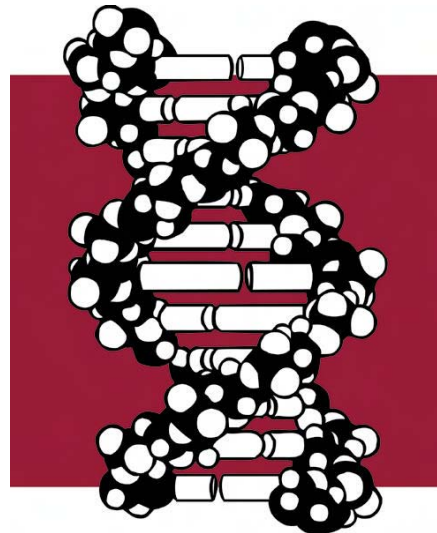


The Impact of Student Workshops at the Dolan DNA Learning Center (DNALC)

College Survey Results

Conducted by:
Dolan DNA Learning Center, Cold Spring Harbor Laboratory



Dolan DNA Learning Center, Cold Spring Harbor Laboratory
One Bungtown Road, Cold Spring Harbor Laboratory, NY 11724

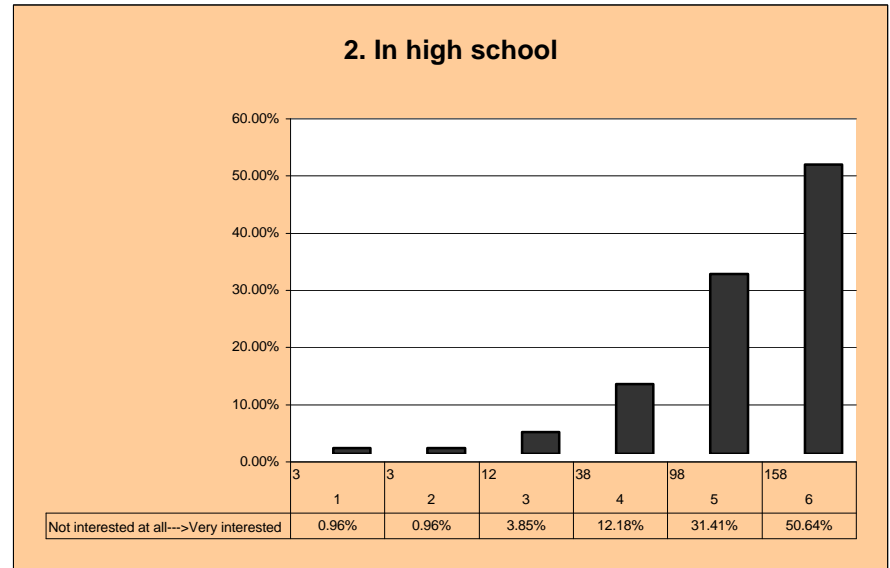
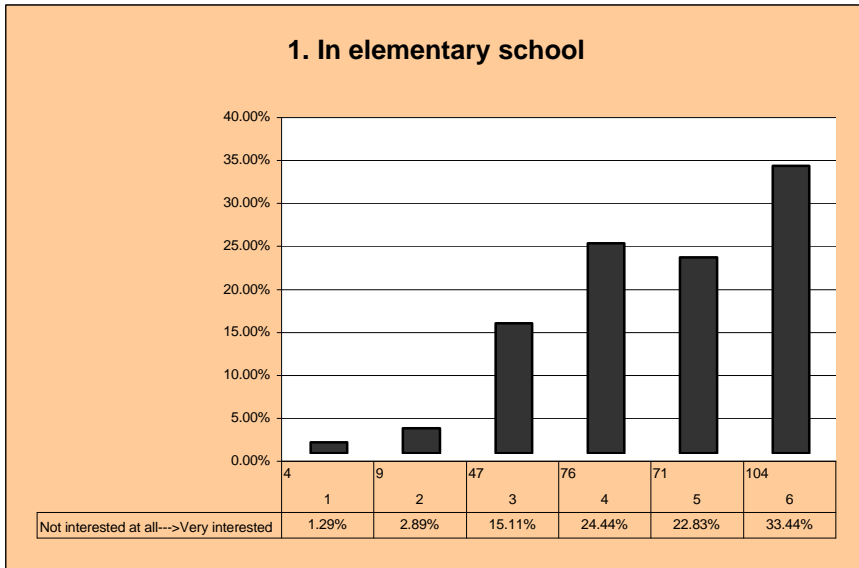
Q01. Thinking back in time, how would you describe your general interest in science...

