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Worcester HS Career Aspiration Replication Study

An Interactive Qualifying Project Report:

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By

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December 8, 2006

Professor John M. Wilkes
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Dear Professor Wilkes:

Enclosed is a copy of our report titled Worcester HS Career Aspiration Replication Study. It was completed at Worcester Polytechnic Institute during the period October 25, 2005 to December 8, 2006. Upon review, the original copy of this report will be catalogued at the Gordon Library at Worcester Polytechnic Institute. We appreciate the time you have devoted to us.

Sincerely,

Evan Custodio

Brian Marsland

James Scully

Abstract

A gender comparative study determining the career interests of juniors was performed in the Worcester Public High Schools for the Advisory Committee on the Status of Women. The primary goal was to determine if the results replicated the previous year's findings. The same approximate gender ratios of students by career interests, post-graduation plans, and career concerns were found to repeat. The research team concluded the findings and trends from the previous study by Handler and Hogan (2005) were still present among Juniors. It was less clear whether acceptable sophomore data collected with the same survey instrument produced the same result.

Acknowledgements

We are extremely grateful for the help provided to us throughout the course of this project from various members of the Worcester Public Schools, the Advisory Committee for the Status of Women, and our project advisors. This project would not have been possible without their cooperation.

We would like to thank Dr. Patty Mostue, Burt Vasquez, Judy Thompson, and all of the other Worcester Public School administration members for their support and approval of this survey to be distributed in the Worcester Public High Schools.

We would also like to thank all of the guidance counselors at the Worcester Public High Schools for their correspondence and helpfulness in survey distributions, especially Sheila Tarlin at A.L.L., Bill Abraham at Burncoat, Eileen Prior at Doherty, Margarita Delgado at North, Donna Connelly at South, Brian Potter at Worcester Vocational, and Mary O'Sullivan at University Park. We also greatly appreciate the efforts of all Worcester Public School faculty and staff that assisted with distributing and collecting the surveys.

We would like to thank our sponsor, the members of the Worcester City Manager's Advisory Committee on the Status of Women, for the continued interest, support, and assistance that they have provided for our project

Finally, we would like to thank our project advisors for their continued support, assistance, and guidance throughout this project. We appreciate all of Liz Tomaszewski's efforts in getting the survey approved and distributed at the Worcester Public High Schools through her contacts within the school system. We would also like to thank Laura Handler for her help with the survey modifications, distribution techniques, coding procedures, and data analysis methods from her experience with the previous year's study. Lastly, we would like to thank Professor Wilkes for his continued dedication to our project, especially for his assistance with the data analysis portion of the project.

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1. Introduction

The purpose of this project is to collect information regarding the career and post-high school aspirations of the junior class (the class of 2007) at all of the Worcester Public High Schools (WPS). During the 2004-2005 school year, the original High School aspirations survey was distributed to the class of 2006. It focused on career interests, post-high school plans, and career and college-related concerns. An improved survey was distributed to the class of 2007 with the primary purpose of being a replication study designed to examine the stability of career aspirations by making comparisons to the results from last year's study. Replicated findings are much more likely to be a reliable basis for policy conclusions and will draw more attention from the Worcester Public School administrators.

Both studies were sponsored by the Worcester City Manager's Committee on the Status of Women (ASCW), which is especially interested in determining if the aspirations of current Worcester Public High School students perpetuate or challenge the gender-based stereotypical norms that exist in society. Furthermore, the ACSW is interested in finding potential candidates for their annual Young Women of Consequence Award, which is presented to a female student with political or civil service career aspirations who is highly involved, especially with leadership roles, in extracurricular activities. During this project, formal presentations were given to the ACSW in oral and written formats.

The data obtained from this survey will be used to analyze the students' aspirations and post-high school plans based on the gender, ethnicity, parental occupations, and school. By analyzing the trends of aspirations as they are affected by gender and ethnicity, the potential for gender equity in the future workforce can be estimated. The impact of small schools, which are specialized areas of study in the public high schools, can also be evaluated by comparing the pattern of aspirations at the various schools. The relationship between the students' aspirations and the occupations of their parents are guardians will also be analyzed.

Junior and sophomore comparisons will be conducted at North and Doherty High Schools to determine if this survey could be distributed during sophomore year to allow for more time to help the students put together strong high school programs with the right class selections. Most important, though, are the comparisons to the prior year's survey to determine the stability of career aspirations and thus the value of this kind of survey. The findings from this study should

increase the awareness of the significance of stereotypes based on gender and ethnicity in the Worcester Public School System, as they affect the career plans of high school students.

2. Methodology

2.1. Survey History

The gender aspirations survey was developed last year by Laura Handler and Patrick Hogan. They were confronted with the problem of finding a way to collect aspirations data from high school students. Last year distribution methods were delegated to the guidance counselors in order to find the most compatible means of data distribution. The idea of creating a standardized survey was to accomplish the goal of having a sizeable unbiased data set. If data was collected from only a certain group of students, or if the types of questions varied from student to student, there would be questions to the validity and generalizability of the data collected.

In order to create a survey worthy to be distributed to all public high schools certain constraints had to be taken into account. One of the most important constraints considered was the length of the survey. Last year's team did research into the public schools and found out that the most efficient means of conducting such a survey is to keep the survey length at most two sides of a single page. The school administration and the various guidance departments would be less reluctant to distribute a one paged survey and there were also cost considerations given that over 1000 would be needed. While keeping the survey to one page solved some problems, it presented others. The problem of satisfying all three interest groups (WPS, ACSW and our own WPI agenda) arose, there was barely enough room to ask all necessary questions using a small font. Though this was a major issue with the survey, ongoing negotiations with WPS were finally brought to a successful conclusion in A term, before this team officially started in B term. The problem was that once finalized, the result still had to pass muster with those who had to distribute it and they questioned the value of doing it again especially if one goal was to produce useful information them. WPS guidance and WPS central administration did not speak with one voice.

In getting past the quality review by Dr. Mostue, last year's group followed several important but simple guidelines. They made sure all questions were kept concrete. This was done in order to maintain clarity to all students and to remove any form of abstraction. Steps were also taken to make sure the questions would not become too wordy while at the same time provide

enough detail to ensure that the indicator operationalized the variable of interest. While creating the questions, they made sure to use conventional language and refrain from using any form of slang or abbreviations. The process took 4 drafts last year and 2 more this year after it was clear which item had failed in their missions.

After completing the first draft of the survey, they presented the survey to a test group of 6-8 of high school students. This was done in order to review the readability of the questions and to observe on average how long it would take for a person to complete it, a key question coming from WPS guidance. Last year Dr. Mostue received a side of 1 page survey at first and balked at an item asking the student to list the clubs they participating in. She wanted a list of all possible clubs, thus making the survey cover 2 sides of a page.

This year Dr. Mostue wanted to list example occupations for each career listed. This revision would help the students better understand the description of the career and help insure the validity of the answers. Careful consideration was also given to determining which questions should be open or closed. An open question is a question where a student can provide his own answer to the question asked. A closed question is a question which the student can answer by selecting possible answers from a list given on the survey. Whether a question should be considered open or closed is determined on the type of question being asked. If the question answered is a measurement of magnitude then a selection of a list of strengths (i.e. weak, strong, very strong…) should be implemented. If the question can be answered with a large or infinite amount of answers then the question should be left open for the student to specify. Closed questions can assure adequate answers for all students and are easer to input for statistical analysis; however open questions can provide a lot more information. It was decided that most questions on the survey should be kept closed. It provides sufficient amount of information and facilitates data entry and analysis. It also would be undesirable for students to take a long time to answer a few dozen open ended questions on such a survey. Our target was 10 minutes of administration time. Guidance was complaining that in practice it was taking the students twice that long (or more) and the slowest respondents were essentially “killing” a class period.

Survey Structure: Personal Information Section

The first section of the survey is the personal information section. In this section students are asked several questions in order to figure out the different demographics of the students. For organization we ask the students for the name of their guidance counselor, School ID number and gender. This information is used to help the guidance counselors at each school correctly identify each of the students and to keep student names confidential from anyone outside the school. The surveys were to go back to the student's guidance counselors and become part of their folders. The gender question is particularly important because it allows us to perform gender comparative analysis with the data set. The next questions in this section are the ethnicity and parents occupations. Again similar to the gender question, it allows us to perform gender comparative analysis with the data set, with a control of ethnic differences, to make the male-female among Hispanics, Black, Asian and Whites possible. Last year the Black, male-female and White male-female findings were sometimes quite different.

Survey Structure: Occupational Interest Areas

The next section of the survey collects the interest level in particular careers from students. Last year this section of the survey consisted of 5 levels of interest from 5 being high interest to 1 being no interest. This year the choices have been cut down to 4 possible choices, this was done to prevent students from being indifferent with most career choices and answering with all 3's. Having a scale from 1 to 4 with no midpoint will allow us to observe which side of interest the student has in any particular area. Further, the English phrasing of the new generation was better, Example careers were listed under each field of interest to better convey the idea of what things like "medical support", "civil service", or "trades" meant to the students taking the survey.

In the next part of the survey, we allowed students to write in any particular careers they had in mind which the survey did not cover. This section has 9 blank fields for students to write in possible careers. The political career section from last year's survey was replaced with 3-4 items this year because it was believed that many students may have misinterpreted the question asked. Again, similar to last year, this data is valuable to the ACSW to compare political

interests between genders, and is used to help identify potential applicants for the young woman of consequence award.

Survey Structure: Post High School Plans

The post high school plans section provides more insight to the particular career paths that the students envision. In this section the student can check off such choices as 4-year or 2-year College, vocational or trade school, work, military or marriage. The student can also put down an “other” plan if the choices do not suffice. This data could be a valuable resource to any guidance councilor because it allows access to the specific rather than vague ideas about whether a student is thinking about work or college in 2 years.

Survey Structure: Career Related Concerns

The next section of the report could also be a very valuable resource to any guidance councilor. In the Career Related Concerns portion of the report, students can specify certain foreseeable roadblocks that might prevent them from achieving their career goals. Concerns such as finances, academics, course difficulty, information about how to enter a field, and role models are covered in this section. Students are also allowed to write in any particular concerns that were not listed. Guidance councilors can use this data to understand possible misconceptions students have about career paths and the role of higher education being qualified. Regarding college admission, Last year it became clear that more males worry about whether their grades are good enough, while more females worry about standardized test scores.

In the next part of this section the survey touches more directly upon gender related concerns. More specifically, the survey asks the student how likely take are to pursue a career that few people of their gender are pursuing. The student will respond with a level of interest on pursuing such a career. This response is in the same format as the response in the career interests section, with 1 being not interested and 4 being very interested. The follow up question after is to get an idea of how these students will think their parents would react to such a career decision. The possible answers are both will be supportive, mixed reactions and both will be opposed. This

is a new question since the one getting at this issue last year was judged a failure by coders who discovered mass confusion and couldn't sort it out in a meaningful way.

The following section the survey asks the student if they would be interested in a program to help them pursue their career interests. This question was designed to identify students for 2 other ACSW sponsored WPI teams that were to undertake coaching for technical career college admission. In the later years coaches for other fields might be recruited. If there are a lot of students in need of career help, then programs can be established to help the students with their post graduation choices. The next question allows the research team to note the number of AP and honors classes for analysis purposes. For some reason last year that item got into the list of extracurricular activities and those deciding on YWOC applicants were not the only analysts that used it, so it was upgraded this year.

Survey Structure: Extra Curricular Activities

The end of the survey consists of the extracurricular activities section. In this section we provide a list of possible clubs and activities that the student could be involved in at school. We also provide a blank field next to any of the clubs for the student to indicate what position of leadership they have in that club. This part of the survey is mainly used as a means of identifying viable candidates for the young woman of consequence award. Other forms of analysis can be done with these data relative too, but in practice that was its primary use last year. This year the schools found worthy candidates primarily from the senior class, and it is not known to what extent they depended on the survey of that class conducted when they were juniors. Our survey clearly had little impact since the candidates tended to be seniors.

2.2. Survey Analysis

The research team last year discussed the reliability and validity of the survey. As they stated last year the survey is a very important tool to collect the data to analyze for this type of research effort. Without the use of the survey, there would be no efficient method to receive the data which we collected from the large majority of WPS students. Last year the data team based the reliability and validity estimates on the consistency of the results with each other and their

expectations. You can also start to fully test for reliability and validity, you must retest and see if results replicate, you can also start to view the trends, with two time points of data, our study would be the one to take reliability estimation to the next level.

Reliability

In order for a survey to be reliable, the survey must be retested on a comparable group to see if the results are consistent. If they do replicate, then your survey is reliable enough to administer for future groups. Last year's and this year's team could not retest the same group for reliability, instead, last year's team tentatively assumed reliability unless item consistency evidence was lacking. This year, we tested the survey on a different group of juniors, and acknowledged that the survey has been revised. Still, we can assess reliability in terms of consistency of results between this year's and last year's data set. If we are not measuring anything but the passing fancy of the high school juniors, the results will vary wildly indicating random opinion created by being asked the question – i.e. that there was no prior "aspiration" or attitude or perception there to be measured. However, if the results are quite consistent, then there are aspirations to measure at this age and they are consistently being produced by some social processes that we can assume will remain in effect. That is the trends of interest involving movement toward gender equity (i.e. change) can be monitored through the periodic repeated use of this instrument. Also, as last year's research team pointed out, the survey was not long enough to give us the luxury on asking questions that concern a similar variable. If the length of the survey could be extended, this could give us an opportunity to re-ask questions in a different way for reliability purposes. Our strategy of 2 studies a year apart was more viable than a long initial study, with internal consistency checks.

Validity

The Validity question for the research team deals with whether the responses make sense in terms of what we were trying to measure. Expectations play a role in determining the validity of the survey, but also internal consistency among items. Do all the people who want to be doctors or lawyers report no plans to go to college? A few might and a pattern along those lines

would undermine faith in the data set. Do 5% of respondents express the same level of interest in all occupations? Do the men interested in traditional male occupations express concern about gender discrimination? These are red flag patterns that raise concern about item validity. At another level, would it make sense if 90% of males report aspiring to be nurses and teachers? Would it make sense if 90% of females aspire to a military career? Expectations about what is reasonable do play into assessments of the face validity of the survey results.

2.3. Content Analysis & Future Recommendations

As said before there really is no “perfect” survey; however we can strive to perfection by stating our future recommendations. By doing this, each generation of research teams will become more informed and prepared to deal with common failures and misconceptions. Although we are only the second research group to be involved with this survey, the survey itself has gone through many changes. The following is list of some changes that this group recommends for the future.

Last year there was an issue dealing with the check box character for the survey, and thus did not print the check box expected. The issue was not related to the version of word that the team used, but the type of checkbox character the team picked. The checkbox character which the team used is a default placeholder character for an unknown character type in word. This means that although it looked like a checkbox to the research group, the computer interpreted it differently and came out missing from the prints. To correct this issue, this year’s team identified the correct checkbox character and used it for all future surveys. With the new character in place, the checkbox came out perfectly in our printing stages.

Last year’s team believed that the lack of checkboxes on the personal information part of the survey may have lowered the response rate significantly. To look at this more closely, we compared the percentages of each year. Last year there were 59 out of 1006 surveys which the student did not respond to their gender. This year there were 13 out of 842 surveys which the student did not respond to their gender. Percentage wise, it’s 5.6% verses 1.5%. Having the checkmarks on the survey appeared to improve the response rate. Reasons why 13 students still did not respond to gender could be because they felt that such information should be kept confidential. The students may have decided not to disclose such information to the research

group, but we are convinced that the personal information section is fully understandable, and does not require any modifications regarding this issue.

This year's group also noticed a low response rate from students in Doherty's ETA program. Some of the analysis performed examines the career interests of the students in the Engineering and Technology Academy. The research team concluded that ETA students did respond, but did not checkmark that they were in the ETA program. This is mainly because the question in the personal information section just asked the student "ETA?". To receive a better response rate from students in ETA, it would be beneficial to ask a question like: "Are you in ETA?" or "Are you in the Engineering and Technology Academy?". If asked in such a way, students will understand what the question is asking, and will not assume that it does not pertain to them.

A major change to consider for the survey is the removal of the extracurricular activities section. This section was established for the sole purpose of finding candidates for the young woman of consequence award. It seems now since the young woman of consequence award is more known, guidance councilors will know who to recommend for such an award, and will not need help from the survey. Apart from finding potential candidates for the award, the data collected in the section is not used for any particular data analysis. If there is still a potential need for finding candidate for the award, a section to write in extracurricular activities could be added and would take up less space

One issue of analysis was raised when dealing with the art career last year versus the music/performance/visual arts this year. There was no easy way to compare a broad category such as art to three broad areas of arts. However this year's research team recommends keeping the categories the same so that analysis could be performed without any special interpretation of the data.

Another helpful modification to the survey would be to change the section on college-related concerns. It would be much easier to analyze this data if only the people who intend on going to college answer the college related concerns section. If we make that section contingent on if the student is expecting to go to college, then we do not have to worry about the validity of the data being compromised by students who have no intentions on a college career. It would also be helpful to the validity of the post-graduation plans data if we reword our expectations. We would like the student to answer what their plans will be directly after high school and not

just anytime in the future, and that checking two choices means that they will be doing both things concurrently. Also, it would be helpful to change the "work" choice to "Full-time work" and "Part-time work" in order to split the two data groups.

To save time on the data entry there could be a way to let the reader understand that they do not have to fill in all nine write-in career fields. Many students felt obligated to write in nine careers, but is unnecessary, and compromises the validity of that data. Preceding that section, we could have bold type directions at the bottom of the page stating to flip to the other side to continue. A number of students this year only completed the front side of the survey and left the back side blank.

Lastly, the research team this year saw that there could be improvement on determining parent occupations. Instead of asking the student to write in their parent's occupation we can have and extra set of checkboxes to the left of our career choices list. This way the student can check the best career that fits what their parents actually do. Not only does this improve the validity and response rate of the data. It will also be easier for data entry.

2.4. Survey Distribution

In B term, after some delay in approving the survey template, the research team printed approximately 1500 surveys and distributed them to all public high schools in Worcester. The surveys were given to guidance councilors in order to be administered to students in English class. However, this caused bad implementation because surveys were not administered well, and caused a drop in overall response rates. As a recommendation to future research groups, it would be ideal to go into the schools and administer the surveys yourselves. This will insure proper response rates and will take the work load off of guidance councilors and teachers.

When we came back from break, to our dismay, we were confronted with a low response rate from many schools; a follow up plan had to be instituted immediately. As we were performing data entry in C term, we were also trying to get the approval from public school administration for a follow up plan. Administration explained that any follow up plan would have to be negotiated with the schools in question. These schools were the Vocational High School, North High School and South High School. The other schools had response rates higher than 50%, which although is considered low, was not a major concern.

With the full cooperation of Mr. Potter from the Vocational High School, we were able to get a response rate of higher than 50%. However, schools such as North High School and South High School could not conduct the follow up survey due to time constraints and internal issues. The main cause of this low response rate was primarily due to the method of which the survey was administered to the students. The survey this year was administered as a homework assignment which most students either forgot or did not want to complete. Next year it is recommended that the survey be conducted during class time in hopes to get higher response rates.

2.5. Data Entry

After the surveys have been collected from all of the schools, we started with our data entry phase. In this phase we split the work between all members of the group and entered data from all surveys into an excel file. This excel file was set up with a certain number of columns pertaining to each question on the survey.

Every survey has a unique identification number tagged to it. The number starts with a school code which is based upon which school the student is responding from, and a 4 digit number. A table of school codes is listed below in Table 2-1.

School Name	Code
Alternative Learning Laboratory	AL
Burncoat High School	BC
Doherty High School	DO
North High School	NO
South High School	SO
Worcester Vocational High School	WV
University Park	UP

Table 2-1: Schools Codes of Survey Identification Number

The next columns are mainly the personal information data. The Student ID number, Graduation Year, and the guidance councilor data are write-ins. The column on validity is usually ‘1’ to denote a valid survey, and ‘0’ to denote an invalid survey. And the gender column

contains a ‘1’ for males and a ‘2’ for females. The ethnicity of the student was coded in a special way. See Table 2-2 below to view the ethnicity codes.

Ethnicity	Code
African American	1
Asian	2
Caucasian	3
Hispanic	4
Brazilian	5
Native American	6
Other	7

Table 2-2: Ethnicity Codes

For parental occupations the code in Table 2-3 below was used to group the occupation which the student listed.

Occupation	Code
Teaching	01
Engineering	02
Physical Science	03
Engineering/Phys. Science	04
Business	05
Trade	06
Medical Practice	07
Medical Support	08
Law	09
Art	10
Service Industry	11
Social Services	12
Civil Services	13
City Administration	14
Officer Training	15
Homemaker	16
Manual Labor	17

Table 2-3: Parent Occupation Codes

The table is self-explanatory. If the student listed an academic job such as teaching we would denote this with a ‘1’. If the student listed an engineering or science career we would denote these occupations with a ‘3’ or a ‘4’, managers or businessmen with a ‘5’ or ‘6’, nurses or doctors with a ‘7’ or ‘8’, lawyers or magistrates with a ‘9’, artists or musicians with a ‘10’, retail

workers or people involved with sales with a ‘11’, social workers with a ‘12’, police officers and firefighters with a ‘13’, Mayor or city managers with a ‘14’, stay-at-home parents or maids with a ‘16’ and carpenters or construction with a ‘17’.

In the next columns we code each of the occupation interests with a number between 1 and 4 depending on which they circled. If we had any with no circles, then we considered it a ‘0’. These codes are listed in Table 2-4 below. The specific careers which the students wrote in were manually typed into the template.

Interest Level	Corresponding Statement
1	I am not interested in pursuing a career in this occupational interest area
2	I am a little interested in pursuing a career in this occupational interest area
3	I am pretty interested in pursuing a career in this occupational interest area
4	I am very interested in pursuing a career in this occupational interest area

Table 2-4: Interest Level Codes

In the post high school section and the career related concerns section a ‘1’ denoted a checked box and a ‘0’ denoted an unchecked box. When we approached the gender related questions we used the key displayed below in Table 2-5.

Gender Related Concern	Parent Support
0 - blank	0 - blank
1 - Very Unlikely	1 - Both would Oppose it
2 - Unlikely	2 - Mixed Reactions
3 - Likely	3 - Bother would be supportive
4 - Very Likely	

Table 2-5: Gender Related Concern and Parent Support Codes

In the next section we ask the student to list the number of honors and AP classes that they are enrolled in. We denoted this in the dataset as the value they listed on the survey. Lastly, we come to the extra curricular activities section. In this section a code is input depending on the leadership position they have in the club. The codes are listed below in Table 2-6.

Extracurricular Member Status	Code
Not a member of the club	1
Member without leadership position	2
President	3
Vice president	4
Captain	5
Manager	6
Secretary	7
Historian	8
Editor	9
Instructor	10
Treasurer	11

Table 2-6: Extracurricular Codes

3. Analysis

After the database of survey responses was completed, extensive data analysis was performed on the information collected from the class of 2007 from each of the Worcester Public High Schools and all of the schools together. These data are also compared with the findings from the prior year's project to attempt to determine if the findings replicate. A separate section will examine the similarities and differences between the public and private high school data. These data will be analyzed with respect to several variables, including gender, ethnicity, parental occupation, school, and career interests. The students' future plans and concerns will also be studied.

Overall, approximately 53% of the students in all of the Worcester Public High Schools (842 out of 1592) responded to the aspirations survey. Our goal of a 50% or better response rate was achieved at five (A.L.L., Burncoat, Doherty, University Park, and the Worcester Vocational School) of the seven schools. The other two schools (North and South) were significantly lower, but the data collected from these schools will still be included in the analysis. One must note, though, that a small sample size such as at these two schools can significantly skew results if the missing people were systematically rather than randomly lost, so the results will not be as accurate. For example, North and South are organized into "small" schools, which will be explained later in greater detail. If the Health and Science Academy at North and the Academy of Education, Service, and Government at South took the survey more seriously or more strongly encouraged their students to participate, the results would not be representative of the school as a whole. If the sample of students that completed this survey as a take-home homework assignment or due to respect for WPI is systematically related to sex, race, or social class the results are similarly flawed. Due to the small sample size at North, an asterisk (*) will be used to remind the reader that the North data set should be analyzed with caution and results are may not be truly indicative of the population. Although the sample size at South is also less than 50%, the data analysis team is slightly more confident that the findings at South are based on a random sample. The other five schools that had a response rate of over 50% can be considered as a fairly accurate representation of the entire class of 2007, by the standard statistical norm recognized in social science.

The overall gender distribution was 47% males, 51% females, and 2% unspecified. The gender distributions at the individual schools were all approximately 1:1 with the females generally having a slightly larger response rate, except at the Worcester Vocational School, which was approximately 61% male and 39% female. Public Figures for the male-dominated Worcester Vocational School as a whole present a similar, although slightly less drastic, male-dominated distribution (45% female and 55% male). The response rate and gender distribution for each school is shown in Table 3-1 below.

	Population	Sample	Response %	Male	% Male	Female	% Female
A.L.L.	50	29	58.00%	14	48.28%	15	51.72%
Burncoat	282	182	64.54%	83	45.60%	97	53.30%
Doherty	375	258	68.80%	120	46.51%	138	53.49%
North	278	75	26.98%	30	40.00%	42	56.00%
South	341	135	39.59%	59	43.70%	69	51.11%
UP	40	39	97.50%	16	41.03%	23	58.97%
Voke	226	124	54.87%	75	60.48%	48	38.71%
Totals	1592	842	52.89%	397	47.15%	432	51.31%

Table 3-1: Data Set Response Rates and Gender Distributions for the 2005-2006 Juniors

The gender distributions of the survey responses at each school are very similar to the gender distributions provided by the Massachusetts Department of Education website, as shown in Table 3-2 below. Please note, though, that the information provided on the website is based off of everyone at the schools, and not just the class of 2007 that was surveyed.

	Sample Male %	DOE Male %	Sample Female %	DOE Female %
A.L.L.	48.28%	52.12%	51.72%	47.88%
Burncoat	45.60%	49.47%	53.30%	50.53%
Doherty	46.51%	47.66%	53.49%	52.34%
North	40.00%	51.09%	56.00%	48.91%
South	43.70%	50.57%	51.11%	49.43%
UP	41.03%	48.26%	58.97%	51.74%
Voke	60.48%	55.22%	38.71%	44.78%
Totals	46.52%	50.63%	51.90%	49.37%

Table 3-2: Gender Distribution of Respondents and DOE Statistics

The gender distributions of the survey respondents are very similar to those provided by the Massachusetts Department of Education for most of the schools. In general it appears that

the females, with the exception of the Worcester Vocational School, had a higher response rate than the males, especially compared to the expected ratio given by the DOE. The school with the largest difference from the DOE statistics is North, where only 40% of the respondents were male, as compared to the expected 51%; however, the female percentages were closer (49% expected, 56% actual) possibly due to the fact that some respondents did not indicate a gender. The missing cases on gender may be male. Thus, these gender distributions are close enough to the expected percentages that they can be considered as valid.

	Sample #	Sample %	DOE %
African American	109	12.9%	12.5%
Asian	85	10.1%	8.0%
Caucasian	381	45.2%	44.3%
Hispanic	210	24.9%	33.0%
Other	57	6.8%	2.2%
Total	842	100.0%	100.0%

Table 3-3: Ethnicity of Respondents and DOE Statistics

Similarly, the data analysis team compared the distribution of the four major ethnicities (African American, Asian, Caucasian, and Hispanic) to the information provided by the Massachusetts Department of Education, as see in Table 3-3 above. The distributions match very well, with Hispanics having the largest discrepancy (approximately 8%) between the sample and the expected distribution. The "other" category may account for some of the missing people that the state considers "Hispanic."

Thus, after examining the response rates and characteristics of the returned surveys, the data analysis team is fairly confident that the data set is an accurate portrayal of the class of 2007 at the Worcester Public Schools, with no serious bias in regards to ethnicity or gender, the key demographic variables of concern in the replication analysis.

3.1. Analysis Key

Throughout the following data analysis, several terms are going to be repeatedly used. A student has "high interest" when he or she circled a 4 for a certain career interest. A student that circled either 3 or 4 for a certain career interest has "interest" in that given career field. When

comparing the results from the class of 2007 to those of the class of 2006, it is important to note that this study's survey was modified slightly from the prior year's study. Previously, the students expressed their career interests on a scale of 1 to 5; however, the current survey uses only a scale of 1 to 4. This alteration was made to discourage the students from simply selecting a string of 3's for careers in which they were undecided rather than really thinking about which way they lean. With the scale of 1 to 4, they are forced to select a response indicating whether they were "interested" or not. "High interest" for last year's data was indicated by a 5, and "interest" was indicated by either a 4 or a 5. This may slightly skew some of the results, but the affects of this change should not have any substantial impact on the pattern of results produced by the study.

Common career interests are also grouped together into a few different categories to provide a more general view of the students' career interests. Elected political office, government service or administration, and international political careers are grouped together as political careers. Medical practice, medical support, and other medical related are grouped into medical careers. Engineering, physical science, computers, and information technology are grouped together as technical careers. Law, business, and medical careers are called "professional careers" and are considered to be prestigious. Political careers are also considered to be prestigious. Among the various medical careers, medical practice is considered to be more prestigious and professional than medical support and other medical related. Education, medical careers, and social services are considered to be nurturing careers. These three nurturing careers along with law, service industry, food service industry, and civil services are grouped together as service careers. Although some of the individual career interests differ between the two versions of the surveys, these general categories should represent the same information over the two data sets.

Some of the career interests have been modified and separated into more categories for this study's survey than was the case last year. These categories may have to be recombined for some portions of the analysis in order to more closely compare the data sets of the classes of 2006 and 2007. For instance, engineering and physical science will be combined into one category, as well as computers and information technology into a separate category. Medical support and other medical related will also be combined. Lastly, the three categories of art (performance, visual, and musical) will also be recombined into the general category of art.

These career interests will be kept separate for the analysis of the class of 2007 and will only be combined when comparing the two year's data sets.

During much of the following analysis, the career interests collected in the data set for the class of 2007 will be compared with current United States occupational data as well as with the data from the class of 2006. These comparisons will help to determine if the gender distributions of the current junior class of the Worcester Public High Schools match those in the real world and if they replicate between consecutive years of the survey, respectively. A key, as shown in Table 3-4 below, will be used to compare the gender distributions between the different data sets. The gender distributions are considered to be "comparable" if they are described by the same definitions (i.e., both are "slightly female dominated"). Also, if two percentages are close but in different categories, they would still be considered "comparable." For example, if the percentages were 13 and 17 percent female, then they would still be comparable even though they are considered different categories.

% Female	Definition
0-15	Strongly Male Dominated
15-30	Male Dominated
30-43	Slightly Male Dominated
44-56	Equal
57-70	Slightly Female Dominated
70-85	Female Dominated
86-100	Strongly Female Dominated

Table 3-4: Ratio Comparison Definitions

3.2. Predictive Analysis

Before the data analysis team performed the actual data analysis, a set of predictions were made that would be used as a guide in our actual analysis. Rather than simply using post hoc reasoning to explain why certain outcomes occur, this method of predictive analysis provides a greater meaning and importance to the results. These hypotheses will be used as an outline for the analysis that will be performed.

Most importantly, the data analysis team predicts that many of the findings from last year will replicate within a certain degree of accuracy. The data analysis team does not expect to find

the exact same ratios between the two data sets, but rather that the underlying notion remains constant. For example, females are again expected to demonstrate a high interest in professional careers, such as medical practice and law. They are also expected to be as interested in business careers as the males. The exact same percentages of interests, however, are not expected to replicate. The data analysis team believes that this high female interest in professional careers is indicative of the changing gender stereotypes and aspirations. The data analysis team also predicts that trade occupations will again be the most male dominated while social service occupations will be the most female dominated. Since the business field is such a broad field with so many opportunities, the data analysis team expects this career interest to be the most evenly distributed occupation. The trends in career interest by ethnicity and the post-high school plans and career-related concerns are expected to persist between the successive data sets and be quite similar.

Much like last year's study, the data analysis team also predicts that the gender ratios of current aspirations will fairly closely match the gender distributions of the real world occupations in most fields, though the proportion of students interested may be greater than the opportunities that field can accommodate. They cannot all be doctors and lawyers as inspired by popular television shows and movies, but starting out with such high aspirations is still important as many other possibilities will be revealed to the pre-med students as they take their college science and social science classes. Meanwhile, the pre-law students will learn about opportunities to advocate for many things other than clients as they learn more about the humanities and social science. Research, teaching, and administration will claim many of the would-be doctors, and some will find themselves as Hospital Administrators with the doctors (and lawyers) working for them. This kind of change in aspiration can be considered a failure, loss of prestige, or a non-professional career. The gender distributions of a few professional careers are expected to have a higher female interest in our data set than in the real world due to the increasing interest and awareness of females in these professional careers. These are the keys to progress toward gender equity. Overall though, the data analysis team expects the gender distributions of the juniors of the Worcester Public Schools to reflect those of the United States population. The information that will be used for the United States population occupational data is the Current Population Survey (CPS), which is collected monthly by the Bureau of Census for the Bureau of Labor Statistics (BLS). Using data collected by the CPS, the BLS creates a report

on the entire workforce. The BLS website provided a table of the number of workers by detailed occupation, gender, and weekly earnings for the year 2005.

Although career aspirations do not always translate into actual careers, the analysis of the current workforce assumes that the gender distribution in the workplace is similar to the gender distribution of the career aspirations. In order to match the United States population data with the data collected from the Worcester Public High Schools, the occupations in the CPS table had to be restructured so that it matched the career interest categories used in the survey. The CPS data and the guidelines used to restructure its careers into those more closely related to the careers used on the survey are given in Appendix C.

Most of the Worcester Public High Schools incorporate a "small school" system, due to a Carnegie Foundation Grant, where each school focuses on a few specific vocational areas, akin to majoring in college, which help to prepare the students to either further their education or work in that field after they graduate from high school. Unfortunately, though, last year's study found that the presence of these small schools did not necessarily increase the proportion of students with career interests corresponding to the focus of the small school(s) presence. In some cases they increased gender imbalance as well. The data analysis team predicts that these findings will appear again in this year's data set. A slight increase (about 5%) in career interests corresponding to that school's small school system is expected due to incoming transfer students from other quadrants attracted by the school. This is rare but symbolically important and helps hold middle class students in the public school system who might otherwise want to attend a private school that encourages that interest. The important question is whether the presence of the small schools generates interest in the normal student body, especially among those without a clear preexisting career goal. The degree of interest that one would assume that the small school system would evoke, if it substantially shaped vocational aspirations, would be a 30% or greater shift compared to the average of the other schools in the system. Based on last year's findings, the data analysis team expects the junior year data to reveal that these aspirations are already fixed and that the pressure to stay with one's peers in the quadrant and only a modest ability to evoke new aspirations at that age means that the presence of a small school will not substantially affect the distribution of aspirations at a school.

The career aspirations will also be analyzed with respect to the parental occupations. The data analysis team expects that many students with parents in a professional career will be

interested in similar professional careers or even the same professional career as a starting point for high school aspirations. Other careers, such as service industry or social service, are not expected to have as high a correlation between parental occupations and the student's aspirations, as the parents themselves probably have unrealized dreams and are encouraging their children to higher aspirations.

Lastly, the data collected from the sophomores (class of 2008) at the Doherty and North High Schools will be analyzed with reference to the class of 2007 data to determine if the career interests are similar. If the data are comparable, future project teams would be well advised to distribute the surveys to the sophomore classes. This would allow for more time to form career-related clubs as well as to aid the sophomores early enough in selecting classes that are necessary to support their post-high school plans. The data analysis team expects that the data sets will fairly accurately replicate in terms of career aspirations by gender, with some variations and noise resulting from the sophomores not having as clear an idea of their career aspirations as they would the following year, but being subject to the same general pressures at home, in school, and in terms of their own self image and pattern of grades by subject.

3.3. Analysis of Career Aspirations by Gender

The foremost area of analysis for this project is to study the gender distributions among the various career aspirations. The analysis of the class of 2006 performed in the prior year's study yielded several striking results concerning the career aspirations of females and males. The most significant finding was that the females in the Worcester Public High Schools demonstrated a high interest in professional careers, with a higher interest than the males in some cases. For instance, 38% of females were interested in medical practice careers (compared to 15% of males), 35% of females were interested in law careers (compared to 24% of males), and 45% of females were interested in business related careers (compared to 44% of males). The great exception was engineering. These findings demonstrate the significant advances women have made in professional careers since the onset of the women's movement. The actual gender distributions in the workplace are not even yet, but the increased awareness of and interest in them by young women should continue to lessen this inequity in the coming generation. This

gender-based comparison of career aspirations is of interest to both the ACSW and the administrators and guidance counselors of the Worcester Public High Schools.

3.3.1. Analysis of Career Interest by Gender

The analysis of career aspirations by gender will be compared to both the findings from the prior year's study and the gender distributions of the United States workforce, as provided by the 2005 Current Population Survey. The comparisons with findings from the class of 2006 will help to determine if the survey results replicate, which is one of the primary goals of this project. Also, comparing the results to the national employment statistics will determine if the juniors, especially the females, in the Worcester Public School System are pursuing careers that oppose the traditional gender stereotypes or that fall into line with them. Since the primary goal of this project is to determine if this survey can accurately replicate the findings from last year, most of the analysis will be based upon comparisons with last year's data. The data analysis team expects to find similar gender distributions among the various career interests between the two data sets. Thus, this will be the "null hypothesis." The null hypothesis will be supported when the gender ratios of the two data sets are in the same category, as defined by Table 3-4.

