sex; however, age was not a factor in determining our results.

Social Issues is one of the main categories on the survey. The questions asked ranged from “Does the male – female ratio affect you?” to “Who is pressured to drink?” The data generated from these questions would make it possible to determine if there is a problem with the male – female ratio and if there are pressures to fit in with social norms. The ratio effect question has been one that is always discussed in small groups and amongst friends. The question will allow for the hearsay to become fact. The other questions in this category, involving pressure to drink and pressure into sexual relations,

will indicate if there is a problem with fitting into the college society. For example, WPI has a large Greek population and for a student to fit in it is possible that he/she might be pressured into drinking, and for others to be pressured into sexual relations.

Indications about party life on campus and off campus can lead to conclusions of how much social interaction occurs at WPI and Assumption. From this data it will be possible to compare the two schools and to find out if there is less social activity at WPI than Assumption or vice versa.

In trying to obtain an understanding of how professors and students interact, questions regarding the comfort level of professor – student relationship were asked. The research conducted showed that in some colleges the professor – student relationship was biased between men and woman, particularly at science and engineering schools. The data generated will hopefully show if this is true at WPI. Where to meet with the professor is also particularly important in disclosing if there is any degree of tension or lack of trust between the professor and student.

Schoolwork was investigated as the final category. Questions regarding study hours and effort in major were asked. This was to show how much work the student actually does. It could also show how ambition changes from freshman to junior year. Another question that was asked was if there is more effort in the major classes. This question was asked to see if students consider all of their classes to be equally important.

## 1.5 Surveying and Methodology

There is extensive research going into data collection and surveying methods at WPI. The Department of Social Sciences has been studying the process of how to conduct successful surveys of all types and they have written methods on how to perform a proper survey. In reading “Introduction to Survey Design and Methodology” by James K. Doyle, it was possible to put together what would be a successful survey with accurate data.

It is necessary, also, to formulate a question to which the answer is the goal of our research. Doyle says, “Conducting a survey is the only available option for acquiring the data necessary to answer an important research question.” Initially, the question to be answered was “What are the effects of a male dominated society on females at WPI?” However, much research revealed that both males and females were affected by the WPI society, so the question was changed to “How does a male-dominated engineering school (WPI) affect students from freshman to junior year?” With this question it was then possible to approach both text and populace in order to find the answer.

Exploration began by consulting existing text and looking for research that had already be completed in this area. During a literature review a surprising amount of data related to WPI directly was found. Interestingly enough, there is a decent amount of data about how college affects student in an engineering society, and especially its impact on women. This research was then employed in formulating more questions to be asked about how college actually affects students.

With this newly found information and with more specific questions, it was then possible to set up a sampling population. The best method for this survey was to use the



With this newly found information and with more specific questions, it was then possible to set up a sampling population. The best method for this survey was to use the simple random sampling approach. The freshman and junior classes were the target audience for this survey

It is necessary that the questions on the survey are less feeling related and more based on people's actions. As an example, "How many times do you consume alcohol a month?" is not a feeling question, it is an action question. This makes it more difficult to allow personal feelings get in the way of a good survey. There are several other details that should not be overlooked in the administering of a survey, but are too in-depth for this paper. The remainder of the Survey Methodology paper was considered in the creation of the survey.

With all of this done, it is then possible to administer the survey to the sampling group at WPI. 220 total surveys were returned from the freshman and junior classes combined. Of these 220, 84 were returned from females and 136 were returned from males. Out of these totals, 106 were returned from freshman, and 114 were returned from juniors. From these results it was possible to randomly sample the genders and to enter their responses into the charts. We were able to generate data from which conclusions were drawn and inferences were made.

## **Chapter Two – Research and Studies**

### **2.0 Research**

After thorough research, it is apparent that a male dominated science and engineering school-environment affects the students in that environment, notably, their social interactions, to academic performance and interactions with professors. The research implies that females are most affected by this male-dominated engineering society. Through this research, it will be shown that social patterns change for both males and females. This includes the interaction of students with professors, the actions of students in the classroom, the ambition of students, and how some women believe that there are barriers erected to prevent the success of women in science and engineering fields.

### **2.1 Social Interactions**

Looking at the country as a whole, studies have shown that “an overwhelming majority of college students, 88%, including those under the drinking age, have used alcohol.” This information was derived from a study entitled “Alcohol Alert.” Most likely this situation is not any different at WPI. Drinking at college has become a social norm and many students believe that the college atmosphere presents a pressure to drink. The focus of this section is to show whether or not there is a pressure to drink.

A second fact states “Students' drinking patterns vary with their ages and their years in college” (Alcohol Alert). One survey reported that more students under age 21 binge drink and have alcohol-related problems than those over 21. This was researched at WPI by asking the freshman and juniors how much they drink. One issue that may arise is that freshmen drink more than upper classmen. A reason that this theory may hold true is that upperclassmen have more intense work than that of lower classmen.

## 2.2 Classroom behaviors

In the classroom, it has been shown that male students answer questions faster and more often than their female colleagues. This behavior can be observed and verified by using surveying techniques much like the techniques we used in this project. These conclusions and surveying techniques have been noted in many published works. One example can be found in a handbook that originated from a study, Achieving Gender Equity in Science Classrooms, which studied gender distinctions in science education at Brown University:

In general men tend to respond to questions more confidently, aggressively, and quickly, regardless of the quality of their responses; they tend to speak more freely and spontaneously in class, formulating their answers as they speak. Women on the other hand, tend to wait longer to respond to a question in class, choosing their words carefully, reflecting on the question and constructing an answer before they speak.

Class size, according to research, affects women more so than it does men.

Women tend to express problems with a large class because they do not get to know the professor and feel that their professors do not care. In, “The Problems of Women in Science, Mathematics, and Engineering,” some women are quoted as saying:

- “You don’t get to know the professor.”
- “Large classes are too impersonal.”
- “The professors don’t care if you learn.”
- “The professor doesn’t know if you attend class”
- “The professor doesn’t care about you.”

The general male opinions on class size were as follows:

- Large classes “have negative affects on grades.”
- Large classes encourage “more competition for grades.”
- Introductory courses are usually taught by less – qualified faculty.
- Students cannot develop a relationship with professors

These statements suggest that it is more important to women to have a personal relationship with the professor than it is for the men. Men, on the other hand, find competition for grades more important than women do. Even though the survey that was conducted did not directly go after this theme, some women still expressed that there are problems with not getting to know their professors.

### **2.3 Professors**

Instances have been shown where women have problems with their professors. Women feel as though it is difficult to approach a professor in a science and engineering environment. In “The Problems of Women in Science, Mathematics and Engineering,” it is written that

women described science and engineering faculty as ‘unapproachable,’ ‘impersonal,’ and ‘intimidating,’ and they reported that better teaching could be found in the humanities and social sciences.

Our surveys produced the following quotes about this topic from females:

- “It doesn’t seem like professors would understand me.”—Freshman female

- “I’m intimidated by professors because they are mostly guys.”—Freshmen female
- “I feel as though the professor looks down upon me.”—Freshmen female
- “I think my professors are bothered by my questions.”—Junior female
- “I’m intimidated by most of my professors.”—Junior female

The males produced the following quotes:

- “You are just a name, number or grade to professors.”—Freshman male
- “I feel like I can’t communicate with my professors.”—Junior male
- “It’s just a hassle to try to see my professors.”—Junior male

These examples reinforce those of the previous statements, showing that their professors intimidate females, while males do not seem to be able to develop relationships with their professors.

In the survey, students were asked how comfortable they felt approaching a professor, how comfortable students were with a professor of the opposite sex, and what meeting place students preferred. This becomes an important issue when looking to see if women in a male dominated society follow these same trends.

The following is a set of ideals, created by the study Achieving Gender Equity In Science Classrooms, for professors in a science and engineering setting:

Male Ideals:

- Enthusiastic
- They explain well, use good analogies.
- Interesting.
- “Fun to listen to.”
- They give good advice.
- They “stress application of material by relating it to real- life situations.”
- They “challenge me, motivate and force students to work hard.”
- They allow questions.
- They “know whether the students comprehend.”

Female Ideals:

- Approachable.
- Friendly

- Patient.
- They are “around all of the time, so you can ask them to explain the material and they won’t take you head off.”
- They understand you’re a human being who’s trying to work at getting good grades.
- They really care about you and want you to learn.
- They “calm down and say, ‘don’t worry if you don’t get it. I can show you how.’”

Section 3.7 will explore how WPI and Assumption students feel about their professors and show if any of these ideals are present in either environment.

## **2.4 Ambitions**

Women tend to work harder than males in the same situation in a science and engineering setting. According to The Problems of Women in Science, Mathematics, and Engineering, “women who persist in these majors tend to be higher achievers than white males as a group.” The research in the previous study has proven that women tend to encounter more academic problems than their male counterparts during the course of their science and engineering studies. Women tend to pressure themselves into longer work hours, and also feel as though they are the reason for their failure.

## **2.5 Transferring out of Science and Engineering**

The retention rate of students in science and engineering majors tends to decrease the longer students are in school. According to the study “Achieving Gender Equity in Science Classrooms,” “although both men and women leave the ‘pipeline’ along the way, studies have repeatedly shown that a higher percentage of women leave, especially

during the undergraduate years.” Some of the reasons that women tend to leave are the following:

- Experienced discouragement and loss of self-esteem from low grades in freshman and sophomore years.
- Had problems with the overload and pace of science and engineering courses.
- Found more appealing non – science and engineering career option.
- Had problems with poor teaching/ inapproachability of science and engineering faculty

Looking at the aggregate data of the WPI students, the sheer number of students decreases as the years go on. For the past 16 years, the average retention rate from freshmen to sophomore year has been about 90%. However, the retention rate for freshmen to junior year has been 84%, [data taken from WPI Registrar’s office].

Another factor is that women nationally tend to move toward more of the “comforting” and “helpful” professions, according to “Gender Equity and Mentorship in Science, Engineering and Mathematics.” These professions range from teachers to social workers to nurses and childcare providers. This can be noted by observing the classes in which students enroll and, specifically, their major. This information can be found by asking students their major in respect to their gender. Section 3.1 of the survey will show the trend that females tend to drift towards the “comforting – human interaction” majors such as biology and biotechnology.

## Chapter Three – Survey Results

### **3.0 Survey Results**

All surveys were distributed at central campus locations at Assumption College and Worcester Polytechnic Institute. The first group of Assumption surveys was distributed in the cafeteria. Fifty surveys were handed out, 23 were returned. Of those 23, females returned 19 and 4 were returned by males. The second group of Assumption surveys was distributed two days later at the Assumption Library. Seventy surveys were passed out and 13 were returned. Of those 13, females returned 9 and 4 were returned by males. Another 50 surveys were passed out at the Assumption Library one week later; 38 surveys were returned. Of those 38, 12 were from females and 26 were from males. The first group of WPI surveys was distributed on the Quad. Fifty surveys were passed out, 11 were returned (females returned 5 and males returned 6). The second group of WPI surveys was distributed at the Fountain; 75 were passed out, 15 were returned (females returned 10, males returned 5). The third distribution of surveys was in Daniels Hall; 75 surveys were passed out, 12 were returned (9 were returned by females, 3 by males). A final group of surveys was distributed via email to all juniors and freshmen at WPI, 182 surveys were returned (60 were from females and 122 were from males). Freshman and juniors at both schools filled out the surveys.



### 3.1 Majors At WPI

#### WPI Students

	Biology Related	Mechanical Eng.	Electrical Eng.	Civil Eng.	Comp.Sci.	Mgmt	Chem. Eng.	Other
Freshman Females	46.0%	9.0%	9.0%	7.0%	Less than 5%	Less than 5%	Less than 5%	Less than 14%
Freshman Males	6.0%	17.0%	18.0%	Less than 5%	29.0%	8.0%	Less than 5%	Less than 12%
Junior Females	42.0%	14.0%	Less than 5%	5.0%	Less than 5%	5.0%	5.0%	Less than 19%
Junior Males	8.5%	25.0%	11.0%	6.0%	15.0%	14.0%	7.0%	13.5%

**Table 1**

Of the 41 freshmen females surveyed, 46% are involved in a biology-related major, 9% are majoring in mechanical engineering, 9% in electrical engineering, 7% are majoring in chemical engineering, and the remaining freshmen females are scattered in other majors such as management, computer science, and civil engineering. Of the 65 freshmen males surveyed, only 6% are involved in a biology-related major, 29% are majoring in computer science, 18% are majoring in electrical engineering, 17% in mechanical engineering, 8% in management, and the remaining freshmen males are scattered in small numbers in civil engineering, fire protection engineering and chemical engineering. Of the 43 junior females surveyed, 42% are involved in a biology-related major, 14% are majoring in mechanical engineering, 5% are majoring in chemistry, 5% in civil engineering, 5% in management and the remaining junior females are scattered in small numbers in communications, computer science and electrical engineering. Of the 71 junior males surveyed, only 8.5% are involved in a biology-related major, 25% are majoring in mechanical engineering, 15% are computer science majors, 14% are majoring in management, 11% are majoring in electrical engineering, 7% are majoring in chemical engineering, 6% are majoring in civil engineering and the remaining junior males are scattered in low numbers in physics and environmental related studies. As

noted in the research portion of this project, females are more involved in “nurturing and helping” majors including biology and biotechnology. Males are more involved in technology-related fields such as computer science and mechanical engineering. As shown in the charts, as female’s progress through WPI, the percent of biology-related majors slightly decreases while the percentage of mechanical engineering and management majors slightly increases. When this is compared to the research found in “2.5 Transferring Out of Science and Engineering”, the data contrasts the research in that WPI females are transferring out of the nurturing related field(biology related) and transferring into fields such as mechanical engineering and chemical engineering. However, the survey data suggests the opposite. This affect may be attributed to the WPI society.

### **3.2 Ratio Effects**

The ratio of males to females at WPI and Assumption is 4:1 and 1:4, respectively. Students were asked if the male/female ratio affects them in any way (socially, academically, psychologically). The findings concluded that 61% of freshmen females and 71% of freshmen males said that the ratio did affect them in some way. A few comments that the survey generated are the following:

Freshman Male quotes:

- “[The ratio] has lowered my standards!!!”
- “I enjoy having fewer annoying girls to put up with.”
- “Women at WPI are like parking spaces; the good ones are either taken or handicapped.”

- “I think that such a predominant male population is a problem. It limits the creative flow particularly in humanities classes, but the effects are apparent in all classes.”

#### Freshman Female Quotes:

- “I like the attention of being a female (a rare species) on campus.”
- “I am miserable—I miss the larger range of popular girls to hang out with.”