Table 3-5 shows an overall view of the gender distributions of the respondents of the juniors surveyed in 2005-2006 that had a "high interest" (responded with a 4 on the survey) in each career interest. Table 3-6 displays the "high interest" (responded with a 5 on the survey) results for the juniors that were surveyed in 2004-2005. At a cursory glance of these two tables, it appears that the gender distributions for "high interest" in many of the careers have replicated fairly accurately. The following analysis will look examine each specific career aspiration individually.

2005-2006 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	14	3.6%	35	8.1%	49	5.9%
Engineering	91	23.0%	20	4.6%	111	13.4%
Physical Science	17	4.3%	23	5.3%	40	4.8%
Computers	73	18.6%	29	6.7%	102	12.4%
IT	58	14.7%	21	4.9%	79	9.6%
Business	100	25.3%	90	20.8%	190	23.0%
Trade	81	20.5%	14	3.2%	95	11.5%
Medical Practice	35	8.9%	145	33.6%	180	21.8%
Medical Support	14	3.5%	129	29.9%	143	17.3%
Medical Other	24	6.1%	114	26.4%	138	16.7%
Law	37	9.4%	62	14.4%	99	12.0%
Performance Art	23	5.8%	92	21.3%	115	13.9%
Visual Art	32	8.1%	99	22.9%	131	15.8%
Musical Art	61	15.4%	61	14.2%	122	14.8%
Media	36	9.1%	51	11.8%	87	10.5%
Food Service	41	10.4%	43	10.0%	84	10.2%
Service Industry	14	3.5%	45	10.5%	59	7.2%
Social Service	11	2.8%	61	14.2%	72	8.7%
Civil Service	58	14.7%	23	5.3%	81	9.8%
City Admin.	13	3.3%	10	2.3%	23	2.8%
Elected Political Office	17	4.3%	8	1.9%	25	3.0%
Government Service	20	5.1%	10	2.3%	30	3.6%
International Politics	16	4.1%	22	5.1%	38	4.6%

Table 3-5: Gender Distributions of High Interest in each Career Interest for 2005-2006

2004-2005 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	17	4.0%	41	9.0%	58	6.0%
Eng/Phys. Science	80	16.0%	15	3.0%	95	10.0%
Computers/IT	92	18.7%	23	5.0%	115	12.1%
Business	121	24.6%	112	24.6%	233	24.6%
Trade	93	18.9%	16	3.5%	109	11.5%
Medical Practice	32	6.5%	111	24.3%	143	15.1%
Medical Support	25	5.1%	112	24.6%	137	14.5%
Law	53	11.0%	73	16.0%	126	13.0%
Art	89	18.0%	95	21.0%	184	19.0%
Service Industry	23	5.0%	82	18.0%	105	11.0%
Social Service	14	3.0%	86	19.0%	100	11.0%
Civil Service	61	12.0%	16	4.0%	77	8.0%
City Admin.	20	4.0%	7	2.0%	27	3.0%
Political Office	16	3.0%	12	3.0%	28	3.0%

Table 3-6: Gender Distributions of High Interest in each Career Interest for 2004-2005

Teaching

2004-2005 Teaching			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	284	174	458
% within Gender	58%	38%	48%
2-Some	72	104	176
% within Gender	15%	23%	19%
3-Moderate	85	90	175
% within Gender	17%	20%	19%
4-Considerable	33	47	80
% within Gender	7%	10%	8%
5-High	17	41	58
% within Gender	4%	9%	6%

2005-2006 Teaching			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	206	186	392
% within Gender	52.3%	43.1%	47.5%
2-A little Interested	113	132	245
% within Gender	28.7%	30.6%	29.7%
3-Pretty Interested	51	74	125
% within Gender	12.9%	17.1%	15.1%
4-Very Interested	14	35	49
% within Gender	3.6%	8.1%	5.9%

Table 3-7: Career Aspirations in Teaching by Gender

Last year's study, as shown in Table 3-7, found that 138 students were interested in teaching (as indicated by a 4 or 5 on the career interest scale), with 88 of those students being females. Thus, females make up 64% of all students that are interested in teaching for the 2005-2006 data, which makes it a "slightly female dominated" career as defined by Table 3-4. For the class of 2007 surveyed for this study, 174 students indicated an interest in teaching (a 3 or 4 on the career interest scale), with 109 of those students being female. Females therefore make up 63% of all students that are interested in teaching for the 2005-2006 data. This gender distribution is again "slightly female dominated" and is extremely similar to the distribution of the prior year's responses, so it supports the null hypothesis of no difference (i.e. that the gender distributions will replicate).

According to the 2005 BLS CPS data, there are approximately 6,066,000 people employed in the education, training, and library occupations, with 4,405,000 (73%) of those people being females. This is considered female dominated profession, which is slightly a slightly higher proportion than the percents exhibited in both of the data sets, indicating that the education profession may become slightly less female dominated in the next generation. That assumes that the students who are "pretty interested" are drawn into this field – i.e. that it is expanding and offers good career opportunities over the next decade.

The class of 2006 had 58 total students highly interested (a 5 on the career interest scale) in education, with 41 (71%) of those students being female. The class of 2007 had 49 total

students with a high interest (a 4 on the career interest scale) in education, with 35 (71%) of those students being female. This again supports the null hypothesis, and it makes the career interest be female dominated which matches the 2005 BLS CPS data more closely. It also appears that students that chose a 3 last year are split into the 2 and 3 categories this year since there is no middle choice.

Engineering and Physical Science

2004-2005 Engineering/Physical Science			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	159	293	452
% within Gender	32%	64%	48%
2-Some	85	77	162
% within Gender	17%	17%	17%
3-Moderate	86	47	133
% within Gender	18%	10%	14%
4-Considerable	81	24	105
% within Gender	17%	5%	11%
5-High	80	15	95
% within Gender	16%	3%	10%

Table 3-8: Career Aspirations in Engineering/Physical Science by Gender, 2004-2005

2005-2006 Engineering			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	97	281	378
% within Gender	24.6%	65.0%	45.7%
2-A little Interested	95	87	182
% within Gender	24.1%	20.1%	22.0%
3-Pretty Interested	106	36	142
% within Gender	26.8%	8.3%	17.2%
4-Very Interested	91	20	111
% within Gender	23.0%	4.6%	13.4%

Table 3-9: Career Aspirations in Engineering by Gender, 2005-2006

2005-2006 Physical Science			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	204	268	472
% within Gender	51.8%	62.0%	57.1%
2-A little Interested	119	84	203
% within Gender	30.2%	19.4%	24.6%
3-Pretty Interested	46	48	94
% within Gender	11.7%	11.1%	11.4%
4-Very Interested	17	23	40
% within Gender	4.3%	5.3%	4.8%

Table 3-10: Career Aspirations in Physical Science by Gender, 2005-2006

This year's survey separated the Physical Science and Engineering categories, which were combined in last year's survey. In both Physical Science and Engineering last year, 161 of the 200 interested students (81%) were males, which makes this career field male dominated. For the 2005-2006 study, 197 of the 253 students interested in engineering were males (78%), thus making engineering a male dominated field once again. However, 71 of the 134 students with an interest in physical science were females (53%), which makes this an equal career field. Thus, the engineering field supports the null hypothesis and the physical science career field disproves the null hypothesis, although it is difficult to compare the data exactly due to the modified survey, Last year, the career groupings obscured a major finding. Next year, a follow-up question for those interested dealing with which field they find most attractive would be worth considering.

According to the 2005 BLS CPS data, there are approximately 2,509,000 people employed in architecture and engineering occupations, with 2,187,000 (87%) of those people being males. This makes engineering and architecture a strongly male dominated career, which again indicates that high school females are slightly more interested in engineering and architecture than those in the current work force in the United States. Also, the CPS data indicates that 387,000 people are employed in physical science careers, with 131,000 (34%) of these people being females. This makes the 53% of female juniors interested in physical science very interesting, possibly indicating a continuing trend toward change in the gender distributions of the next generation within this career.

Last year's findings were that 84% of students highly interest in engineering and physical science are male, while this year's study has 82% of students highly interested in engineering

and 43% of students highly interested in physical science as males. Again, the engineering data for the 2005-2006 survey closely follows the engineering/physical science data from 2004-2005, but the high proportion of females interested in physical science is both surprising and full of implications. Also, it appears that males are very evenly spread across all interest levels of engineering, while the females were generally not interested in engineering, but were interested in physical science. However, many people who prepare for a science career are qualified either to teach science or to move into engineering as job opportunities present themselves. Hence, shortages in either field and few jobs in science could set in motion some momentous changes in the gender distribution of engineering.

Computers and Information Technology

2004-2005 Computers/IT			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	132	222	354
% within Gender	26.9%	48.7%	37.4%
2-Some	61	96	157
% within Gender	12.4%	21.1%	16.6%
3-Moderate	104	77	181
% within Gender	21.2%	16.9%	19.1%
4-Considerable	102	38	140
% within Gender	20.8%	8.3%	14.8%
5-High	92	23	115
% within Gender	18.7%	5.0%	12.1%

Table 3-11: Career Aspirations in Computers/IT by Gender, 2004-2005

2005-2006 Computers			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	128	209	337
% within Gender	32.6%	48.5%	40.9%
2-A little Interested	104	114	218
% within Gender	26.5%	26.5%	26.5%
3-Pretty Interested	82	73	155
% within Gender	20.9%	16.9%	18.8%
4-Very Interested	73	29	102
% within Gender	18.6%	6.7%	12.4%

Table 3-12: Career Aspirations in Computers by Gender, 2005-2006

2005-2006 IT			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	143	259	402
% within Gender	36.3%	60.0%	48.7%
2-A little Interested	104	92	196
% within Gender	26.4%	21.3%	23.7%
3-Pretty Interested	81	51	132
% within Gender	20.6%	11.8%	16.0%
4-Very Interested	58	21	79
% within Gender	14.7%	4.9%	9.6%

Table 3-13: Career Aspirations in Information Technology by Gender, 2005-2006

From Table 3-12 above, 60% (155 out of 257) of the respondents of the class of 2007 that are interested in a career in computers are males. Thus, the computers field is slightly male dominated. Out of the 211 students interested in information technology, 139, or 66%, are males, which also makes the information technology career interest slightly male dominated. The 2004-2005 survey, which combined computers and information technology, found that 73% of the students interested in such a career are male. Last year's study therefore determined that the computers/information technology career interest to be male dominated.

As of 2005, there were approximately 2,924,000 people in the United States with careers related to computers and information technology, with approximately 74% of those people being male. Thus, computer-related careers in the United States workforce are also male dominated.

For the class of 2007, 72% of the 102 people with high interest in computers are male, making it a male dominated career interest. Similarly, 73% of the 79 people with a high interest in information technology are male, likewise making it a male dominated career interest. 80% of the students interested in the combined computers/information technology careers last year were male, which is again male dominated. Thus, these careers support the null hypothesis even though the gender distributions for the students interested this year are slightly lower than expected. This may be a result of the separated categories or because computers is a fairly broad category. The levels of high interest, though, follow the pattern of last year's findings as well as the national workforce data, so it supports the null hypothesis.

The findings from the engineering, information technology, and computers career interests do indicate that the gender stereotypes related to these occupations are generally not improving. There appears to be a slight increase of female interest in computers and information technology as compared with the prior year's findings and the national data, but this may also be a result of the separated categories. Overall, though, the current gender distributions in the workforce seem likely to persist into the next generation. The physical science field appears to be attracting more females with 53% of the interested students being female. Here, change is on the horizon and progress toward gender equity is a strong possibility.

Business

2004-2005 Business			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	91	101	192
% within Gender	18.5%	22.1%	20.3%
2-Some	71	49	120
% within Gender	14.5%	10.7%	12.7%
3-Moderate	114	99	213
% within Gender	23.2%	21.7%	22.5%
4-Considerable	94	95	189
% within Gender	19.1%	20.8%	20.0%
5-High	121	112	233
% within Gender	24.6%	24.6%	24.6%

2005-2006 Business			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	78	122	200
% within Gender	19.7%	28.2%	24.2%
2-A little Interested	91	98	189
% within Gender	23.0%	22.7%	22.9%
3-Pretty Interested	121	116	237
% within Gender	30.6%	26.9%	28.7%
4-Very Interested	100	90	190
% within Gender	25.3%	20.8%	23.0%

Table 3-14: Career Aspirations in Business by Gender

The prior year's study found business to be one of the most evenly distributed careers by gender. In fact, it was one of the most popular career aspirations, with approximately 45% of the respondents having an interest in business. For the 2005-2006 study, this interest actually increased to 52% of the sample having an interest in business. Of the students interested in business this year, 52% were males, thus making this an equal career field. The prior year's study found that 51% of the students interested in business were males, which is again an equal career interest and thus supports the null hypothesis. According to the BLS statistics, business is an equal field in the United States workplace as well, with approximately 55% of business workers being male.

Of the 190 respondents that showed a high interest in business, 53% were males. From the prior year's findings, 52% of the students that showed a high interest in business were males. Thus, this further supports the null hypothesis. Although there may still be slight gender stereotypes in the current workplace in terms of the gender distributions of people with power in corporations, it appears that the business field is very well-balanced with the potential for more women to advance to those positions of power in the future.

Trade

2004-2005 Trade			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	169	343	512
% within Gender	34.4%	75.2%	54.1%
2-Some	85	58	143
% within Gender	17.3%	12.7%	15.1%
3-Moderate	81	25	106
% within Gender	16.5%	5.5%	11.2%
4-Considerable	63	14	77
% within Gender	12.8%	3.1%	8.1%
5-High	93	16	109
% within Gender	18.9%	3.5%	11.5%

2005-2006 Trade			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	149	341	490
% within Gender	37.7%	79.1%	59.3%
2-A little Interested	91	50	141
% within Gender	23.0%	11.6%	17.1%
3-Pretty Interested	65	16	81
% within Gender	16.5%	3.7%	9.8%
4-Very Interested	81	14	95
% within Gender	20.5%	3.2%	11.5%

Table 3-15: Career Aspirations in Trade by Gender

The prior year's study found that trade was the most male dominated career field in both the United States workforce and the aspirations of the class of 2006. This career interest also had the largest gender gap of all of the career interests. From the class of 2006 data, 83% of the students with an interest in trade and 85% of the students with a high interest in trade are male. For the class of 2007, again 83% of the students interested in trade and 85% of the students with a high interest in trade are male. These percentages are exactly replicated from the prior year's survey, and indicate that trade is a male dominated career, or even possibly a strongly male dominated career. Thus, the null hypothesis is supported.

According to the 2005 BLS data, 97% of the people employed in occupations related to construction, extraction, installation, maintenance, and repair are males. This high proportion of males likewise indicated that trade is a strongly male dominated career. Although females in the

Worcester Public High Schools show a 10% greater interest in trade than the current females in the workforce, it appears that the trades will continue to be a strongly male dominated career in the next generation.

Medical Practice, Medical Support, and Medical Other

2004-2005 Medical Practice			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	224	139	363
% within Gender	45.6%	30.5%	38.3%
2-Some	123	64	187
% within Gender	25.1%	14.0%	19.7%
3-Moderate	68	78	146
% within Gender	13.8%	17.1%	15.4%
4-Considerable	44	64	108
% within Gender	9.0%	14.0%	11.4%
5-High	32	111	143
% within Gender	6.5%	24.3%	15.1%

2005-2006 Medical Practice			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	199	128	327
% within Gender	50.4%	29.6%	39.5%
2-A little Interested	108	82	190
% within Gender	27.3%	19.0%	23.0%
3-Pretty Interested	47	73	120
% within Gender	11.9%	16.9%	14.5%
4-Very Interested	35	145	180
% within Gender	8.9%	33.6%	21.8%

Table 3-16: Career Aspirations in Medical Practice by Gender

Over the past two years that this survey has been distributed, female students have expressed a surprisingly high interest in all areas related to medicine as compared to the male students. Approximately 70% of the students surveyed last year that were interested in medical practice were female, and 78% of the students with a high interest were female. From this year's study, 73% of the students with in interest in medical practice are female and 81% of students with a high interest are female. Thus, medical practice aspirations are female dominated in both years, so the null hypothesis is supported.

According to the 2005 BLS data, 64% of United States citizens employed in medical practice fields are male. This makes medical practice a slightly male dominated field, which contrasts with the female dominated career interests of the Worcester Public High School Juniors. This may be indicative of a change in future gender distributions of medical practice or may be caused by females having a high interest in medical practice but later turning to the medical support field as a fall-back position.

2004-2005 Medical Support			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	272	132	404
% within Gender	55.4%	28.9%	42.7%
2-Some	104	69	173
% within Gender	21.2%	15.1%	18.3%
3-Moderate	62	77	139
% within Gender	12.6%	16.9%	14.7%
4-Considerable	28	66	94
% within Gender	5.7%	14.5%	9.9%
5-High	25	112	137
% within Gender	5.1%	24.6%	14.5%

2005-2006 Medical Support			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	255	131	386
% within Gender	64.6%	30.3%	46.7%
2-A little Interested	81	88	169
% within Gender	20.5%	20.4%	20.4%
3-Pretty Interested	37	77	114
% within Gender	9.4%	17.8%	13.8%
4-Very Interested	14	129	143
% within Gender	3.5%	29.9%	17.3%

Table 3-17: Career Aspirations in Medical Support by Gender

2005-2006 Other Medical Related			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	238	140	378
% within Gender	60.4%	32.4%	45.8%
2-A little Interested	86	86	172
% within Gender	21.8%	19.9%	20.8%
3-Pretty Interested	39	85	124
% within Gender	9.9%	19.7%	15.0%
4-Very Interested	24	114	138
% within Gender	6.1%	26.4%	16.7%

Table 3-18: Career Aspirations in Other Medical Related by Gender, 2005-2006

Last year, 77% of students interested in medical support careers were female, and 81% of highly interested students were female. For the class of 2007, 80% of students interested in medical support careers are female, and 90% of highly interested students are female. Also, 76% of students interested in other medical related fields are female, and 83% of highly interested students are female. Although the medical support career aspiration is more female dominated in this year's study than the prior year's study, this may be a result of the separation of the medical support career aspiration into medical support and other medical related. The data analysis team believes that this separation caused more males to select the other medical related field rather than the medical support field, which is a more female dominated career. Thus, if this assumption is true, both the medical support and other medical related fields support the null hypothesis.

According to the 2005 BLS data, 87% of people currently employed in medical support careers are females. This could be considered a female dominated career or a strongly female dominated career, which matches our findings above. Thus, medical support careers will continue to be female dominated in the future. Also, 66% of people currently employed in other medical related careers are females, which is a slightly lower proportion than the distribution of the respondents. Thus, it appears that the Worcester Public School females have an overall higher interest in all medical-related fields than the current gender distributions in the workforce, which is a finding that replicates from last year's study.

Law

2004-2005 Law			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	197	129	326
% within Gender	40.1%	28.3%	34.4%
2-Some	72	75	147
% within Gender	14.7%	16.4%	15.5%
3-Moderate	101	93	194
% within Gender	20.6%	20.4%	20.5%
4-Considerable	68	86	154
% within Gender	13.8%	18.9%	16.3%
5-High	53	73	126
% within Gender	11.0%	16.0%	13.0%

2005-2006 Law			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	193	166	359
% within Gender	48.9%	38.4%	43.4%
2-A little Interested	80	114	194
% within Gender	20.3%	26.4%	23.5%
3-Pretty Interested	78	87	165
% within Gender	19.7%	20.1%	20.0%
4-Very Interested	37	62	99
% within Gender	9.4%	14.4%	12.0%

Table 3-19: Career Aspirations in Law by Gender

In the class of 2006, 57% of students interested in legal careers are female, and 58% of students with a high interest are female. In the class of 2007, 56% of students interest in legal careers are female, and 63% of students with a high interest are female. These gender distributions can all be considered to be slightly female dominated, which supports the null hypothesis.

The gender distributions of legal careers in the workforce are approximately equal. Thus, the Worcester Public High School females display a slightly greater interest in legal careers than the current workforce. However, only 34% of the lawyers and 41% of the judges and magistrates in the United States are female. The females dominate the paralegal and legal assistant, with 84% of people employed in those fields being female. Thus, with more females

interested in legal careers, the gender distributions of the high positions in the legal careers could potentially become less male dominated.

Art

2004-2005 Art			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	196	134	330
% within Gender	40%	29%	35%
2-Some	67	59	126
% within Gender	14%	13%	13%
3-Moderate	78	98	176
% within Gender	16%	22%	19%
4-Considerable	61	70	131
% within Gender	12%	15%	14%
5-High	89	95	184
% within Gender	18%	21%	19%

Table 3-20: Career Aspirations in Art by Gender, 2004-2005

2005-2006 Performance Arts			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	250	165	415
% within Gender	63.1%	38.3%	50.2%
2-A little Interested	69	87	156
% within Gender	17.4%	20.2%	18.9%
3-Pretty Interested	47	82	129
% within Gender	11.9%	19.0%	15.6%
4-Very Interested	23	92	115
% within Gender	5.8%	21.3%	13.9%

Table 3-21: Career Aspirations in Performance Arts by Gender, 2005-2006

2005-2006 Visual Arts			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	237	158	395
% within Gender	60.0%	36.6%	47.8%
2-A little Interested	78	84	162
% within Gender	19.7%	19.4%	19.6%
3-Pretty Interested	39	85	124
% within Gender	9.9%	19.7%	15.0%
4-Very Interested	32	99	131
% within Gender	8.1%	22.9%	15.8%

Table 3-22: Career Aspirations in Visual Arts by Gender, 2005-2006

2005-2006 Musical Arts			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	196	221	417
% within Gender	49.6%	51.5%	50.6%
2-A little Interested	77	79	156
% within Gender	19.5%	18.4%	18.9%
3-Pretty Interested	54	61	115
% within Gender	13.7%	14.2%	14.0%
4-Very Interested	61	61	122
% within Gender	15.4%	14.2%	14.8%

Table 3-23: Career Aspirations in Musical Arts by Gender, 2005-2006

2005-2006 Media			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	178	180	358
% within Gender	44.9%	41.8%	43.3%
2-A little Interested	98	108	206
% within Gender	24.7%	25.1%	24.9%
3-Pretty Interested	76	85	161
% within Gender	19.2%	19.7%	19.5%
4-Very Interested	36	51	87
% within Gender	9.1%	11.8%	10.5%

Table 3-24: Career Aspirations in Media by Gender, 2005-2006

Last year, 52% of the students with both an interest and a high interest in a career in art were female. This year, however, the art category was separated into performance arts, visual arts, musical arts, and media. 64% of students of the class of 2007 that were highly interested in any category of art (they would only be included once even if they were highly interested in multiple forms of art) were female. This makes art a slightly female dominated career interest, which does not support the null hypothesis. However, it is important to note that the survey format may be influential in this more female-dominated gender distribution. The two data sets cannot be accurately compared in regard to the art career interest. These additional art categories are useful for future applications of this survey since the art career interest is rather vague and does not truly indicate the respondents' career interests.

In regards to the performance arts career aspiration, 71% of the interested students and 80% of the highly interested students are female. For visual arts, 72% of the interested students and 76% of the highly interested students are female. For musical arts, 51% of the interested students and 50% of the highly interested students are female. Finally, for media, 55% of interested students and 59% of highly interested students are female. Thus, performance and visual arts are female dominated career interests and musical arts and media are fairly equal careers.

According to the BLS statistics, 42% of the people with careers relating to visual arts are females, 25% of the people with careers relating to musical arts are females, and 48% of the people with careers relating to media are females. There were no categories that matched the performance art category. Thus, media is the only category in which the aspirations matched the actual workforce statistics, with both being equally distributed. All other categories have a much higher female interest in the Worcester Public Schools than in the actual workforce. To use a performance metaphor, "the stage is set" for change toward gender equity in the Arts during the next generation.

Service Industry and Food Service Industry

2004-2005 Service Industry			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	265	141	406
% within Gender	54.0%	31.0%	43.0%
2-Some	89	78	167
% within Gender	18.0%	17.0%	18.0%
3-Moderate	88	87	175
% within Gender	18.0%	19.0%	19.0%
4-Considerable	26	68	94
% within Gender	5.0%	15.0%	10.0%
5-High	23	82	105
% within Gender	5.0%	18.0%	11.0%

2005-2006 Service Industry			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	244	180	424
% within Gender	61.6%	42.0%	51.4%
2-A little Interested	100	114	214
% within Gender	25.3%	26.6%	25.9%
3-Pretty Interested	30	83	113
% within Gender	7.6%	19.3%	13.7%
4-Very Interested	14	45	59
% within Gender	3.5%	10.5%	7.2%

Table 3-25: Career Aspirations in Service Industry by Gender

2005-2006 Food Service Industry			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	196	201	397
% within Gender	49.6%	46.5%	48.0%
2-A little Interested	94	106	200
% within Gender	23.8%	24.5%	24.2%
3-Pretty Interested	57	76	133
% within Gender	14.4%	17.6%	16.1%
4-Very Interested	41	43	84
% within Gender	10.4%	10.0%	10.2%

Table 3-26: Career Aspirations in Food Service Industry by Gender

Last year, it was found that 75% of the respondents interested in service industry careers were female, and 78% of the students with a high interest were female. For the 2005-2006 study, the survey was modified slightly such that it now includes the career options for both service industry and food service industry. For the service industry, 74% of the interested students and 76% of the highly interested students are females. This closely follows last year's findings, which defines the service industry career aspiration as female dominated. This supports the null hypothesis. For the food service industry, 55% of the interested students and 51% of the highly interested students are female. Thus, the food service industry is a much more equal career interest. This cannot help to determine replication since it is a new category, though.

According to the 2005 BLS data, 52% of people employed in the service industry (not including the food service industry) are females, which indicates a much lower proportion of women than those in the Worcester Public Schools. It is surprising that such an equally distributed career has a fairly strong gender bias that has replicated itself in the junior classes. Also, 48% of people employed in the food service industry are females, which closely corresponds to the equal career interest in the food service industry. It is quite possible that females are about to take over a previously gender balanced sector of the business world in the next generation, but not the food part of it.

Social Service

2004-2005 Social Services			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	285	128	413
% within Gender	58.0%	28.0%	44.0%
2-Some	117	54	171
% within Gender	24.0%	12.0%	18.0%
3-Moderate	45	113	158
% within Gender	9.0%	25.0%	17.0%
4-Considerable	30	75	105
% within Gender	6.0%	16.0%	11.0%
5-High	14	86	100
% within Gender	3.0%	19.0%	11.0%

2005-2006 Social Services			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	253	159	412
% within Gender	64.2%	36.9%	49.9%
2-A little Interested	74	105	179
% within Gender	18.8%	24.4%	21.7%
3-Pretty Interested	47	99	146
% within Gender	11.9%	23.0%	17.7%
4-Very Interested	11	61	72
% within Gender	2.8%	14.2%	8.7%

Table 3-27: Career Aspirations in Social Services by Gender

For the social services career aspiration in the 2004-2005 study, 79% of the interested students and 86% of the highly interested students were females. For the 2005-2006 study, 73% of the interested students and 85% of the highly interested students are females. These gender distributions make social service generally a female dominated field, and thus support the null hypothesis.

In the United States workforce, 72% of the people employed in a social service field are female. This likewise makes social services a female dominated career. It appears that this female domination of social service will persist into the future, and may even increase.

Civil Service

2004-2005 Civil Service			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	212	269	481
% within Gender	43%	59%	51%
2-Some	76	91	167
% within Gender	16%	20%	18%
3-Moderate	86	52	138
% within Gender	18%	11%	15%
4-Considerable	56	28	84
% within Gender	11%	6%	9%
5-High	61	16	77
% within Gender	12%	4%	8%

2005-2006 Civil Service			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	168	294	462
% within Gender	42.5%	68.4%	56.0%
2-A little Interested	72	64	136
% within Gender	18.2%	14.9%	16.5%
3-Pretty Interested	88	37	125
% within Gender	22.3%	8.6%	15.2%
4-Very Interested	58	23	81
% within Gender	14.7%	5.3%	9.8%

Table 3-28: Career Aspirations in Civil Service by Gender

Last year, 73% of students interested in civil service were male. Also, 79% of those students with high interest were male. Likewise, from this year's survey, 71% of interested students and 72% of highly interested students are male. Thus, the civil service career aspiration is male dominated in both studies, and thus supports the null hypothesis.

The BLS data indicates that 77% of the people employed in civil service careers are male, which is also male dominated. Thus, it appears that the civil service careers will continue to be male dominated in the next generation.

City Administration

2004-2005 City Administration			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	300	328	628
% within Gender	61%	72%	66%
2-Some	80	67	147
% within Gender	16%	15%	16%
3-Moderate	66	32	98
% within Gender	13%	7%	10%
4-Considerable	25	22	47
% within Gender	5%	5%	5%
5-High	20	7	27
% within Gender	4%	2%	3%

2005-2006 City Administration			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	267	332	599
% within Gender	67.8%	76.9%	72.5%
2-A little Interested	67	56	123
% within Gender	17.0%	13.0%	14.9%
3-Pretty Interested	37	24	61
% within Gender	9.4%	5.6%	7.4%
4-Very Interested	13	10	23
% within Gender	3.3%	2.3%	2.8%

Table 3-29: Career Aspirations in City Administration by Gender

Last year's survey found a very low proportion of all respondents interested in any political career, such as city administration and elected political office. This trend appears to replicate itself in the class of 2007. In fact, last year only 7.9% of Worcester Public School students expressed an interest in city administration. This year, that percentage increased slightly to 10.0%. Of the people interested in city administration last year, 61% were male. Also, 74% of the highly interested students were male. This year, 60% of the interested students and 57% of the highly interested students are male. Although the percentage of highly interested males dropped slightly, the city administration career aspiration for both years is still slightly male dominated, and thus it supports the null hypothesis, but the real question is whether the finding replicated given the rise in the percentage of females of the highly interested students this year. Since this is 7 to 10 female students out of over 400 in each year and a percent shift of less than 20%, the data analysis team thinks that it replicated.

Elected Political Office, Government Service, and International Politics

2004-2005 Elected Political Office			
Interest	**Gender**		**Total**
	Male	**Female**	
1-None	323	330	653
% within Gender	66%	72%	69%
2-Some	68	65	133
% within Gender	14%	14%	14%
3-Moderate	65	38	103
% within Gender	13%	8%	11%
4-Considerable	19	11	30
% within Gender	4%	2%	3%
5-High	16	12	28
% within Gender	3%	3%	3%

2005-2006 Elected Political Office			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	278	348	626
% within Gender	70.4%	80.6%	75.7%
2-A little Interested	57	45	102
% within Gender	14.4%	10.4%	12.3%
3-Pretty Interested	35	22	57
% within Gender	8.9%	5.1%	6.9%
4-Very Interested	17	8	25
% within Gender	4.3%	1.9%	3.0%

Table 3-30: Career Aspirations in Elected Political Office by Gender

2005-2006 Government Service			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	275	340	615
% within Gender	69.6%	78.7%	74.4%
2-A little Interested	63	50	113
% within Gender	15.9%	11.6%	13.7%
3-Pretty Interested	29	21	50
% within Gender	7.3%	4.9%	6.0%
4-Very Interested	20	10	30
% within Gender	5.1%	2.3%	3.6%

Table 3-31: Career Aspirations in Government Service or Administration by Gender, 2005-2006

2005-2006 International Politics			
Interest	**Gender**		**Total**
	Male	**Female**	
1-Not interested	275	309	584
% within Gender	69.6%	71.5%	70.6%
2-A little Interested	63	59	122
% within Gender	15.9%	13.7%	14.8%
3-Pretty Interested	32	33	65
% within Gender	8.1%	7.6%	7.9%
4-Very Interested	16	22	38
% within Gender	4.1%	5.1%	4.6%

Table 3-32: Career Aspirations in International Politics by Gender, 2005-2006

The political sections of the survey have been expanded this year to include elected political office at the state or national level, government service or administration at the state or national level, and international political careers. Like city administration, the Worcester Public High Schools students exhibit a very low interest in these political careers. Last year, only 6.2% of the juniors had an interest in running for political office. This year, that percentage slightly increased to about 9.7%. Also, only 9.5% of juniors are interested in government service or administration and 12.2% of juniors are interested in an international political career. Also, it appears that the results for elected political office and government service or administration are very similar, with may people picking the same option for both. The international political career had slightly different results.

Of the small proportion of respondents interested in political office last year, 60% were male. Also, of those students highly interested in political office, 57% are male. Thus, political

office was a slightly male dominated career last year. For the class of 2007, 63% of students interested in elected political office are male, and 68% of the highly interested students are male. Also, for government service or administration, 62% of interested students and 67% of highly interested students are male. Thus, both political office and government service or administration are slightly male dominated careers. Therefore, these two career interests support the null hypothesis. For international politics this year, 53% of interested students and 58% of highly interested students are female. Thus, international politics appears to be an equal to slightly female dominated career, which is opposite of the other political careers. This finding has no counterpart in last year's survey, so it cannot be determined if this portion of the data has replicated.

Overall, Worcester Public High School students exhibit a very low interest in political careers as compared with the other career interests. Males tended to show a slightly greater interest in these careers, with the exception of international politics. However, as of 1990, only 16% of mayors, 14% of other municipal officials, and 17% of state legislators were women (Nelson & Chowdhury, 1994). Unfortunately, the BLS data does not include occupations relating to politics so it is difficult to determine to what degree these gender distributions has changed since 1990. However, it is important to note that even though the males have a slightly higher interest in most political careers, the percentage of interested females is much higher than the percentage of females that work in politics in the current workforce. A shift from the current situation to 33% or 40% female politicians and government servants would actually be a revolutionary event and a surge toward gender equity. Therefore, this may indicate that in the near future, many more women will become involved in political careers. South High School does include an Academy of Education, Service & Government as one of its small schools. Perhaps it would be beneficial for the Worcester Public School System to encourage the students to consider careers relating to politics, especially by participating in the small school at South High School. The effects of this small school, as well as all of the other small schools, will be studied in a future section.

Conclusion

Overall, the male-to-female ratios replicated very well for questions that did not change between the two surveys, such as teaching, business, trade, law, service industry, social service,

and civil service. For the career interest options that were modified, though, the distribution of students with high interest are more varied between the two data sets. Males continue to be more interested in engineering careers than females, but the gender ratios of careers relating to physical science is much more even between the two genders. This fact was not apparent in last year's study due to the use of a combined category of engineering and physical science. The gender distributions for students interested in computers and information technology careers remained the same between the two studies, with information technology having an overall lower interest but the same gender ratio. The male-to-female ratio for medical practice careers replicated between the two studies. Males indicated a higher interest in other medical related careers than medical support careers in 2005-2006. Overall, though, all of the medical careers in both years of the survey are female dominated. Since the arts category has been separated into musical arts, performance arts, visual arts, and media this year, the gender ratios are much more apparent and pronounced than the generally equal gender ratio of arts last year. Males appear to be more interested in musical arts while females are more interested in performance and visual arts. The distribution of interest in careers relating to media is fairly even among the two genders. Since the career aspiration of elected political office has been divided into elected political office, government service, and international politics, it appears that the males have a fairly equal interest in all categories of politics while females are more interested in international politics as compared to the other political careers.

3.3.2. Analysis of Post-High School Plans by Gender

2005-2006	Males	Male %	Females	Female %
4-year College	282	71.2%	356	82.4%
2-year College	62	15.7%	57	13.2%
Vocational	34	8.6%	14	3.2%
Work	110	27.8%	136	31.5%
Military	33	8.3%	11	2.5%
Marriage / Family	34	8.6%	48	11.1%

Table 3-33: Post-High School Plans by Gender, 2005-2006

2004-2005	Males	Male %	Females	Female %
4-year College	330	67.2%	360	78.9%
2-year College	66	13.4%	73	16.0%
Vocational	29	5.9%	13	2.9%
Work	85	17.3%	52	11.4%
Military	45	9.2%	13	2.9%

Table 3-34: Post-High School Plans by Gender, 2004-2005

Table 3-33 and Table 3-34 display the post-graduation plans of students of each gender for the 2005-2006 and 2004-2005 studies, respectively. It is important to note that students are allowed to select multiple options on the survey if they intend to do more than one of these options in the fall after graduating from high school. Therefore, the percentages do not add up to a 100% total. For example, a student may plan to be involved in the military, such as joining the ROTC, and to attend a 4-year college simultaneously, so they would check both boxes. Some students may have misunderstood the instructions, though, and selected options that they intend to do sometime in the future but not directly after high school.

In general, the post-graduation plans replicated very well between the two years of the study, with the exception of work. Throughout both years of the study, females have indicated a slightly higher interest in attending a 4-year college than the men. 82.4% of women in the 2005-2006 study and 78.9% of women in the 2004-2005 study plan to attend a 4-year college as compared to only 71.2% of males in the 2005-2006 study and 67.2% of males in the 2004-2005 study. In both studies, the percentage of students interested in attending a 2-year college or vocational school is much lower than the percentage of students planning on attending a 4-year college. Also, the percentages of each gender planning to become involved in the military after high school is nearly identical between the two studies. The marriage and family option is new for this year's survey and demonstrates that 8.6% of males and 11.1% of females plan to get married and have a family directly after high school. These percentages may be slightly skewed, though, by students who intend to get married and have a family at some time in the future but not directly after high school. The question implies, but does not specify this. Overall, the distribution of students planning on continuing their education or joining the military replicate between the two data sets.

The post-graduation plans of work vary greatly between the two studies. Last year, 17.3% of males and 11.4% of females intended to enter the workforce directly after high school. This year, however, these percentages nearly doubled to 27.8% of males and 31.5% of females intending to enter the workforce. In order to more closely study this large variation, the concurrent post-graduation plans of students who selected work are shown in Table 3-35.

	Male	Female	Total
4-year college	70	102	172
% within gender	63.6%	75.0%	69.9%
Community College	24	26	50
% within gender	21.8%	19.1%	20.3%
Vocational/Trade School	8	7	15
% within gender	7.3%	5.1%	6.1%

Table 3-35: Concurrent Post-Graduation Plans of Students Selecting Work, 2005-2006

According to Table 3-35 above, nearly 70% of students who selected work also plan to attend a 4-year college. These students may plan to work during the summer before attending college in the fall or they may intend to have a part-time job during college. Also, of the students planning on working, 20.3% also plan to go to community college and 6.1% also plan to go to a vocational or trade school. In fact, only 22 males (5.5% of all male respondents) and 12 females (2.7% of all female respondents) selected work as their only post-graduation plan. For the rest, checking off work is misleading and the item wording should be changed in future studies.

3.3.3. Analysis of Career-Related Concerns by Gender

	2005-2006 Juniors		2004-2005 Juniors	
Concern	Males	Females	Males	Females
Low Grades	28.8%	18.1%	25.0%	18.0%
Low Test Scores	16.9%	16.4%	17.0%	22.0%
College Too Expensive	27.3%	32.0%	25.0%	28.0%
College Too Demanding	7.3%	7.2%	7.0%	5.0%
Dislike School	9.6%	3.0%	8.0%	4.0%
Anyone in Profession	8.1%	6.3%	8.0%	9.0%
Required Education	13.9%	16.4%	16.0%	16.0%
Succeed	22.5%	30.8%	19.0%	24.0%
Opposite Gender Dominated	6.3%	11.3%	8.0%	9.0%
Family Support	59.3%	74.1%		

Table 3-36: Career-Related Concerns by Gender

After the question relating to post-high school plans on the back page of the survey, students also answered a series of multiple choice questions relating to their career-related concerns. They are allowed to select multiple concerns that they believe might prevent them

from pursuing a career interest. The complete set of questions, in the same order as in Table 3-36, is as follows:

- "I doubt I'll be accepted to college because…"
  - "My grades are too low"
  - "My Test Scores are too low"
- "I doubt I'll be attending college because…"
  - "It's too expensive"
  - "It's too demanding/difficult"
  - "I dislike school"
- "I feel unprepared for my career interest because I don't know…"
  - "Anyone in that profession"
  - "What education in required"
  - "If I will succeed in that profession"
- "How likely is it that you would pursue a career that relatively few males (for female students)/females (for male students) work in?"
- "How do you think your parents would react if you wanted to pursue a career that relatively few females (for female students)/males (for male students) work in?"

The null hypothesis for the analysis of career-related concerns by gender is that the concerns of students from the 2005-2006 juniors would be within 10% of the 2004-2005 juniors.

Students who believe they will not be accepted to college because of their low grades and low test scores were similar for both years. The null hypothesis is supported. Males are again more likely to be worried about their grades than females. Fewer females exhibit a concern about their test scores in 2005-2006 though. In 2004-2005, 22.0% of female juniors were concerned about their test scores being too low while in 2005-2006, only 16.4% of female juniors are concerned about test scores. The females in the 2004-2005 study thus displayed a greater likelihood of concern about test scores as compared to the male respondents, while the percentages of students concerned about test scores is indistinguishable this year between the two genders. The finding of greater female concern about test scores did not replicate.

The null hypothesis is supported for percentage of students who doubt they will be attending college because it is too expensive, too demanding, or because they dislike school.

College being too expensive is still the most important impediment to attending college. Concerns about the cost of college are still considerably more important to Worcester Public High School juniors than concerns about college being demanding or the students disliking school, even though the cost-related concerns did lower slightly this year. Males continue to be more likely to express concern about disliking school than females, with males being twice as likely last year and over three times as likely this year to dislike school.

The percentage of students who feel unprepared for their career interest because they do not know anyone in that profession, what education is required, or if they will succeed in that profession support the null hypothesis. Males and females demonstrate a fairly equal likelihood of concern about not knowing anyone in their profession and of not knowing what education is required in both sets of data. Likewise, females are again more concerned about succeeding in their profession than males, which replicated.

The questions relating to pursuing a career in that is dominated by the opposite gender and the parents' reaction to such a decision have been modified since last year's survey. Thus, there is no corresponding data for the family support. It is surprising, though, that even with the different questions about pursuing a career dominated by the opposite gender, the results replicate fairly well. The percent of students likely to pursue a career in a field dominated by the opposite gender is similar for both years. Thus, this supports the null hypothesis. Females are slightly more likely to enter a field dominated by the opposite gender in both sets of data, with this being more apparent in the 2005-2006 data. Likewise, higher proportions of female students feel that they would receive more family support for a decision to pursue a career dominated by the opposite gender than male students.

3.4. Analysis of Career Aspirations by Ethnicity

As shown in Table 3-3 on page 18, the Worcester Public High Schools have very diverse collection of students. Of the 842 respondents, 12.9% (109 students) are African American, 10.1% (85 students) are Asian, 45.2% (381 students) are Caucasian, and 24.9% (210 students) are Hispanic. The remaining 7% of the respondents are either students of other ethnicities or students that did not indicate an ethnicity. According to the Massachusetts Department of Education website, in all of the Massachusetts public schools, 8.3% of the students are African

American, 4.6% are Asian, 72.4% are Caucasian, and 12.9% are Hispanic. Thus, the Worcester Public High Schools have nearly twice as many students of Asian and Hispanic heritage than the average Massachusetts Public School, and about half of the Worcester Public High School students are minority students, rather than the quarter of overall Massachusetts public high school students.

3.4.1. Analysis of Career Interest by Ethnicity

In order to analyze the various career interests by ethnicity, it is necessary to compare the percentage of respondents of one ethnicity with a high interest in a particular career with the respondents of the other ethnicities with a similar high interest. For instance, the percentage of African Americans with a high interest in teaching should be compared with the percentage of Asians, Caucasians, and Hispanics with a similar high interest. If the analysis simply compared the high interest of one ethnicity with the average interest of all the students, the findings would be influenced by the proportion of students of that ethnicity as compared to the entire sample. This would be especially problematic when analyzing Caucasian students since they represent 45.2% of the entire sample, and thus comparison to the average overall interest would lessen the difference of interests. For the analysis, "Ethnicity %" refers to the percentage of respondents of that ethnicity that have a high interest in the career field, "!Ethnicity%" refers to the percentage of respondents of all other ethnicities that have a high interest in the career field, and "Difference" is the percent difference between Ethnicity% and !Ethnicity%, as calculated by:

$$Difference = \frac{Ethnicity\% - !Ethnicity\%}{!Ethnicity\%}$$

If the percent difference is positive, it means that particular ethnicity has a higher distribution of people with high interest in that career field than the other ethnicities. Likewise, if the percent difference is negative, that particular ethnicity shows a decrease in students with high interest in that career field as compared to the other ethnicities. The larger the percent difference, the more that ethnicity varies from the average.

For this portion of the analysis, the research team has determined that a significant difference in interest for an ethnicity occurs when the percent interest of one ethnic group differs from the percent interest of all other ethnic groups combined by more than 25%. Although a 25% difference in interest may appear to be a large difference, due to the method of calculating the difference as well as the relatively small sample sizes of some of the less common ethnicities, the research team believes that within a ±25% difference in interest as compared to the other ethnicities provides a measure of relatively neutral interest. For instance, there are only 85 Asian respondents, so each Asian students account for a 1.2% change in interest within that ethnicity. Also, due to the equation used to calculate the percent difference, a difference between a 16% interest within a given ethnicity and a 14% interest within the other ethnicities actually produces a 14% difference. The analysis team expects the different ethnic groups to exhibit similar trends between the two data sets in each career interest. Thus, the null hypothesis for this section of the analysis is that the ethnicities that had a difference in interest of greater than 25% for a certain career will replicate the large difference in interest and the ethnicities that have a small difference will replicate a similar small difference.

Teaching

Teaching 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	15%	15%	0%
Asian	14%	15%	-7%
Caucasian	16%	14%	+14%
Hispanic	12%	15%	-20%
Teaching 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	4%	6%	-42%
Asian	2%	6%	-63%
Caucasian	7%	5%	+56%
Hispanic	6%	6%	+5%

Table 3-37: Career Aspirations in Teaching, by Ethnicity

The variance in interest in teaching among the different ethnicities is much larger this year. Last year, none of the ethnic groups demonstrated a large variance (a difference of more than 25%) while this year, African Americans, Asians, and Caucasians all demonstrated a difference of over 40%. Thus, the null hypothesis is not supported for teaching. The ethnicity

finding did not replicate other than to indicate that the Caucasian students were the most interested in teaching in both years.

Engineering and Physical Science

Engineering/Physical Science 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	22%	21%	+5%
Asian	31%	20%	+55%
Caucasian	18%	24%	-25%
Hispanic	22%	21%	+5%
Engineering 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	5%	15%	-69%
Asian	21%	12%	+70%
Caucasian	12%	15%	-17%
Hispanic	17%	12%	+43%
Physical Science 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	4%	4%	-17%
Asian	6%	4%	+42%
Caucasian	5%	4%	+6%
Hispanic	4%	5%	-16%

Table 3-38: Career Aspirations in Engineering and Physical Science, by Ethnicity

Last year, Asian students expressed a significantly higher interest (a 55% overrepresented presence) in careers relating to Engineering and Physical Science than the rest of the Worcester Public High School students. This year, the trend continues with Asian students exhibiting a 70% over-represented presence in interest for engineering and a 42% over-representation in aspiring to be in physical science. African American and Hispanic students this year also expressed a large difference in interest in engineering as compared to the rest of the students, with African American students having a 69% under-representation in interest and Hispanic students having a 43% over-representation in interest as compared to the rest of the students. Last year the African American and Hispanic students both had only a 5% margin of excess interest in interest in engineering and physical science. In the 2005-2006 data, Asian students are the only ethnic group to have a significant over-representation in interest in physical science as compared to the other ethnicities. This matches the 2004-2005 combined engineering and physical science data. All three other ethnicities expressed a neutral interest within the stated

25% difference. Thus, the null hypothesis is disproved for engineering and supported for physical science.

Computers and Information Technology

Computers/IT 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	26%	27%	-4%
Asian	46%	25%	+84%
Caucasian	22%	31%	-29%
Hispanic	30%	26%	+15%
Computers 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	11%	13%	-14%
Asian	19%	12%	+61%
Caucasian	9%	15%	-38%
Hispanic	16%	11%	+46%
IT 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	6%	10%	-45%
Asian	18%	8%	+113%
Caucasian	6%	12%	-48%
Hispanic	13%	8%	+70%

Table 3-39: Career Aspirations in Computers/IT, by Ethnicity

Asian students in the 2005-2006 study expressed a very disproportionate level of interest (an 84% advantage in interest) in careers relating to computers and information technology as compared to the rest of the ethnicities. Caucasian students conversely expressed a disproportionately low interest in computers and information technology, indicating a 29% deficit in interest as compared to the rest of the ethnicities. Both of these trends persist throughout the 2005-2006 data as well. Asian students in the 2005-2006 study have a 61% excess of in interest in computers and a 113% advantage in information technology (they are more than twice as likely to be interested in information technology as compared to students of the other ethnicities). Caucasian students in the 2005-2006 study have a 38% deficit in computers and a 48% deficit in information technology. The African American and Hispanic students also have a more varied level of interest from year to year, though. Hispanic students have a 45% advantage in computers and a 70% advantage in information technology while African American students have a 45% deficit in information technology. Thus, the null

hypothesis is not supported for the occupational interest areas of computers and information technology. Things are changing year-to-year other than the rank order of Asian students being the most interested and Caucasian students being the least interested in the computer and information technology fields.

Although the null hypothesis is not supported, the trend of high Asian interest in technical careers is apparent throughout both studies and the four career interests of engineering, physical science, computers, and information technology. This trend toward relative interest in the technical fields (as compared to the African American and Caucasian students) is also true for Hispanic students, although to a lesser degree.

Business

Business 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	49%	44%	+11%
Asian	48%	44%	+9%
Caucasian	41%	47%	-13%
Hispanic	47%	44%	+7%
Business 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	25%	23%	+9%
Asian	31%	22%	+39%
Caucasian	20%	26%	-23%
Hispanic	24%	22%	+8%

Table 3-40: Career Aspirations in Business, by Ethnicity

Last year, the ethnic groups were fairly similar in their expressed interest in business-related careers. The highest difference of interest was +11% and the lowest difference of interest was -13%, which are only 24% apart, with African American students indicating the highest relative level of interest and the Caucasian students indicating the lowest relative level of interest in business-related careers. This year, however, the order has changed and the differences are greater. The Asian students expressed a 39% advantage in interest in business as compared to the other ethnic groups, and the Caucasian students had a 23% disadvantage in interest, which is a total of 62% points apart. Therefore, the null hypothesis is not supported. The only stable feature is that the Caucasian students are less interested in business careers than all of the other

ethnic groups. The relative levels of interest for the African American and Hispanic students also replicated well between the two years of the study.

Trade

Trade 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	13%	21%	-38%
Asian	10%	21%	-52%
Caucasian	21%	18%	+17%
Hispanic	23%	19%	+21%
Trade 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	8%	12%	-30%
Asian	7%	12%	-41%
Caucasian	13%	10%	+36%
Hispanic	11%	11%	+1%

Table 3-41: Career Aspirations in Trade, by Ethnicity

According to the 2004-2005 data, African American and Asian students are less likely to be interested in trade-related careers. This finding is true once again for the 2005-2006 data. Caucasian students in 2005-2006, however, exhibit a much greater interest in trade-related careers than the year before. Last year, Caucasian students only had a 17% advantage in interest while this year they have a 36% advantage in interest. Thus, the null hypothesis is not supported for trade. The figures changed, but the rank order among African American, Asian, and Caucasian students was preserved. Only the Hispanic students shifted from most interested last year to the second most interested ethnic group this year.

Medical Practice

Medical Practice 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	29%	26%	+12%
Asian	26%	26%	0%
Caucasian	25%	27%	-7%
Hispanic	29%	26%	+12%
Medical Practice 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	33%	20%	+69%
Asian	27%	21%	+31%
Caucasian	17%	26%	-36%
Hispanic	22%	21%	+3%

Table 3-42: Career Aspirations in Medical Practice, by Ethnicity

Last year, none of the ethnic groups differed greatly from the overall average level of interest in medical practice. The African American and Hispanic students were the most interested last year. This year, however, African American and Asian students surged in interest while the Caucasian students plunged in proportion interested in medical practice. African Americans have a 69% advantage in interest and Asian students have a 31% advantage in interest in medical practice as compared to the rest of the students. Caucasian students, however, indicate a 36% deficit in interest as compared to the rest of the students. The null hypothesis is not supported for medical practice. The findings have changed since last year, with the only stable point being the relative lack of interest in medical practice among the Caucasian students as compared to the interest among the minorities.

Medical Support and Medical Other

Medical Support 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	36%	21%	+71%
Asian	18%	24%	-25%
Caucasian	21%	25%	-16%
Hispanic	27%	22%	+23%
Medical Support 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	24%	16%	+54%
Asian	18%	17%	+7%
Caucasian	11%	22%	-50%
Hispanic	23%	14%	+58%
Other Medical 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	24%	15%	+55%
Asian	20%	16%	+24%
Caucasian	12%	21%	-40%
Hispanic	19%	16%	+22%

Table 3-43: Career Aspirations in Medical Support/Other, by Ethnicity

According to the 2004-2005 data, last year the African American students expressed a 71% disproportionately high level of interest in medical support careers. This year, the African American students continue to express a disproportionately high level of interest in medical support (a 54% advantage in interest) and other medical related careers (a 55% advantage in interest) as compared to the rest of the ethnic groups. In the 2005-2006 data, however, the Hispanic students also express a higher relative proportion of those interested in other medical related careers (a 58% advantage in interest). Last year, Caucasian students exhibited a 16% deficit in interest in medical support careers. This year, they plunged to a 50% deficit in interest in medical support careers and a 40% deficit in interest in other medical related careers as compared to the other ethnic groups. Therefore, the null hypothesis is not supported for careers relating to medical support and other medical related careers. The findings have changed between the two years of the study. Even the relative low interest group has shifted from the Asian students last year to the Caucasian students this year. The relative positions of the other ethnic groups are not stable, but there is an emerging trend suggesting that the Caucasian students are less interested in medical careers than the other ethnic groups.

Law

Law 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	36%	28%	+29%
Asian	13%	31%	-58%
Caucasian	30%	29%	+3%
Hispanic	31%	29%	+7%
Law 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	17%	11%	+59%
Asian	6%	13%	-53%
Caucasian	8%	15%	-47%
Hispanic	18%	10%	689%

Table 3-44: Career Aspirations in Law, by Ethnicity

Throughout both data sets, African American students have demonstrated a disproportionately high level of interest in law careers, with a 29% advantage in interest in 2004-2005 and a 59% advantage in interest in 2005-2006 as compared to the other ethnic groups. Likewise, Asian students have demonstrated a relatively low level of interest in law careers in both data sets, with a 58% deficit in interest in 2004-2005 and a 53% deficit in interest in 2005-2006 as compared to the other ethnic groups. While Caucasian and Hispanic students indicated an average interest in law career in 2004-2005, they expressed much more varied levels of interest in 2005-2006. This year, Caucasian students have a 47% deficit in interest in law careers and Hispanic students have an 89% advantage in interest in law careers as compared to the other ethnic groups. Thus, the null hypothesis is not supported for the occupational interest area of law. Once again, things are changing from year to year, but the pattern of other ethnic groups being more interested in professions once dominated by Caucasians is persisting, an emerging pattern in the 2005-2006 data set. Combined with the female surge of interest in these professions, it suggests that the once dominant Caucasian males are turning their attraction elsewhere or are less likely to have strong aspirations of any kind at this age.

Art

Arts 2004-2005			
	Ethnicity %	! Ethnicity %	Difference
African American	31%	34%	-9%
Asian	43%	32%	+34%
Caucasian	32%	34%	-6%
Hispanic	34%	33%	+3%
Performance Arts 2005-2006			
	Ethnicity %	! Ethnicity %	Difference
African American	11%	14%	-20%
Asian	9%	14%	-32%
Caucasian	13%	14%	-11%
Hispanic	18%	12%	+49%
Visual Arts 2005-2006			
	Ethnicity %	! Ethnicity %	Difference
African American	13%	16%	-22%
Asian	12%	16%	-28%
Caucasian	14%	17%	-17%
Hispanic	22%	14%	+59%
Music Arts 2005-2006			
	Ethnicity %	! Ethnicity %	Difference
African American	11%	15%	-27%
Asian	8%	15%	-46%
Caucasian	15%	14%	+10%
Hispanic	18%	13%	+32%

Table 3-45: Career Aspirations in Art, by Ethnicity

Media 2005-2006			
	Ethnicity %	! Ethnicity %	Difference
African American	6%	11%	-50%
Asian	6%	11%	-45%
Caucasian	11%	9%	+17%
Hispanic	13%	9%	+40%

Table 3-46: Career Aspirations in Media, by Ethnicity

According to the 2004-2005 data, Asian students exhibited a 34% disproportionate level of interest in careers relating to art. This year, however, Asian students were in a notable deficit; they are disproportionately unlikely to express interest in each of the three categories of art. Asian students in 2005-2006 demonstrate a 32% deficit in interest in performance arts, a 28% deficit in interest in visual arts, a 46% deficit in interest in music arts, and a 45% deficit in

interest in media, as compared to the other ethnic groups. Hispanic students, conversely, indicate a significant advantage in interest in each of the categories of art. African American students also exhibit a deficit in interest in each category of art, although the significant differences are a 27% deficit in interest in music arts and a 50% deficit in interest in media. Caucasian students demonstrate only a slight deficit in interest in performance and visual arts and a slight advantage in interest in music arts and media. The null hypothesis is not supported for any of the arts or media career interests. Things are volatile and changing from year to year. Clearly, the African American community's disproportionate interest in acting, the media, and music as a way to get ahead has changed into a disproportionate interest in the professional careers, especially medicine and law. They are not interested in teaching or engineering.

Service Industry and Food Service Industry

Service Industry 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	29%	20%	+45%
Asian	33%	20%	+65%
Caucasian	18%	24%	-25%
Hispanic	19%	22%	-14%
Service Industry 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	7%	7%	+3%
Asian	8%	7%	+18%
Caucasian	6%	9%	-36%
Hispanic	10%	6%	+52%
Food Service Industry 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	8%	11%	-24%
Asian	19%	9%	+100%
Caucasian	9%	11%	-17%
Hispanic	10%	11%	-6%

Table 3-47: Career Aspirations in Service Industry, by Ethnicity

African American and Asian students in the 2004-2005 study indicated a significant advantage in levels of interest in careers relating to the service industry. According to the 2005-2006 data, though, African American and Asian students have dropped back to an average level of interest in the service industry as compared to the other ethnicities. Hispanic students demonstrated the largest increase in interest in careers relating to the service industry, exhibiting

a 52% advantage in interest as compared to the other ethnic groups. Also, Caucasian students have a 36% deficit in interest this year as compared to a 25% deficit in interest last year. Asian students are the only ethnic group that demonstrated a significant advantage in interest in the food service industry, being twice as likely to be interested in it as any other ethnic group. Thus, the null hypothesis is disproved for careers relating to the service industry or the food service industry. Except for the relative lack of interest on the part of the Caucasian students, things are changing year to year.

Social Service

Social Service 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	29%	21%	+38%
Asian	13%	23%	-43%
Caucasian	21%	22%	-5%
Hispanic	25%	21%	+19%
Social Service 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	7%	9%	-17%
Asian	8%	9%	-6%
Caucasian	8%	10%	-21%
Hispanic	11%	8%	+49%

Table 3-48: Career Aspirations in Social Service, by Ethnicity

According to the 2004-2005 data, African American students are more likely to be interested in careers relating to social services, and Asian students are less likely to be interested in these careers. African American and Asian students in the 2005-2006 data, however, exhibit an average interest in social service careers. Hispanic students this year indicated a 49% relative advantage in interest in social service careers while they only had a 19% advantage in interest last year. Therefore, the null hypothesis is not supported for social service careers. Again, things are changing year to year, so all that can be said is that minority groups are often more interested in the occupational interest areas, including social service in 2005-2006, than the Caucasian students.

Civil Service

Civil Service 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	11%	18%	-39%
Asian	13%	17%	-24%
Caucasian	17%	17%	0%
Hispanic	21%	16%	+31%
Civil Service 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	5%	11%	-56%
Asian	2%	11%	-78%
Caucasian	12%	8%	+54%
Hispanic	11%	9%	+26%

Table 3-49: Career Aspirations in Civil Service, by Ethnicity

Hispanic students in the 2004-2005 data indicated a significant advantage in interest in careers relating to civil service while African American students exhibited a significant deficit in interest. These findings for Hispanic and African American students replicate in the 2005-2006 data. However, Asian and Caucasian students demonstrate a much more varied interest in the 2005-2006 data. Asian students have a 78% deficit in interest in civil service careers in 2005-2006 while they only exhibit a 24% deficit in 2004-2005. Caucasian students express a 54% advantage in interest in 2005-2006 while having an average interest in 2004-2005. The null hypothesis is not supported for civil service careers, as they too are highly variable year to year. This large advantage in interest for the Hispanic students and the large deficit in interest for the African American students toward civil service careers are worth watching, though.

City Administration

Ethnic interests in city administration in 2004-2005 were much more varied than the findings in 2005-2006. No ethnic group exhibits a difference of greater than 25% in 2005-2006. Conversely, Asian and Hispanic students in 2004-2005 had a significant advantage in interest in city administration and Caucasian students in 2004-2005 had a significant deficit in interest. Therefore, the null hypothesis is not supported for civil service careers. Only the lack of proportional interest by the Caucasian students seems like a trend worth watching.

City Administration 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	8%	8%	0%
Asian	12%	7%	+71%
Caucasian	6%	9%	-33%
Hispanic	12%	6%	+100%
City Administration 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	3%	2%	+24%
Asian	2%	2%	+3%
Caucasian	2%	3%	-15%
Hispanic	2%	2%	+5%

Table 3-50: Career Aspirations in City Administration, by Ethnicity

Elected Political Office, Government Service, and International Politics

Elected Political Office 2004-2005			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	6%	6%	0%
Asian	4%	6%	-33%
Caucasian	7%	5%	+40%
Hispanic	5%	7%	-40%
Elected Political Office 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	4%	3%	+24%
Asian	4%	3%	+18%
Caucasian	3%	3%	+6%
Hispanic	2%	3%	-28%
Government Service 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	3%	4%	-23%
Asian	5%	3%	+43%
Caucasian	3%	4%	-2%
Hispanic	3%	4%	-4%
International Politics 2005-2006			
	Ethnicity %	**! Ethnicity %**	**Difference**
African American	7%	4%	+77%
Asian	6%	4%	+33%
Caucasian	4%	5%	-24%
Hispanic	4%	5%	-22%

Table 3-51: Career Aspirations in Politics, by Ethnicity

According to the 2004-2005 data, Caucasian students have a disproportionate interest in running for political office. This finding does not replicate in the 2005-2006 data; instead, Caucasian students exhibit average interest in elected political office and government service and a slight deficit of interest in international politics. Asian students in the 2004-2005 data demonstrated a disinclination to run for political office. In the 2005-2006 data, however, Asian students exhibit a relative advantage in interest for each category of politics as compared to the other ethnic groups. Hispanic students are disinclined to aspire to political careers in both years of the survey, but nothing else is stable in size or direction. African American students had an average interest in elected political office in 2004-2005. In 2005-2006, though, African American students exhibit a tendency toward an interest in elected political office, a slight deficit in interest in government service, and a strikingly disproportionate interest in international politics. The variations in interest in the various categories of politics are seemingly random, although this variability is as likely to do with the small proportion of students that indicated a high interest in political careers than in great shifts of interest year to year in the various ethnic groups. The null hypothesis is not supported for the political careers.

Conclusion

Overall, the distribution of students with a high interest in each career by ethnicity does not replicate between the two years of the study. Some of the positive or negative differences in interest replicate in direction between the different years of the study, but there is a very large variance in the actual size of the differences. Some trends persist throughout the two data sets, but in general, the distribution of high interest by ethnicity appears to be fairly arbitrary. This may be a result of relatively small sample sizes in some of the ethnicities, such as Asian and African American students only representing 10.1% and 12.9% of the sample, respectively, while Caucasian students represent nearly half of the sample (45.2%). It may also be due in part to the modified survey with different career interest categories and a different scale. Also, the number of students that indicated a high interest in some occupational interest areas is relatively small which yields greater percent differences in interest than would be expected. The distributions of students with a high interest in each ethnicity appear to have a larger variance this year, which may be explained by the lower proportion of students responding and indicating a high interest in each occupational interest area. Certain trends are observable in both data sets,

though. Asian students have indicated a disproportionately high interest in technical careers across both studies in engineering, physical science, computers, and information technology. A similar trend can also be found for Hispanic students, although this trend is less dramatic. African American students have indicated a high interest in law and medical careers in both years of the study. Asian students have also indicated a low interest in law careers in both years of the study. Overall, though, the effects of ethnicity on a student's career aspirations do not appear to be meaningful when comparing the 2004-2005 and 2005-2006 sets of data and are attributed to random variation. Ethnicity is not a powerful variable shaping career aspirations, especially compared to gender.

3.4.2. Analysis of Post-High School Plans by Ethnicity

2005-2006	African American %	Asian %	Caucasian %	Hispanic %
4-year college	88.1%	85.9%	77.4%	68.6%
2-year college	11.0%	7.1%	12.9%	21.0%
Vocational/Trade School	2.8%	4.7%	4.7%	7.1%
Work	22.9%	35.3%	28.1%	32.4%
Military	0.9%	7.1%	6.3%	4.8%

Table 3-52: Post-High School Plans by Ethnicity, 2005-2006

2004-2005	African American %	Asian %	Caucasian %	Hispanic %
4-year College	78.7%	83.5%	74.3%	65.3%
2-year College	16.8%	11.4%	12.6%	16.3%
Vocational	4.5%	2.5%	4.7%	4.0%
Work	11.6%	5.1%	14.0%	18.7%
Military	2.6%	2.5%	6.9%	6.8%

Table 3-53: Post-High School Plans by Ethnicity, 2004-2005

Table 3-52 and Table 3-53 above show the post-graduation plans of students of each ethnicity for the 2005-2006 and 2004-2005 studies, respectively. The tables give the percentage of respondents of each of the four largest ethnic groups that indicated that they intend to follow a certain post-graduation plan. For instance, 88.1% of all African American respondents in the 2005-2006 survey plan to attend a 4-year college after they graduate from high school. It is important to once again note that students are allowed to select multiple options on the survey if they intend to do more than one of these options in the fall after graduating from high school. Therefore, the percentages do not add up to a 100% total.

Overall, the post-graduation plans replicated very well between 2005-2006 and 2004-2005 with the exception of work. The percentage of students intending to work directly after high school increased dramatically in the 2005-2006 data set. This is most likely a result of students selecting work to indicate a summer job before college, a part-time job during college, or a full-time job right after graduation. A more in-depth analysis of this is performed in section 3.3.2 on page 45. Surprisingly, Asian students indicated that they are the most likely to work after high school in the 2005-2006 survey. 35.3% of Asian students in the 2005-2006 study intend to work after high school while only 5.1% of Asian students reported this intention to work after high school in the 2004-2005 study. For the other three ethnic groups, the percentage of respondents intending to work doubled between the 2004-2005 and 2005-2006 surveys.

The other four post-high school plans produced very similar results between the two sets of data. The percentages of Asian, Caucasian, and Hispanic students planning on attending a 4-year college after high school are nearly identical between the two studies. The percentage of African American students planning to attend a 4-year college, though, increased by nearly 10% from 78.7% in 2004-2005 to 88.1% in 2005-2006. However, this finding is suspect due to the relatively low response rates from North and South High Schools this year. The percentages of students planning to attend a 2-year or vocational school after high school are very similar between the two studies and are significantly lower than the percentage of students planning to attend a 4-year college. The percentages of students intending to join the military are very comparable between the two studies, although Asian respondents increased in interest from only 2.5% in 2004-2005 to 7.1% in 2005-2006. Overall, though, with the exception of work, the post-graduation plans replicate very well between the two studies, and the data analysis team demonstrated earlier that the “working” respondents this year rarely have full-time work at the expense of college in mind.

3.4.3. Analysis of Career-Related Concerns by Ethnicity

2005 - 2006 Juniors				
Concern	**African American**	**Asian**	**Caucasian**	**Hispanic**
Low Grades	18.3%	23.5%	19.4%	28.1%
Low Test Scores	10.1%	29.4%	13.1%	21.9%
College Too Expensive	24.8%	41.2%	21.8%	41.0%
College Too Demanding	5.5%	14.1%	5.2%	9.0%
Dislike School	0.9%	10.6%	7.1%	4.3%
Anyone in Profession	4.6%	10.6%	5.5%	10.5%
Required Education	11.0%	20.0%	14.4%	16.7%
Succeed	29.4%	40.0%	19.4%	30.5%
Opposite Gender Dominated	10.1%	3.5%	7.1%	12.4%
Family Support	59.6%	45.9%	75.3%	64.3%
2004 - 2005 Juniors				
	African American	**Asian**	**Caucasian**	**Hispanic**
Low Grades	25.0%	22.0%	17.0%	27.0%
Low Test Scores	22.0%	30.0%	14.0%	23.0%
College Too Expensive	26.0%	40.0%	18.0%	37.0%
College Too Demanding	8.0%	13.0%	3.0%	8.0%
Dislike School	3.0%	4.0%	7.0%	7.0%
Anyone in Profession	13.0%	16.0%	5.0%	10.0%
Required Education	16.0%	23.0%	13.0%	20.0%
Succeed	22.0%	35.0%	19.0%	19.0%
Opposite Gender Dominated	12.0%	14.0%	6.0%	9.0%

Table 3-54: Career-Related Concerns by Ethnicity

Table 3-54 above shows the career-related concerns of students of each ethnicity for the 2005-2006 and 2004-2005 studies. Please note that they are allowed to select multiple concerns that they believe would prevent them from pursuing a career interest and thus the percents will not add up to 100%. The null hypothesis was that the concerns of students from the 2005-2006 Juniors would be within 10% of the 2004-2005 Juniors for each ethnicity.

The null hypothesis is supported for students worried about getting into college because of low grades. Hispanic students continue to demonstrate a high concern about low grades. However, the concern for low grades among African Americans dropped from 25.0% last year to 18.3% this year. Asian and Caucasian students demonstrated similar concerns in the two years. There was a notable decrease in the proportion of African American students worried about their test scores as well, dropping from 22.0% in 2004-2005 to 10.1% in 2005-2006. This does not support the null hypothesis. Once again, the changes in the African American findings while North and South High School data are underrepresented are suspect. There are a

disproportionate number of African American respondents attending Doherty High School as compared to North and South High Schools. The concern for low test scores in the other three ethnicities replicate very well between the two years.

Similar percentages were found for students concerned about the cost of college. Between the two years of the study. The null hypothesis is supported. Asian and Hispanic students continue to exhibit a disproportionate concern about the cost of college. 40.0% of Asian students and 37.0% of Hispanic students in 2004-2005 and 41.2% of Asian students and 41.0% of Hispanic students in 2005-2006 are concerned about the cost of college.

The null hypothesis is also supported for students who doubt they will be attending college because they feel it will be too difficult. Asian students indicate the highest proportion of students concerned about the difficulty of college in both years of the study. 13.0% of Asian students in 2004-2005 and 14.1% of Asian students in 2005-2006 are concerned that college will be too demanding.

There continues to be a low percentage of students who are not planning on going to college because they dislike school. This supports the null hypothesis. African American students in both years exhibit very little concern about disliking school, with only 3.0% of African American students last year and 0.9% of African American students this year indicating this concern. Hispanic students also exhibited a slightly lower proportion of students concerned about disliking school in 2005-2006 as compared to 2004-2005. Asian students, however, showed a relatively large increase in the percentage concerned, with 10.6% of Asian students in 2005-2006 and only 4.0% of Asian students in 2004-2005 expressing a concern about disliking school and how that would affect higher education.

The percentages of students who are concerned about not knowing anyone in their chosen professions are similar between the two studies for all but one ethnicity. African American students, though, do exhibit a decrease in this concern; 13.0% of African American students in 2004-2005 were concerned about not knowing anyone in their desired profession while only 4.6% of African American students are concerned in 2005-2006. Again there are disproportionately more African American respondents at Doherty than at North, and the social class distribution of the two samples is most likely different. The percentage of Asian students concerned about knowing someone in their profession also dropped from 16.0% last year to 10.6% this year. Overall, though, the results replicate and support the null hypothesis.

The percentages of students who do not know what education is required to succeed in a certain field are similar to last year's results. These results replicate between the two studies and support the null hypothesis.

There is a significant increase among Hispanic students who are worried they will not succeed in their desired career. Only 19.0% of Hispanic students last year as compared to 30.5% of Hispanic students this year express a concern about succeeding in college. Concerns about succeeding also increase slightly for African American and Asian students as well in 2005-2006. Thus, this does not support the null hypothesis, and it is a disturbing trend if it represents a real change, and one worth monitoring. The sample from South is relatively small this year, so this is not yet the whole story.

For the next section, the data comparisons between the two years are complicated by a change in the wording of the items. There is a "decrease" in Asian students who plan on pursuing a careering that is dominated by the opposite sex. 14.0% of Asian students last year indicated an interest in entering a career that is dominated by the opposite gender while only 3.5% of Asian students indicated a similar interest this year. This does not support the null hypothesis if it can be assumed that the same thing is being measured. It is important to note that the phrasing of this question was modified for the 2005-2006 survey, but with the exception of Asian students, the other three gender display similar interests in pursuing a career dominated by the opposite gender in both years. The question concerning family support was also added to the 2005-2006 survey. A very high percentage of Caucasian students (75.3%) believe that both of their parents would be supportive if they pursue a career dominated by the opposite gender. 64.3% of Hispanic students and 59.6% of African American students also believe that both of their parents would be supportive. Less than half of the Asian students (45.9%), however, believe that both of their parents would support them in their decision to pursue a career dominated by the opposite sex. This matches closely with their decreased interest in pursuing an opposite gender dominated career. The data analysis team thinks there is a real ethnic difference being identified here.

Overall, the career-related concerns by gender replicate very well between the 2004-2005 and 2005-2006 sets of data. Asian students continue to demonstrate a very high concern in nearly all of the categories listed on the survey. Hispanic students also exhibit a high concern in most of the questions, but to a lesser extent than the Asian students. Caucasian and African

American students appear to demonstrate an average level of concern in most of the questions, subject to a few reservations that the data analysis team has about the quality of the African American sample in the second year with North and South High Schools registering low response rates.