Of the juniors at WPI polled, 67% of female juniors said that the ratio does affect them, compared to 65% of males. Some of the comments from the juniors included:

#### Junior Male Quotes:

- “The ratio is disturbing and creates a sick population.”
- “[The ratio] adds an air of depression to most social events. Not only are there hardly any girls, but the few girls know this and are mostly cunts because of it. A lot of people feel they are missing out on a lot of the college experience.”
- “[The ratio] makes a high demand for a Greek system to fulfill the social atmosphere most college students look for. Without a Greek system, many students would either dropout, commute, or leave to other schools or cities to socialize.”

#### Junior Female Quotes:

- “Guys tend to be extra nice just because I’m a girl.”
- “At first [the ratio] was very strange to be around so many guys so much of the time, but I’ve gotten used to it. It is frustrating sometime though because I do wish there were more girls here to hang out with. I love my guy friends though, and being one of a small percentage of girls kinda boosts your self-esteem.”
- “I sort of like [the ratio]- women get treated well by the guys who aren’t too bitter. I would like it to be easier to find enough women to really fill sports teams, though.”

As demonstrated by the preceding quotes, the male/female ratio seems to have a negative affect on freshman and junior males. However, the ratio seems to have a

positive affect on freshman and junior females. Although, some female students feel as though it is difficult to make female friends on campus and have nobody to relate to.

Of the students at Assumption surveyed, 39% of freshmen females said that the ratio did affect them, while only 17% of males said that the ratio affected them. Of the Assumption juniors surveyed, 57% of females said that the ratio affected them while 29% of males said that the ratio affected them. The general consensus of all students at Assumption is that the ratio does not have much of an affect on them during their freshmen year. These results contrast what was found at WPI. However, female juniors become more effected by the ratio in contrast to male juniors at WPI becoming less effected. An interview conducted with a female Assumption junior revealed the following:

When students come to Assumption (catholic school) they are conservative and not very outgoing. However, the longer they are here they become less conservative and become more competitive when it comes to the opposite sex. Junior females tend to go out to bars more because of 'Assumption nights', which are special nights that Assumption girls don't have to pay to get into bars.

At WPI, there is a slight increase in the number of females affected by the male/female ratio as students become older, while there is a slight decrease in the number of males affected by the ratio. Fraternity parties tend to "ship in" females from other colleges to make up for the lack of females at WPI, thereby changing the ratio to almost 50:50. Since freshmen males are not allowed at Fraternity parties, this "shipping in" of females does not help them. As the females at WPI become older, the ratio begins to affect them more because the males are looking for females at other colleges. By their junior year, males also believe that the WPI females develop a type of attitude. This attitude is described by some students as "RIBS—Ratio Induced Bitch Syndrome, where

girls think that they can use the fact that there are few girls on campus to get what they want (quote from interview with male WPI junior).” At Assumption, as students become older, there is a significant increase in the number of students affected by the male/female ratio. This can be attributed to the factors outlined in the preceding quote from an Assumption junior.

### 3.3 Pressure Into Drinking Alcohol

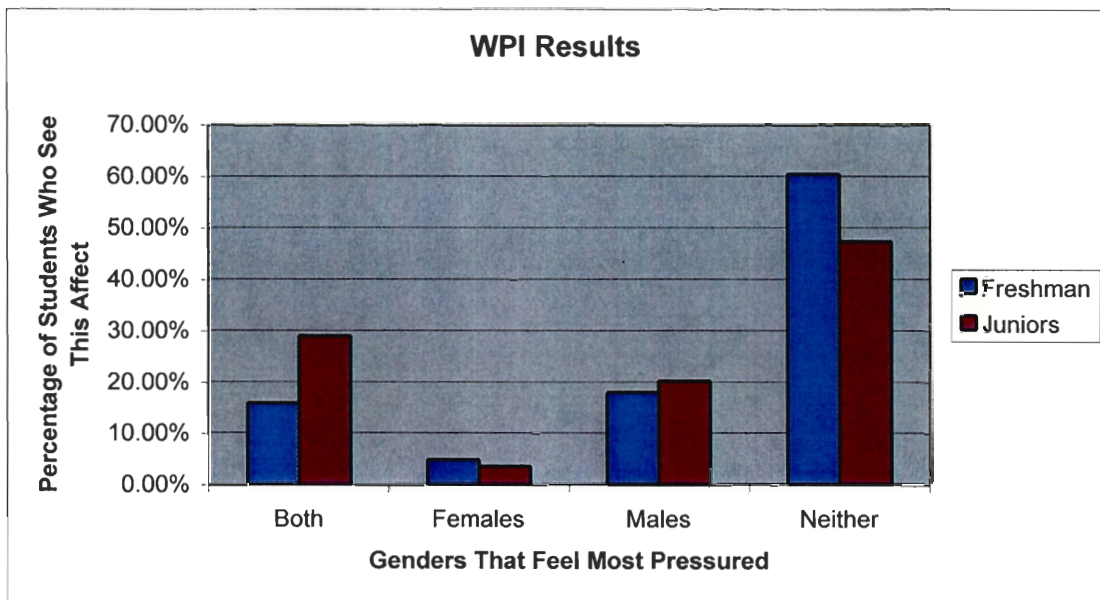
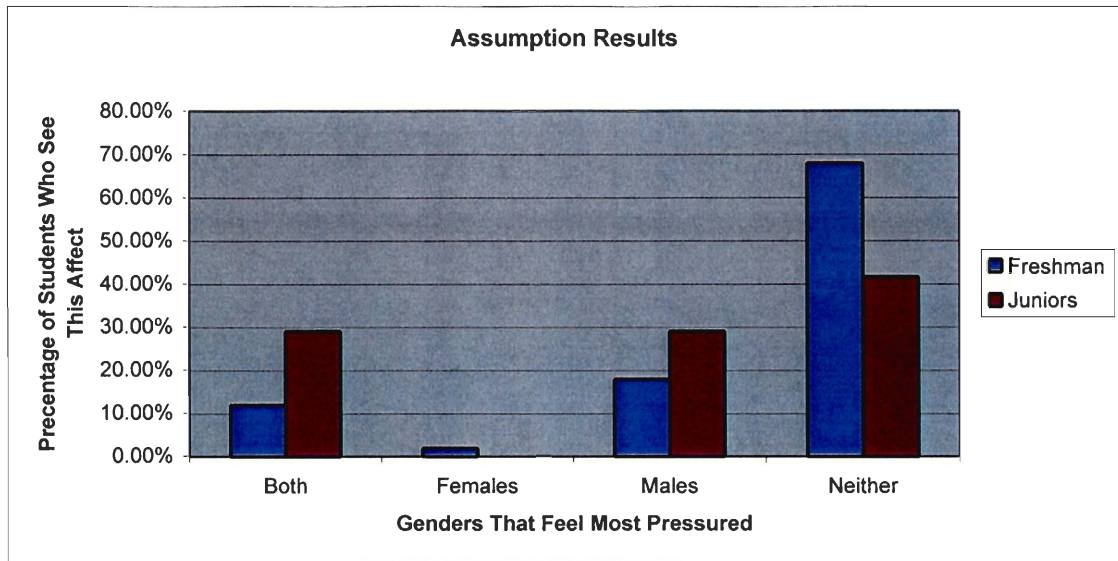


Chart 1



**Chart 2**

As shown in Chart 1, 17% of freshmen females believe that males are pressured into drinking, 5% of freshmen females believe that females are pressured into drinking, 15% of freshmen females believe that both males and females are pressured into drinking, 63% of freshmen females believe that neither males nor females are pressured into drinking. Of the freshmen males surveyed, 1.5% believe that females are pressured to drink, 9% believe that males are pressured to drink, 14% believe that both males and females are pressured to drink, and 75% believe that neither males nor females are pressured to drink alcohol. Of the female juniors surveyed at WPI, 0% said that females are pressured to drink, 25% said that males are pressured to drink, 21% said that both males and females are pressured to drink, and 53% said that neither males nor females are pressured to drink alcohol. Of the male juniors surveyed at WPI, 5.6% said that females are pressured to drink, 17% said that males are pressured to drink, 34% believe that both males are females are pressured to drink, and 43% believe that neither males nor females are pressured to drink alcohol. Thus, at WPI, more students believe that males rather than females are pressured into drinking.

As shown in Chart 2, 3% of Assumption freshman females are pressured to drink, 12% said that males are pressured to drink, 9% said that both males and females are pressured to drink, and 75% said that neither males nor females are pressured to drink alcohol. Of the Assumption freshmen males surveyed, 0% said that females are pressured to drink, 29% said that males are pressured to drink, 17% said that both males and females are pressured to drink and 53% said that neither males nor females are pressured into drinking alcohol. Of the Assumption female juniors surveyed, 0% said that females are pressured to drink, 43% said that males are pressured to drink, 28% said that both males and females are pressured to drink, and 28% said that neither males nor females are pressured to drink. Of the Assumption male juniors surveyed, 0% said that females are pressured to drink, 23% said that males are pressured to drink, 29% said that both males and females are pressured to drink, and 47% said that neither males nor females are pressured to drink.

The data suggests that more males at WPI are pressured into drinking alcohol than males at Assumption. This may be due to the Greek system at WPI. Many of the fraternities readily provide places for students to drink. Some fraternities also encourage drinking games, which promotes competition, not only in the game, but also in the amount of alcohol consumed. Since Assumption does not have a Greek system, they are lacking in this competition.

### **3.4 Pressure Into Sexual Relations**

The data for WPI and Assumption students is fairly close regarding the topic of who is pressured into sexual relations. The majority of students believe that neither males nor females are pressured into sexual relations (data not shown) at either WPI or Assumption College.

### **3.5 Party Attendance At Other Colleges**

When students surveyed were asked how many times a month they leave campus to go to other colleges to attend parties or events (sporting events, movie nights, etc.), 85% of the freshmen females at WPI said that they rarely left campus and 88% of the freshmen males surveyed said that they rarely left campus as well. Juniors at WPI had similar results to the freshmen; 93% of female juniors at WPI rarely leave campus and 82% of male juniors rarely leave campus. When this is compared to students surveyed at Assumption, 60% of female freshmen and 58% of male freshmen at Assumption rarely leave campus for parties or events while 14% of junior females rarely leave campus and 29% of junior males rarely leave campus for parties or events at other colleges. One of the major possible reasons of why WPI students may rarely leave campus is because of the Greek system. Multiple fraternities host parties at least every weekend, and this causes most of the students to stay on campus for their entertainment. The Greek system could also be a cause of why a lot of Assumption students travel to WPI for parties, as suggested by a junior female. The absence of fraternities at Assumption means less parties and possibly less entertainment.



### 3.6 Greek Party Attendance

Of the freshmen females surveyed at WPI, 36% rarely attend Greek parties (0-1 times per month), 32% attend Greek parties occasionally (2-4 times per month), and 32% regularly attend Greek parties (more than 5 time per month). Of the freshmen males surveyed, 57% rarely attend Greek parties, 18% attend Greek parties occasionally, and 25% regularly attend Greek parties. Freshmen males would rarely attend Greek parties because of school and fraternity rush rules. Of the WPI juniors surveyed, 49% of the females rarely attend Greek parties, 19% occasionally attend Greek parties, and 32% regularly attend Greek parties. Of the male juniors surveyed at WPI, 60% said they rarely attend Greek parties, 20% said they occasionally attend Greek parties, and 20% said they regularly attend Greek parties. As students get older they tend to drink less—when students turn 21 the desire to drink also becomes less, as this can be seen in section 3.3 of this paper. If students are feeling less pressured to drink, their tendencies to consume alcohol may fall as well. Of the freshmen females surveyed at Assumption, 82% said they rarely attend Greek parties, 12% said they occasionally attend Greek parties, and 6% said they occasionally attend Greek parties. Of the freshmen males surveyed at Assumption, 88% said they rarely attend Greek parties while only 12% said they occasionally attend Greek parties. Of the juniors surveyed at Assumption, 28% of females rarely attend Greek parties, 57% occasionally attend Greek parties, and 15% regularly attend Greek parties while 88% of males rarely attend parties and 12% occasionally attend Greek parties. Assumption males rarely attend Greek parties because “frat members are highly disliked by Assumption guys,” said one interview source. However, more junior females attend Greek parties because the ratio begins to affect

them more, which can be seen in the percentage rates above. Higher competitiveness means a higher desire to be around men who are in a social setting that has less women than men (WPI).

### 3.7 Comfort Approaching Professors

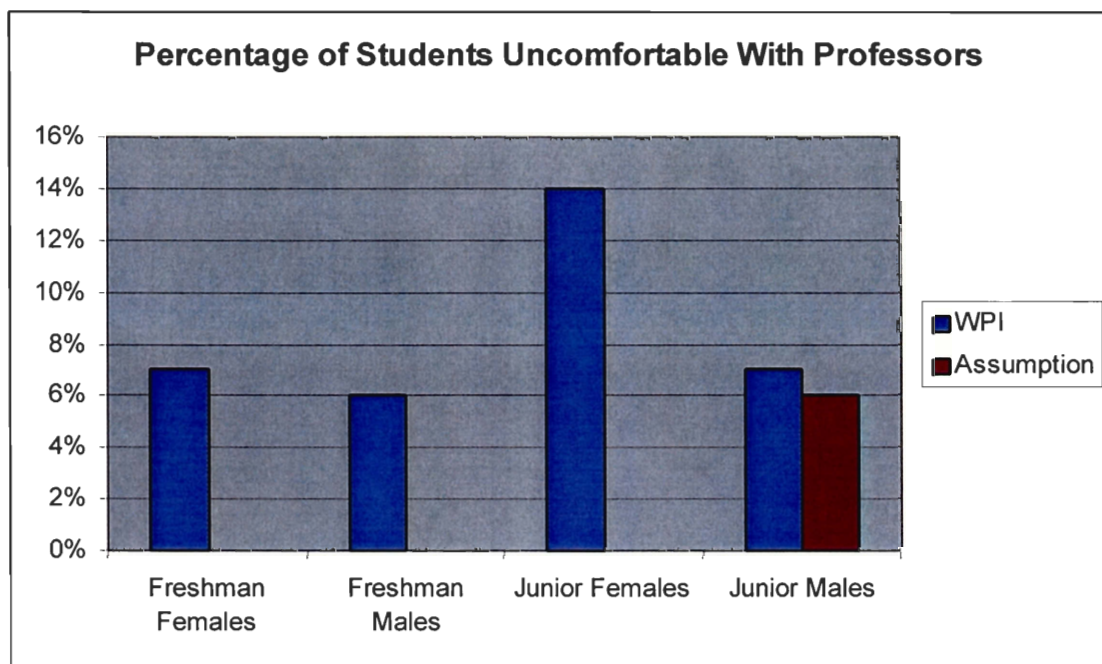


Chart 3

When students were asked if they are comfortable approaching professors after class, 93% of freshmen females at WPI said they are comfortable approaching their professors. Those who said they were not comfortable gave reasons such as they felt as though their professors were intimidating or they were not confident. 94% of freshmen males are comfortable with their professors. Those who said they were uncomfortable said that professors are intimidating, or students felt if they were “just a number or a

grade” to their professors. Of the WPI juniors surveyed, 86% of females said they are comfortable with their professors. The 14% said they were uncomfortable because they are shy and one felt as though she would be bothering the professor with her questions. 93% of junior males said they are comfortable with their professors; 7% said they were uncomfortable because they felt as though they cannot communicate with their professors or their professors seem bothered by their questions. Of the freshmen surveyed at Assumption, 100% of females said they are comfortable with their professors and 100% of males said they are comfortable with their professors as well. Of the Assumption juniors surveyed, 100% of females said they are comfortable with their professors, while 94% of males said they are comfortable with their professors. The 6% of males that said they are not comfortable with their professors did not give reasons as to why. The data shows that more WPI students have problems going to visit their professors than do Assumption students. This may be due to the length of the term at WPI; the 7-week term does not allow students to get to know professors very well, therefore they are slightly less comfortable approaching their professors.