3.5. Analysis of the Cluster System in the Worcester Public Schools

The Worcester Public School System has instituted a cluster program within five of the seven Worcester Public High Schools (Burncoat, Doherty, North, South, and Worcester Vocational Schools). The Accelerated Learning Laboratory and University Park Campus School are already small schools. Each of the five large public high schools participating in the cluster program offers a few small schools that promote certain areas of study. The Worcester students are usually allowed to attend the high school with the cluster program that best fits their interests and aspirations, even if it is not the nearest high school to their home. Due to space restrictions at some of the high schools this year, though, there was much less of an opportunity to go to a different school. Also, the Worcester Public School System is not able to provide transportation to students attending a school outside of their normal district school, which probably discourages the transfer of students to these small schools. Also, another IQP team surveying Worcester Public Middle School eight graders found that only approximately 20% of the eighth graders surveyed were aware of the small school program. In fact, the students that were knowledgeable about the cluster system reported being informed by their parents and not by their guidance counselors. This finding may be a result of the survey being distributed in the winter rather than the spring when they will be picking their classes for the following year, but this is still a surprisingly low percentage of students in their last year of middle school being aware of these programs.

Table 3-55 provides a summary of each Worcester Public High School's cluster program and their related career aspiration category from the survey (Handler & Hogan, 2005). Some of the occupational interest areas overlap between schools. For instance, there are small schools relating to business at Burncoat (North Worcester Business Association), North (School of Technology and Business), and Worcester Vocational School (IT/Business Services). Also, nearly every high school has a program that mentions computers and information technology.

Schools	Cluster Title	Corresponding Interests
Burncoat	North Worcester Business Association	Business
	Performing & Visual Arts Magnet	Performance and Visual Arts
	Fallon Medical Clinic	Medical Support/Other
Doherty	Engineering & Technology Academy	Engineering/Physical Science
		Computers/IT
North	Health & Science Academy	Medical Practice
		Medical Support/Other
		Physical Science
	Social Systems & Justice Magnet	Law, Civil Service
	School of Technology & Business	Business
		Computers/IT
South	Academy of Education, Service & Government	Teaching
		Civil Service
		Political Office
		City Administration
	Information Technology Academy	Computers/IT
	Academy of Arts & Humanities	Art (especially creative writing)
Worcester Vocational	Alden Design & Engineering School	Trade (Machining)
		Computers/IT (CAD, Drafting)
	Allied Health & Human Services	Teaching
		Service Industry (Cosmetology)
		Medical Support/Other
	Coughlin Construction Technology	Trade
	IT/Business Services	Service Industry
		Business
		Computers/IT

Table 3-55: Cluster System and Related Career Aspirations

In order to study the effectiveness of the cluster system, the distribution of all of the students with high interest in a given career aspiration among the Worcester Public High Schools will be compared with the distribution of the entire sample among the high schools. The overall distribution of respondents, along with the actual distribution of Worcester Public High School students is shown in Table 3-56 below. Due to the low response rates at some schools, especially North and South, the sample percentages of students at those schools are lower than the actual percentages. Thus, the distribution of the students expressing a high interest in a certain career will be compared with the overall distribution of the sample to determine if each

school has a lower or higher percentage of interest than the sample percentage of students attending that school. The percent difference between the distribution of the students with high interest and the sample distribution will be calculated as follows:

$$\% \text{ difference} = \frac{\% \text{ interested} - \% \text{ sample}}{\% \text{ sample}}$$

If the percent difference is positive, it means that particular school accounts for a higher proportion of people very interested in that career field than the distribution of the overall sample. Likewise, if the percent difference is negative, that particular school accounts for a lower proportion of the students who are very interested in that career field than the average high school. The larger the percent difference, the more that school varies from the average for the city of Worcester.

2004-2005							
	A.L.L.	**Burncoat**	**Doherty**	**North***	**South**	**U.P.C.S**	**Voke**
Sample	2%	15%	21%	20%	22%	2%	16%
Population	2%	20%	21%	17%	23%	2%	14%
2005-2006							
Sample	3.4%	21.6%	30.6%	8.9%	16.0%	4.6%	14.7%
Population	3.8%	17.7%	23.6%	17.5%	21.4%	2.5%	14.2%

Table 3-56: Distribution of Students at each High School

Last year's survey found that in most cases the distribution of students with high interest in each of the careers did not match the expected distribution according to the small schools. This apparent lack of ability to cluster the students with vocational interests stressed by the small schools may be due to the transportation issues, lack of knowledge about the small schools, or the fact that the students have not yet decided on a specific career interest enough to make that level of commitment. It was hypothesized last year that for an effective cluster system, there would be a 30% difference between the percentage of interested students attending the school and the proportional percentage of the school. However, they found that this did not hold true for most small schools. Thus, the null hypothesis for this study will be that the cluster system will only be successfully attractive in the same clusters as it was found to be last year (i.e. there

will be a 30% increase in interest corresponding to the small schools for those schools that had a small school doing so last year). Also, since the Accelerated Learning Laboratory and the University Park Campus School are already specialized and do not have any small schools, they will not be included in this portion of the analysis.

Teaching

Teaching 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	20%	25%	20%	22%	9%
% Difference	33%	19%	0%	0%	-44%
Teaching 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	25.5%	27.5%	7.8%	7.8%	19.6%
% Difference	18.0%	-10.3%	-11.9%	-51.0%	33.4%

Table 3-57: Distribution of Teaching Interest by School

South and Worcester Vocational High Schools include small schools that involve teaching. South High School has the Academy of Education, Service, and Government while Worcester Vocational High School has the Allied Health and Human Services Small School. The 2004-2005 data found that Worcester Vocational had the lowest relative interest in teaching while South had a 0% change between the percentage of overall respondents attending South and the percentage of respondents interested in teaching attending South. Thus, neither of the two education small schools were effective according to last year's data.

The 2005-2006 data found that Worcester Vocational respondents had a 33.4% advantage in students interested in teaching than overall attending students. However, South High School had a 51% deficit in students interested in teaching than overall attending students. The Allied Health and Human Service Small School at Worcester Vocational appears to be clustering students around its focus, but the Academy of Education, Service, and Government at South High School is not doing so. Thus, overall the education small schools are not producing clusters, and thus support the null hypothesis. On the other hand, the North and South High School samples are so underrepresented this year that it is hard to justify comparisons between

the two class years of data for those schools. It is interesting that Burncoat, with no education small school, has a larger share of the aspiring teachers than South.

Engineering and Physical Science

Engineering/Physical Science 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	13%	28%	18%	22%	12%
% Difference	-13%	33%	-10%	0%	-25%
Engineering 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.5%	36.6%	6.3%	15.2%	11.6%
% Difference	-4.9%	19.6%	-29.8%	-5.1%	-21.0%
Physical Science 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	23.8%	26.2%	14.3%	16.7%	14.3%
% Difference	10.2%	-14.4%	60.5%	4.2%	-2.8%

Table 3-58: Distribution of Engineering/Physical Science Interest by School

The Engineering and Technology Academy at Doherty High School is the only small school program involving engineering. Last year there was a cluster there with a 33% advantage in attracting the students interested in engineering or physical science. Students with that interest were more likely to attend Doherty as compared to the overall percentage of Worcester Public High School students that attended Doherty. This year, however, that percent advantage was low, 19.6% for engineering and -14.4% for physical science. The 19.6% difference for engineering is below the 30% threshold the data analysis team likes to use as a benchmark for an attractive small school program. However, since every other high school shows a decrease in the proportion of students interested in engineering too, as compared to the overall percentage of the sample attending that school, the Engineering and Technology Academy can still be considered a relatively attractive small school with an impact on school attendance patterns. Thus, this supports the null hypothesis since both studies found Doherty to have a noticeable cluster of students attracted to the school and interested in engineering. This attractiveness does not extend to physical science, though. In this interest area the Doherty students are notably underrepresented.

The Health and Science Academy at North High School involves physical science. According to the 2005-2006 data, North High School has a strikingly disproportionate number of the students interested in physical science (a 60.5% advantage) as compared with the overall percentage of the sample that attended North. Assessing the attractiveness of this small school is complicated by both the low response rate of the North High School sample and the association of the study with WPI and its efforts to start a Future Scientists and Engineers Club there in the same year. According to the 2004-2005 data, though, there was actually a 10% deficit in students interested in engineering or physical science as compared to the overall percentage of the sample that attended North. There was not a separate category for physical science alone last year, but it appears that this was not an attractive small school by last year's measure. Thus, the null hypothesis is disproved since it is an attractive small school this year but it was not clustering students last year. All of this analysis is within the constraints of a small sample size at North. These results are not entirely reliable.

Computers and Information Technology

Computers/IT 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	11%	26%	21%	22%	11%
% Difference	-27%	24%	5%	0%	-31%
Computers 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	12.5%	33.7%	5.8%	21.2%	15.4%
% Difference	-42.1%	10.0%	-35.2%	32.2%	4.7%
IT 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	13.9%	31.6%	8.9%	22.8%	12.7%
% Difference	-35.5%	3.4%	-0.4%	42.4%	-13.9%

Table 3-59: Distribution of Computers/IT Interest by School

Nearly all of the Worcester Public High Schools have small schools relating to computers and information technology. Doherty has the Engineering and Technology Academy, North has the School of Technology and Business, South has the Information Technology Academy, and Worcester Vocational has the Alden Design and Engineering School and the IT/Business Services small schools. Burncoat is the only Worcester Public High School (not including

A.L.L. and U.P.) that does not offer a small school relating to computers and information technology. Thus, it is difficult to determine the attractiveness of these small schools except by reverse logic since the pool of students interested in these careers have four potential schools to attend. Only the Burncoat students would have to relocate to pursue this interest.

Throughout both data sets, it is apparent that students attending Burncoat do have a lower reported rate of interest in computers and information technology than the system average. Last year, there was a 27% decrease in the students interested in computers and information technology that attended Burncoat as compared to the overall percentage of the sample that attended Burncoat. This year, that difference increased to a 42% relative decrease in computers and a 36% relative decrease in information technology as compared to the sample. The 2005-2006 data set revealed that South High students had a relative great number interested in computers (32.2% increase) and information technology (42.4% increase) compared to the rest of the sample. However, in the 2004-2005 data set, there was no difference between the percent of students interested in computers and information technology at South High and the overall average for the students attending the other schools. This may be due to sample error, caused by the small sample size of South this year, or it may be a real difference. The discrepancy between the two years is the issue, and in a replication study change is to be viewed with suspicion. Real change seems less likely than a methodological problem. The situation at the school is unlikely to have changed much. Lastly, it is surprising that so few Worcester Vocational students have expressed interest in computers and information technology in both years that this survey has been distributed. This school offers two small schools relating to these career fields, but the trades are the predominant career aspiration. Thus, it is hard to determine the effectiveness of the small schools at clustering students with the same aspirations since four of the five schools offer related programs of study, but it does follow that the Burncoat students are the least likely to be interested in computers. Thus, the computer data supports the null hypothesis that there is no relationship between having a small school and having more students express interest in a field, with the exception of the Burncoat data, which, by reverse logic, disproves it. The results are thus inconclusive.

Business

Business 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	15%	23%	19%	19%	19%
% Difference	0%	10%	-5%	-14%	19%
Business 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	21.1%	25.8%	5.7%	23.2%	16.5%
% Difference	-2.2%	-15.8%	-36.3%	45.0%	12.2%

Table 3-60: Distribution of Business Interest by School

Small schools relating to business are offered at three Worcester Public High Schools: Burncoat (North Worcester Business Association), North (School of Technology and Business), and Worcester Vocational (IT/Business Services). Last year, none of the schools exhibited at least a 30% difference between the percentages of interested and attending students, thus implying that the business small schools do not cluster the students with this aspiration. This year, the distribution of students interested in business is more varied. South High School exhibits a 45% increase in the percentage of interested students as compared to attending students, which is surprising since South does not have a business-oriented small school. Conversely, North High School respondents indicated a 36.6% decrease in the percentage of interested students as compared to attending students, which is surprising since that school does have a business small school. These findings are probably random variation related to the small sizes and less representative nature of the North and South High samples. Overall, the fact that none of the business small schools associated with a cluster of students with that interest has replicated, and thus business supports the null hypothesis.

Trade

Trade 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	9%	16%	9%	18%	43%
% Difference	-40%	-24%	-55%	-28%	169%
Trade 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	10.4%	24.0%	7.3%	10.4%	44.8%
% Difference	-51.8%	-21.7%	-18.1%	-34.9%	204.7%

Table 3-61: Distribution of Trade Interest by School

Worcester Vocational is the only school with a cluster of students interested in trade careers. Both the Alden Design and Engineering School and the Coughlin Construction Technology small schools relate to careers in trade, but for several generations the Vocational School was devoted to this field as a whole. This school was not part of the Worcester Public School system until a few years ago. When public funding for a new facility was requested, the state offered it only if Worcester Vocational became part of the broader Worcester Public School System. Thus, this case is atypical as compared to the rest of the small schools.

The 2004-2005 data exhibited an extremely high increase in interest in trade-related careers at Worcester Vocational and a decrease in all other public high schools. It does seem that there is a flow of Worcester Public School students to the specialized school with the curriculum that is 50% classroom and 50% practice of the trade. No other "small school" so dramatically affects the students' exposure to the career field. There was a 169% increase in the percentage of students interested in trade as compared to the percentage of students attending other schools. This difference increased in the 2005-2006 study to a 205% increase in trade at Worcester Vocational. Thus, the trade clusters are considered to be effective in concentrating students in both years, so this supports the null hypothesis of no change from last year, but not the null hypothesis that the magnet schools will fail to cluster students.

Medical Practice

Medical Practice 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	16%	20%	25%	18%	14%
% Difference	7%	-5%	25%	-18%	-12%
Medical Practice 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.8%	25.7%	14.8%	17.5%	13.1%
% Difference	-3.9%	-16.1%	65.8%	9.3%	-10.8%

Table 3-62: Distribution of Medical Practice Interest by School

The Health and Science Academy at North High School is the only small school relating to medical practice. Last year, the North students were disproportionately likely to be interested in medical practice as compared to the percentage of attending students. The margin of 25% over the average is slightly lower than the 30% we defined to be the concentrating effect of a small school. However, North High School did stand out quite clearly from the other public schools in this field. Thus, it can be considered to be a fairly effective small school in this regard. For the 2005-2006 data, North exhibited a strong rise in its concentrating impact to 65.8%, compared to the percentage of attending students. On the other hand, its proportion of the total sample is less than half as large this year. The seemingly large increase is probably spurious. Thus, the striking rise seems to be an artifact due to a weak sample with relatively strong participation by the students in the Health and Science Academy. It is probably double what it should be, but even so, at 33%, the Health and Science Academy would be considered an effective small school in terms of attracting and concentrating the students with this interest. Thus, this small school supports the null hypothesis, even though the percent difference was slightly less than 30% last year. It is important to note, though, that due to the low response rate at North High School, we believe that a large proportion of respondents may be from the Health and Science Academy.

Medical Support and Medical Other

Medical Support 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	16%	20%	24%	21%	14%
% Difference	7%	-5%	20%	-5%	-12%
Medical Support 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.0%	26.9%	12.4%	17.9%	14.5%
% Difference	-7.4%	-12.1%	39.5%	12.1%	-1.5%
Other Medical 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	21.1%	27.5%	12.0%	15.5%	12.7%
% Difference	-2.2%	-10.2%	34.5%	-3.2%	-13.8%

Table 3-63: Distribution of Medical Support/Other Interest by School

Cluster programs relating to medical support and other medical related careers are implemented at Burncoat (Fallon Medical Clinic), North (Health and Science Academy), and Worcester Vocational (Allied Health and Human Services). Last year, none of the schools exhibited a 30% difference between the percentage of interested and attending students. North High School has the largest (20%) disproportionately interested student group while Burncoat had only a 7% increase in interest and Worcester Vocational had a 12% decrease in interest as compared to the sample distributions. For the 2005-2006 data, North High School once again exhibited the largest cluster of interest for medical support, which at 39.5% was twice that of the prior year and thus is suspect as being due to the sampling problem at North High School. Using the decision rule for medical practice that it is probably double the actual proportional interest, the data is consistent with that of last year's study, and North is still the standout small school in this field. Similarly, for the other medical related fields, the margin of 35% interest over the average can be considered to be closer to 17.5%, which is similar to last year's data. The interest at Burncoat is lower this year (7.4% decrease in medical support and a 2.2% decrease in medical other, as compared to the sample distribution). The interest level at Worcester Vocational is about average for the system-wide sample (a 1.5% decrease in medical support and a 13.8% decrease in medical other, as compared to the sample distribution). Thus, the findings replicate, with North being the only school that has a fairly effective small school clustering the students interested in medical support and other medical related fields as it did for medical practice. The

null hypothesis is therefore supported because the distributions of interested students are similar to those in last year's data. It is important to note once again that due to the low response rate at North High School, a large proportion of respondents may be from the Health and Science Academy, which would greatly influence these results. Hence, the actual proportion is probably twice what it should be in the entire population of North High School students.

Law

Law 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	16%	20%	21%	19%	20%
% Difference	7%	-5%	5%	-14%	25%
Law 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.0%	26.0%	4.0%	24.0%	20.0%
% Difference	-7.4%	-15.0%	-55.1%	50.0%	36.1%

Table 3-64: Distribution of Law Interest by School

North High School is the only Worcester Public School that offers a small school related to law (Social Systems and Justice Magnet). For the 2004-2005 data, none of the schools exhibited a 30% difference between the percentage of interested and attending students, and thus the small school was not concentrating the students interested in this field. The 2005-2006 data, however, exhibits a relatively high interest in law at South High School where there is no small school relating to law. Students at South High School exhibited a 50% disproportionate level of interest in law as compared to the percentage of attending students. Conversely, North exhibited a very low interest in law, a 55% deficit in interest in the percentage of students interested in law as compared to the percentage of attending students. This is probably random variation, especially affecting the schools where the samples are least adequate (North and South High Schools). Thus, the Social Systems and Justice and Justice Magnet program is not concentrating those interested in legal careers, but it is also unlikely to suddenly be driving them away either. The North High School sample is suspected to be skewed toward the Health and Science Academy and thus the sample may have an under-representation from the other small schools. Due to the high increase in interest at South, however, these findings do not support the null hypothesis. The findings are different from last year even if the most likely explanation is a

sampling vagary. At the schools with better samples, the variation is modest and probably random.

Art

Arts 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	18%	19%	18%	25%	15%
% Difference	20%	-10%	-10%	14%	-6%
Performance Arts 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	21.4%	26.5%	8.5%	19.7%	14.5%
% Difference	-1.1%	-13.4%	-4.0%	22.9%	-1.2%
Visual Arts 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	21.1%	30.1%	5.3%	17.3%	16.5%
% Difference	-2.5%	-1.7%	-40.9%	8.1%	12.5%
Music Arts 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	19.5%	33.3%	6.5%	17.1%	13.8%
% Difference	-9.7%	8.9%	-26.9%	6.7%	-6.0%

Table 3-65: Distribution of Art Interest by School

The Performing and Visual Magnet school at Burncoat and the Academy of Arts and Humanities at South are the clusters that are associated with interest in the arts. Last year, it was found that none of the schools exhibited a 30% increase in the percentage of interested students as compared to the percentage of attending students, and thus the arts programs were not producing student clusters. For the 2005-2006 data, there are likewise no schools that exhibit a 30% increase in interest in any of the arts. Throughout both sets of data, South exhibited a fairly high interest in the arts, last year with a 14% disproportionate level of interest in arts overall and this year stood out as the only school with a disproportionate interest (23%) in the performance arts. There was also disproportionate interest (8%) in the visual arts and (7%) in the musical arts. Interest in the arts at Burncoat, which was 20% higher than average last year, is basically back to the average level this year. This year there is a 1% disproportionately low level of interest in performance arts, a 3% disproportionately low level of interest in visual arts, and a 10% deficit in interest in musical arts, as compared to the percentage of students attending Burncoat. Thus, the small schools relating to the arts were not strongly concentrating the

students with this interest in either year, which thus supports the null hypothesis. There is a change since last year, in that there is no longer any concentration at Burncoat and South is primarily a factor in the performance arts.

Local observations have informed us that this evidence of decline in the program at Burncoat could be real. The program lived off of the efforts of non-faculty arts associates. However, in the past year the funding necessary to pay these external adjuncts has dried up and they are no longer present in the school. The plight of the program has received press coverage and the future of the program is considered to be jeopardized without these extra staff experts and their contacts. Clearly the enrichment and clustering affect of this small school is compromised by such developments. The publicity of the uncertainty about the program's future has been going on for some time and preceded the actual cuts in funding. The current senior class was probably recruited prior to the problems emerging but the junior and sophomore classes could easily have been affected by them.

Media 2005-2006					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	16.1%	32.2%	1.1%	25.3%	16.1%
% Difference	-25.5%	5.2%	-87.1%	58.0%	9.50

Table 3-66: Distribution of Media Interest by School

The question concerning media interest on the survey was introduced this year, so there is no corresponding data from last year's survey. Also, there do not appear to be any small schools that directly relate to the media professions, although the Performing and Visual Magnet school at Burncoat and the Academy of Arts and Humanities at South can be considered to be related to media-related careers. At South one finds 58% more students than would be expected to be interested in media based on the percentage of attending students. Thus, it appears that South is effectively clustering the students interested in careers relating to media. This makes sense because the program has an emphasis on writing and the media career interest includes journalism. Burncoat, with the performing arts program, would be expected to have an equal advantage, but the Burncoat program was 26% disproportionately underrepresented for this career. This low percentage of students interested in media as compared to the percentage of

students attending this school suggests that there is not a cluster there in this aspect of the arts. Indeed the performance cluster seems to have moved to South High School too.

Service Industry

Service Industry 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	19%	22%	17%	21%	16%
% Difference	27%	5%	-15%	-5%	0%
Service Industry 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	18.0%	32.8%	4.9%	14.8%	21.3%
% Difference	-16.5%	7.1%	-44.7%	-7.8%	45.0%

Table 3-67: Distribution of Service Industry Interest by School

The Academy of Education, Service, and Government at South High School and the Information Technology/Business Services and the Allied Health and Human Services small schools at Worcester Vocational School provide cluster systems relating indirectly to the service industry. Last year, it was found that none of the schools exhibited a 30% disproportionate level of interest, and thus the service industry did not have a student cluster, although Burncoat was close at 27%. This year the Worcester Vocational School was the site of by far the most disproportionate student cluster, with a 45% advantage in the percentage of students interested in the service industry as compared to the percentage of attending students. South High School once again exhibits a slightly below average interest in occupations relating to the service industry. Thus, since the small schools relating to the service industry at Worcester Vocational appear to be concentrating the students this year but did not last year, the null hypothesis of no change is not supported. The change from 16% to 21% is not so large that it could not be random variation though.

Social Service

Social Services 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	15%	26%	21%	20%	11%
% Difference	0%	24%	5%	-9%	-31%
Social Services 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.5%	31.5%	6.8%	24.7%	8.2%
% Difference	-4.9%	3.0%	-23.0%	54.1%	-44.1%

Table 3-68: Distribution of Social Services Interest by School

There are no small schools that relate to the social service careers at any of the five Worcester Public High Schools that have implemented the small school system. Last year, it was found that none of the schools exhibited a 30% disproportionate level of interested students as compared to the percentage of attending students. This year, however, students at South High School exhibited a disproportionate interest (54%) in social service careers as compared to the percentage of attending students. This school appears to be attracting a student cluster although there is no small school at South that is related to social services. Due to this relatively high level of interest in careers related to social services at South High School, the null hypothesis is not supported. However, the shift from 20% one year to 25% the next could be random variation. This change in interest looks impressive because of the smaller South sample this year which dropped from 22% to 16% as the proportion of interested students in social services changed from 20% to 25%.

Civil Service

Civil Services 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	11%	25%	16%	18%	23%
% Difference	-27%	19%	-20%	-18%	44%
Civil Services 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	14.8%	30.9%	7.4%	16.0%	22.2%
% Difference	-31.4%	0.9%	-16.8%	0.3%	51.2%

Table 3-69: Distribution of Civil Services Interest by School

There are no established small schools for students interested in careers relating to the civil service. According to last year's data, Worcester Vocational had a 44% disproportionate level of interest in civil service careers as compared to the percentage of attending students. This pattern of disproportionate interest at Worcester Vocational appeared both years, as 51% more than expected were revealed by the 2005-2006 data. None of the other schools exhibited an interest cluster of greater than 30% in either of the years, but Burncoat exhibited a disproportionately low level of interest in this field both years. Thus, the null hypothesis is supported since the high interest in civil service careers at Worcester Vocational has replicated, but the pattern at two of the five schools (Doherty and South) was not particularly stable. This is not too surprising when small numbers of cases are involved.

City Administration

City Administration 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	16%	28%	12%	19%	18%
% Difference	7%	33%	-40%	-14%	13%
City Administration 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	17.4%	39.1%	0.0%	13.0%	21.7%
% Difference	-19.5%	27.9%	-100.0%	-18.5%	47.9%

Table 3-70: Distribution of City Administration Interest by School

The Academy of Education, Service, and Government at South High School is the only small school that seems designed to cater to future city administrators. According to the 2004-2005 data, though, South had 14% fewer students interested in city administration careers than one would expect based on the number of students attending the school. The low level of interest in careers relating to city administration at South replicated as it is even lower this year, with 19% fewer students interested in city administration careers than attending students. Thus, the small school relating to city administration at South High School does not appear to be clustering the students with this interest. Last year, Doherty had 33% more interested students than overall attending students, and that percentage dropped only slightly to 28% this year, so Doherty has the most stable cluster. This year Worcester Vocational has 48% more interested

students than overall attending students, which is significantly higher than the 13% more interested students than overall attending students last year. There is not a stable cluster at Worcester Vocational, but there was disproportionate interest there both years. The schools other than Doherty and Worcester Vocational had disproportionately low interest in at least one year. North was clearly on the low end of interest in both years, and South was somewhat low both years. Overall, though, the data appears to replicate in that the small school program at South does not appear to attract a cluster in either year and thus supports the null hypothesis.

Elected Political Office, Government Service, and International Politics

Elected Political Office 2004-2005					
	Burncoat	**Doherty**	**North***	**South**	**Voke**
% Sample Attending	15%	21%	20%	22%	16%
% Interested Attending	17%	29%	21%	19%	5%
% Difference	13%	38%	5%	-14%	-69%
Elected Political Office 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	16.0%	40.0%	4.0%	20.0%	16.0%
% Difference	-25.9%	30.7%	-55.1%	25.0%	8.8%
Government Service 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	30.0%	23.3%	0.0%	16.7%	20.0%
% Difference	38.9%	-23.7%	-100.0%	4.2%	36.1%
International Politics 2005-2006					
% Sample Attending	21.6%	30.6%	8.9%	16.0%	14.7%
% Interested Attending	20.0%	32.5%	5.0%	17.5%	15.0%
% Difference	-7.4%	6.2%	-43.8%	9.4%	2.0%

Table 3-71: Distribution of Political Interest by School

The Academy of Education, Service, and Government at South High School is the only small school that relates to elected political office, government service, and international politics. Only the political office question was asked in both years of the survey. According to the 2004-2005 data, respondents at South generally did not express a high interest in elected political office, having 14% fewer interested students than overall attending students. According to the 2005-2006 data, though, the respondents at South had a 25% higher than expected level of interest in elected political office as compared to the percentage of attending students. This is clearly not a stable cluster. Doherty comes closer to having a stable cluster with 38% more than

expected last year and 31% this year. The rest of the schools are unstable from one year to the next. The 2005-2006 interest at South for government service (4% more interested students than overall attending students) and international politics (9% more interested students than overall attending students) also do not suggest that the small school is concentrating students with these interests at the high school. Thus, it appears that the Academy of Education, Service, and Government is not a cluster of aspiring political figures. Perhaps it is more oriented toward educational careers.

Last year, Doherty had 38% more students interested in elected political office than overall attending students. This year, the Doherty finding holds true for elected political office (31% more interest) but not for government service (24% less interest) or international politics (6% more interest). The variability in these data is probably due to the very small number of students that indicated an interest in careers related to politics. Thus, it appears that the findings from last year do not replicate well, and the null hypothesis is not supported due to inconsistency and the lack of a student cluster at South High School.

Conclusion

Overall, the distribution of students with a high interest in each occupational interest area appears to be fairly random and is not reflective of location of the schools offering small school programs catering to that career interest. Due to the low response rates at North and South High Schools, these findings could be significantly affected by what sample of the school responded. For instance, it appears that students at North High School have a very high interest in all careers relating to medicine. If a large proportion of the few respondents were involved in their medical small school, one could get this impression even if it were not really the case. The most effective small schools are the trade-related small schools that are offered at Worcester Vocational High School, which exhibit a disproportionate level of interest in trade-related careers by over 150% in both years. The Engineering and Technology Academy at Doherty also appears to be producing a cluster of students interested in engineering at Doherty as compared to the other schools. As previously mentioned, the small school relating to medical practice, medical support, and other medical-related fields at North High School also appears to either cause a significant increase in interest in those fields at North or attract students from other schools to produce a cluster. The rest of the small schools, however, do not appear to either cause an

increase in interest of that specific field in their high school or attract outsiders, and thus the lack of a student cluster replicates in both years of the study. Although there was a question on the survey that asked for the students' small school, the results were deemed unusable due to the very low response rate. Also, some students misunderstood the question and listed their elementary school or middle school. For future surveys, it would be beneficial to add a checkbox with the small schools specific to the high school that the survey is being distributed to. This would allow future teams better methods by which to analyze the effectiveness of small schools since a small school may be effective in developing and solidifying the aspirations of a few students without actually producing a student cluster of disproportionate size at that high school.

3.6. Analysis of Career Aspirations of Sophomores and Juniors by Gender

Two other project teams surveyed the sophomores at North High School ("North High School Coaching" by Tri Lai and Jason Hwang) and Doherty High School ("Piloting a Doherty H.S. Future Sci. & Eng. Club" by Brian Dorchik and Matthew Duncan). These teams intended to create an after-school program at each school for students interested in math and science. These programs were intended to help the students prepare for college admission and promote an overall interest in math and science. Unfortunately, due to delays, one of these programs was never implemented and the other was so brief that it did not reach its full potential. However, the career aspirations survey was distributed to the sophomores and juniors at both of the schools, and comparing the results of the two surveys allows us to evaluate the possibility of collecting the data in sophomore year instead of junior year, if the results are comparable. Thus, this section of the analysis will attempt to determine if the data that is collected in sophomore year is basically the same as the data that is collected in junior year or if the sophomores have much less settled career interests. Although the sophomore year is very busy with the Massachusetts Comprehensive Assessment System (MCAS), survey distribution in the sophomore year would allow future project teams to have a greater ability to assist the students explore their career options and make suitable course selections for their junior and senior years. These teams could help to ensure that the sophomores with a goal that requires admission to a specialized college of

art, technology, or music get to talk with college students preparing for that career, who have successfully (and recently) been admitted to a suitable program.

At Doherty High School, 65% of the juniors responded to the survey (258 out of 375) while only 40% of the sophomores responded (180 out of 452). At North High School, 27% of the juniors responded to the survey (75 out of 278) and 44% of the sophomores responded (130 out of 296). It is important to once again note the small sample size of juniors at North High School, which can significantly erode the reliability of the findings. The analysis of the North sophomores and juniors will still be conducted, although the findings will not be taken as seriously as those based on the Doherty High School data. The response rates for the sophomores are shown in Table 3-72 below.

	Population	Sample	Response %	Male	% Male	Female	% Female
Doherty	452	180	40%	73	41%	104	58%
North*	296	130	44%	73	56%	53	41%
Totals	748	310	41%	146	47%	157	51%

Table 3-72: Data Set Response Rates and Gender Distributions for the 2005-2006 Sophomores

The null hypothesis for the comparison of career aspirations of sophomores and juniors by gender is that at each school, the percent of sophomores with high interest (very interested) in a career will be within ±10% of the corresponding percent interest of the juniors. This null hypothesis should hold true for both males and females at each school in order for the hypothesis to be fully supported. Only the students with a high interest in the occupational interest areas are included in the test of this null hypothesis because they are the students that would most likely benefit from future programs designed to support them in pursuing their dreams. Students that are "pretty interested" in a career (or an equal level of interest in many careers) would be less likely to modify their high school curriculum to align it for pursuing a given career interest.

Teaching

Teaching	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	64	32	17	5
% within gender	53.8%	26.9%	14.3%	4.2%
Female	57	44	25	9
% within gender	41.3%	31.9%	18.1%	6.5%
Total	121	76	42	14
% total	47.1%	29.6%	16.3%	5.4%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	35	26	8	4
% within gender	47.9%	35.6%	11.0%	5.5%
Female	44	31	23	6
% within gender	42.3%	29.8%	22.1%	5.8%
Total	79	57	31	10
% total	44.6%	32.2%	17.5%	5.6%

Table 3-73: Career Aspirations in Teaching, by Gender, at Doherty

At Doherty, 4.2% of junior males (5 out of 119) and 5.5% of sophomore males (4 out of 73) reported being very interested in teaching. Likewise, 6.5% of junior females (9 out of 138) and 5.8% of sophomore females (6 out of 104) had a high interest in teaching. For both males and females, the difference between the sophomores and juniors with high interest in teaching is much less than 10%. Thus, the null hypothesis is supported at Doherty High School for the occupational interest area of teaching. Although the male/female difference is smaller for sophomores than for juniors the order is the same.

At North High School, 3.3% of junior males (1 out of 30) and 5.5% of sophomore males (4 out of 73) had a high interest in teaching, which is a difference of 2.2%. For females, 7.1% of juniors (3 out of 42) and 3.8% of sophomores (2 out of 53) had a high interest in teaching, which is a difference of about -3.3%. Thus, both genders had a difference of less than 10% between sophomores and juniors, so the null hypothesis is also supported at North High School for the teaching career aspiration.

Teaching	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	21	7	1	1
% within gender	70.0%	23.3%	3.3%	3.3%
Female	23	13	3	3
% within gender	54.8%	31.0%	7.1%	7.1%
Total	44	20	4	4
% total	61.1%	27.8%	5.6%	5.6%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	42	14	7	4
% within gender	57.5%	19.2%	9.6%	5.5%
Female	31	10	7	2
% within gender	58.5%	18.9%	13.2%	3.8%
Total	73	24	14	6
% total	57.9%	19.0%	11.1%	4.8%

Table 3-74: Career Aspirations in Teaching, by Gender, at North

Engineering

Engineering	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	32	20	35	32
% within gender	26.9%	16.8%	29.4%	26.9%
Female	84	27	14	9
% within gender	60.9%	19.6%	10.1%	6.5%
Total	116	47	49	41
% total	45.1%	18.3%	19.1%	16.0%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	8	20	15	30
% within gender	11.0%	27.4%	20.5%	41.1%
Female	58	26	12	7
% within gender	56.3%	25.2%	11.7%	6.8%
Total	66	46	27	37
% total	37.5%	26.1%	15.3%	21.0%

Table 3-75: Career Aspirations in Engineering, by Gender, at Doherty

At Doherty High School, 26.9% of junior males (32 out of 119) displayed a high interest in engineering, while 41.1% of sophomore males (30 out of 73) had a high interest in

engineering. This difference of 14.2% exceeds the 10% difference that was established as indicating a replication in interests between sophomores and juniors, but when the pretty and very interested groups are combined, the male-to-female ratio of a bit more than 3:1 is found in both data sets. This spike of very high interest in sophomore males in engineering may indicate a strengthening of the Engineering and Technology Academy at Doherty in future years, or it may be a result of students being encouraged to explore careers in engineering who may later decide that they are not truly interested in engineering. Due to problems in the data collection with regard to the small schools, we do not know if these students are actually in the Engineering and Technology Academy or if they are simply considering it. Also, 56% of male juniors and 62% of male sophomores had an interest in engineering (circling either a 3 or a 4), which is a much closer comparison. However, focusing on those students who are very interested in engineering, this finding does not support our null hypothesis. More sophomores are interested in engineering than juniors.

Of the female students at Doherty, 6.5% (9 out of 138) of juniors and 6.8% (7 out of 103) of sophomores have a high interest in engineering. These percentages are very similar, and thus support the null hypothesis. Thus, the sophomore males seem to be out of sync.

Engineering	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	7	12	5	6
% within gender	23.3%	40.0%	16.7%	20.0%
Female	28	7	6	1
% within gender	66.7%	16.7%	14.3%	2.4%
Total	35	19	11	7
% total	48.6%	26.4%	15.3%	9.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	13	17	22	16
% within gender	17.8%	23.3%	30.1%	21.9%
Female	31	10	7	2
% within gender	58.5%	18.9%	13.2%	3.8%
Total	44	27	29	18
% total	34.9%	21.4%	23.0%	14.3%

Table 3-76: Career Aspirations in Engineering, by Gender, at North

At North High School, 20.0% of junior males (6 out of 30) and 21.9% of sophomore males (16 out of 73) had a high interest in engineering, which is a 1.9% difference. Also, 2.4% of female juniors (1 out of 42) and 3.8% of female sophomore (2 out of 53) had a high interest, which is a 1.4% difference. Thus, both of these differences are less than 10%, and the null hypothesis is supported. However, a closer look at the data reveals a large number of sophomore males "pretty interested" in engineering. This too is about 15% higher than the comparable junior student category.