### **3.8 Professor Gender**

Students were asked if the gender of their professors had any affect on whether students asked questions in class, approached the professor after class or whether the students felt more comfortable with their professors in class. 41% of freshmen females at WPI said that the gender of their professor did affect them in some way. Most of the 41% prefer to have female professors because “female professors are more considerate”

and some students “feel more comfortable talking to female faculty.” However, one student preferred to have male professors because “males are easily manipulated.” 18% of freshmen males surveyed at WPI prefer to have male professors because “guys understand guys” and can “better relate to males.” The other 82% do not have a gender preference. When these females become juniors, they become more adjusted to having male professors, so this gender issue does not bother them as much. 30% of junior females said that the gender of their professor does matter, while the other 70% said that gender does not matter. Of the junior males surveyed, 23% said that gender does matter because “men know what [male students] are going through better than females.” Of the Assumption students surveyed, 64% of the freshmen females said that gender does matter, but the students gave no reasons as to why. Of the freshmen males surveyed, 0% said that the gender of their professor mattered. Of the Assumption juniors surveyed, 57% said that gender does matter, but did not give any reasons as to why, while only 5% of junior males said that gender does matter. Females in general seem to care about the gender of the professor. Also, there are more females at Assumption, so they may relate better to female students and professors.

### 3.9 Where to meet Professor (Office or Lounge/Classroom Setting)

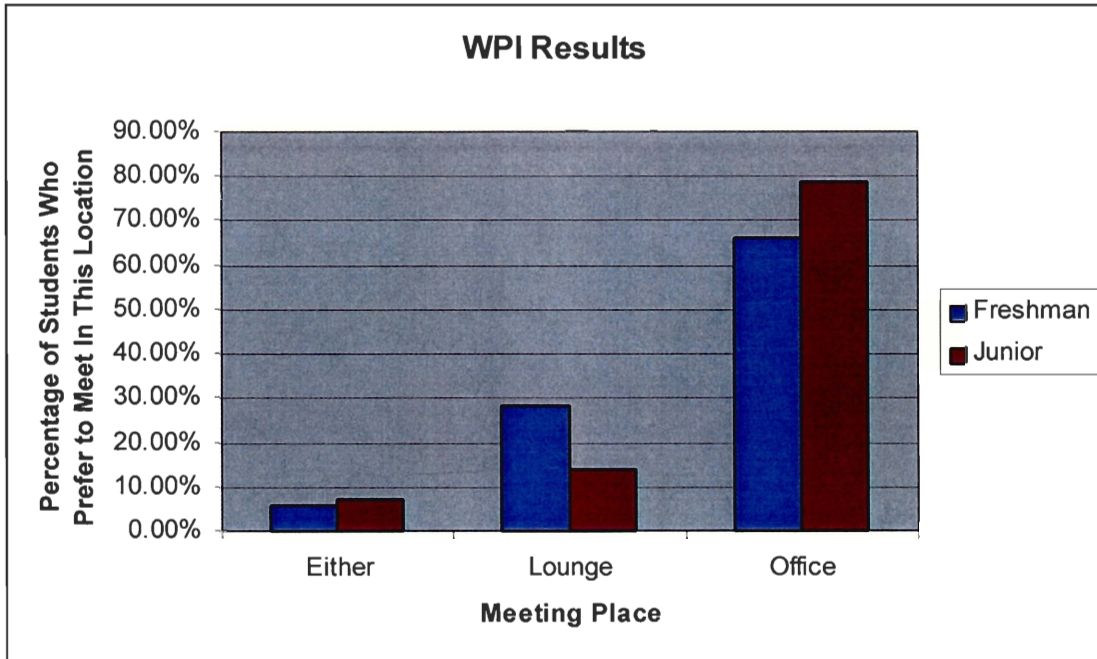


Chart 4

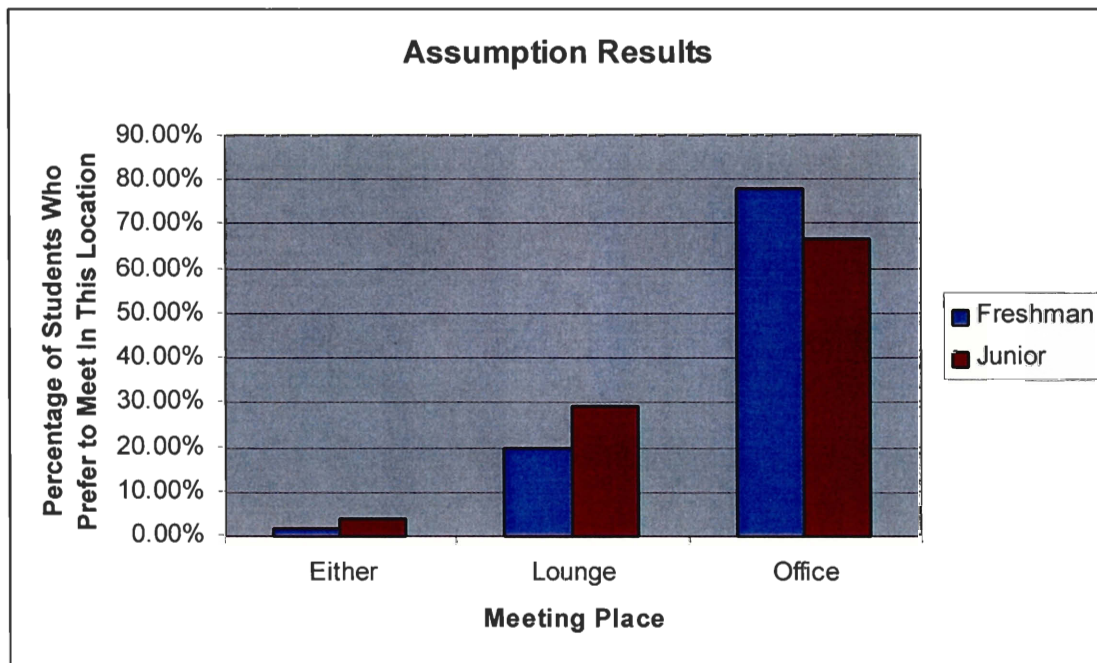


Chart 5

Students were asked where they prefer to meet with their professors, in an office or in a lounge/classroom setting. This helped to determine whether or not students feel

secure with their professors. As shown in Chart 4, of the freshmen females surveyed at WPI, 58.5% prefer to meet with a professor in their office, 34% prefer to meet in a lounge/classroom setting, and 7.5% did not have a preference. Of the freshmen males surveyed at WPI, 71% prefer to meet in an office, 25% prefer to meet in a lounge/classroom, and 4% did not have a preference. Of the female juniors surveyed, 74% prefer to meet in an office, 16% preferred to meet in a lounge/classroom setting and 10% did not have a preference. Of the male juniors surveyed, 82% prefer to meet in an office, 13% prefer to meet in a lounge/classroom setting, and 5% had no preference. 79% of the freshmen females at Assumption prefer to meet in an office, 18% prefer to meet in a lounge/classroom, and 3% had no preference. As shown in Chart 5, of the freshmen males surveyed at Assumption, 76% prefer to meet a professor in an office and 24% prefer to meet in a lounge/classroom. 57% of female juniors prefer to meet with a professor in an office, 28% prefer to meet in a lounge/classroom and 15% did not have a preference. Of the junior males surveyed, 71% prefer to meet in an office and 29% prefer to meet in a lounge/classroom. It seems that predominately, throughout both schools, students prefer to meet in an office. This allows for more privacy and a more intimate setting. This did not change from freshman to junior year; therefore none of these results can be based on the WPI society