Physical Science

Physical Science	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	55	45	15	4
% within gender	46.2%	37.8%	12.6%	3.4%
Female	80	28	18	7
% within gender	58.0%	20.3%	13.0%	5.1%
Total	135	73	33	11
% total	52.5%	28.4%	12.8%	4.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	30	22	14	7
% within gender	41.1%	30.1%	19.2%	9.6%
Female	60	30	13	1
% within gender	57.7%	28.8%	12.5%	1.0%
Total	90	52	27	8
% total	50.8%	29.4%	15.3%	4.5%

Table 3-77: Career Aspirations in Physical Science, by Gender, at Doherty

At Doherty High School, 3.4% of male juniors and 9.6% of sophomore juniors have a high interest in physical science, which is a 6.2% difference. 5.1% of female juniors and 1.0% of female sophomores have a high interest, which is a -4.1% difference. Thus, both of these differences are within 10%, and support the null hypothesis. They also continue to demonstrate the low interest of Worcester Public School students in careers relating to physical sciences, even in the school with the Engineering and Technology Academy.

Physical Science	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	12	11	4	3
% within gender	40.0%	36.7%	13.3%	10.0%
Female	20	16	4	2
% within gender	47.6%	38.1%	9.5%	4.8%
Total	32	27	8	5
% total	44.4%	37.5%	11.1%	6.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	17	15	6
% within gender	38.4%	23.3%	20.5%	8.2%
Female	32	11	5	2
% within gender	60.4%	20.8%	9.4%	3.8%
Total	60	28	20	8
% total	47.6%	22.2%	15.9%	6.3%

Table 3-78: Career Aspirations in Physical Science, by Gender, at North

10.0% of the North male juniors and 8.2% of the North male sophomores have a high interest in physical science, which is a -1.8% difference. Likewise, 4.8% of the North female juniors and 3.8% of the North female sophomores have a high interest in physical science, which is a -1.0% difference. Both differences between the sophomores and the juniors are within 10%, and thus both genders at North support the null hypothesis for physical science.

Information Technology

At Doherty High School, male sophomores are 1.4% less likely to be interested in information technology than male juniors (15.1% of junior males and 13.7% of sophomore males have high interest in information technology). Similarly, female sophomores are 1.3% less likely to be interested in information technology than female juniors (5.1% of female juniors and 3.8% of female sophomores). Thus, both differences are less than 10% and the null hypothesis of no significant difference is supported.

Information Technology	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	30	26	18
% within gender	37.8%	25.2%	21.8%	15.1%
Female	84	30	13	7
% within gender	60.9%	21.7%	9.4%	5.1%
Total	129	60	39	25
% total	50.2%	23.3%	15.2%	9.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	19	21	23	10
% within gender	26.0%	28.8%	31.5%	13.7%
Female	60	26	14	4
% within gender	57.7%	25.0%	13.5%	3.8%
Total	79	47	37	14
% total	44.6%	26.6%	20.9%	7.9%

Table 3-79: Career Aspirations in Information Technology, by Gender, at Doherty

Information Technology	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	10	11	5	4
% within gender	33.3%	36.7%	16.7%	13.3%
Female	27	9	3	3
% within gender	64.3%	21.4%	7.1%	7.1%
Total	37	20	8	7
% total	51.4%	27.8%	11.1%	9.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	15	22	17	12
% within gender	20.5%	30.1%	23.3%	16.4%
Female	30	10	7	4
% within gender	56.6%	18.9%	13.2%	7.5%
Total	45	32	24	16
% total	35.7%	25.4%	19.0%	12.7%

Table 3-80: Career Aspirations in Information Technology, by Gender, at North

Male sophomores at North High School are 3.1% more likely to be interested in information technology than the male juniors (16.4% of male sophomores and 13.3% of male juniors have high interest in information technology). Sophomore and junior females at North

High School have nearly the same percentage of students with high interest (7.1% of junior females and 7.5% of sophomore females). It is interesting to note, though, that the percentage of sophomore females who are "pretty interested" in information technology (13.2%) nearly double the corresponding percentage of junior females (7.1%), but the junior sample is quite small and less likely to be representative. The null hypothesis that the two populations do not really differ is supported, though, because both differences in high interest are less than 10%. The major point to take away from these tables is that males are 2-3 times more likely to be very interested in their field than females. A similar pattern holds for those "pretty" interested.

Computers

Computers	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	33	25	21
% within gender	33.1%	28.0%	21.2%	17.8%
Female	62	40	18	14
% within gender	44.9%	29.0%	13.0%	10.1%
Total	101	73	43	35
% total	39.5%	28.5%	16.8%	13.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	15	22	16	19
% within gender	20.8%	30.6%	22.2%	26.4%
Female	42	34	22	6
% within gender	40.4%	32.7%	21.2%	5.8%
Total	57	56	38	25
% total	32.4%	31.8%	21.6%	14.2%

Table 3-81: Career Aspirations in Computers, by Gender, at Doherty

Sophomore males at Doherty High School are more likely to be interested in computer-related careers than the junior males, with an advantage in interest of 8.6%. 26.4% of sophomore males have a high interest in computers while only 17.8% of junior males are highly interested. The percentage of males with a moderate interest remain similar, with junior males having a higher percentage of students with no interest in computers (33.1% of junior males and 20.8% of sophomore males have no interest in computers). Conversely, sophomore females have a 4.3% lower interest in computers than junior females (17.8% of junior females and 5.8% of sophomore

females have a high interest in computers), although this discrepancy is compensated for by the fact that 8.2% more sophomore females are "pretty interested" in computers than junior females. Overall, though, both differences in high interest are less than 10% and thus the null hypothesis is supported.

Computers	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	8	12	5	5
% within gender	26.7%	40.0%	16.7%	16.7%
Female	25	10	6	1
% within gender	59.5%	23.8%	14.3%	2.4%
Total	33	22	11	6
% total	45.8%	30.6%	15.3%	8.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	14	15	20	18
% within gender	19.2%	20.5%	27.4%	24.7%
Female	23	9	13	6
% within gender	43.4%	17.0%	24.5%	11.3%
Total	37	24	33	24
% total	29.4%	19.0%	26.2%	19.0%

Table 3-82: Career Aspirations in Computers, by Gender, at North

At North High School, it is the difference between the levels of interest in the two classes that is notable. Both male and female sophomores are more likely to be interested in computers than the male and female juniors. The male sophomores have an 8% advantage in interest in computers as compared to male juniors (24.7% of male sophomores and 16.7% of male juniors have a high interest in computers) and the female sophomores have an 8.9% advantage in interest as compared to female juniors (11.3% of female sophomores and 2.4% of female juniors have a high interest in computers). Also, 10.7% more male sophomores and 10.2% of female sophomores are "pretty interested" in computers than their junior counterparts. The null hypothesis is supported because the difference in high interest are both less than 10%, but the differences are so close to 10% that it is hard to say with confidence that the sophomore findings are really confirming the junior findings, and it does not matter which class is studied. There could be a real difference, at least in regard to aspiring to the computer field.

Business

Business	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	24	28	44	23
% within gender	20.2%	23.5%	37.0%	19.3%
Female	36	29	41	27
% within gender	26.1%	21.0%	29.7%	19.6%
Total	60	57	85	50
% total	23.3%	22.2%	33.1%	19.5%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	8	16	25	23
% within gender	11.1%	22.2%	34.7%	31.9%
Female	22	28	25	29
% within gender	21.2%	26.9%	24.0%	27.9%
Total	30	44	50	52
% total	17.0%	25.0%	28.4%	29.5%

Table 3-83: Career Aspirations in Business, by Gender, at Doherty

At Doherty High School, both male and female sophomores are more likely to report that they are very interested in business-related careers than the male and female juniors. Male sophomores have a 12.6% higher interest in business than male juniors (31.9% of male sophomores and 19.3% of male juniors have a high interest in business-related careers). The difference between the two classes of female students is slightly less, with 27.9% of female sophomores and 19.6% of female juniors having a high interest in business. This is an 8.3% advantage to the female sophomores in terms of having a high interest as compared with female juniors. It is interesting to note, though, that even with the significantly higher interest in business for the sophomores, in both classes the gender distribution of students with a high interest is fairly even. The null hypothesis is not supported for business at Doherty, though.

Business	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	10	8	7	5
% within gender	33.3%	26.7%	23.3%	16.7%
Female	16	9	11	6
% within gender	38.1%	21.4%	26.2%	14.3%
Total	26	17	18	11
% total	36.1%	23.6%	25.0%	15.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	13	16	24	15
% within gender	17.8%	21.9%	32.9%	20.5%
Female	13	17	15	7
% within gender	24.5%	32.1%	28.3%	13.2%
Total	26	33	39	22
% total	20.6%	26.2%	31.0%	17.5%

Table 3-84: Career Aspirations in Business, by Gender, at North

At North High School, the distribution of interests in business-related careers is similar between sophomores and juniors. 16.7% of junior males and 20.5% of sophomore males have a high interest in business-related careers, and thus the male sophomores have a 3.8% advantage in interest. 14.3% of junior females and 13.2% of sophomore females reported being very interested in business, and thus the female sophomores have a 1.1% deficit in interest. Thus, the null hypothesis is supported since both differences are less than 10%. Again the evidence from North and Doherty is not telling the same story.

Trade

At Doherty High School, the distribution of students interested in trade-related careers is similar throughout both the sophomore and the junior classes. The junior males express a 3.9% advantage in interest in trade-related careers as compared to the sophomore males (17.6% of male juniors and 13.7% of male sophomore have a high interest in trade). 1.4% of female juniors and 2.9% of female sophomores report being “very interested” in trade. Thus, both differences are less than 10% and the null hypothesis is supported.

Trade	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	27	26	21
% within gender	37.8%	22.7%	21.8%	17.6%
Female	109	18	4	2
% within gender	79.0%	13.0%	2.9%	1.4%
Total	154	45	30	23
% total	59.9%	17.5%	11.7%	8.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	25	24	14	10
% within gender	34.2%	32.9%	19.2%	13.7%
Female	76	15	10	3
% within gender	73.1%	14.4%	9.6%	2.9%
Total	101	39	24	13
% total	57.1%	22.0%	13.6%	7.3%

Table 3-85: Career Aspirations in Trade, by Gender, at Doherty

Trade	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	14	5	5	6
% within gender	46.7%	16.7%	16.7%	20.0%
Female	39	1	0	1
% within gender	95.1%	2.4%	0.0%	2.4%
Total	53	6	5	7
% total	74.6%	8.5%	7.0%	9.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	18	14	9
% within gender	38.4%	24.7%	19.2%	12.3%
Female	40	7	2	1
% within gender	75.5%	13.2%	3.8%	1.9%
Total	68	25	16	10
% total	54.0%	19.8%	12.7%	7.9%

Table 3-86: Career Aspirations in Trade, by Gender, at North

Of the respondents at North High School, 20.0% of male juniors and 12.3% of male sophomores have a high interest in trade. This is a 7.7% advantage in interest for the juniors. Also, 2.4% of female juniors and 1.9% of female sophomores have a high interest in trade. The null hypothesis is therefore supported.

Medical Practice

Medical Practice	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	70	26	15	8
% within gender	58.8%	21.8%	12.6%	6.7%
Female	44	28	26	39
% within gender	31.9%	20.3%	18.8%	28.3%
Total	114	54	41	47
% total	44.4%	21.0%	16.0%	18.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	33	20	11	8
% within gender	45.8%	27.8%	15.3%	11.1%
Female	23	30	21	30
% within gender	22.1%	28.8%	20.2%	28.8%
Total	56	50	32	38
% total	31.8%	28.4%	18.2%	21.6%

Table 3-87: Career Aspirations in Medical Practice, by Gender, at Doherty

At Doherty, 6.7% of junior males (8 out of 119) and 11.1% of sophomore males (8 out of 72) have a high interest in medical practice. This is a 4.4% difference in interest for sophomores. 28.3% of junior females (39 out of 138) and 28.8% of sophomore females (30 out of 104) have a high interest in medical practice. Thus, the percentages of female students with a high interest in medical practice are essentially equal. For both males and females, the difference between the sophomores and juniors with high interest in medical practice is much less than 10%. Thus, the null hypothesis is supported at Doherty High School for the occupational interest area of medical practice. The gender ratios for the two classes are also similar.

At North High School, the distribution of students interested in medical practice does not replicate between the sophomore and junior classes. The sophomore males exhibit a 9.3% advantage in interest towards careers in medical practice (16.7% of junior males and 26.0% of sophomore males selected very interested). Conversely, the sophomore females express a 16.6% deficit in interest towards careers in medical practice (52.4% of female juniors and 35.8% of female sophomore selected very interested). Thus, the null hypothesis is not supported at North High School for the occupational interest area of medical practice. However, the gender ratios

are quite different between the two classes, with the ratio being twice as large for the junior class.

Medical Practice	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	9	11	5	5
% within gender	30.0%	36.7%	16.7%	16.7%
Female	10	4	6	22
% within gender	23.8%	9.5%	14.3%	52.4%
Total	19	15	11	27
% total	26.4%	20.8%	15.3%	37.5%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	30	14	5	19
% within gender	41.1%	19.2%	6.8%	26.0%
Female	12	9	11	19
% within gender	22.6%	17.0%	20.8%	35.8%
Total	42	23	16	38
% total	33.3%	18.3%	12.7%	30.2%

Table 3-88: Career Aspirations in Medical Practice, by Gender, at North

Medical Support

Medical Support	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	84	24	8	3
% within gender	70.6%	20.2%	6.7%	2.5%
Female	47	30	22	36
% within gender	34.1%	21.7%	15.9%	26.1%
Total	131	54	30	39
% total	51.0%	21.0%	11.7%	15.2%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	18	6	4
% within gender	61.6%	24.7%	8.2%	5.5%
Female	36	25	19	24
% within gender	34.6%	24.0%	18.3%	23.1%
Total	81	43	25	28
% total	45.8%	24.3%	14.1%	15.8%

Table 3-89: Career Aspirations in Medical Support, by Gender, at Doherty

At Doherty, 2.5% of male juniors and 5.5% of male sophomores have a high interested in careers related to medical support. This is a 3.0% advantage in interest for male sophomores. Also, 26.1% of female juniors and 23.1% of female sophomores have a high interest in medical support. This indicates a 3.0% deficit in interest for female sophomores. For both males and females, the difference between the sophomores and the juniors with high interest in medical support is less than 10%, and the null hypothesis is supported. The gender ratios are also very similar between the two classes

Medical Support	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	17	9	2	2
% within gender	56.7%	30.0%	6.7%	6.7%
Female	9	3	14	16
% within gender	21.4%	7.1%	33.3%	38.1%
Total	26	12	16	18
% total	36.1%	16.7%	22.2%	25.0%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	12	5	12
% within gender	52.1%	16.4%	6.8%	16.4%
Female	13	11	10	18
% within gender	24.5%	20.8%	18.9%	34.0%
Total	51	23	15	30
% total	40.5%	18.3%	11.9%	23.8%

Table 3-90: Career Aspirations in Medical Support, by Gender, at North

At North, 6.7% of male juniors and 16.4% of male sophomores have a high interest in careers related to medical support. This is a 9.7% advantage in interest for male sophomores. Also, 38.1% of female juniors and 34.0% of female sophomores have a high interest in medical support, which indicates a 4.1% advantage in interest for female juniors. Thus, both differences are less than 10%, and the null hypothesis is supported.

Medical Other

Other Medical Related	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	81	22	11	5
% within gender	68.1%	18.5%	9.2%	4.2%
Female	51	27	23	34
% within gender	37.0%	19.6%	16.7%	24.6%
Total	132	49	34	39
% total	51.4%	19.1%	13.2%	15.2%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	17	7	4
% within gender	61.6%	23.3%	9.6%	5.5%
Female	29	28	25	22
% within gender	27.9%	26.9%	24.0%	21.2%
Total	74	45	32	26
% total	41.8%	25.4%	18.1%	14.7%

Table 3-91: Career Aspirations in Medical Other, by Gender, at Doherty

At Doherty, the distribution of interests in other medical-related careers is very similar between the sophomore and junior classes. 4.2% of junior males and 5.5% of sophomore males have a high interest in other medical-related careers. Likewise, 24.6% of junior females and 21.2% of sophomore females have a high interest. Thus, for both genders, the difference between the sophomores and the juniors with high interest in other medical-related careers is much less than 10%, and the null hypothesis is supported.

At North High School, 10.3% of male juniors and 15.3% of male sophomore have a high interest in other medical-related fields. This indicates a 5.0% advantage in interest of male sophomores as compared to male juniors. 31.0% of female juniors and 20.8% of female sophomores have a high interest. This, however, indicates a 10.2% advantage in interest of female juniors as compared to female sophomores. Thus, the null hypothesis is disproved for other medical-related fields at North High School.

Other Medical Related	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	13	9	4	3
% within gender	44.8%	31.0%	13.8%	10.3%
Female	9	5	15	13
% within gender	21.4%	11.9%	35.7%	31.0%
Total	22	14	19	16
% total	31.0%	19.7%	26.8%	22.5%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	10	6	11
% within gender	54.2%	13.9%	8.3%	15.3%
Female	16	12	12	11
% within gender	30.2%	22.6%	22.6%	20.8%
Total	55	22	18	22
% total	44.0%	17.6%	14.4%	17.6%

Table 3-92: Career Aspirations in Medical Other, by Gender, at North

Law

Legal	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	58	26	25	10
% within gender	48.7%	21.8%	21.0%	8.4%
Female	47	40	32	16
% within gender	34.1%	29.0%	23.2%	11.6%
Total	105	66	57	26
% total	40.9%	25.7%	22.2%	10.1%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	29	13	21	10
% within gender	39.7%	17.8%	28.8%	13.7%
Female	37	35	16	16
% within gender	35.6%	33.7%	15.4%	15.4%
Total	66	48	37	26
% total	37.3%	27.1%	20.9%	14.7%

Table 3-93: Career Aspirations in Law, by Gender, at Doherty

At Doherty High School, the sophomores exhibit a slight increase in interest in legal careers as compared to the juniors. 8.4% of male juniors and 13.7% of male sophomore have a

high interest in legal careers. 11.6% of female juniors and 15.4% of female sophomores have a high interest. The male sophomores exhibit a 5.3% advantage and the female sophomores exhibit a 3.8% advantage in interest in law-related fields as compared to their junior counterparts. Thus, the occupational interest area of law supports the null hypothesis at Doherty.

Legal	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	18	3	8	1
% within gender	60.0%	10.0%	26.7%	3.3%
Female	15	17	8	2
% within gender	35.7%	40.5%	19.0%	4.8%
Total	33	20	16	3
% total	45.8%	27.8%	22.2%	4.2%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	27	19	12	11
% within gender	37.0%	26.0%	16.4%	15.1%
Female	19	11	12	8
% within gender	35.8%	20.8%	22.6%	15.1%
Total	46	30	24	19
% total	36.5%	23.8%	19.0%	15.1%

Table 3-94: Career Aspirations in Law, by Gender, at North

At North High School, the sophomores have a much higher interest in legal careers than the juniors. Only 3.3% of male juniors have a high interest in law while 15.1% of sophomore males have a high interest. Likewise, only 4.8% of female juniors have a high interest in law while 15.1% of sophomore females have a high interest. Thus, the male sophomores exhibit an 11.8% advantage and the female sophomores exhibit a 10.3% advantage in interest in law-related fields as compared to the junior counterparts. Thus, the occupational interest area of law does not support the null hypothesis for either gender at North High School.

Performance Arts

Performance Arts	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	73	28	13	5
% within gender	61.3%	23.5%	10.9%	4.2%
Female	51	32	25	26
% within gender	37.0%	23.2%	18.1%	18.8%
Total	124	60	38	31
% total	48.2%	23.3%	14.8%	12.1%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	6	7
% within gender	61.6%	20.5%	8.2%	9.6%
Female	34	33	11	26
% within gender	32.7%	31.7%	10.6%	25.0%
Total	79	48	17	33
% total	44.6%	27.1%	9.6%	18.6%

Table 3-95: Career Aspirations in Performance Arts, by Gender, at Doherty

At Doherty High School, 4.2% of male juniors and 9.6% of male sophomores have a high interest in performance arts. This indicates a 5.4% advantage in interest of the male sophomores as compared to the male juniors. Also, 18.8% of female juniors and 25.0% of female sophomores have a high interest in performance arts, which is a 6.2% advantage in interest in female sophomores as compared to female juniors. Thus, the occupational interest area of performance arts at Doherty High School supports the null hypothesis.

At North High School, however, the female sophomores display a much greater interest in performance arts than the female juniors. Only 16.7% of female juniors have a high interest in the performance arts while 35.8% of female sophomores have a high interest. This is a 19.1% higher level of interest in female sophomores. The junior and sophomore males have a closer interest, with 10.0% of junior males and 8.2% of sophomore males having a high interest in the performance arts. The null hypothesis for performance arts at North is disproved.

Performance Arts	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	22	4	1	3
% within gender	73.3%	13.3%	3.3%	10.0%
Female	19	9	7	7
% within gender	45.2%	21.4%	16.7%	16.7%
Total	41	13	8	10
% total	56.9%	18.1%	11.1%	13.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	12	13	6
% within gender	52.1%	16.4%	17.8%	8.2%
Female	9	13	9	19
% within gender	17.0%	24.5%	17.0%	35.8%
Total	47	25	22	25
% total	37.3%	19.8%	17.5%	19.8%

Table 3-96: Career Aspirations in Performance Arts, by Gender, at North

Visual Arts

Visual Arts	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	68	23	19	8
% within gender	57.1%	19.3%	16.0%	6.7%
Female	53	25	24	32
% within gender	38.4%	18.1%	17.4%	23.2%
Total	121	48	43	40
% total	47.1%	18.7%	16.7%	15.6%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	8	4
% within gender	61.6%	20.5%	11.0%	5.5%
Female	31	29	18	26
% within gender	29.8%	27.9%	17.3%	25.0%
Total	76	44	26	30
% total	42.9%	24.9%	14.7%	16.9%

Table 3-97: Career Aspirations in Visual Arts, by Gender, at Doherty

At Doherty high School, the distribution of high interest in visual arts replicates well between the sophomore and junior classes. 6.7% of male juniors and 5.5% of male sophomores

have a high interest in visual arts. Also, 23.2% of female juniors and 25.0% of female sophomores have a high interest. Thus, both of these differences are less than 10% and the null hypothesis is supported.

Visual Arts	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	19	7	3	1
% within gender	63.3%	23.3%	10.0%	3.3%
Female	13	11	12	6
% within gender	31.0%	26.2%	28.6%	14.3%
Total	32	18	15	7
% total	44.4%	25.0%	20.8%	9.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	40	13	7	8
% within gender	54.8%	17.8%	9.6%	11.0%
Female	12	8	11	19
% within gender	22.6%	15.1%	20.8%	35.8%
Total	52	21	18	27
% total	41.3%	16.7%	14.3%	21.4%

Table 3-98: Career Aspirations in Visual Arts, by Gender, at North

The career aspirations at North High School, however, vary drastically between the sophomore and junior classes. 3.3% of male juniors and 11.0% of male sophomores have a high interest in the visual arts, which is a 7.7% higher level of interest for male sophomores. The females exhibit an even greater difference in interest, with 14.3% of female juniors and 35.8% of female sophomores having a high interest in the visual arts. This indicates a 21.5% higher level of interest for the female sophomores, which is over twice the 10% difference that was determined to indicate a successful replication. Thus, the null hypothesis is not supported.

Music Arts

The distribution of students with a high interest in musical arts replicates fairly well between the sophomore and junior classes. The percentage of male interest in both classes is nearly identical, with 17.6% of male juniors and 18.1% of male sophomores having a high interest in musical arts. Also, 14.6% of female juniors and 11.7% of female sophomores have a

high interest in musical arts, which is only a 2.9% deficit in interest for the female sophomores. Thus, both differences are much less than 10% and thus the null hypothesis is supported.

Musical Arts	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	50	30	18	21
% within gender	42.0%	25.2%	15.1%	17.6%
Female	70	24	19	20
% within gender	51.1%	17.5%	13.9%	14.6%
Total	120	54	37	41
% total	46.9%	21.1%	14.5%	16.0%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	13	7	13
% within gender	54.2%	18.1%	9.7%	18.1%
Female	46	24	21	12
% within gender	44.7%	23.3%	20.4%	11.7%
Total	85	37	28	25
% total	48.6%	21.1%	16.0%	14.3%

Table 3-99: Career Aspirations in Music Arts, by Gender, at Doherty

Musical Arts	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	18	6	2	4
% within gender	60.0%	20.0%	6.7%	13.3%
Female	21	10	6	4
% within gender	51.2%	24.4%	14.6%	9.8%
Total	39	16	8	8
% total	54.9%	22.5%	11.3%	11.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	32	12	11	12
% within gender	44.4%	16.7%	15.3%	16.7%
Female	18	10	8	12
% within gender	34.0%	18.9%	15.1%	22.6%
Total	50	22	19	24
% total	40.0%	17.6%	15.2%	19.2%

Table 3-100: Career Aspirations in Music Arts, by Gender, at North

At North High School, 13.3% of male juniors and 16.7% of male sophomores have a high interest in musical arts, which indicates a 3.4% advantage in interest for the sophomores. 9.8% of female juniors and 22.6% of female sophomores have a high interest in musical arts, which indicates a 12.8% advantage in interest for the female sophomores. Thus, the occupational interest area of musical arts at North High School disproves the null hypothesis.

Media

Media	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	46	35	28	10
% within gender	38.7%	29.4%	23.5%	8.4%
Female	51	36	28	18
% within gender	37.0%	26.1%	20.3%	13.0%
Total	97	71	56	28
% total	37.7%	27.6%	21.8%	10.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	21	15	8
% within gender	38.9%	29.2%	20.8%	11.1%
Female	30	26	31	17
% within gender	28.8%	25.0%	29.8%	16.3%
Total	58	47	46	25
% total	33.0%	26.7%	26.1%	14.2%

Table 3-101: Career Aspirations in Media, by Gender, at Doherty

At Doherty High School, 8.4% of male juniors and 11.1% of male sophomores have a high interest in media-related careers. 13.0% of female juniors and 16.3% of female sophomores have a high interest. The male sophomores exhibit a 2.7% advantage and the female sophomores exhibit a 3.3% advantage in interest in media-related fields as compared to their junior counterparts. Thus, the occupational interest area of media supports the null hypothesis at Doherty.

Media	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	16	7	7	0
% within gender	53.3%	23.3%	23.3%	0.0%
Female	23	9	9	1
% within gender	54.8%	21.4%	21.4%	2.4%
Total	39	16	16	1
% total	54.2%	22.2%	22.2%	1.4%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	31	14	14	9
% within gender	42.5%	19.2%	19.2%	12.3%
Female	20	10	12	7
% within gender	37.7%	18.9%	22.6%	13.2%
Total	51	24	26	16
% total	40.5%	19.0%	20.6%	12.7%

Table 3-102: Career Aspirations in Media, by Gender, at North

Of the 72 North High School junior respondents, only one student (a female) indicated a high interest in media-related careers. Both genders of the sophomore class, though, exhibit a fairly high interest in media-related careers (12.3% of male sophomores and 13.2% of female sophomores). Thus, the occupational interest area of media disproves the null hypothesis at North.

Service Industry

2.5% of junior males and 7.0% of sophomore males at Doherty have a high interest in the service industry. 12.3% of junior females and 9.7% of sophomore females have a high interest. The male sophomores exhibit a 4.5% advantage and the female sophomores exhibit a 2.6% deficit in interest in the service industry as compared to their junior counterparts. Thus, the occupational interest area of service industry supports the null hypothesis at Doherty.

Service Industry	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	74	32	10	3
% within gender	62.2%	26.9%	8.4%	2.5%
Female	60	30	28	17
% within gender	43.5%	21.7%	20.3%	12.3%
Total	134	62	38	20
% total	52.1%	24.1%	14.8%	7.8%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	6	5
% within gender	63.4%	21.1%	8.5%	7.0%
Female	30	35	28	10
% within gender	29.1%	34.0%	27.2%	9.7%
Total	75	50	34	15
% total	43.1%	28.7%	19.5%	8.6%

Table 3-103: Career Aspirations in Service Industry, by Gender, at Doherty

Service Industry	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	21	7	2	0
% within gender	70.0%	23.3%	6.7%	0.0%
Female	18	10	10	3
% within gender	43.9%	24.4%	24.4%	7.3%
Total	39	17	12	3
% total	54.9%	23.9%	16.9%	4.2%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	13	7	3
% within gender	60.3%	17.8%	9.6%	4.1%
Female	18	10	15	7
% within gender	34.0%	18.9%	28.3%	13.2%
Total	62	23	22	10
% total	49.2%	18.3%	17.5%	7.9%

Table 3-104: Career Aspirations in Service Industry, by Gender, at North

At North High School, 4.1% of male sophomores have a high interest in the service industry while no male juniors have a corresponding high interest. Also, 7.3% of female juniors and 13.2% of female sophomores have a high interest in the service industry, which indicates a

5.9% higher level of interest for the female sophomores. Thus, both differences are less than 10% and the null hypothesis is supported.

Food Service Industry

Food Service Industry	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	60	26	18	15
% within gender	50.4%	21.8%	15.1%	12.6%
Female	60	32	30	13
% within gender	43.5%	23.2%	21.7%	9.4%
Total	120	58	48	28
% total	46.7%	22.6%	18.7%	10.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	16	14	5
% within gender	52.1%	21.9%	19.2%	6.8%
Female	33	37	22	12
% within gender	31.7%	35.6%	21.2%	11.5%
Total	71	53	36	17
% total	40.1%	29.9%	20.3%	9.6%

Table 3-105: Career Aspirations in Food Service Industry, by Gender, at Doherty

At Doherty High School, 12.6% of male juniors and 6.8% of male sophomores have a high interest in the food service industry, which indicates a 5.8% deficit in interest for the male sophomores. 9.4% of female juniors and 11.5% of female sophomores have a high interest, and thus the female sophomores exhibit a 2.1% higher level of interest as compared to the female juniors. Both differences are less than 10% and the null hypothesis is supported.

At North High School, 10.0% of male juniors and 11.0% of male sophomores have a high interest in the food service industry. Also, 7.1% of female juniors and 15.1% of female sophomores have a high interest, which indicates an 8.0% advantage in interest in for the female sophomores as compared to the female juniors. Thus, the occupational interest area of food service industry supports the null hypothesis at North.

Food Service Industry	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	15	10	2	3
% within gender	50.0%	33.3%	6.7%	10.0%
Female	19	12	8	3
% within gender	45.2%	28.6%	19.0%	7.1%
Total	34	22	10	6
% total	47.2%	30.6%	13.9%	8.3%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	27	21	14	8
% within gender	37.0%	28.8%	19.2%	11.0%
Female	17	14	11	8
% within gender	32.1%	26.4%	20.8%	15.1%
Total	44	35	25	16
% total	34.9%	27.8%	19.8%	12.7%

Table 3-106: Career Aspirations in Food Service Industry, by Gender, at North

Social Service

Social Service	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	75	24	18	2
% within gender	63.0%	20.2%	15.1%	1.7%
Female	44	35	35	21
% within gender	31.9%	25.4%	25.4%	15.2%
Total	119	59	53	23
% total	46.3%	23.0%	20.6%	8.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	17	8	2
% within gender	62.5%	23.6%	11.1%	2.8%
Female	27	30	28	19
% within gender	26.0%	28.8%	26.9%	18.3%
Total	72	47	36	21
% total	40.9%	26.7%	20.5%	11.9%

Table 3-107: Career Aspirations in Social Service, by Gender, at Doherty

At Doherty High School, the distribution of interest in social service-related careers is very similar between sophomores and juniors. Only 1.7% of junior males and 2.8% of

sophomore males have a high interest in careers relating to social service. 15.2% of female juniors and 18.3% of female sophomores have a high interest. Both differences are much less than 10% and the null hypothesis is supported.

Social Service	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	18	8	4	0
% within gender	60.0%	26.7%	13.3%	0.0%
Female	13	14	10	4
% within gender	31.7%	34.1%	24.4%	9.8%
Total	31	22	14	4
% total	43.7%	31.0%	19.7%	5.6%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	47	11	7	2
% within gender	64.4%	15.1%	9.6%	2.7%
Female	25	6	10	8
% within gender	47.2%	11.3%	18.9%	15.1%
Total	72	17	17	10
% total	57.1%	13.5%	13.5%	7.9%

Table 3-108: Career Aspirations in Social Service, by Gender, at North

At North High School, none of the 30 junior male respondents have a high interest in social service-related careers and only 2 of the 73 sophomore male respondents (2.7%) have a high interest. 9.8% of the junior females and 15.1% of the sophomore females have a high interest, which is a 5.3% advantage in interest for the female sophomores. Both differences are less than 10% and the null hypothesis is supported for North High School.

Civil Service

At Doherty High School, 16.0% of junior males and 9.6% of sophomore males indicate a high interest in civil services. Thus, sophomore males exhibit a 6.4% deficit in interest as compared to the junior males. Conversely, 4.3% of junior females and 9.6% of sophomore females have a high interest, which indicates that sophomore females have a 5.3% advantage in interest. The occupation interest area of civil services therefore supports the null hypothesis at Doherty.

Civil Service	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	51	21	27	19
% within gender	42.9%	17.6%	22.7%	16.0%
Female	90	25	10	6
% within gender	65.2%	18.1%	7.2%	4.3%
Total	141	46	37	25
% total	54.9%	17.9%	14.4%	9.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	36	19	10	7
% within gender	49.3%	26.0%	13.7%	9.6%
Female	63	22	9	10
% within gender	60.6%	21.2%	8.7%	9.6%
Total	99	41	19	17
% total	55.9%	23.2%	10.7%	9.6%

Table 3-109: Career Aspirations in Civil Service, by Gender, at Doherty

Civil Service	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	17	3	5	5
% within gender	56.7%	10.0%	16.7%	16.7%
Female	30	6	4	1
% within gender	73.2%	14.6%	9.8%	2.4%
Total	47	9	9	6
% total	66.2%	12.7%	12.7%	8.5%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	14	12	5
% within gender	53.4%	19.2%	16.4%	6.8%
Female	36	10	2	2
% within gender	67.9%	18.9%	3.8%	3.8%
Total	75	24	14	7
% total	59.5%	19.0%	11.1%	5.6%

Table 3-110: Career Aspirations in Civil Service, by Gender, at North

At North, 16.7% of male juniors exhibit a high interest in civil service-related careers while only 6.8% of male sophomores have a high interest. This is a 9.9% deficit in interest for the male sophomores and is large enough to be considered to disprove the null hypothesis. Also,

the females exhibit nearly the same interest in both classes, with 2.4% of the juniors and 3.8% of the sophomores having a high interest.

City Administration

City Administration	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	87	17	10	4
% within gender	73.1%	14.3%	8.4%	3.4%
Female	106	17	6	5
% within gender	76.8%	12.3%	4.3%	3.6%
Total	193	34	16	9
% total	75.1%	13.2%	6.2%	3.5%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	43	16	9	2
% within gender	60.6%	22.5%	12.7%	2.8%
Female	73	17	9	5
% within gender	70.2%	16.3%	8.7%	4.8%
Total	116	33	18	7
% total	66.3%	18.9%	10.3%	4.0%

Table 3-111: Career Aspirations in City Administration, by Gender, at Doherty

Both the junior and sophomore classes at Doherty demonstrate a very low interest in careers relating to city administration. Only 3.4% of junior males, 2.8% of sophomore males, 3.6% of junior females, and 4.8% of sophomore females have a high interest in city administration. These percentages are nearly equal between the two classes, and thus support the null hypothesis.

The very low interest is also duplicated in the findings at North High School. None of the 72 junior respondents at North indicated a high interest in city administration while only 4.1% of the sophomore males and 1.9% of the sophomore females indicated a high interest. The occupation interest area of city administration therefore supports the null hypothesis at North.

City Administration	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	21	4	5	0
% within gender	70.0%	13.3%	16.7%	0.0%
Female	33	5	4	0
% within gender	78.6%	11.9%	9.5%	0.0%
Total	54	9	9	0
% total	75.0%	12.5%	12.5%	0.0%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	41	16	7	3
% within gender	56.2%	21.9%	9.6%	4.1%
Female	35	11	3	1
% within gender	66.0%	20.8%	5.7%	1.9%
Total	76	27	10	4
% total	60.3%	21.4%	7.9%	3.2%

Table 3-112: Career Aspirations in City Administration, by Gender, at North

Elected Political Office

Elected Political Office	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	86	16	10	6
% within gender	72.3%	13.4%	8.4%	5.0%
Female	107	17	5	4
% within gender	77.5%	12.3%	3.6%	2.9%
Total	193	33	15	10
% total	75.1%	12.8%	5.8%	3.9%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	46	11	11	5
% within gender	63.0%	15.1%	15.1%	6.8%
Female	77	17	6	3
% within gender	74.8%	16.5%	5.8%	2.9%
Total	123	28	17	8
% total	69.9%	15.9%	9.7%	4.5%

Table 3-113: Career Aspirations in Elected Political Office, by Gender, at Doherty

The interest for both classes in elected political office careers is again very low. 5.0% of junior males and 6.8% of sophomore males have a high interest in elected political office. Likewise, only 2.9% of both classes of females have a high interest. Thus, these findings replicate and the null hypothesis is supported.