### **3.10 Do Students Respond in Class**

Students were asked if they respond in class to reveal their comfort level around their peers, self-confidence and comfort level in the classroom. Of the freshmen females

surveyed at WPI, 66% respond to questions in class; 71% of freshmen males respond to questions in class. 67% of junior females respond to questions raised in class while 73% of junior males respond to questions raised in class. This reveals that the comfort level does not change and that gender is not an issue when applied to whether or not students respond in class.

### 3.11 Study Hours Per Day

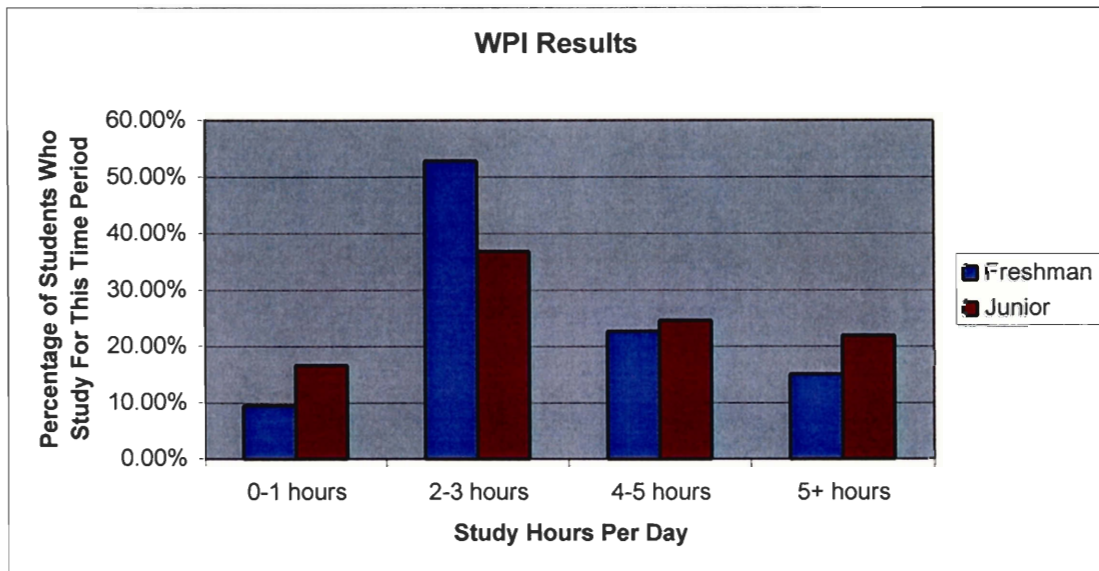
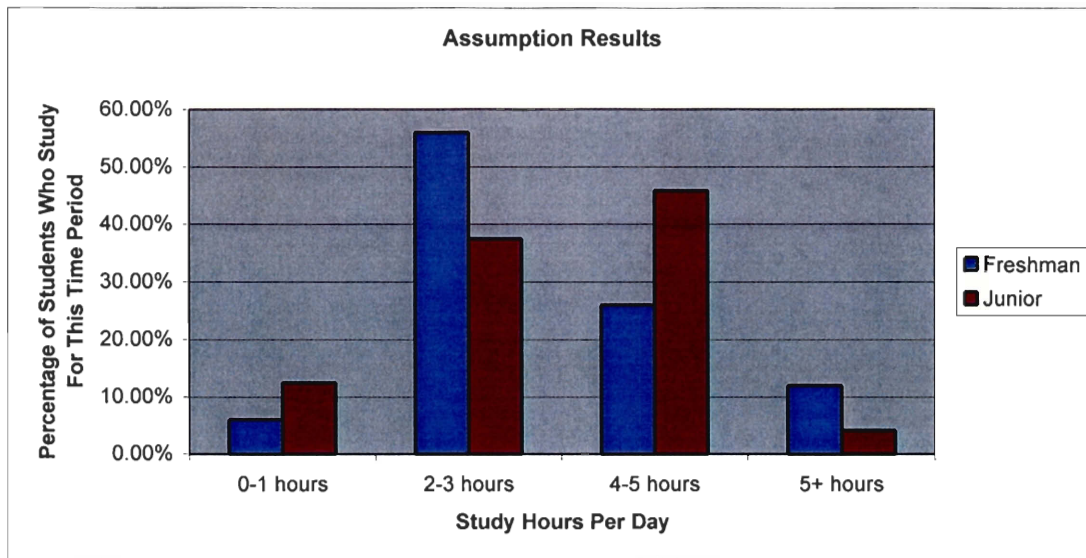


Chart 6



**Chart 7**

As shown in Chart 6, of the freshmen females at WPI, 54% study for 2-3 hours per day, 22% study for 3-4 hours, and 24% study for 5 or more hours. 15% of freshmen males study for less than 1 hour, 52% study for 2-3 hours, 23% study for 4-5 hours, and 10% study for more than 5 hours. Of the female juniors surveyed at WPI, 12% study for less than 1 hour, 47% study for 2-3 hours, 16% study for 4-5 hours, and 25% study for more than 5 hours. Of the male juniors surveyed, 20% study for less than 1 hour, 31% study for 2-3 hours, 29.5% study for 4-5 hours, and 19.5% study for 5 or more hours. As shown in Chart 7, of the freshmen females surveyed at Assumption, 3% study for less than 1 hour, 54.5% study for 2-3 hours, 30% study for 4-5 hours, and 12.5% study for more than 5 hours. Of the freshmen males surveyed, 12% study for less than 1 hour, 59% study for 2-3 hours, 18% study for 4-5 hours, and 11% study for 5 or more hours. Of the female juniors surveyed, 0% study for less than 1 hour, 28.5% study for 2-3 hours, 57% study for 4-5 hours, and 14.5% study for more than 5 hours. Of the male juniors



surveyed, 18% study for less than 1 hour, 41% study for 2-3 hours, 41% study for 4-5 hours and 0% study for more than 5 hours. These results could possibly be applied to the student's individual grades. Unfortunately we do not have access to the student's grades. Therefore it is suggested that any further research done by Student Affairs could possibly look into this.

### **3.12 Effort In Major**

Students who put more effort into their major courses may have a higher drive to excel in their core classes. Conversely, it could also mean that students do not take their non-core classes as seriously. Of the freshmen females surveyed at WPI, 61% put more effort into their core classes. 71% of male freshmen put more effort into their core classes. Of the juniors surveyed at WPI, 63% of females and 79% of males put more effort in their core classes. Of the Assumption freshmen surveyed, 36% of females and 35% of males put more effort into their core classes. Of the juniors surveyed, 71% of females and 29% of males put more effort into their core classes. These results suggest that WPI students tend to be more focused. This may be due to the cost of tuition; WPI's tuition is much higher than Assumption; therefore the students may appreciate what they are getting more.

### **3.13 Study in a Group or Alone**

Studying in a group reveals students ability to work with other students. However, studying alone may reveal independence and self-reliability. Some students feel that working in a group hinders their learning while other students believe that working in a group aids their learning. Of the WPI freshmen surveyed, 59% of females and 48% of males prefer to work alone because of distractions and time conflicts. Of the WPI juniors surveyed, 56% of females and 48% of males prefer to work alone because they feel superior to their classmates; one junior male said “I hate studying with dumb people” and another said, “People are idiots.” Of the Assumption freshmen surveyed, 82% of females and 47% of males prefer to work alone. Of the Assumption juniors surveyed, 100% of females and 59% of males prefer to work alone. This data suggests that more students tend to prefer studying alone. This is unusual because WPI emphasizes group work as one of its basis of learning. We can then conclude that WPI’s group work philosophy is not effective, and attention should possibly be taken to this aspect.

## Chapter 4 – Concluding Statements

### **4.0 Conclusions**

After analyzing the research and survey data gathered, many conclusions can be drawn.

One conclusion is in regards to the social atmosphere at WPI. The drinking situation on campus has always been a topic of conversation. Nobody was positive on whether or not the WPI society presented more pressure or more consumption than other schools. What has been discovered is that students at WPI tend to drink more, and are more pressured into drinking than at Assumption. It was also found that males were predominantly the ones being pressured to drink, no matter what graduation class they were in.

A second problem that was revealed has to do with the amount of time that students spend off campus. Socially, students are not traveling to other campuses. This could possibly be a result of the large Greek influence at WPI. We feel that this is a problem because WPI students are not being exposed to a variety of personalities. If they were to get off campus, students could be exposed to those studying the liberal arts. This will present many different opinions other than the ones presented by the technical students, which may have positive affects on those attending WPI.

A third aspect of WPI that affected the students largely was the 4:1 male: female ratio. Surprisingly, most WPI students had some type of issue or problem regarding the

male dominance presented here on campus. Conversely, it was found that Assumption had fewer problems with the male/female ratio.

Another interesting finding was in regards to study habits. WPI bases its principle of learning on group projects and focuses on as much group work as possible. Unfortunately, it was found that most students do not enjoy this type of learning and prefer to study alone. It was also found that WPI students, on average, study less than Assumption students. This may be due to the fact that WPI students spend more time on labs and projects, so they have less time for conventional studying. One suggestion to possibly remedy this is for Student Affairs to research these aspects, possibly reworking the curriculum, and how some of the situations presented in this survey affect student's grades. Unfortunately, we were not able to go to this level, due to the fact that we are restricted from viewing other student's grades.

## 5.0 Bibliography

Hewitt, Nancy M. Dr. (April 26, 1991). The Problems of Women in Science, Mathematics and Engineering. Onlineethics.org Retrieved October 5, 2000 from the World Wide Web: <http://onlineethics.org/ecsel/abstracts/attrition-women.html>

Alcohol Alert. Alcohol in the News. The Effects of Alcohol. Retrieved December 8 2000 from the World Wide Web: [alcoholism.about.com](http://alcoholism.about.com)

Johnson, Roger. Schools Discourage Women Scientists. Onlineethics.org Retrieved October 5, 2000 from the World Wide Web: <http://onlineethics.org/ecsel/abstracts/seymour-hewitt.html>

AWSEM. Gender Equity and Mentorship in Science, Engineering and Mathematics. AWSEM – Gender Equity. Retrieved October 5, 2000 from the World Wide Web: <http://www.awsem.com/gresearch.html>

Brown University. 1996. Achieving Gender Equity in Science Classrooms. Office of the Dean of the College. Retrieved October 5, 2000 from the World Wide Web: [http://www.brown.edu/Administration/Dean\\_of\\_the\\_College/homepginfo/equity/Equity\\_handbook.html](http://www.brown.edu/Administration/Dean_of_the_College/homepginfo/equity/Equity_handbook.html)

Doyle, James. Introduction to Survey Design and Methodology. Worcester, Massachusetts: Worcester Polytechnic Institute

Hacker, Diana. (2000) A Pocket Style Manual. New York: St. Martin's

## 6.0 Appendix

### Online Survey

Please Complete ALL answers that are applicable:

Please indicate your college:  WPI -  Assumption

To be entered in the drawing to win a gift certificate, please write your College Box # here:

#### General Information:

Gender:  Male -  Female

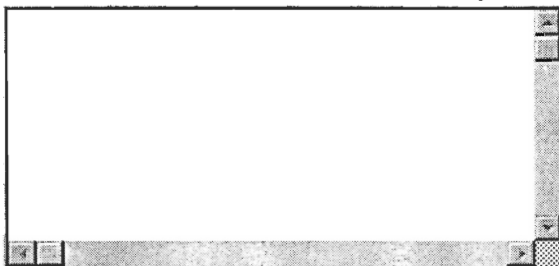
Age:

Year:  Freshman -  Sophomore -  Junior -  Senior

Major:  Have you changed Majors?:  Yes -  No

#### Social Issues:

How does the Male/Female Ratio at your college affect you?:



Who do you believe consumes more alcohol at parties, males or females?:  Males -  Females

Are females pressured to drink alcohol at your college?  Yes -  No

Are males pressured to drink alcohol at your college?  Yes -  No

Are females pressured into having sexual relations at your college?  Yes -  No

Are males pressured into having sexual relations at your college?  Yes -  No

#### Non-Greek Parties/Events:

How often do you attend non-Greek parties/events at your college?

- 0-2 times per month -  3-5 times per month -  6-10 times per month -  
 More than 10 times per month

How often do you attend parties/events at other colleges?

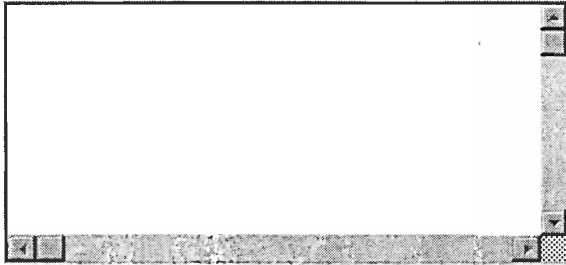
- 0-2 times per month -  3-5 times per month -  6-10 times per month -  
 More than 10 times per month

**Greek System:**

Are you involved in the Greek System?  Yes -  No

Which fraternity/sorority?

What were your reasons for rushing?



**Greek Parties/Events:**

How often do you attend Greek parties/events?

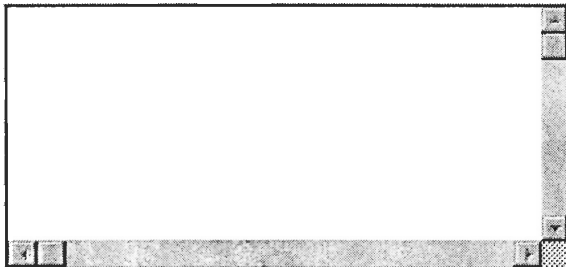
- 0-2 times per month -  3-5 times per month -  6-10 times per month -  
 More than 10 times per month

Do you drink alcohol at Greek parties/events?  Yes -  No

**Professors:**

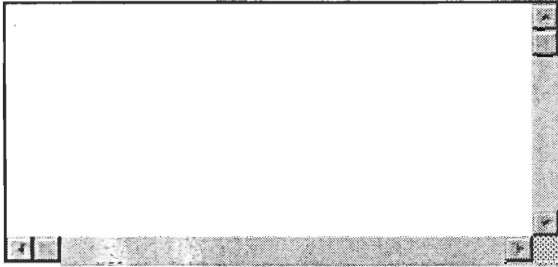
Do you feel comfortable approaching professors for assistance?  Yes -  No

If No, then why ?