Elected Political Office	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	24	3	2	1
% within gender	80.0%	10.0%	6.7%	3.3%
Female	32	7	3	0
% within gender	76.2%	16.7%	7.1%	0.0%
Total	56	10	5	1
% total	77.8%	13.9%	6.9%	1.4%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	9	9	5
% within gender	60.3%	12.3%	12.3%	6.8%
Female	41	7	0	2
% within gender	77.4%	13.2%	0.0%	3.8%
Total	85	16	9	7
% total	67.5%	12.7%	7.1%	5.6%

Table 3-114: Career Aspirations in Elected Political Office, by Gender, at North

Once again, the very low interest in elected political office is replicated in the North findings. Only one out of 30 junior males (3.3% of all responding junior males) and no junior females out of 42 indicated a high interest, while 6.8% of sophomore males and 3.8% of sophomore females indicated a high interest. Thus, elected political office at North supports the null hypothesis.

Government Service

Interest in government service careers is once again very low at Doherty. Only 2.5% of male juniors, 4.1% of male sophomores, 2.9% of female juniors, and 3.9% of female sophomores have a high interest in government service. Thus, the differences between the two classes are less than 10% and the null hypothesis is supported.

Government Service	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	89	17	10	3
% within gender	74.8%	14.3%	8.4%	2.5%
Female	108	15	6	4
% within gender	78.3%	10.9%	4.3%	2.9%
Total	197	32	16	7
% total	76.7%	12.5%	6.2%	2.7%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	46	9	14	3
% within gender	63.0%	12.3%	19.2%	4.1%
Female	68	22	8	4
% within gender	66.0%	21.4%	7.8%	3.9%
Total	114	31	22	7
% total	64.8%	17.6%	12.5%	4.0%

Table 3-115: Career Aspirations in Government Service, by Gender, at Doherty

Government Service	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	25	5	0	0
% within gender	83.3%	16.7%	0.0%	0.0%
Female	33	7	2	0
% within gender	78.6%	16.7%	4.8%	0.0%
Total	58	12	2	0
% total	80.6%	16.7%	2.8%	0.0%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	42	15	5	5
% within gender	57.5%	20.5%	6.8%	6.8%
Female	39	8	1	2
% within gender	73.6%	15.1%	1.9%	3.8%
Total	81	23	6	7
% total	64.3%	18.3%	4.8%	5.6%

Table 3-116: Career Aspirations in Government Service, by Gender, at North

At North High School, none of the responding juniors indicated a high interest in government service. For the sophomores, only 6.8% of males and 3.8% of females have a high

interest. The differences between the sophomore and junior classes are less than 10% and thus support the null hypothesis.

International Politics

International Politics	Doherty High School			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	80	23	13	3
% within gender	67.2%	19.3%	10.9%	2.5%
Female	95	20	9	10
% within gender	68.8%	14.5%	6.5%	7.2%
Total	175	43	22	13
% total	68.1%	16.7%	8.6%	5.1%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	43	15	12	3
% within gender	58.9%	20.5%	16.4%	4.1%
Female	72	18	9	5
% within gender	69.2%	17.3%	8.7%	4.8%
Total	115	33	21	8
% total	65.0%	18.6%	11.9%	4.5%

Table 3-117: Career Aspirations in International Politics, by Gender, at Doherty

Much like the other political careers, international politics has a very low interest in both the junior and sophomore classes at Doherty. Only 2.5% of male juniors and 4.1% of male sophomores indicated a high interest. Likewise, 7.2% of female juniors and 4.8% of female sophomores exhibit a high interest. Therefore, these findings replicate and the null hypothesis is supported.

At North High School, the sophomore males exhibit a significantly higher level of interest in international politics than the junior males. 11.0% of sophomore males are highly interested while none of the junior males have a high interest. Since this difference is greater than 10%, the null hypothesis is disproved. The female interest is much closer between the two classes, though, with 2.4% of junior females and 3.8% of sophomore females having a high interest in international politics.

International Politics	North High School*			
	Juniors			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	25	1	4	0
% within gender	83.3%	3.3%	13.3%	0.0%
Female	28	9	4	1
% within gender	66.7%	21.4%	9.5%	2.4%
Total	53	10	8	1
% total	73.6%	13.9%	11.1%	1.4%
	Sophomores			
	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	10	5	8
% within gender	60.3%	13.7%	6.8%	11.0%
Female	41	7	0	2
% within gender	77.4%	13.2%	0.0%	3.8%
Total	85	17	5	10
% total	67.5%	13.5%	4.0%	7.9%

Table 3-118: Career Aspirations in International Politics, by Gender, at North

Conclusion

Overall, the majority of the findings replicated between the sophomore and junior classes at North and Doherty High Schools in 2005-2006. A summary table of the percentages of high interest in each of the careers by gender and class year is shown in Table 3-119. Male and female juniors expressed similar interest levels in most occupational interest areas as compared to the male and female sophomores, respectively. Weak response rates, especially for the North juniors, allow for fairly large variances that still represent similar interest levels between the two classes. Differences in percentages of students selecting high interest may appear to be fairly large, but they can still be considered similar due to the relatively small sample sizes. Overall, the Doherty data for the juniors and sophomores replicated better than the North data probably due to the larger sample size for the Doherty juniors. The junior and sophomore data sets are similar enough to consider surveying all of the sophomores in the future to allow for more time to establish groups and clubs to assist them in their path of study. We do not consider this finding definitive however. There were enough cases where the picture was different in a given profession to give one doubt about the findings. It would be beneficial to collect a larger sample of sophomores at more high schools next year to allow for a better grounded assessment. At this point only the Doherty data is sufficient to support reliable findings.

Interest	Gender	Doherty		North	
		Juniors	Sophomores	Juniors	Sophomores
Teaching	Males	4.2%	5.5%	3.3%	5.5%
	Females	6.5%	5.8%	7.1%	3.8%
Engineering	Males	26.9%	41.1%	20.0%	21.9%
	Females	6.5%	6.8%	2.4%	3.8%
Physical Science	Males	3.4%	9.6%	10.0%	8.2%
	Females	5.1%	1.0%	4.8%	3.8%
Information Technology	Males	15.1%	13.7%	13.3%	16.4%
	Females	5.1%	3.8%	9.7%	7.5%
Computers	Males	17.8%	26.4%	16.7%	24.7%
	Females	10.1%	14.2%	2.4%	11.3%
Business	Males	19.3%	31.9%	16.7%	20.5%
	Females	19.6%	27.9%	14.3%	13.2%
Trade	Males	17.6%	13.7%	20.0%	12.3%
	Females	1.4%	7.3%	2.4%	1.9%
Medical Practice	Males	6.7%	11.1%	16.7%	26.0%
	Females	28.3%	28.8%	52.4%	35.8%
Medical Support	Males	2.5%	5.5%	6.7%	16.4%
	Females	26.1%	23.1%	38.1%	34.0%
Medical Other	Males	4.2%	5.5%	10.3%	15.3%
	Females	24.6%	21.2%	31.0%	20.8%
Law	Males	8.4%	13.7%	3.3%	15.1%
	Females	11.6%	15.4%	4.8%	15.1%
Performance Arts	Males	4.2%	9.6%	10.0%	8.2%
	Females	18.1%	25.0%	16.7%	35.8%
Visual Arts	Males	6.7%	5.5%	3.3%	11.0%
	Females	23.2%	25.0%	14.3%	35.8%
Music Arts	Males	17.6%	18.1%	13.3%	16.7%
	Females	14.6%	11.7%	9.8%	22.6%
Media	Males	8.4%	11.1%	0.0%	12.3%
	Females	13.0%	16.3%	2.4%	13.2%
Service Industry	Males	2.5%	7.0%	0.0%	4.1%
	Females	12.3%	9.7%	7.3%	13.2%
Food Service Industry	Males	12.6%	6.8%	10.0%	11.0%
	Females	9.4%	11.5%	7.1%	15.1%
Social Service	Males	1.7%	2.8%	0.0%	2.7%
	Females	15.2%	18.3%	9.8%	15.1%
Civil Service	Males	16.0%	9.6%	16.7%	6.8%
	Females	4.3%	9.6%	2.4%	3.8%
City Administration	Males	3.4%	2.8%	0.0%	4.1%
	Females	3.6%	4.8%	0.0%	1.9%
Elected Political Office	Males	5.0%	6.8%	3.3%	6.8%
	Females	2.9%	2.9%	0.0%	3.8%
Government Service	Males	2.5%	4.1%	0.0%	6.8%
	Females	2.9%	3.9%	0.0%	3.8%
International Politics	Males	2.5%	4.1%	0.0%	11.0%
	Females	7.2%	4.8%	2.4%	3.8%

Table 3-119: Career Aspirations for Juniors and Sophomores at Doherty and North

3.7. Analysis of Career Interests by Concurrent Interests

Analysis of concurrent interests was conducted to determine correlations between different career interests, and to see if these findings were present in last year's analysis. The analysis was done by taking all of the students with high interest in a particular career and looked at their interest in other career fields. The percentage of students who selected "very interested" for two concurrent interests were compared to the overall percentage of students were "very interested" in one of those career fields to see if there was a disproportionately high or low level of interest as compared to the total sample. A positive percent difference indicates a higher level of interest in that career as compared to the overall interest. Conversely, a negative percent difference indicates a lower level of interest in that career as compared to the overall interest.

Since some students indicated that they are very interested in a relatively large variety of career fields often not related to each other, many of the concurrent interests did not appear to indicative of any true correlation of interests but rather the fact that some of the students are still undecided about their future career aspirations. Thus, the analysis of career interests by concurrent interests will only be analyzed for careers that are typically considered to be similar (for example, the research team expects that students very interested in one category of the Arts will also be more likely to be very interested in the other categories than the average students) or for any other interesting findings. An analysis of each possible set of concurrent interests does not appear to produce enough meaningful results to necessitate a complete analysis.

Law and Politics

There seems to be a connection between career interests in law and politics, which is not a surprising finding. Last year, students interested in Law had a +88% difference in interest in Politics. Students interested in Law were also showing disproportionately high levels of interest in Medical Practice (+84%) and Medical Support (+95%). Table 3-120 below shows this years results.

There is a definite relationship between students interested in Law and students interested in Elected Political Office (+303%), Government Service (+236%), and International Politics (+163%). This trend was also evident last year.

	Law	Overall	Difference
Medical Practice	27.3%	21.8%	+25.2%
Medical Support	27.3%	17.3%	+57.8%
Medical Other	22.2%	16.7%	+32.9%
Elected Political Office	12.1%	3.0%	+303.3%
Government Service	12.1%	3.6%	+236.1%
International Politics	12.1%	4.6%	+163.0%

Table 3-120: Concurrent Interest of Law-Interested Students, 2005-2006

Medical Careers also show a disproportionate level of interest for those students also interested in Law careers as compared to the overall sample. The percentages are not quite as large as last year, but the trend is still present.

Engineering

Students from last year who were interested in Engineering/Physical Science showed a higher level of interest than overall students in Computers/IT. Last year they found +283% disproportionate level of interest as compared to the overall sample. Table 3-121 below shows this years results.

	Engineering	Overall	Difference
Physical Science	23.8%	4.8%	+395.8%
IT	44.3%	9.6%	+361.5%
Computers	32.7%	12.4%	+163.7%

Table 3-121: Concurrent Interest of Engineering-Interested Students, 2005-2006

The pattern found between the two categories is also present in the new categories for this year's survey. There is a significant disproportionate level of interest in Physical Science (+396%), IT (+362%), and Computers (+164%) for those students also interested in Engineering as compared to the overall sample.

Medical

There is a strong relationship among students who are interested in Medical Practice, Medical Support, and Medical Other careers as seen in Table 3-122 below.

	Medical Practice	Overall	Difference
Medical Support	60.0%	17.3%	+246.8%
Medical Other	55.6%	16.7%	+232.9%
	Medical Support	**Overall**	**Difference**
Medical Practice	75.5%	21.8%	+246.3%
Medical Other	65.7%	16.7%	+293.4%
	Medical Other	**Overall**	**Difference**
Medical Practice	72.5%	21.8%	+232.6%
Medical Support	68.1%	17.3%	+293.6%

Table 3-122: Concurrent Medical Interests of Medical-Interested Students, 2005-2006

These results follow last year's findings. Relatively few students reported being very interested in Physical Science (4.8%). The research team believed that a higher proportion of students who are very interested in Medical Careers would be very interested in Physical Science as well.

	Medical Practice	Overall	Difference
Physical Science	26.2%	4.8%	+445.8%
	Medical Support	**Overall**	**Difference**
Physical Science	26.2%	4.8%	+445.8%
	Medical Other	**Overall**	**Difference**
Physical Science	23.8%	4.8%	+395.8%

Table 3-123: Concurrent Interest in Physical Science of Medical-Interested Students, 2005-2006

Table 3-123 shows a disproportionate level of interest in Physical Science among students concurrently interested in the three categories of Medical Careers. A significantly greater proportion of students interested in Medical fields are interested in Physical Science than was true of the sample as a whole. Since Physical Science and Engineering were grouped as one category last year, it is not possible to determine if this finding was true for last year's results as well.

Arts

This year Art was broken down into three different categories of art: Performance Arts, Visual Arts, and Musical Arts. The hypothesis is that students interested in one form of art would also show disproportionately high levels of interest in the other areas of art as well.

	Performance Arts	Overall	Difference
Visual Arts	50.4%	15.8%	+219.0%
Musical Arts	45.6%	14.8%	+208.1%
	Visual Arts	**Overall**	**Difference**
Performance Art	44.3%	13.9%	+218.7%
Musical Arts	36.2%	14.8%	+144.6%
	Musical Arts	**Overall**	**Difference**
Performance Art	42.6%	13.9%	+206.5%
Visual Arts	38.5%	15.8%	+143.7%

Table 3-124: Concurrent Arts Interests of Art-Interested Students, 2005-2006

The results show that the hypothesis was supported in all cases. The research team was also interested to see the concurrent interests of students that are very interested in both the Arts and Engineering as compared to the students who are only very interested in Engineering. The hypothesis is that it will be a negative percent difference (i.e. the students interested in the Arts will have a disproportionately low level of interest in Engineering) due to the Arts and Engineering typically being viewed as "opposite" career fields.

	Performance Arts	Overall	Difference
Engineering	8.7%	13.4%	-35.1%
	Visual Arts	**Overall**	**Difference**
Engineering	12.2%	13.4%	-9.0%
	Musical Arts	**Overall**	**Difference**
Engineering	15.6%	13.4%	+16.4%

Table 3-125: Concurrent Interest in Engineering of Art-Interested Students, 2005-2006

The hypothesis was supported that the students very interested in Performance Arts and Visual Arts are less likely to be interested in Engineering than the average student. The reason for Musical Arts to see an increase of interest might be due to the fact there are more males interested in Musical Arts and males tended to be more interested in Engineering than females.

Conclusion

Concurrent interests revealed some interesting results. There continues to be a connection between Law and Political Office careers. Engineering interested students are also interested in Physical Science, IT, and Computers. This trend was also noticed in last year's results. Students who are interested in one of the Medical fields tend to be interested in the other Medical careers. Students interested in Medical fields are also interested in Physical Science. Students who are interested in one of the Arts are more likely to be interested in the other areas than average. The Performance Arts interested students are not as interested in Engineering as students interested in Visual Arts or Musical Arts.

3.8. Analysis of Career Interests by Parental Occupation

The data analysis team expects children to be influenced by their parents' occupations, especially if their parents have professional careers. This influence is not expected to be strong in most types of careers but may be for technical careers. For instance, having a parent who is employed in the service industry would not be expected to be as influenced as a person whose parent is employed in a science or medical career. Exposure to professional careers through parental occupations would most likely increase a child's exposure, interest, and knowledge of that career. Information on how to enter the field may also come into the child's possession, formally or informally.

It is important to note during this analysis, though, that the data analysis team did encounter a few problems with the question relating to parental occupations. Since this portion of the survey was a write-in question, many of the students either skipped or incorrectly answered this question. Many students wrote in the names of the parents in the blanks rather than their occupations. Also, many of the responses were somewhat vague and it was difficult for the data entry team to decide which category (as detailed in the Methodology section of this report) would best describe the occupation. Although the data set is incomplete regarding this question, the data analysis team still feels that the existing data on the parental occupations can provide a general analysis of the influence of a parent's occupations on their children's aspirations.

2005 - 2006 Juniors			
Parent Occupation	**Child's Interest**	**Overall Student Interest**	**Difference**
Engineering	20.0%	13.4%	149%
Business	23.7%	23.0%	103%
Medical Practice	13.3%	21.8%	61%
Medical Support	24.0%	17.3%	139%
Teaching	14.9%	5.9%	253%
Trade	19.5%	11.5%	170%
2004 - 2005 Juniors			
Engineering/Physical Science	22.8%	19.9%	115%
Business	45.6%	41.8%	109%
Medical Practice	29.7%	24.9%	119%
Medical Support	27.0%	21.8%	124%
Teaching	18.8%	13.7%	137%
Trade	25.0%	18.5%	135%

Table 3-126: Career Aspirations by Parental Occupation

For this section of the analysis, the change in interest is calculated by dividing percentage of students with a parent in that career field who have a high interest in that field by the overall percentage of students with a high interest in that career field. A change greater than 100% indicates a greater likelihood of interest in that career due to parental influence as compared to the overall likelihood of interest. Conversely, a change less than 100% indicates that having a parent in a particular career decreases the likelihood of a child aspiring to that same career as compared to the overall likelihood of having interest in that career. A change of 115% or more would show a substantial effect in the student's career interests by their parent's career. The null hypothesis for this section of the analysis is that parental careers that demonstrated an effect on the child's interests last year are expected to show a similar effect this year (i.e. both changes would be greater than 115%).

Table 3-126 shows the interest of a student in a particular career which is the same as one of their parent's careers. Of students who have a parent in the field of engineering, 20.0% of students are also interested in engineering as compared to only 13.4% of all students being interested in engineering. This is an increase in the overall interest in engineering with a change of 149%. Therefore, it shows that there probably is an effect due to the parent's career. Engineering shows a greater influence on children's aspirations this year compared to last year when it was calculated at a 115% difference, but the percent interest of students who have a

parent in engineering is similar for both years. This could be due to the item used last year which combined careers in engineering and physical science. The null hypothesis is supported for students with a parent in engineering.

Having a parent employed in a business profession does not appear to have an effect on the student's interest in having a business career, with students only demonstrating a 103% change. This is was also found to be the case for last year, with students demonstrating a 109% change. Both changes are slightly over 100% but less than 115%, which indicates that there is only a slight increase in the likelihood of having an interest in a business career as a result of one of their parents having one. Thus, the null hypothesis is supported since having a parent in a business career did not significantly increase the child's interest in business in either year.

In 2005-2006, students with a parent in the medical practice field exhibited a significant decrease in interest in medical practice with a change of 61%. This contrasts greatly with the change of 119% that students with a parent in the medical practice field expressed in 2004-2005. Thus, last year's study found that students are more likely to aspire to enter the medical practice profession if one of their parents are in that profession, while this year's study found the opposite result. Thus, the null hypothesis is not supported for medical practice.

Having a parent working in the medical support profession is associated with an increase in interest of the students in both years of the study. These students expressed a 139% change this year and a 124% change last year, which both indicate a significant increase in the likelihood of that interest being associated with having a parent in a medical support profession. The null hypothesis is supported for medical support.

The parental occupation of teaching had a very significant effect on students' aspirations to follow in their parental footsteps this year. Having a parent employed in the teaching profession was associated with a 253% change in the student's likelihood of having an interest in pursuing a teaching career. Last year's affect was not nearly as great, but there was a decrease in the overall proportion of aspirants to teaching this year. The percentage of students who have a teacher as a parent this year is comparable to last year, and this year in the smaller pool those with parental role models loomed larger. Last year's study found a 137% change toward high interest in teaching of those students who have at least one parent that is a teacher compared to the larger sample. The null hypothesis is supported since both changes are over 115%.

Students who have a parent who has a trade career are more likely to show an interest in that career than the average students. The change in the percentage of students interested in trade careers with a parent employed in a trade profession as compared to the overall percentage of interested students is 170% this year and 135% last year. Thus, both changes are over 115% and the null hypothesis is supported.

Overall, nearly all of the analyzed parental careers are associated with an increase in interest in their children's probability of expressing interest in entering the same career. This finding is true for engineering, medical support, teaching, and trade. Business, however, displayed so slight an increase in likelihood of interest in the children's career aspirations that it may not be there at all. The high proportion of students interested in business in the overall pool of students, though, could explain this finding. This finding did replicate in both years of the study. Surprisingly, though, students who have a parent employed in a medical practice career expressed a very low interest in pursuing a medical practice career themselves as compared to the overall proportion of students interested in this career. This is the only analyzed career that did not support the null hypothesis by replicating from last year.

In future revisions of the survey, the data analysis team would recommend that respondents be given a choice of careers to select for their parents' occupations rather than simply having it be a write-in response. This would cause the students to determine which careers best describe their parents' careers rather than allowing them to write something that is fairly ambiguous and hard for the coders to deal with. This would also allow for a closer study into the effect of the parental occupation on each career interest. Many students did not fill in the parental occupation section of the survey and many students filled in the names of their parents so there was confusion surrounding this item. Modifying the survey to a question with multiple choices rather than a fill-in the blank should allow for a better response rate and more accurate results.

4. Applications of the survey

Among the various potential applications for this survey, two of the most successful deal with women interested in political and engineering/science careers, respectively. Several other potential applications of the survey are also suggested, although there was not time for these to be implemented during the course of this project.

4.1. Young Woman of Consequence Award

One of the main applications for this survey now and for future years is for finding candidates for the Annual Young Woman of Consequence Award which is sponsored by the ACSW (Advisory Committee on the Status of Women). This award is presented to a female high school student in Worcester who has expressed an interest in political action or social service and is very involved in school and in the community. The student should demonstrate leadership skills, which are especially evident in the extracurricular activities portion of the survey. Applications for this award include a personal statement, a list of extracurricular activities, a transcript, and a letter of recommendation.

The career aspirations survey was used to help identify candidates to invite to compete for this award. Female students who indicated a high interest (selected a 4) in city administration, elected political office, government service or administration, or international politics were selected as candidates. Also, female students who indicated leadership skills through the extracurricular activities portion of the survey were also selected as candidates. Unfortunately, due to the delay in the distribution of the surveys to the public high schools, potential junior applicants were not identified and notified in time to apply for the award. The candidates identified using this survey, though, could be contacted next year to apply for the award. It normally for to a senior and there is plenty of time to contact the promising students in time for the 2006-2007 academic year, when they will be seniors.

4.2. *FACES*@WPI

Last year's research team, consisting of Laura Handler and Patrick Hogan, developed the FACES@WPI (Females Aspiring to Careers in Engineering and Science) program. This program is designed for female junior students who attend a Worcester Public High School and are very interested in engineering and physical science careers. These female students came to WPI on April 7, 2006 for approximately 4 hours. The program includes an admissions information session for WPI, Holy Cross, and Clark Universities. Then, the female students are taken on tours of the various laboratory facilities that WPI offers to its students. In order to encourage interest in engineering and science careers, these female students were given demonstrations of engineering-related projects. Then, females in the engineering profession gave presentations to the students. Finally, these high school students ate lunch with current female WPI students.

The program was very successful last year, and many of the guidance counselors were very excited about the opportunity to send female juniors to this program again this year. The aspirations survey was used to identify female juniors who indicated a 4 in either engineering or physical science. The list of student ID numbers matching the criteria were sent to each of the Worcester Public High Schools. The larger Worcester Public High Schools (North, South, Doherty, and Burncoat) were allowed to send up to 7 students to the program and the other schools (A.L.L., University Park, and Worcester Vocational) were allowed to send up to 4 students. Unfortunately, the data analysis team was not able to participate in the actual program due to time conflicts, but it was intended as a females monitoring females activity, so we were not needed. There is some speculation about whether the high school would want to continue the event if they did not have the survey to identify the interested juniors. The guidance councilors like the program, but dislike administering the survey, so they are probably going to try to operate without it next year. The question is whether they will miss some of the students who would have benefited from it with a bit of encouragement.

4.3. Future Applications of the Survey

The ACSW last year showed interest in organizing a program for males interested in going into a female-dominated career, such as nursing, teaching or social services. This survey would allow us to effectively find these candidates to conduct such a program. Also, to supplement such a study the future research teams could possibly incorporate a BEM sex role section on the survey. The BEM survey could provide research teams with some insight on the masculinity or femininity of students' self image. With this data we could find candidates who may or may not have thought of nursing or teaching as a possible career for them.

The BEM survey could also provide interesting analysis for future research teams. Research teams could look into analyzing the masculinity or femininity of students versus their career choices and see if findings replicate from year to year. It would be interesting to see, at the level of whole schools, which schools are most heavily populate with the more feminine and more masculine students and see how these proportions change from year to year.

Apart from the female students which ACSW shown interest in providing programs to, our survey could potentially be used to help all students who need help figuring out their career plans. One of the ways which this survey could provide help is by administering the survey to sophomores. Getting the data from sophomores would allow future research teams an extra year to provide important career help feedback to students. This research team looked into comparing sophomore data with junior data at various schools. This was done to see if asking such career related questions to sophomores would be useful in analysis. If the data is useful in analysis we can administer the survey sophomore or junior year with little change to our results. If the data is not useful in analysis then we cannot administer the survey sophomore year because of the lack of reliability in the data. This analysis was intended to set the stage for a shift from the desire of the ACSW to get stable descriptive data to assess the situation to an emphasis on programs to help students. Guidance departments in high schools are probably more interested in the latter, and the program will not continue with their support.

Once data is gathered on sophomores, a future team can restudy them as juniors and look at the data quality and stability issue in more detail. One can then closely analyze their career related concerns with their career interests and provide helpful feedback on the types of things they should prepare for in junior year. For instance, if a student is extremely interested in

engineering but has doubts about how to pursue their ambitions, a program designed to provide resources such as a junior year to senior year course schedule for engineering college preparation, is not hard to envision. If the student has concerns about financing a college education one can provide information on local and national scholarships they can use to get money for school.

Once of the things future research groups could do is see how the data compares to other schools nationally. It would be interesting to see how many of the students in Worcester public schools aspire to different fields compared to those coming from rural areas, suburban areas and other regions of the country. It would also be interesting to see how this ranking fluctuates year to year and analyze if it is due to fluctuation in the job market. As the survey progresses into maturity, we could also see how the data fluctuates with the changing priorities of city or school administrations.

This survey could be used as a catalyst to build a stronger relationship between WPI and the Worcester Public School system. As the survey improves over the years there will be more interest in providing programs for respondents to come to WPI. If WPI and Worcester maintain a strong relationship, there could potentially be an increasing enrollment rate of WPI students from Worcester. WPI could also use the career aspirations data as a useful utility to see what types of careers Worcester students want to study. With that data WPI can effectively determine the types future major programs they should develop to attract potential students to the school. If during 5 years of survey data WPI observes that students have a growing interest in nursing, then WPI can use that information to consider establishing a nursing program as part of an effort to increase female enrollment. If the females all start aspiring to be doctors, a premed program would be more appropriate.

Guidance councilors at Worcester public schools also may or may not be aware of all the majors of study provided at WPI. Using the survey to establish a relationship between the organizations can provide information to guidance councilors on potential majors of study at WPI which they may or may not have known about. For instance, if a student is interested in becoming a math teacher, guidance councilors may or may not know that WPI has a Master of Mathematics for Educators program. Providing information on the types of programs at WPI to guidance based on survey results could better help students, especially the students who do not want to travel far for college. If based on the survey there is an increase in the popularity on

becoming a teacher, this could convince WPI to provide teaching programs in all types of studies and not just mathematics.

There could also be possible information on major programs in other schools in Worcester that could be provided to guidance councilors based on the survey results. The overall goal to achieve with these concepts is not simply to market the colleges around Worcester but to help out guidance councilors and WPS students by providing important career information in which they may not have known about without the help of the survey. A college showing interest in a student who did not know they were promising can be a powerful incentive to decide to go to college – and search out opportunities beyond those available locally.

5. Overall Conclusions

5.1. Discussion of Results

Using the database of students collected from the seven Worcester Public High Schools, the data analysis team was able to examine findings from the 2005-2006 survey and compare them with those of the 2004-2005 survey in order to determine if the results from the original aspirations survey replicated. A successful replication effort provides significantly more confidence in the findings and the results are more meaningful. Due to the take-home distribution method of this survey at some schools this year, data sets collected at some schools did not achieve the 50% response rate goal that was set forth at the beginning of this project. The data sets collected at North and South High Schools had response rates lower than 50%, which means that these data sets probably are not representative of the total population of students at these schools. The 40% response rate at South High School led to an analysis with some concerns about the quality of the data, but the 27% response rate at North High School raises serious issues of concern about the reliability of the findings from this school. Consequently, some of the findings of this project are less reliable than the findings from the previous year and are a shaky basis for drawing valid conclusions. Discrepancies between the two data sets are to be expected, but if they are limited to North High School, those from the prior year's data collection are probably an accurate guide.

The overall male-to-female ratios of students with high interest in each career field uses the entire data sets separated only by gender, so there is much less concern about the validity of these findings (in which North and South High Schools have a dilute effect) than of other portions of the study that required analysis of the data from separate schools in isolation. For the occupational interest areas that were not altered between the two surveys such as teaching, business, trade, law, service industry, social service, and civil service, the gender ratios remained consistent across the two years of data. For the occupational interest areas that were modified in the 2005-2006 study, the gender ratios of students with high interest are somewhat more varied but not inconsistent with the prior wording.

In both data sets, males are more interested in engineering than females. However, in the second survey, the physical science career interest was listed separately and the ratio of students

with high interest in physical science was quite different from that of engineering. The proportion of students with high interest in physical science is nearly equal between the two genders, with females indicating a slightly higher proportion interested than was found for the males. The gender ratios of students interested in computers and information technology remain similar between both surveys even though the categories were separated in this year's survey, with male students expressing nearly three times the interest in these careers as female students.

One of the most surprising findings of the 2004-2005 study was the high proportion of females interested in all medical careers. Approximately 25% of female students in 2004-2005 expressed a high interest in medical careers, and that percentage actually increased to 33% this year. Approximately 80% of students highly interested in medical careers are females.

Last year, there was a fairly equal proportion of students of each gender interested in careers relating to art. Separating this "art" career interest into "visual," "performance," and "musical" arts produced some noticeably skewed gender ratios. Males appear to be more interested in musical arts than females, while females are disproportionately interested in the performance and visual arts. The distribution of interest in careers relating to media is fairly even between the two genders with an approximate 1:1 gender ratio.

The overall low interest of the student body in all political careers listed is consistent in both data sets, although the list of alternative political career paths did change. Last year's data seemed to indicate a nearly equal interest (3:2 male-to-female ratio) in political careers for both genders. The improved categories this year indicate that males have an equal interest level in several categories of politics while females are more interested in international politics as compared to the other more local and domestic political careers. Hence, politics as a whole appears to be more interesting to males and the categories last year were inadvertently biased, producing a blurred picture.

The data analysis team is confident about the reliability of the gender-comparison findings due to the large sample used in both studies. Likewise, the post-graduation and career-related concerns by gender replicated fairly well between the two studies with the exception of plans to work after graduating, for which there was a large increase in the 2005-2006 data set. Very few students selected work as their only plan following high school, while many students plan to work and further their education, which was a rarer combination the prior year. This discrepancy in the student interpretation of the work and college options in the same survey item

between the two years is difficult to explain, although it may be related to the wording of the surrounding questions. In any case, one can see what happened and properly interpret the finding by combining categories. Thus, the evidence is that the data have largely replicated with only a few items indicative of things that may have changed. There is no evidence that the items are unstable due to the fluidity of student aspirations at this age.

The analysis of career interest by ethnicity raises more concerns about the reliability of findings based on this data set. Some of the ethnicities account for a small proportion of the overall sample, such as Asian and African American students representing 10% and 13% of the sample, respectively. Thus, slight variations in interest in these student clusters can cause fairly large differences in the percent interests for the various ethnicities when they are compared. The distribution of students with high interest in each career does not replicate between the two data sets. The data analysis team is unable to determine if this indicates that an ethnicity does not generally affect a student's career interest or if the small sample size of some ethnicities skews the overall results, but the team suspects the latter. Fad and fashion is particularly likely to destabilize aspirations in upwardly mobile ethnic communication clustered disproportionately in a given high school. This clustering does occur in Worcester, and the two ethnic clusters most affected are clustered at South High School (Hispanic) and North High School (Asian) where the 2005-2006 data set was most inadequate compared to the year before.

Certain trends do persist throughout both data sets which may indicate a substantial finding related to ethnicity. Throughout both studies, Asian students have indicated a disproportionately high interest in technical careers, including engineering, physical science, computers, and information technology. Hispanic students also demonstrate a similar trend, although to a lesser degree. Another trend apparent in both years of the study is that African American students indicated a disproportionately high interest in law and medical careers. Conversely, Asian students have indicated a relatively low level of interest in law careers in both years. Overall, though, the effects of ethnicity on a student's career aspirations do not appear to be consistent and meaningful when comparing the 2004-2005 and 2005-2006 sets of data. By contrast, the post-graduation plans and career-related concerns by ethnicity do replicate well between the two studies with the exception of work, once again. They are both reliable and policy relevant for high school guidance offices. Asian students demonstrate a high level of concern in nearly all categories of career-related concerns. Hispanic students also demonstrate a

relatively high level of concern, although less concern than Asian students. Caucasian and African American students indicate an average concern in the various categories.

The analysis of the effectiveness of the small school programs in the Worcester Public High Schools is affected by our concerns about the quality of the data sets at some of the schools. The response rates at North and South High Schools are both below 50%, which may severely impact the findings at these schools. It is possible that samples from these schools are not representative of the overall population of juniors at the school. For example, the juniors at North High School indicated a high interest in medical careers which matches one of their small school programs. However, this disproportionately high level of interest may be a result of the sample containing an unusually large proportion of students in that small school. Overall, though, the distribution of students with a high interest in the different occupation interest areas appears to be unrelated to the small school programs.

The most effective small schools in terms of attracting students or stimulating interest in an area of specialty are the two small schools at Worcester Vocational High School that offer programs relating to trade. The respondents at Doherty also exhibit a higher probability of interest in engineering careers as compared to the other schools, which indicates that the Engineering and Technology Academy may be successful in these terms. The medical small school at North also appears to be effective, although this may be a result of problems with the sample at North.

The rest of the small schools, though, do not seem to cause an increase in interest of that career at their corresponding high school or attract those with that interest from other schools. This finding is generally true in both years of the study, and with the same exception at the trade schools at Worcester Vocational, which seem to be able to draw people, and the North and Doherty programs, which seem to stimulate the local population's interests. It is difficult to determine, however, if this consistent pattern in career interest whether or not the high school has a special program is a result of the survey methodology or if it truly reflects on the effectiveness of the programs implemented in the Worcester Public High Schools in terms of clustering the students with similar vocational interests. These findings may indicate that the school system has decided not to encourage wholesale movement of students between neighborhood schools despite having set up these specialized programs. This does raise the question of what an

Academy can do for the students attending other schools who are interested in its field of vocational specialization.

In order to determine if the data collected in sophomore year is comparable to the data collected in junior year, the data analysis team compared the sophomore and junior findings at both North and Doherty High Schools. This analysis raises concerns about the quality of the data sets, though, since the Doherty juniors are the only data set with a response rate above 50%. Thus, the Doherty sophomores and both North juniors and sophomores are not as well represented in this analysis, which can significantly influence results. Overall, though, the majority of the findings replicated between the sophomore and junior classes at Doherty and North. The problem is that some of the major discrepancies, like interest in engineering at Doherty, directly affect the areas which we are best able to develop programs for with help from WPI. There could be a real difference or a sampling vagary in this instance. If it is true that nearly twice as many sophomores as juniors are interested in engineering at the school with a program in that area, is it due to a better outreach and recruitment program one year than the other? If not, a case for early encouragement programs could be called for to catch the moment of greater popularity and local enthusiasm. Whether the same pattern holds at the other schools should settle the question of whether it has to do with local factors centered on the Engineering and Technology Academy outreach efforts.

The juniors expressed fairly similar interest levels to the sophomores in most occupational interest areas. Due to the weak response rates and relatively small sample sizes, fairly large variations are statistically consistent with similar interest levels between the classes. Further, the Doherty data set replicated better than the North data set and the junior response rate at Doherty was much better. This analysis demonstrates that the sophomore and junior data sets are similar enough that future studies involving the sophomores rather than the juniors should be considered as that would allow for two years to provide support. Were the school system to decide to carry out an annual survey of sophomores, the plan should be to do one more sophomore study first. This study should be one that collects data from sophomores at all of the Worcester Public High Schools. This would provide a larger sample with which stronger comparisons to the existing junior data could be made.

One potential concern about the aspirations of the sophomore class, however, is that they may not have considered their career aspirations as thoroughly as juniors before taking this

survey. Therefore, sophomores may be more likely to "create" their aspirations while taking the survey rather than indicating what aspirations they have considered before. This possibility is hard to exclude, but the fact that the distributions of students with a high interest in each field remained fairly similar in this study may indicate that it is not a problem. Since the sophomore data could be utilized to form groups with similar aspirations and help them as sophomores with class selections and college plans for two years of high school, the less reliable data base may be less important than the timely intervention that would be made possible. The data provided by the students who did not have clear career interests prior to taking the survey may actually benefit guidance departments the most. This survey instrument allows one to get at the strengths of interests in the various career fields. A student with no strong interest is in need of more guidance attention than one with a clear direction.

Although many of these analyses provide very interesting results for the ACSW, Worcester Public High School guidance counselors have thus far indicated that these results are not useful to them. They mentioned that this survey does not assist in helping them determine which college best suits a student's aspirations and desires. Many of the occupational interest areas do not directly aid in helping the guidance counselor with the student's selection of colleges. For example, the guidance counselors feel that it is too early to consider the career aspirations of law and medical practice since both programs require extensive graduate work after the fours years of undergraduate study in a pre-law or pre-medical program. This survey does not assist them in determining which area of undergraduate study would be the most beneficial for these students. Similarly, career aspirations such as physical science and computers are too broad, with nearly every college and university offering majors of study relating to these careers. Also, an interest in musical arts, for example, could culminate itself into studying music theory or music education at a liberal arts college or university, obtaining a minor in performance music, or studying at a music conservatory. It could even lead to a career relating to music technology. Thus, a section could be added to the survey, perhaps in place of the extracurricular activities, that would ask the student to specify which type of college he or she is thinking about or is most interested in thus far. If students are thinking of going to a state university, the guidance department could broaden their horizon and have the student also consider a smaller public or private university or a conservatory. Before the distribution of surveys in the following study, perhaps time could be spent with the guidance counselors in

revising the survey to be sure that it provides useful information to them. The approval process and response rates of the schools would also be improved if the guidance counselors had a stronger interest in getting the results of these surveys.

5.2. Conclusion

Overall, the replication study was successful in determining which portions of the findings were reliable based on the 2005-2006 and 2004-2005 studies. An improved version of the 2004-2005 survey was distributed to the students at each of the seven Worcester Public High Schools. Despite initial resistance to the survey distribution, a response rate of over 50% was attained at five of the seven high schools. A database of all of the respondents was created to allow for analysis between the two years of the study.

Replication studies were conducted concerning the distribution of students who were highly or very interested in the various occupational interest areas by gender and ethnicity. The gender ratios replicated very well between the two sets of data. In general, many of the gender ratio disparities that exist in the current workforce as a whole replicate themselves in both years of the high school aspirations data. However, there are indications of change as well. Female students do display an increased interest in some professional fields such as medicine, business, law, and physical science. The data analysis team is confident in these findings due to the strong replication between the two data sets. The analysis of career interest by ethnicity did not replicate as well. It appears that a student's ethnicity has only a minor influence on that student's career aspirations. Only a few trends of high interest by a particular ethnicity were apparent in both data sets. However, other items such as post-graduation plans or career-related concerns were consistent by ethnicity.

The effect of the small schools on the distribution of students with high interest in the various career fields was also analyzed. Very few of the small schools caused a significant increase in interest at the high school with a specialized program in that field. The Engineering and Technology Academy at Doherty and the trade small schools at Worcester Vocational caused significant increases in interest in engineering and trade, respectively. The other occupational interest areas, with the possible exception of the Medical Academy at North High

School, did not demonstrate distributions of interest that matched the small school programs. These findings appear in both years of the study and are replicated.

The data analysis team also compared the results of the juniors and sophomores at North and Doherty High Schools. If the sophomore class exhibits similar distributions of high interest levels in each career aspiration as their junior counterparts, then this survey could be distributed to future sophomores. This would allow for more time for programs designed to assist them with class selections and college concerns to have an effect. Overall, the results replicated very well between the two classes at both schools but interpretation was complicated by relatively low response rates. The data analysis team believes that it would be beneficial to consider distributing the survey to a larger sample of sophomores in a future study to allow for more accurate comparisons to the junior class if the school system decides to continue the survey program for its own purposes.

Results from the career aspirations survey were provided to identify candidates for the FACES@WPI program and the Young Woman of Consequence Award. The survey identified Worcester females with a high interest in engineering and science for the FACES@WPI program. Similarly, Worcester females with exemplary leadership skills and a high interest in politics were identified as candidates for the Young Woman of Consequence Award.

The replication study was found to be successful in achieving its goals. As expected, much of the career aspirations data replicated. This successful replication allows for a much higher level of confidence in the findings which can now be used for policy development. It would not have been appropriate to base policy on findings dealing with student aspirations while there were questions about the stability of students' plans and perceptions. Now it seems clear that these survey responses are meaningful and are not based solely on random noise that changes from year to year. Furthermore, the analysis of the sophomore data yielded encouraging results for those wishing the data was available earlier to help students in the sophomore class improve their chances of realizing their dreams. Overall, the findings of this study should be beneficial to the ACSW, Worcester Public High School Administration, and any future project groups called upon to develop programs to put such data to use to help the Worcester Public High School students.

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Appendix A : Aspirations Survey

Distributed Survey 2005-2006

Distributed Survey 2004-2005

Appendix A1: Distributed Survey 2005-2006

Appendix A2: Distributed Survey 2004-2005

Appendix B : Board of Education Data

Enrollment by Gender (2005-2006)

Enrollment by Ethnicity (2005-2006)

Appendix B1: Enrollment by Gender (2005-2006)

	Sample Male %	DOE Male %	Sample Female %	DOE Female %
A.L.L.	48.28%	52.12%	51.72%	47.88%
Burncoat	45.60%	49.47%	53.30%	50.53%
Doherty	46.51%	47.66%	53.49%	52.34%
North	40.00%	51.09%	56.00%	48.91%
South	43.70%	50.57%	51.11%	49.43%
UP	41.03%	48.26%	58.97%	51.74%
Voke	60.48%	55.22%	38.71%	44.78%
Totals	46.52%	50.63%	51.90%	49.37%

Table B.1: Enrollment by Gender

Appendix B2: Enrollment by Ethnicity (2005-2006)

	Sample #	Sample %	DOE %
African American	109	12.9%	12.5%
Asian	85	10.1%	8.0%
Caucasian	381	45.2%	44.3%
Hispanic	210	24.9%	33.0%
Other	57	6.8%	2.2%
Total	842	100.0%	100.0%

Table B.2: Enrollment by Ethnicity

Appendix C : Bureau of Labor Statistics Information

Bureau of Labor Statistics Current Population Survey (2005)

Appendix C1: Bureau of Labor Statistics Current Population Survey

Appendix C2: Occupational Interest Area Correlations

- Teaching
  - Education, training and library occupations
- Engineering/Physical Science
  - Architecture and engineering occupations
  - Selected Life, physical, and social science occupations
    - Biological Scientists
    - Chemists and materials scientists
    - Environmental scientists and geoscientists
    - Chemical technicians
- Computers/Information Tech
  - Computer and mathematical occupations
- Business
  - Management, business, and financial operations occupations
- Trade
  - Construction and extraction occupations
  - Installation, maintenance and repair occupations
- Medical Practice
  - Selected Healthcare practitioner and technical occupations
    - Physicians and Surgeons
    - Emergency medical technicians and paramedics
  - Selected Life, physical and social scientists
    - Medical Scientists
    - Psychologists
- Medical Support
  - Selected Healthcare practitioner and technical occupations
    - Physician assistants
    - Registered nurses
    - Clinical Laboratory technologists and technicians
    - Diagnostic related technologists and technicians
    - Health diagnosing and treating practitioner support technicians
    - Licensed practical and licensed vocational nurses
    - Medical records and health information technicians
  - Healthcare support occupations

- Medical Other
  - Selected Healthcare practitioner and technical occupations
    - Dieticians and nutritionists
    - Pharmacists
    - Occupational Therapists
    - Physical therapists
    - Respiratory therapists
    - Speech-Language Pathologists

- Law
  - Selected Legal Occupations
    - Lawyers
    - Judges, magistrates, and other judicial workers
    - Paralegals and legal assistants
- Art
  - Selected Arts, design, entertainment sports and media occupations
    - Artists and related workers
    - Designers
    - Writers and authors
    - Photographers
- Visual Arts
  - Selected Arts, design, entertainment sports and media occupations
    - Artists and related workers
    - Designers
- Musical Arts
  - Selected Arts, design, entertainment sports and media occupations
    - Musicians, singers, and related workers
- Media
  - Selected Arts, design, entertainment sports and media occupations
    - Producers and directors
    - News analysts, reporters and correspondents
    - Public relations specialists
    - Editors
    - Writers and authors
    - Broadcast and sound engineering technicians and radio operators
    - Photographers
- Service Industry
  - Selected Management occupations
    - Property, real estate, and community association managers
    - Lodging managers
  - Selected Personal care and service occupations
    - Hairdressers, hairstylists, and cosmetologists
  - Selected Sales and related occupations
    - Counter and retail clerks
    - Retail salespersons
    - Travel agents
    - Real estate brokers and sales agents
- Food Service Industry
  - Selected Management occupations
    - Food service managers
  - Food preparation and serving related occupations
- Social Services
  - Selected Community and social services occupations
    - Counselors

        - Social Workers
        - Miscellaneous community and social service specialists
- Civil Services
    - Selected Protective service occupations
        - First line supervisors/managers of police and detectives
        - Fire fighters
        - Bailiffs, correctional officers, and jailers
        - Detectives and criminal investigators
        - Police and sheriff's patrol officers
    - Selected Office and administrative support occupations
        - Postal service clerks
        - Postal service mail carriers
        - Postal service mail sorters, processors, and processing machine operators

Appendix D : Data

Data Regarding Gender, High Interest

Data Regarding Ethnicity, High Interest

Data Regarding Interest by Schools, % Difference

Data Regarding Sophomores, High Interest

Concurrent Interests

Career Interests by Parent Occupation

Data Regarding Gender, Concerns

Data Regarding Gender, Post-Graduation Plans

Appendix D1: Data Regarding Gender, High Interest

2005-2006 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	14	3.6%	35	8.1%	49	5.9%
Engineering	91	23.0%	20	4.6%	111	13.4%
Physical Science	17	4.3%	23	5.3%	40	4.8%
Computers	73	18.6%	29	6.7%	102	12.4%
IT	58	14.7%	21	4.9%	79	9.6%
Business	100	25.3%	90	20.8%	190	23.0%
Trade	81	20.5%	14	3.2%	95	11.5%
Medical Practice	35	8.9%	145	33.6%	180	21.8%
Medical Support	14	3.5%	129	29.9%	143	17.3%
Medical Other	24	6.1%	114	26.4%	138	16.7%
Law	37	9.4%	62	14.4%	99	12.0%
Performance Art	23	5.8%	92	21.3%	115	13.9%
Visual Art	32	8.1%	99	22.9%	131	15.8%
Musical Art	61	15.4%	61	14.2%	122	14.8%
Media	36	9.1%	51	11.8%	87	10.5%
Food Service	41	10.4%	43	10.0%	84	10.2%
Service Industry	14	3.5%	45	10.5%	59	7.2%
Social Service	11	2.8%	61	14.2%	72	8.7%
Civil Service	58	14.7%	23	5.3%	81	9.8%
City Admin.	13	3.3%	10	2.3%	23	2.8%
Elected Political Office	17	4.3%	8	1.9%	25	3.0%
Government Service	20	5.1%	10	2.3%	30	3.6%
International Politics	16	4.1%	22	5.1%	38	4.6%

Table D.1: Frequency of High Interest by Gender (2005-2006 Juniors)

2004-2005 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	17	4.0%	41	9.0%	58	6.0%
Eng/Phys. Science	80	16.0%	15	3.0%	95	10.0%
Computers/IT	92	18.7%	23	5.0%	115	12.1%
Business	121	24.6%	112	24.6%	233	24.6%
Trade	93	18.9%	16	3.5%	109	11.5%
Medical Practice	32	6.5%	111	24.3%	143	15.1%
Medical Support	25	5.1%	112	24.6%	137	14.5%
Law	53	11.0%	73	16.0%	126	13.0%
Art	89	18.0%	95	21.0%	184	19.0%
Service Industry	23	5.0%	82	18.0%	105	11.0%
Social Service	14	3.0%	86	19.0%	100	11.0%
Civil Service	61	12.0%	16	4.0%	77	8.0%
City Admin.	20	4.0%	7	2.0%	27	3.0%
Political Office	16	3.0%	12	3.0%	28	3.0%

Table D.2: Frequency of High Interest by Gender (2004-2005 Juniors)

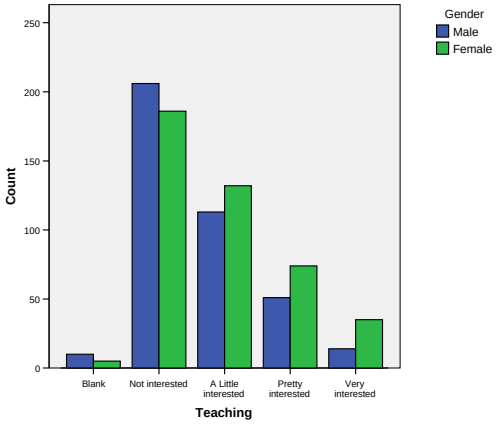

Figure D.1: Teaching Interest by Gender

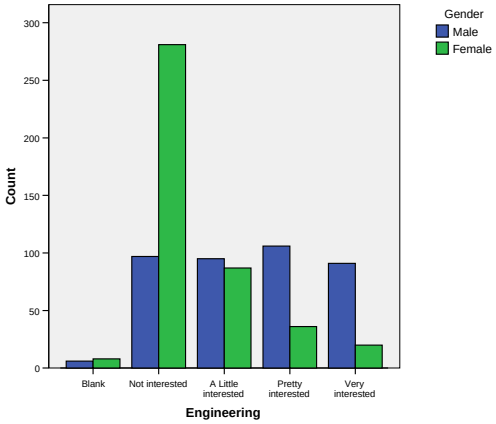

Figure D.2: Engineering Interest by Gender

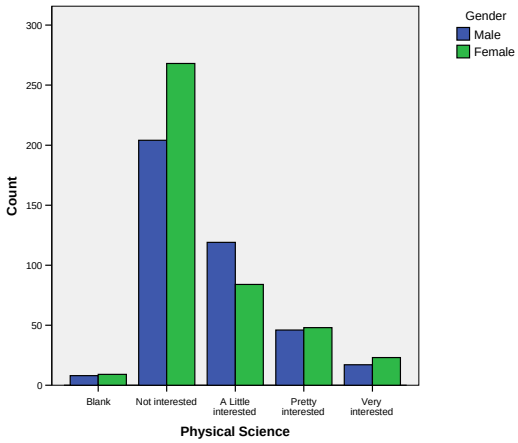

Figure D.3: Physical Science Interest by Gender

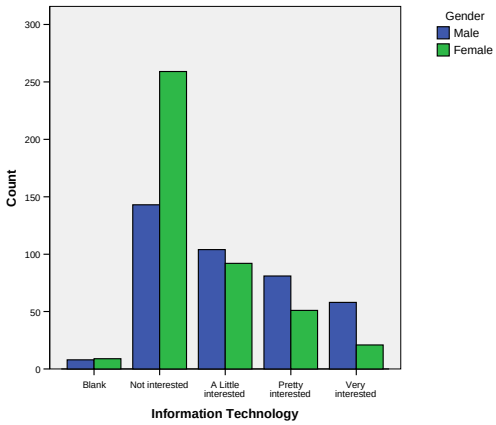

Figure D.4: IT Interest by Gender

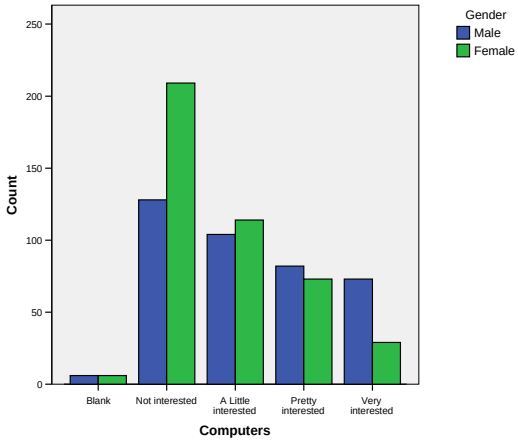

Figure D.5: Computers Interest by Gender

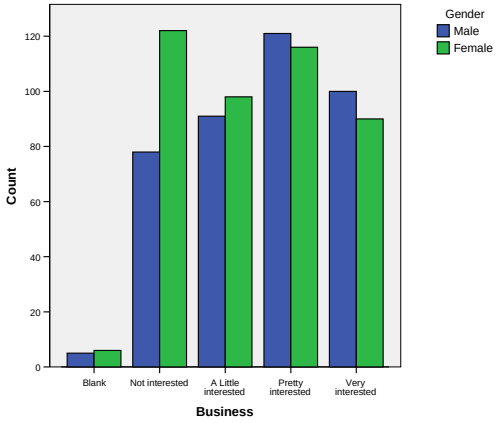

Figure D.6: Business Interest by Gender

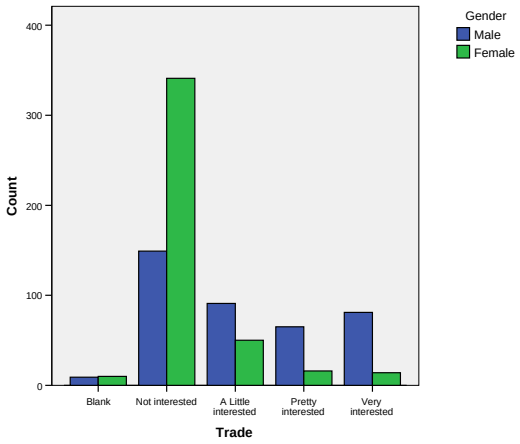

Figure D.7: Trade Interest by Gender

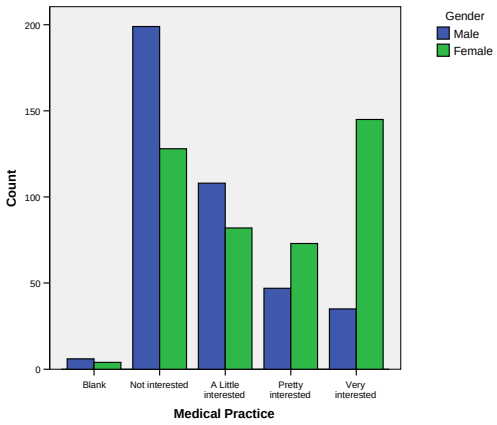

Figure D.8: Medical Practice Interest

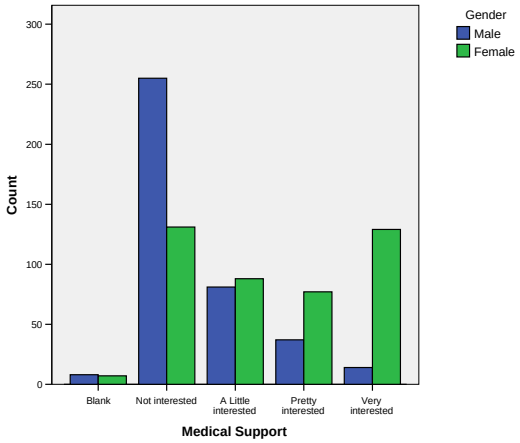

Figure D.9: Medical Support Interest

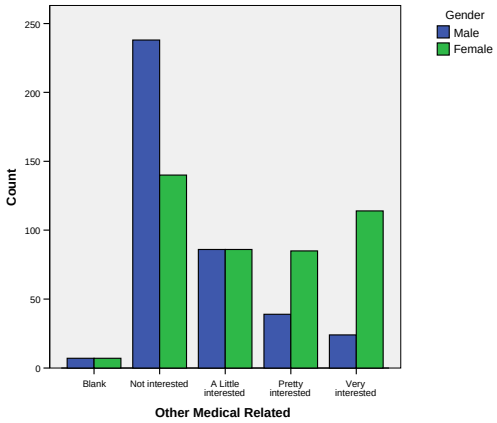

Figure D.10: Other Medical Interest

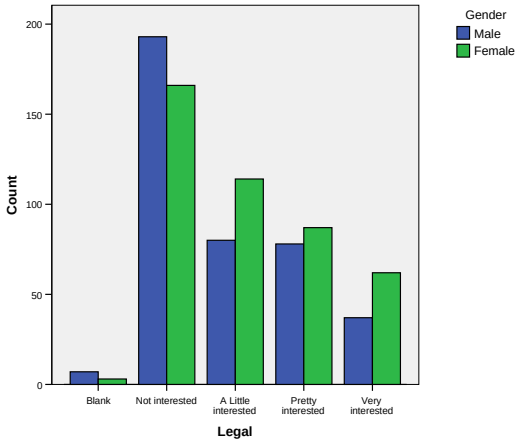

Figure D.11: Legal Interest by Gender

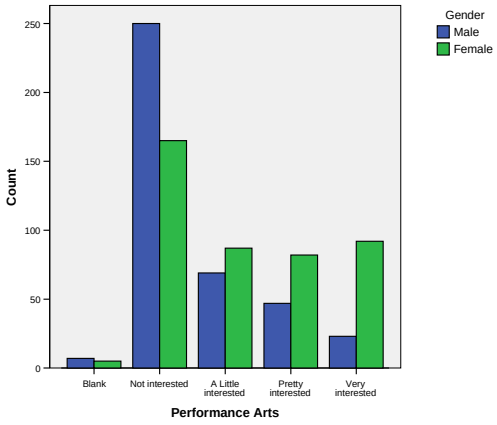

Figure D.12: Performance Arts Interest

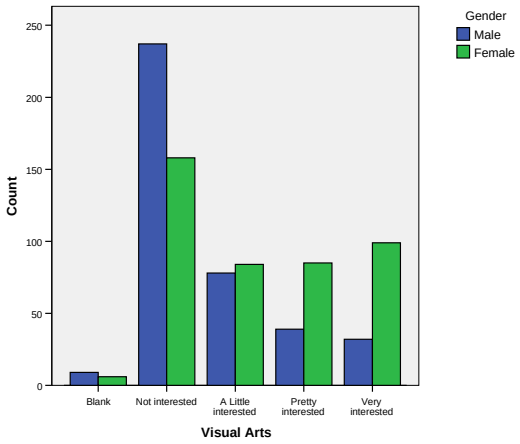

Figure D.13: Visual Arts Interest

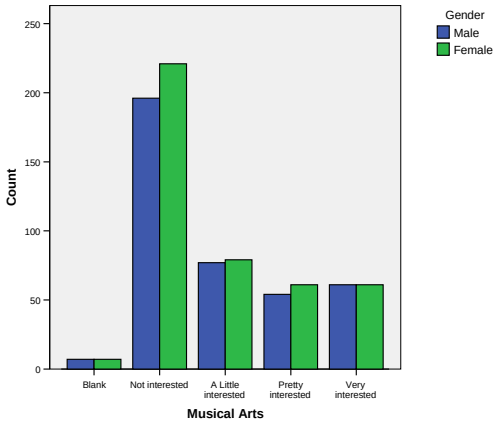

Figure D.14: Musical Arts Interest

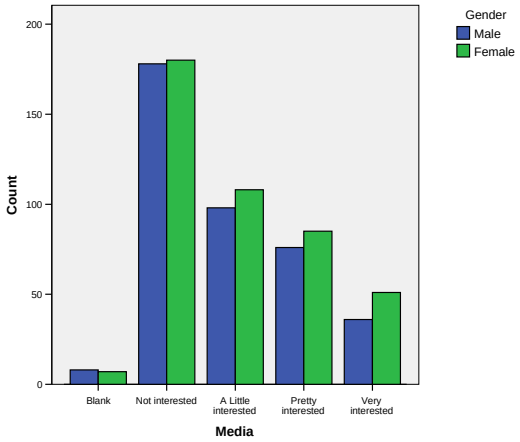

Figure D.15: Media Interest

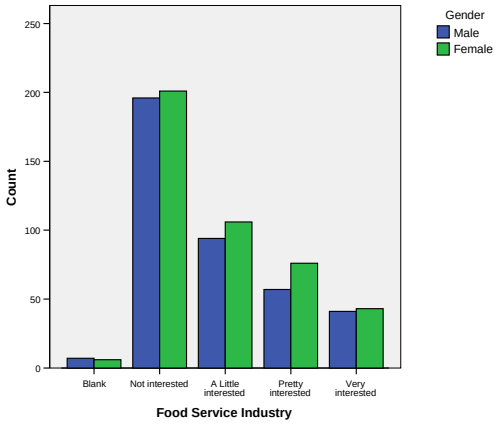

Figure D.16: Food Service Industry Interest

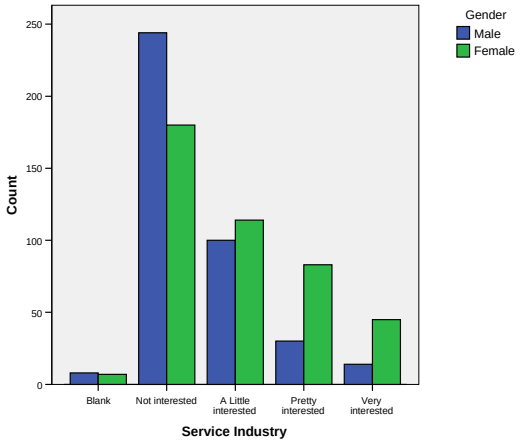

Figure D.17: Service Industry Interest

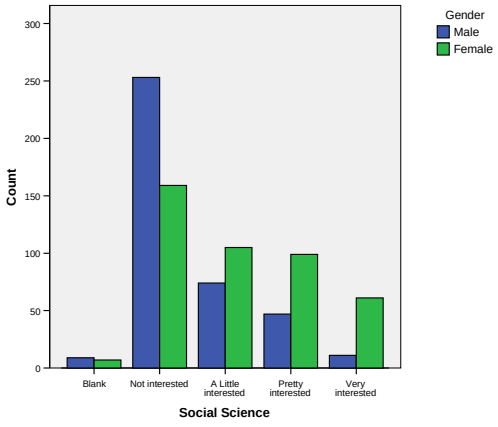

Figure D.18: Social Services Interest

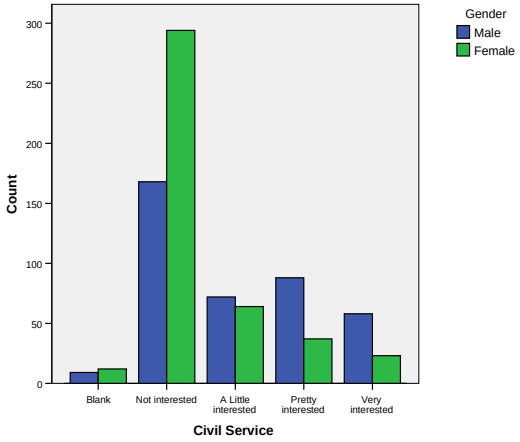

Figure D.19: Civil Service Interest

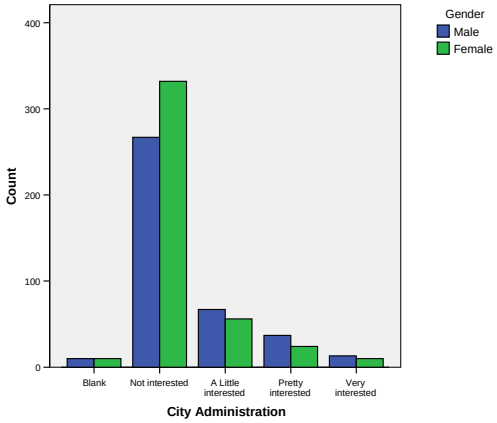

Figure D.20: City Administration Interest

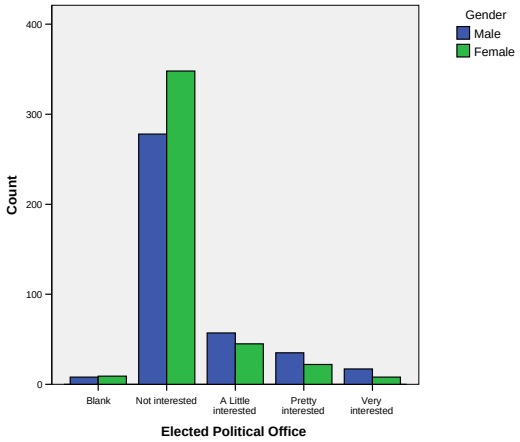

Figure D.21: Elected Political Office Interest

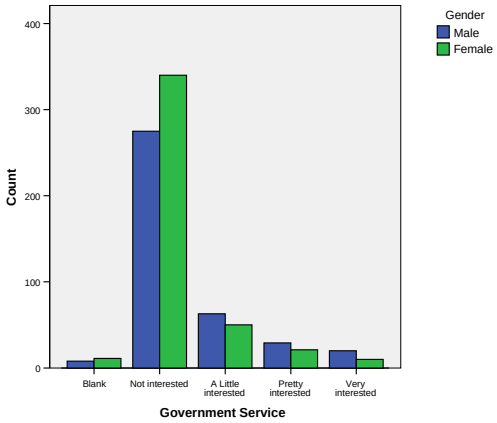

Figure D.22: Government Service Interest

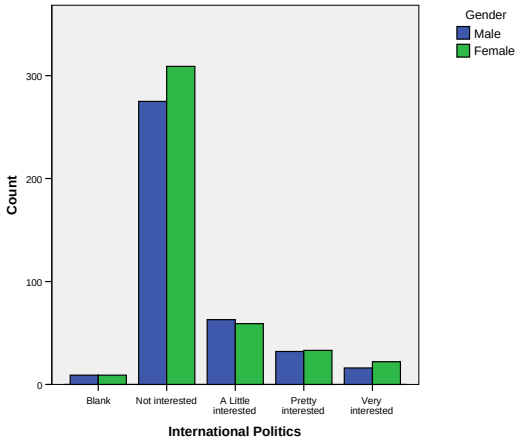

Figure D.23: International Politics Interest

Appendix D2: Data Regarding Ethnicity, High Interest

High Interest in Engineering	Ethnicity %	! Ethnicity %	|Difference|
African American	4.60%	14.80%	69.00%
Asian	21.20%	12.40%	70.40%
Caucasian	12.10%	14.60%	17.30%
Hispanic	17.10%	12.00%	42.90%

Table D.3: Engineering Interest

High Interest in Teaching	Ethnicity %	! Ethnicity %	|Difference|
African American	3.70%	6.40%	42.30%
Asian	2.40%	6.40%	63.40%
Caucasian	7.30%	4.70%	56.30%
Hispanic	6.20%	5.90%	4.70%

Table D.4: Teaching Interest

High Interest in Physical Science	Ethnicity %	! Ethnicity %	|Difference|
African American	3.70%	4.40%	17.30%
Asian	5.90%	4.10%	42.00%
Caucasian	4.50%	4.20%	6.00%
Hispanic	3.80%	4.50%	15.80%

Table D.5: Physical Science Interest

High Interest in IT	Ethnicity %	! Ethnicity %	|Difference|
African American	5.50%	9.90%	44.50%
Asian	17.60%	8.30%	113.00%
Caucasian	6.30%	12.10%	48.10%
Hispanic	13.30%	7.80%	70.40%

Table D.6: IT Interest

High Interest in Computers	Ethnicity %	! Ethnicity %	|Difference|
African American	11.00%	12.70%	13.50%
Asian	18.80%	11.70%	60.70%
Caucasian	9.40%	15.30%	38.40%
Hispanic	16.20%	11.10%	45.50%

Table D.7: Computers Interest

High Interest in Business	Ethnicity %	! Ethnicity %	|Difference|
African American	24.80%	22.60%	9.40%
Asian	30.60%	22.00%	39.00%
Caucasian	19.90%	25.70%	22.50%
Hispanic	24.30%	22.40%	8.30%

Table D.8: Business Interest

High Interest in Trade	Ethnicity %	! Ethnicity %	|Difference|
African American	8.30%	11.80%	30.20%
Asian	7.10%	11.90%	40.50%
Caucasian	13.10%	9.70%	35.90%
Hispanic	11.40%	11.30%	1.10%

Table D.9: Trade Interest

High Interest in Medical Practice	Ethnicity %	! Ethnicity %	|Difference|
African American	33.00%	19.50%	69.10%
Asian	27.10%	20.70%	30.60%
Caucasian	16.50%	26.00%	36.40%
Hispanic	21.90%	21.20%	3.20%

Table D.10: Medical Practice Interest

High Interest in Medical Support	Ethnicity %	! Ethnicity %	|Difference|
African American	23.90%	15.50%	53.60%
Asian	17.60%	16.60%	6.50%
Caucasian	11.00%	22.00%	50.00%
Hispanic	22.90%	14.40%	58.30%

Table D.11: Medical Support Interest

High Interest in Other Medical	Ethnicity %	! Ethnicity %	|Difference|
African American	23.90%	15.40%	55.00%
Asian	20.00%	16.10%	23.90%
Caucasian	12.30%	20.50%	40.00%
Hispanic	19.00%	15.70%	21.70%

Table D.12: Other Medical Interest

High Interest in Legal	Ethnicity %	! Ethnicity %	|Difference|
African American	17.40%	10.90%	59.20%
Asian	5.90%	12.60%	53.20%
Caucasian	8.10%	15.30%	47.00%
Hispanic	18.10%	9.60%	89.20%

Table D.13: Legal Interest

High Interest in Performance Arts	Ethnicity %	! Ethnicity %	|Difference|
African American	11.00%	13.80%	20.00%
Asian	9.40%	13.90%	32.10%
Caucasian	12.60%	14.10%	10.70%
Hispanic	17.60%	11.80%	49.00%

Table D.14: Performance Arts Interest

High Interest in Visual Arts	Ethnicity %	! Ethnicity %	|Difference|
African American	12.80%	16.40%	21.80%
Asian	11.80%	16.40%	28.40%
Caucasian	14.40%	17.30%	16.70%
Hispanic	21.90%	13.70%	59.40%

Table D.15: Visual Arts Interest

High Interest in Music	Ethnicity %	! Ethnicity %	|Difference|
African American	11.00%	15.10%	27.00%
Asian	8.20%	15.30%	46.10%
Caucasian	15.20%	13.90%	9.80%
Hispanic	17.60%	13.40%	31.60%

Table D.16: Musical Arts Interest

High Interest in Media	Ethnicity %	! Ethnicity %	|Difference|
African American	5.50%	10.90%	49.70%
Asian	5.90%	10.70%	45.10%
Caucasian	11.00%	9.40%	17.20%
Hispanic	12.90%	9.20%	39.50%

Table D.17: Media Interest

High Interest in Food Service	Ethnicity %	! Ethnicity %	|Difference|
African American	8.30%	10.80%	23.50%
Asian	18.80%	9.40%	99.60%
Caucasian	9.40%	11.40%	17.00%
Hispanic	10.00%	10.60%	5.70%

Table D.18: Food Service Interest

High Interest in Service Industry	Ethnicity %	! Ethnicity %	|Difference|
African American	7.30%	7.10%	3.40%
Asian	8.20%	7.00%	17.60%
Caucasian	5.50%	8.70%	36.40%
Hispanic	9.50%	6.30%	52.10%

Table D.19: Service Industry Interest

High Interest in Social Services	Ethnicity %	! Ethnicity %	|Difference|
African American	7.30%	8.90%	17.30%
Asian	8.20%	8.70%	5.50%
Caucasian	7.60%	9.70%	21.20%
Hispanic	11.40%	7.70%	49.40%

Table D.20: Social Services Interest

High Interest in Civil Services	Ethnicity %	! Ethnicity %	|Difference|
African American	4.60%	10.50%	56.30%
Asian	2.40%	10.60%	77.70%
Caucasian	11.80%	7.70%	53.90%
Hispanic	11.40%	9.00%	26.40%

Table D.21: Civil Service Interest

High Interest in City Administration	Ethnicity %	! Ethnicity %	|Difference|
African American	2.80%	2.20%	24.00%
Asian	2.40%	2.30%	2.90%
Caucasian	2.10%	2.50%	15.20%
Hispanic	2.40%	2.30%	5.30%

Table D.22: City Administration Interest

High Interest in Elected Politics	Ethnicity %	! Ethnicity %	|Difference|
African American	3.70%	3.00%	24.00%
Asian	3.50%	3.00%	17.60%
Caucasian	3.10%	3.00%	6.00%
Hispanic	2.40%	3.30%	27.90%

Table D.23: Elected Politics Interest

High Interest in Government Service	Ethnicity %	! Ethnicity %	|Difference|
African American	2.80%	3.60%	22.50%
Asian	4.70%	3.30%	43.20%
Caucasian	3.40%	3.50%	1.50%
Hispanic	3.30%	3.50%	4.20%

Table D.24: Government Service Interest

High Interest in International Politics	Ethnicity %	! Ethnicity %	|Difference|
African American	7.30%	4.10%	77.20%
Asian	5.90%	4.40%	32.80%
Caucasian	3.90%	5.20%	24.30%
Hispanic	3.80%	4.90%	21.80%

Table D.25: International Politics Interest

Appendix D3: Data Regarding Interest by Schools, % Difference

	Burncoat	Doherty	North	South	Voke
Teaching	18%	-10%	-12%	-51%	33%
Engineering	-5%	20%	-30%	-5%	-21%
Physical Science	10%	-14%	61%	4%	-3%
Computers	-42%	10%	-35%	32%	5%
IT	-36%	3%	0%	42%	-14%
Business	-2%	-16%	-36%	45%	12%
Trade	-52%	-22%	-18%	-35%	205%
Medical Practice	-4%	-16%	66%	9%	-11%
Medical Support	-7%	-12%	40%	12%	-2%
Medical Other	-2%	-10%	35%	-3%	-14%
Law	-7%	-15%	-55%	50%	36%
Performance Arts	-1%	-13%	-4%	23%	-1%
Visual Arts	-3%	-2%	-41%	8%	13%
Musical Arts	-10%	9%	-27%	7%	-6%
Media	-26%	5%	-87%	58%	10%
Service Industry	-17%	7%	-45%	-8%	45%
Social Service	-5%	3%	-23%	54%	-44%
Civil Service	-31%	1%	-17%	0%	51%
City Administration	-20%	28%	-100%	-19%	48%
Elected Political Office	-26%	31%	-55%	25%	9%
Government Service	-26%	31%	-55%	25%	9%
International Politics	-7%	6%	-44%	9%	2%