Do you feel more comfortable approaching a faculty of the opposite sex than one of the same sex?  Yes -  No

If No, then why ?



Do you prefer to meet with professors in an office or in a lounge/classroom setting?

Office -  Lounge/classroom

If you do meet in an office, do you prefer to have the door:

Closed -  Open -  Doesn't Matter

Does this preference differ between male and female professors?  Yes -  No

Do you feel comfortable responding in class to questions raised by the professor?

Yes -  No

**Schoolwork:**

How many hours a day do you study?

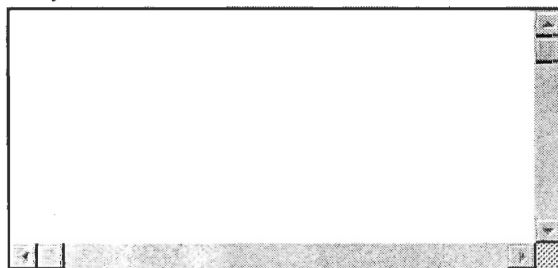
0-1 hours -  2-3 hours -  4-5 hours -  More than 5 hours

Do you put more time and effort into your core classes than into your non-major classes?

Yes -  No

Do you study in a group or alone?  Group -  Alone

Why ?



If a group, does it consist of:

Mostly Males -  Mostly Females -  A mix of males and females



Would you be willing to be involved in a phone interview or a personal interview?  
If so, please change the following information:

Name:

Phone:

Email:

### Personal Hand-Out Survey

Please Write In Your Answers

To be entered in drawing to win gift certificate, please write your WPI Box Number Here:

General Information:

- 1.) Gender:                      Male                      Female
- 2.) Age:
- 3.) Year: Freshman      Sophomore      Junior                      Senior
- 4.) Where is your hometown?      City:                      State:
- 5.) Major:
- 6.) Did you know what you wanted to major in before you came to college? Yes No
- 7.) Have you changed majors? Yes No                      If so, why?
- 8.) Did you attend a private or public school?                      Private                      Public  
    If you attended a private school, what were your reasons?
- 9.) Do you live on or off campus?      On                      Off                      Why?

Social Issues:

- 1.) How does the Male/Female Ratio at your college affect you?
- 2.) Do you find it hard to get a date at your college? Why or why not?
- 3.) Do you have a significant other? Yes                      No      If so, is he/she a student at this school?

- 4.) Do you prefer to attend functions with loud music and dancing or quiet, smaller functions? Why?
- 5.) Who do you believe consumes more alcohol at parties, males or females ? Why?
- 6.) Are females pressured to drink alcohol at your college? Yes No Why?
- 7.) Are males pressured to drink alcohol at your college? Yes No Why?
- 8.) Are females pressured into having sexual relations at your college? Yes No Why?
- 9.) Are males pressured into having sexual relations at your college? Yes No Why?

Non-Greek Parties/Events:

- 1.) How often do you attend non-Greek parties/events at your college?  
0-2 times per month 3-5 times per month 6-10 times per month  
More than 10 times per month
- 2.) What types of non-Greek parties/events do you attend? (ie formal dances, apt parties, movie nights)
- 3.) What are your feelings about non-Greek parties/events?
- 4.) How often does the opportunity to drink arise during non-Greek parties/events?
- 5.) Do you drink alcohol before/during these events? Yes No
- 6.) Are you more likely to attend an event/party with alcohol present? Yes No
- 7.) Do you prefer to attend a non-Greek party/event or a Greek party/event? Why?
- 8.) How often do you attend parties/events at other colleges?  
0-2 times per month 3-5 times per month 6-10 times per month  
More than 10 times per month
- 9.) How often do you attend sports related events?  
0-2 times per month 3-5 times per month 6-10 times per month  
More than 10 times per month

Greek System:

- 1.) Are you involved in the Greek System? Which fraternity/sorority?
- 2.) What were your reasons for rushing?

- 3.) What are your thoughts about the Greek System?
- 4.) Do you feel the Greek System provides a positive influence on students? How?
- 5.) Do you feel the Greek System excludes certain types students? Why?

Greek Parties/Events:

- 1.) How often do you attend Greek parties/events?  
 0-2 times per month    3-5 times per month    6-10 times per month  
 More than 10 times per month
- 2.) How often does the opportunity to drink arise during Greek parties/events?
- 3.) Do you drink alcohol before going to Greek parties/events?    Yes    No    Why?
- 4.) Do you drink alcohol at Greek parties/events?    Yes    No
- 5.) Are you more likely to attend a Greek party with alcohol present?    Yes    No
- 6.) Do you feel there are more non-WPI males / females at Greek parties/events?  
 Yes    No    If so, can you suggest why there are more males/females at these parties/events?

Professors:

- 1.) Do you feel comfortable approaching professors for assistance?    Yes    No  
 Why?
- 2.) Do you feel more comfortable approaching a faculty of the opposite sex than one of the same sex?    Yes    No    Why?
- 3.) Do you prefer to meet with professors in an office or in a lounge/classroom setting?    Office    Lounge/classroom    Why?
- 4.) If you do meet in an office, do you prefer to have the door:    open    closed  
 doesn't matter    Why?
- 5.) Does this preference differ between male and female professors?    Yes    No  
 Why?
- 6.) Do you feel comfortable approaching a TA for help?    Yes    No    Why?
- 7.) Does it make a difference if the TA is male or female?    Yes    No    Why?
- 8.) Do you feel comfortable responding in class to questions raised by the professor?  
 Yes    No    Why?

Classroom:

- 1.) Are there more males or females in most of your classes?
- 2.) Do any of your classes have an almost equal number of males and females?  
Yes No If so, which ones?
- 3.) How often do you ask questions during class?

Sports:

- 1.) Are you involved in any sports? Yes No Why?
- 2.) How long have you been involved in that sport?
- 3.) Do sports affect your social life? Yes No If yes, how?
- 4.) Do sports affect your schoolwork? Yes No If yes, how?
- 5.) Were you involved in sports before college? Yes No If yes, for how long?

Clubs/Activities:

- 1.) Are you involved in any clubs/activities at your college? Yes No  
If yes, which one(s)? Why?  
How long have you been involved?
- 2.) Do you feel there is a large enough variety of clubs/activities offered at your college?  
Yes No

Schoolwork:

- 1.) What time of day do you usually study?
- 2.) How many hours a day do you study?  
0-1 hours 2-3 hours 4-5 hours more than 5 hours
- 3.) Do you put more time and effort into your core classes than into your non-major classes? Yes No
- 4.) Do you study in a group or alone? Why?
- 5.) If you study in a group, does it consist of mostly males, mostly females, or a mix of males and females?
- 6.) Is studying in a group helpful to you? Yes No Why?

Do you feel comfortable approaching another student for help? Yes No If yes, do you feel more comfortable approaching a student or a professor/TA for help? Why?

If you would like to be contacted for a phone or personal interview, please fill out the following:

Name: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_