Table D.26: % Difference For Class of 2007

	Burncoat	Doherty	North	South	Voke
Teaching	33%	19%	0%	0%	-44%
Engineering and Physical Science	-13%	33%	-10%	0%	-25%
Computers/IT	-27%	24%	5%	0%	-31%
Business	0%	10%	-5%	-14%	19%
Trade	-40%	-24%	-55%	-28%	169%
Medical Practice	7%	-5%	25%	-18%	-12%
Medical Support	7%	-5%	20%	-5%	-12%
Law	7%	-5%	5%	-14%	25%
Art	20%	-10%	-10%	14%	-6%
Service Industry	27%	5%	-15%	-5%	0%
Social Service	0%	24%	5%	-9%	-31%
Civil Service	-27%	19%	-20%	-18%	44%
City Administration	7%	33%	-40%	-14%	13%
Elected Political Office	13%	38%	5%	-14%	-69%

Table D.27: % Difference For Class of 2006

Appendix D4: Data Regarding Sophomores, High Interest

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	35	26	8	4
% within gender	47.9%	35.6%	11.0%	5.5%
Female	44	31	23	6
% within gender	42.3%	29.8%	22.1%	5.8%
Total	79	57	31	10
% total	44.6%	32.2%	17.5%	5.6%

Table D.28: Teaching Interest at Doherty

	Not interested	**A Little Interested**	**Pretty Interested**	**Very Interested**
Male	42	14	7	4
% within gender	57.5%	19.2%	9.6%	5.5%
Female	31	10	7	2
% within gender	58.5%	18.9%	13.2%	3.8%
Total	73	24	14	6
% total	57.9%	19.0%	11.1%	4.8%

Table D.29: Teaching Interest at North

	Not interested	**A Little Interested**	**Pretty Interested**	**Very Interested**
Male	8	20	15	30
% within gender	11.0%	27.4%	20.5%	41.1%
Female	58	26	12	7
% within gender	56.3%	25.2%	11.7%	6.8%
Total	66	46	27	37
% total	37.5%	26.1%	15.3%	21.0%

Table D.30: Engineering Interest at Doherty

	Not interested	**A Little Interested**	**Pretty Interested**	**Very Interested**
Male	13	17	22	16
% within gender	17.8%	23.3%	30.1%	21.9%
Female	31	10	7	2
% within gender	58.5%	18.9%	13.2%	3.8%
Total	44	27	29	18
% total	34.9%	21.4%	23.0%	14.3%

Table D.31: Engineering Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	30	22	14	7
% within gender	41.1%	30.1%	19.2%	9.6%
Female	60	30	13	1
% within gender	57.7%	28.8%	12.5%	1.0%
Total	90	52	27	8
% total	50.8%	29.4%	15.3%	4.5%

Table D.32: Physical Science Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	17	15	6
% within gender	38.4%	23.3%	20.5%	8.2%
Female	32	11	5	2
% within gender	60.4%	20.8%	9.4%	3.8%
Total	60	28	20	8
% total	47.6%	22.2%	15.9%	6.3%

Table D.33: Physical Science Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	19	21	23	10
% within gender	26.0%	28.8%	31.5%	13.7%
Female	60	26	14	4
% within gender	57.7%	25.0%	13.5%	3.8%
Total	79	47	37	14
% total	44.6%	26.6%	20.9%	7.9%

Table D.34: IT Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	15	22	17	12
% within gender	20.5%	30.1%	23.3%	16.4%
Female	30	10	7	4
% within gender	56.6%	18.9%	13.2%	7.5%
Total	45	32	24	16
% total	35.7%	25.4%	19.0%	12.7%

Table D.35: IT Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	15	22	16	19
% within gender	20.8%	30.6%	22.2%	26.4%
Female	42	34	22	6
% within gender	40.4%	32.7%	21.2%	5.8%
Total	57	56	38	25
% total	32.4%	31.8%	21.6%	14.2%

Table D.36: Computer Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	14	15	20	18
% within gender	19.2%	20.5%	27.4%	24.7%
Female	23	9	13	6
% within gender	43.4%	17.0%	24.5%	11.3%
Total	37	24	33	24
% total	29.4%	19.0%	26.2%	19.0%

Table D.37: Computer Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	8	16	25	23
% within gender	11.1%	22.2%	34.7%	31.9%
Female	22	28	25	29
% within gender	21.2%	26.9%	24.0%	27.9%
Total	30	44	50	52
% total	17.0%	25.0%	28.4%	29.5%

Table D.38: Business Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	13	16	24	15
% within gender	17.8%	21.9%	32.9%	20.5%
Female	13	17	15	7
% within gender	24.5%	32.1%	28.3%	13.2%
Total	26	33	39	22
% total	20.6%	26.2%	31.0%	17.5%

Table D.39: Business Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	25	24	14	10
% within gender	34.2%	32.9%	19.2%	13.7%
Female	76	15	10	3
% within gender	73.1%	14.4%	9.6%	2.9%
Total	101	39	24	13
% total	57.1%	22.0%	13.6%	7.3%

Table D.40: Trade Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	18	14	9
% within gender	38.4%	24.7%	19.2%	12.3%
Female	40	7	2	1
% within gender	75.5%	13.2%	3.8%	1.9%
Total	68	25	16	10
% total	54.0%	19.8%	12.7%	7.9%

Table D.41: Trade Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	33	20	11	8
% within gender	45.8%	27.8%	15.3%	11.1%
Female	23	30	21	30
% within gender	22.1%	28.8%	20.2%	28.8%
Total	56	50	32	38
% total	31.8%	28.4%	18.2%	21.6%

Table D.42: Medical Practice Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	30	14	5	19
% within gender	41.1%	19.2%	6.8%	26.0%
Female	12	9	11	19
% within gender	22.6%	17.0%	20.8%	35.8%
Total	42	23	16	38
% total	33.3%	18.3%	12.7%	30.2%

Table D.43: Medical Practice Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	18	6	4
% within gender	61.6%	24.7%	8.2%	5.5%
Female	36	25	19	24
% within gender	34.6%	24.0%	18.3%	23.1%
Total	81	43	25	28
% total	45.8%	24.3%	14.1%	15.8%

Table D.44: Medical Support Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	12	5	12
% within gender	52.1%	16.4%	6.8%	16.4%
Female	13	11	10	18
% within gender	24.5%	20.8%	18.9%	34.0%
Total	51	23	15	30
% total	40.5%	18.3%	11.9%	23.8%

Table D.45: Medical Support Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	17	7	4
% within gender	61.6%	23.3%	9.6%	5.5%
Female	29	28	25	22
% within gender	27.9%	26.9%	24.0%	21.2%
Total	74	45	32	26
% total	41.8%	25.4%	18.1%	14.7%

Table D.46: Medical Other Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	10	6	11
% within gender	54.2%	13.9%	8.3%	15.3%
Female	16	12	12	11
% within gender	30.2%	22.6%	22.6%	20.8%
Total	55	22	18	22
% total	44.0%	17.6%	14.4%	17.6%

Table D.47: Medical Other Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	29	13	21	10
% within gender	39.7%	17.8%	28.8%	13.7%
Female	37	35	16	16
% within gender	35.6%	33.7%	15.4%	15.4%
Total	66	48	37	26
% total	37.3%	27.1%	20.9%	14.7%

Table D.48: Law Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	27	19	12	11
% within gender	37.0%	26.0%	16.4%	15.1%
Female	19	11	12	8
% within gender	35.8%	20.8%	22.6%	15.1%
Total	46	30	24	19
% total	36.5%	23.8%	19.0%	15.1%

Table D.49: Law Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	6	7
% within gender	61.6%	20.5%	8.2%	9.6%
Female	34	33	11	26
% within gender	32.7%	31.7%	10.6%	25.0%
Total	79	48	17	33
% total	44.6%	27.1%	9.6%	18.6%

Table D.50: Performance Arts Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	12	13	6
% within gender	52.1%	16.4%	17.8%	8.2%
Female	9	13	9	19
% within gender	17.0%	24.5%	17.0%	35.8%
Total	47	25	22	25
% total	37.3%	19.8%	17.5%	19.8%

Table D.51: Performance Arts Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	8	4
% within gender	61.6%	20.5%	11.0%	5.5%
Female	31	29	18	26
% within gender	29.8%	27.9%	17.3%	25.0%
Total	76	44	26	30
% total	42.9%	24.9%	14.7%	16.9%

Table D.52: Visual Arts Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	40	13	7	8
% within gender	54.8%	17.8%	9.6%	11.0%
Female	12	8	11	19
% within gender	22.6%	15.1%	20.8%	35.8%
Total	52	21	18	27
% total	41.3%	16.7%	14.3%	21.4%

Table D.53: Visual Arts Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	13	7	13
% within gender	54.2%	18.1%	9.7%	18.1%
Female	46	24	21	12
% within gender	44.7%	23.3%	20.4%	11.7%
Total	85	37	28	25
% total	48.6%	21.1%	16.0%	14.3%

Table D.54: Musical Arts Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	32	12	11	12
% within gender	44.4%	16.7%	15.3%	16.7%
Female	18	10	8	12
% within gender	34.0%	18.9%	15.1%	22.6%
Total	50	22	19	24
% total	40.0%	17.6%	15.2%	19.2%

Table D.55: Musical Arts Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	28	21	15	8
% within gender	38.9%	29.2%	20.8%	11.1%
Female	30	26	31	17
% within gender	28.8%	25.0%	29.8%	16.3%
Total	58	47	46	25
% total	33.0%	26.7%	26.1%	14.2%

Table D.56: Media Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	31	14	14	9
% within gender	42.5%	19.2%	19.2%	12.3%
Female	20	10	12	7
% within gender	37.7%	18.9%	22.6%	13.2%
Total	51	24	26	16
% total	40.5%	19.0%	20.6%	12.7%

Table D.57: Media Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	15	6	5
% within gender	63.4%	21.1%	8.5%	7.0%
Female	30	35	28	10
% within gender	29.1%	34.0%	27.2%	9.7%
Total	75	50	34	15
% total	43.1%	28.7%	19.5%	8.6%

Table D.58: Service Industry Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	13	7	3
% within gender	60.3%	17.8%	9.6%	4.1%
Female	18	10	15	7
% within gender	34.0%	18.9%	28.3%	13.2%
Total	62	23	22	10
% total	49.2%	18.3%	17.5%	7.9%

Table D.59: Service Industry Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	38	16	14	5
% within gender	52.1%	21.9%	19.2%	6.8%
Female	33	37	22	12
% within gender	31.7%	35.6%	21.2%	11.5%
Total	71	53	36	17
% total	40.1%	29.9%	20.3%	9.6%

Table D.60: Food Service Industry Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	27	21	14	8
% within gender	37.0%	28.8%	19.2%	11.0%
Female	17	14	11	8
% within gender	32.1%	26.4%	20.8%	15.1%
Total	44	35	25	16
% total	34.9%	27.8%	19.8%	12.7%

Table D.61: Food Service Industry Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	45	17	8	2
% within gender	62.5%	23.6%	11.1%	2.8%
Female	27	30	28	19
% within gender	26.0%	28.8%	26.9%	18.3%
Total	72	47	36	21
% total	40.9%	26.7%	20.5%	11.9%

Table D.62: Social Service Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	47	11	7	2
% within gender	64.4%	15.1%	9.6%	2.7%
Female	25	6	10	8
% within gender	47.2%	11.3%	18.9%	15.1%
Total	72	17	17	10
% total	57.1%	13.5%	13.5%	7.9%

Table D.63: Social Service Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	36	19	10	7
% within gender	49.3%	26.0%	13.7%	9.6%
Female	63	22	9	10
% within gender	60.6%	21.2%	8.7%	9.6%
Total	99	41	19	17
% total	55.9%	23.2%	10.7%	9.6%

Table D.64: Civil Service Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	39	14	12	5
% within gender	53.4%	19.2%	16.4%	6.8%
Female	36	10	2	2
% within gender	67.9%	18.9%	3.8%	3.8%
Total	75	24	14	7
% total	59.5%	19.0%	11.1%	5.6%

Table D.65: Civil Service Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	43	16	9	2
% within gender	60.6%	22.5%	12.7%	2.8%
Female	73	17	9	5
% within gender	70.2%	16.3%	8.7%	4.8%
Total	116	33	18	7
% total	66.3%	18.9%	10.3%	4.0%

Table D.66: City Administration Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	41	16	7	3
% within gender	56.2%	21.9%	9.6%	4.1%
Female	35	11	3	1
% within gender	66.0%	20.8%	5.7%	1.9%
Total	76	27	10	4
% total	60.3%	21.4%	7.9%	3.2%

Table D.67: City Administration Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	46	11	11	5
% within gender	63.0%	15.1%	15.1%	6.8%
Female	77	17	6	3
% within gender	74.8%	16.5%	5.8%	2.9%
Total	123	28	17	8
% total	69.9%	15.9%	9.7%	4.5%

Table D.68: Elected Political Office Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	9	9	5
% within gender	60.3%	12.3%	12.3%	6.8%
Female	41	7	0	2
% within gender	77.4%	13.2%	0.0%	3.8%
Total	85	16	9	7
% total	67.5%	12.7%	7.1%	5.6%

Table D.69: Elected Political Office Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	46	9	14	3
% within gender	63.0%	12.3%	19.2%	4.1%
Female	68	22	8	4
% within gender	66.0%	21.4%	7.8%	3.9%
Total	114	31	22	7
% total	64.8%	17.6%	12.5%	4.0%

Table D.70: Government Service Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	42	15	5	5
% within gender	57.5%	20.5%	6.8%	6.8%
Female	39	8	1	2
% within gender	73.6%	15.1%	1.9%	3.8%
Total	81	23	6	7
% total	64.3%	18.3%	4.8%	5.6%

Table D.71: Government Service Interest at North

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	43	15	12	3
% within gender	58.9%	20.5%	16.4%	4.1%
Female	72	18	9	5
% within gender	69.2%	17.3%	8.7%	4.8%
Total	115	33	21	8
% total	65.0%	18.6%	11.9%	4.5%

Table D.72: International Politics Interest at Doherty

	Not interested	A Little Interested	Pretty Interested	Very Interested
Male	44	10	5	8
% within gender	60.3%	13.7%	6.8%	11.0%
Female	41	7	0	2
% within gender	77.4%	13.2%	0.0%	3.8%
Total	85	17	5	10
% total	67.5%	13.5%	4.0%	7.9%

Table D.73: International Politics Interest at North

Appendix D5: Concurrent Interests

	Engineering	Overall	Change
Engineering	NA	13.4%	NA
Business	26.1%	23.0%	113.5%
Medical Practice	8.1%	21.8%	37.2%
Medical Support	1.8%	17.3%	10.4%
Medical Other	5.4%	16.7%	32.3%
Law	6.3%	12.0%	52.5%
Performance Art	9.0%	13.9%	64.7%
Visual Arts	14.4%	15.8%	91.1%
Musical Arts	17.3%	14.8%	116.9%
Elected Political Office	3.6%	3.0%	120.0%
Government Service	5.4%	3.6%	150.0%
International Politics	4.5%	4.6%	97.8%

Table D.74: Engineering Interested Students

	Business	Overall	Change
Engineering	15.3%	13.4%	114.2%
Business	NA	23.0%	NA
Medical Practice	18.4%	21.8%	84.4%
Medical Support	14.2%	17.3%	82.1%
Medical Other	16.3%	16.7%	97.6%
Law	18.9%	12.0%	157.5%
Performance Art	13.2%	13.9%	95.0%
Visual Arts	14.7%	15.8%	93.0%
Musical Arts	16.4%	14.8%	110.8%
Elected Political Office	4.7%	3.0%	156.7%
Government Service	5.8%	3.6%	161.1%
International Politics	7.4%	4.6%	160.9%

Table D.75: Business Interested Students

	Medical Practice	Overall	Change
Engineering	5.0%	13.4%	37.3%
Business	19.4%	23.0%	84.3%
Medical Practice	NA	21.8%	NA
Medical Support	60.0%	17.3%	346.8%
Medical Other	55.6%	16.7%	332.9%
Law	15.0%	12.0%	125.0%
Performance Art	11.7%	13.9%	84.2%
Visual Arts	12.2%	15.8%	77.2%
Musical Arts	7.8%	14.8%	52.7%
Elected Political Office	3.9%	3.0%	130.0%
Government Service	4.4%	3.6%	122.2%
International Politics	5.0%	4.6%	108.7%

Table D.76: Medical Practice Interested Students

	Medical Support	Overall	Change
Engineering	1.4%	13.4%	10.4%
Business	18.9%	23.0%	82.2%
Medical Practice	0.755	21.8%	346.3%
Medical Support	NA	17.3%	NA
Medical Other	65.7%	16.7%	393.4%
Law	18.9%	12.0%	157.5%
Performance Art	16.2%	13.9%	116.5%
Visual Arts	12.6%	15.8%	79.7%
Musical Arts	5.6%	14.8%	37.8%
Elected Political Office	2.8%	3.0%	93.3%
Government Service	3.5%	3.6%	97.2%
International Politics	4.2%	4.6%	91.3%

Table D.77: Medical Support Interest

	Medical Other	Overall	Change
Engineering	4.3%	13.4%	32.1%
Business	22.5%	23.0%	97.8%
Medical Practice	0.725	21.8%	332.6%
Medical Support	68.1%	17.3%	393.6%
Medical Other	NA	16.7%	NA
Law	15.9%	12.0%	132.5%
Performance Art	13.1%	13.9%	94.2%
Visual Arts	15.9%	15.8%	100.6%
Musical Arts	10.2%	14.8%	68.9%
Elected Political Office	2.9%	3.0%	96.7%
Government Service	4.3%	3.6%	119.4%
International Politics	6.5%	4.6%	141.3%

Table D.78: Medical Other Interested Students

	Law	Overall	Change
Engineering	7.1%	13.4%	53.0%
Business	36.4%	23.0%	158.3%
Medical Practice	27.3%	21.8%	125.2%
Medical Support	27.3%	17.3%	157.8%
Medical Other	22.2%	16.7%	132.9%
Law	NA	12.0%	NA
Performance Art	20.2%	13.9%	145.3%
Visual Arts	22.2%	15.8%	140.5%
Musical Arts	17.2%	14.8%	116.2%
Elected Political Office	12.1%	3.0%	403.3%
Government Service	12.1%	3.6%	336.1%
International Politics	12.1%	4.6%	263.0%

Table D.79: Law Interested Students

	Performance Arts	Overall	Change
Engineering	8.7%	13.4%	64.9%
Business	21.7%	23.0%	94.3%
Medical Practice	18.3%	21.8%	83.9%
Medical Support	20.0%	17.3%	115.6%
Medical Other	15.7%	16.7%	94.0%
Law	17.4%	12.0%	145.0%
Performance Art	NA	13.9%	NA
Visual Arts	50.4%	15.8%	319.0%
Musical Arts	45.6%	14.8%	308.1%
Elected Political Office	4.3%	3.0%	143.3%
Government Service	5.2%	3.6%	144.4%
International Politics	7.0%	4.6%	152.2%

Table D.80: Performance Arts Interested Students

	Visual Arts	Overall	Change
Engineering	12.2%	13.4%	91.0%
Business	21.4%	23.0%	93.0%
Medical Practice	16.8%	21.8%	77.1%
Medical Support	13.7%	17.3%	79.2%
Medical Other	16.8%	16.7%	100.6%
Law	16.8%	12.0%	140.0%
Performance Art	44.3%	13.9%	318.7%
Visual Arts	NA	15.8%	NA
Musical Arts	36.2%	14.8%	244.6%
Elected Political Office	6.1%	3.0%	203.3%
Government Service	6.1%	3.6%	169.4%
International Politics	6.9%	4.6%	150.0%

Table D.81: Visual Arts Interested Students

	Musical Arts	Overall	Change
Engineering	15.6%	13.4%	116.4%
Business	25.4%	23.0%	110.4%
Medical Practice	11.5%	21.8%	52.8%
Medical Support	6.6%	17.3%	38.2%
Medical Other	11.5%	16.7%	68.9%
Law	13.9%	12.0%	115.8%
Performance Art	42.6%	13.9%	306.5%
Visual Arts	38.5%	15.8%	243.7%
Musical Arts	NA	14.8%	NA
Elected Political Office	4.9%	3.0%	163.3%
Government Service	4.1%	3.6%	113.9%
International Politics	4.1%	4.6%	89.1%

Table D.82: Musical Arts Interested Students

	Elected Politics	Overall	Change
Engineering	16.0%	13.4%	119.4%
Business	36.0%	23.0%	156.5%
Medical Practice	28.0%	21.8%	128.4%
Medical Support	16.0%	17.3%	92.5%
Medical Other	16.0%	16.7%	95.8%
Law	48.0%	12.0%	400.0%
Performance Art	20.0%	13.9%	143.9%
Visual Arts	32.0%	15.8%	202.5%
Musical Arts	24.0%	14.8%	162.2%
Elected Political Office	NA	3.0%	NA
Government Service	64.0%	3.6%	1777.8%
International Politics	60.0%	4.6%	1304.3%

Table D.83: Elected Political Office Interested Students

	Government Services	Overall	Change
Engineering	20.0%	13.4%	149.3%
Business	36.7%	23.0%	159.6%
Medical Practice	26.7%	21.8%	122.5%
Medical Support	16.7%	17.3%	96.5%
Medical Other	20.0%	16.7%	119.8%
Law	40.0%	12.0%	333.3%
Performance Art	20.0%	13.9%	143.9%
Visual Arts	26.7%	15.8%	169.0%
Musical Arts	16.7%	14.8%	112.8%
Elected Political Office	53.3%	3.0%	1776.7%
Government Service	NA	3.6%	NA
International Politics	56.7%	4.6%	1232.6%

Table D.84: Government Service Interested Students

	International	Overall	Change
Engineering	13.2%	13.4%	98.5%
Business	36.8%	23.0%	160.0%
Medical Practice	23.7%	21.8%	108.7%
Medical Support	15.8%	17.3%	91.3%
Medical Other	23.7%	16.7%	141.9%
Law	31.6%	12.0%	263.3%
Performance Art	21.1%	13.9%	151.8%
Visual Arts	23.7%	15.8%	150.0%
Musical Arts	13.2%	14.8%	89.2%
Elected Political Office	39.5%	3.0%	1316.7%
Government Service	44.7%	3.6%	1241.7%
International Politics	NA	4.6%	NA

Table D.85: International Politics Interested Students

Appendix D6: Career Interests by Parent Occupation

Parent Occupation	interest	overall interest	change
Engineering	20%	13%	149%
Business	24%	23%	103%
Medical Practice	13%	22%	61%
Medical Support	24%	17%	139%
Teaching	15%	6%	253%
Trade	20%	12%	170%

Table D.86: Career Interest by Parent Occupation

Appendix D7: Data Regarding Gender, Concerns

	2005-2006 Juniors	
Concern	Males	Females
Low Grades	28.8%	18.1%
Low Test Scores	16.9%	16.4%
College Too Expensive	27.3%	32.0%
College Too Demanding	7.3%	7.2%
Dislike School	9.6%	3.0%
Anyone in Profession	8.1%	6.3%
Required Education	13.9%	16.4%
Succeed	22.5%	30.8%
Opposite Gender Dominated	6.3%	11.3%
Family Support	59.3%	74.1%

Table D.87: Student Concerns by Gender

Appendix D8: Data Regarding Gender, Post-Graduation Plans

2005-2006	Males	Male %	Females	Female %
4-year College	282	71.2%	356	82.4%
2-year College	62	15.7%	57	13.2%
Vocational	34	8.6%	14	3.2%
Work	110	27.8%	136	31.5%
Military	33	8.3%	11	2.5%
Marriage / Family	34	8.6%	48	11.1%

Table D.88: Post-Graduation Plans by Gender

Appendix E : Survey Applications

FACES Pamphlet

Appendix E1: FACES Pamphlet

2nd Annual

FACES@*WPI*

Females Aspiring to Careers in Engineering and Science

Who?

Female junior students who attend Worcester Public High Schools & have interest in engineering & science

What?

FACES@*WPI* will include:

- Admissions information sessions for WPI, Holy Cross & Clark
- Tours of several laboratory facilities at WPI
- Hands-on demonstrations of engineering-related projects
- Presentations from practicing female engineers
- Lunch with Current Female WPI Students

Where?

Worcester Polytechnic Institute

When?

April 7, 2006, from 9:00 a.m. until 12:45 p.m.

Why?

To encourage female high school juniors in Worcester who are interested in careers in engineering and science to pursue those careers.

RSVP Information

Students must RSVP by March 31, 2006 by returning their permission slip and this form to their guidance department.

There is no cost to participate in FACES@*WPI*. *Transportation & lunch will be provided. Guidance counselors & teachers encouraged to participate.*

==========

Name:_____ School:_____

Student ID #:_____

E-mail Address:_____ Phone Number:_____

Appendix F : Reports

Executive Summary

Appendix F1: Executive Summary

Gender Based Comparative Study of Public Schools
Student Aspirations Report

Worcester Public Schools Class of 2007

The students of the junior class (Class of 2007) at each of the Worcester Public High Schools were surveyed to determine if their range of career aspirations, post-graduations plans, and higher education related concerns were similar to the findings of the last years junior class (Class of 2006). The sophomore class (Class of 2008) was also surveyed to determine if this study could be conducted earlier, and then the information could be used to help assist those students.

Response Rate

Figure 1 shows the overall response rate by the junior class (Class of 2007).

Table 89: Response Rates

	Population	Sample	Response %	Male	% Male	Female	% Female
A.L.L.	50	29	58%	14	48%	15	52%
Burncoat	282	182	65%	83	46%	97	53%
Doherty	375	258	69%	120	47%	138	53%
North	278	75	27%	30	40%	42	56%
South	341	135	40%	59	44%	69	51%
UP	40	39	98%	16	41%	23	59%
Voke	226	124	55%	75	60%	48	39%
Totals	1592	842	53%	397	47.15%	432	51%

Aspirations Data

In the survey, students were asked to indicate their interest in the following occupation areas, based on a four point scale: teaching, engineering, physical science, computers, IT, business, trade, medical practice, medical support, other medical, law, performance arts, visual arts, musical arts, media, food service industry, service industry, social services, civil service, city administration, elected political office, government service, and international politics. A response of a 4 was considered to represent a high interest level.

Table 2 shows the number and percentage of students, by gender with a high interest in each occupational interest area for the Class of 2007.

Table 3 shows the number and percentage of students, by gender with a high interest in each occupational interest area for the Class of 2006.

Table 90: Occupational Interests Area by Gender for Class of 2007

2005-2006 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	14	3.6%	35	8.1%	49	5.9%
Engineering	91	23.0%	20	4.6%	111	13.4%
Physical Science	17	4.3%	23	5.3%	40	4.8%
Computers	73	18.6%	29	6.7%	102	12.4%
IT	58	14.7%	21	4.9%	79	9.6%
Business	100	25.3%	90	20.8%	190	23.0%
Trade	81	20.5%	14	3.2%	95	11.5%
Medical Practice	35	8.9%	145	33.6%	180	21.8%
Medical Support	14	3.5%	129	29.9%	143	17.3%
Medical Other	24	6.1%	114	26.4%	138	16.7%
Law	37	9.4%	62	14.4%	99	12.0%
Performance Art	23	5.8%	92	21.3%	115	13.9%
Visual Art	32	8.1%	99	22.9%	131	15.8%
Musical Art	61	15.4%	61	14.2%	122	14.8%
Media	36	9.1%	51	11.8%	87	10.5%
Food Service	41	10.4%	43	10.0%	84	10.2%
Service Industry	14	3.5%	45	10.5%	59	7.2%
Social Service	11	2.8%	61	14.2%	72	8.7%
Civil Service	58	14.7%	23	5.3%	81	9.8%
City Admin.	13	3.3%	10	2.3%	23	2.8%
Elected Political Office	17	4.3%	8	1.9%	25	3.0%
Government Service	20	5.1%	10	2.3%	30	3.6%
International Politics	16	4.1%	22	5.1%	38	4.6%

Table 91: Occupational Interest Area by Gender for Class of 2006

2004-2005 Juniors	Male	Male %	Female	Female %	Total	Total %
Teaching	17	4.0%	41	9.0%	58	6.0%
Eng/Phys. Science	80	16.0%	15	3.0%	95	10.0%
Computers/IT	92	18.7%	23	5.0%	115	12.1%
Business	121	24.6%	112	24.6%	233	24.6%
Trade	93	18.9%	16	3.5%	109	11.5%
Medical Practice	32	6.5%	111	24.3%	143	15.1%
Medical Support	25	5.1%	112	24.6%	137	14.5%
Law	53	11.0%	73	16.0%	126	13.0%
Art	89	18.0%	95	21.0%	184	19.0%
Service Industry	23	5.0%	82	18.0%	105	11.0%
Social Service	14	3.0%	86	19.0%	100	11.0%
Civil Service	61	12.0%	16	4.0%	77	8.0%
City Admin.	20	4.0%	7	2.0%	27	3.0%
Political Office	16	3.0%	12	3.0%	28	3.0%

Post Graduation Plans

Students were asked to check off their plans for the fall after graduating high school. Students were allowed to select more than one option.

Table 92: Post Graduation Plans for Class of 2007

	Males	Male %	Females	Female %
4-year College	282	71.2%	356	82.4%
2-year College	62	15.7%	57	13.2%
Vocational	34	8.6%	14	3.2%
Work	110	27.8%	136	31.5%
Military	33	8.3%	11	2.5%
Marriage / Family	34	8.6%	48	11.1%

Table 93: Post Graduation Plans for Class of 2006

	Males	Male %	Females	Female %
4-year College	330	67.2%	360	78.9%
2-year College	66	13.4%	73	16.0%
Vocational	29	5.9%	13	2.9%
Work	85	17.3%	52	11.4%
Military	45	9.2%	13	2.9%
No Response	30	6.1%	17	3.7%

Career Related Concerns

In the survey, students were asked a series of statements about their concerns for attending college and concerns about succeeding in their interested career. The following tables show the percentage of students who agreed with the statements.

Table 94: Career Related Concerns

Concern	2005-2006 Juniors		2004-2005 Juniors	
	Males	Females	Males	Females
Low Grades	28.8%	18.1%	25.0%	18.0%
Low Test Scores	16.9%	16.4%	17.0%	22.0%
College Too Expensive	27.3%	32.0%	25.0%	28.0%
College Too Demanding	7.3%	7.2%	7.0%	5.0%
Dislike School	9.6%	3.0%	8.0%	4.0%
Anyone in Profession	8.1%	6.3%	8.0%	9.0%
Required Education	13.9%	16.4%	16.0%	16.0%
Succeed	22.5%	30.8%	19.0%	24.0%
Opposite Gender Dominated	6.3%	11.3%	8.0%	9.0%
Family Support	59.3%	74.1%	8.0%	9.0%

Sophomore-Junior Comparisons

Sophomores (class of 2008) were surveyed at only two schools, Doherty and North. Their results are compared to the juniors (class of 2007) attending the same school.

Table 95: Doherty Sophomore-Junior Comparisons

Doherty	Class of 2007		Class of 2008	
	Males	Females	Males	Females
Teaching	4.2%	6.5%	5.5%	5.8%
Engineering	26.9%	6.5%	41.1%	6.8%
Physical Science	3.4%	5.1%	9.6%	1.0%
IT	15.1%	5.1%	13.7%	3.8%
Computers	17.8%	10.1%	26.4%	5.8%
Business	19.3%	19.6%	31.9%	27.9%
Trade	17.6%	1.4%	13.7%	2.9%
Medical Practice	6.7%	28.3%	11.1%	28.8%
Medical Support	2.5%	26.1%	5.5%	23.1%
Medical Other	4.2%	24.6%	5.5%	21.2%
Legal	8.4%	11.6%	13.7%	15.4%
Performance Arts	4.2%	18.8%	9.6%	25.0%
Visual Arts	6.7%	23.2%	5.5%	25.0%
Musical Arts	17.6%	14.6%	18.1%	11.7%
Media	8.4%	13.0%	11.1%	16.3%
Food Service	12.6%	9.4%	6.8%	11.5%
Service Industry	2.5%	12.3%	7.0%	9.7%
Social Service	1.7%	15.2%	2.8%	18.3%
Civil Service	16.0%	4.3%	9.6%	9.6%
City Administration	3.4%	3.6%	2.8%	4.8%
Elected Politics	5.0%	2.9%	6.8%	2.9%
Government Service	2.5%	2.9%	4.1%	3.9%
International Politics	2.5%	7.2%	4.1%	4.8%

Table 96: North Sophomore-Junior Comparisons

North	Class of 2007		Class of 2008	
	Males	Females	Males	Females
Teaching	3.3%	7.1%	5.5%	3.8%
Engineering	20.0%	2.4%	21.9%	3.8%
Physical Science	10.0%	4.8%	8.2%	3.8%
IT	13.3%	7.1%	16.4%	7.5%
Computers	16.7%	2.4%	24.7%	11.3%
Business	16.7%	14.3%	20.5%	13.2%
Trade	20.0%	2.4%	12.3%	1.9%
Medical Practice	16.7%	52.4%	26.0%	35.8%
Medical Support	6.7%	38.1%	16.4%	34.0%
Medical Other	10.3%	31.0%	15.3%	20.8%
Legal	3.3%	4.8%	15.1%	15.1%
Performance Arts	10.0%	16.7%	8.2%	35.8%
Visual Arts	33.0%	14.3%	11.0%	35.8%
Musical Arts	13.3%	9.8%	16.7%	22.6%
Media	0.0%	2.4%	12.3%	13.2%
Food Service	10.0%	7.1%	11.0%	15.1%
Service Industry	0.0%	7.3%	4.1%	13.2%
Social Service	0.0%	9.8%	2.7%	15.1%
Civil Service	16.7%	2.4%	6.8%	3.8%
City Administration	0.0%	0.0%	4.1%	1.9%
Elected Politics	3.3%	0.0%	6.8%	3.8%
Government Service	0.0%	0.0%	6.8%	3.8%
International Politics	0.0%	2.4%	11.0%	3.8%

Effects of Small Schools

The Worcester Public School System has instituted a cluster program within five of the seven Worcester Public High Schools (Burncoat, Doherty, North, South, and Worcester Vocational Schools). The distributions of students with a high interest in a particular field were examined.

Table 97: Class of 2007 % Difference

	Burncoat	Doherty	North	South	Voke
Teaching	18.00%	-10.30%	-11.90%	-51.00%	33.40%
Engineering	-4.90%	19.60%	-29.80%	-5.10%	-21.00%
Physical Science	10.20%	-14.40%	60.50%	4.20%	-2.80%
Computers	-42.10%	10.00%	-35.20%	32.20%	4.70%
IT	-35.50%	3.40%	-0.40%	42.40%	-13.90%
Business	-2.20%	-15.80%	-36.30%	45.00%	12.20%
Trade	-51.80%	-21.70%	-18.10%	-34.90%	204.70%
Medical Practice	-3.90%	-16.10%	65.80%	9.30%	-10.80%
Medical Support	-7.40%	-12.10%	39.50%	12.10%	-1.50%
Medical Other	-2.20%	-10.20%	34.50%	-3.20%	-13.80%
Law	-7.40%	-15.00%	-55.10%	50.00%	36.10%
Performance Arts	-1.10%	-13.40%	-4.00%	22.90%	-1.20%
Visual Arts	-2.50%	-1.70%	-40.90%	8.10%	12.50%
Musical Arts	-9.70%	8.90%	-26.90%	6.70%	-6.00%
Media	-25.50%	5.20%	-87.10%	58.00%	9.50%
Service Industry	-16.50%	7.10%	-44.70%	-7.80%	45.00%
Social Service	-4.90%	3.00%	-23.00%	54.10%	-44.10%
Civil Service	-31.40%	0.90%	-16.80%	0.30%	51.20%
City Administration	-19.50%	27.90%	-100.00%	-18.50%	47.90%
Elected Political Office	-25.90%	30.70%	-55.10%	25.00%	8.80%
Government Service	-25.90%	30.70%	-55.10%	25.00%	8.80%
International Politics	-7.40%	6.20%	-43.80%	9.40%	2.00%

Table 98: Class of 2006 % Differences

	Burncoat	Doherty	North	South	Voke
Teaching	33%	19%	0%	0%	-44%
Engineering and Physical Science	-13%	33%	-10%	0%	-25%
Computers/IT	-27%	24%	5%	0%	-31%
Business	0%	10%	-5%	-14%	19%
Trade	-40%	-24%	-55%	-28%	169%
Medical Practice	7%	-5%	25%	-18%	-12%
Medical Support	7%	-5%	20%	-5%	-12%
Law	7%	-5%	5%	-14%	25%
Art	20%	-10%	-10%	14%	-6%
Service Industry	27%	5%	-15%	-5%	0%
Social Service	0%	24%	5%	-9%	-31%
Civil Service	-27%	19%	-20%	-18%	44%
City Administration	7%	33%	-40%	-14%	13%
Elected Political Office	13%	38%	5%	-14%	-69%