1. In elementary school

1	4	1.29%	Not interested at all
2	9	2.89%	
3	47	15.11%	
4	76	24.44%	
5	71	22.83%	
6	104	33.44%	Very interested
Total	311	100.00%	

2. In high school

1	3	0.96%	Not interested at all
2	3	0.96%	
3	12	3.85%	
4	38	12.18%	
5	98	31.41%	
6	158	50.64%	Very interested
Total	312	100.00%	



The Impact of Student Workshops at the Dolan DNA Learning Center,
 Survey results as of October 21, 2004. 314 college students surveyed

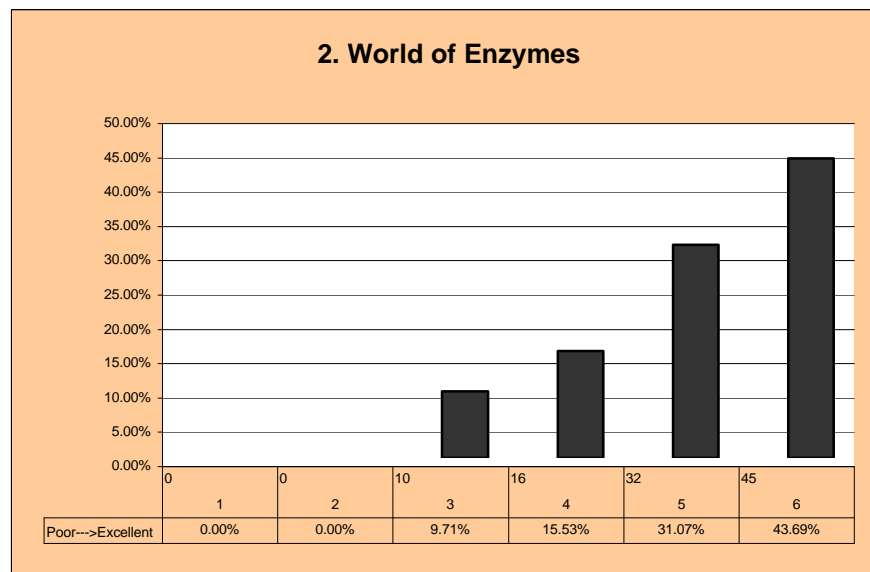
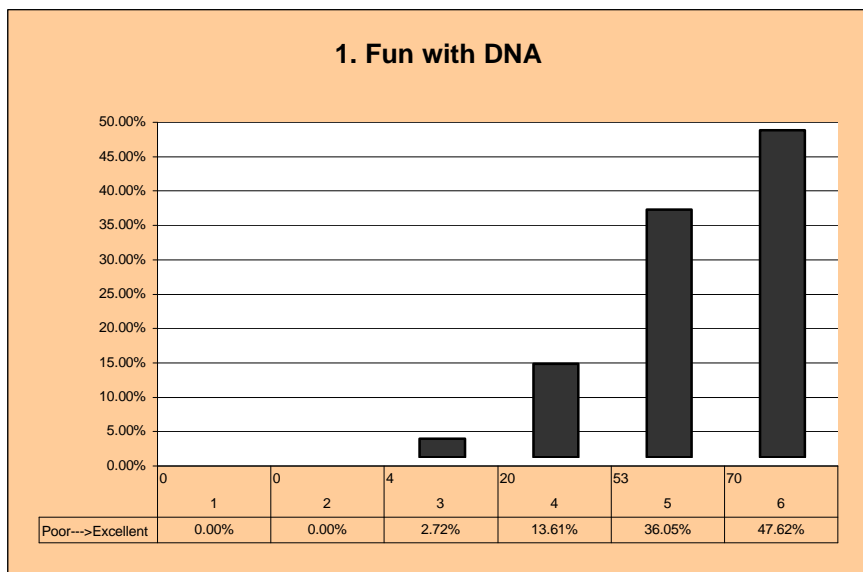
Q02. Overall, how would you rate any of the following DNALC workshops that you attended while you were in elementary or high school?

1. Fun with DNA

1	0	0.00%	Poor
2	0	0.00%	
3	4	2.72%	
4	20	13.61%	
5	53	36.05%	
6	70	47.62%	Excellent
Total	147	100.00%	

2. World of Enzymes

1	0	0.00%	Poor
2	0	0.00%	
3	10	9.71%	
4	16	15.53%	
5	32	31.07%	
6	45	43.69%	Excellent
Total	103	100.00%	



*The Impact of Student Workshops at the Dolan DNA Learning Center ,
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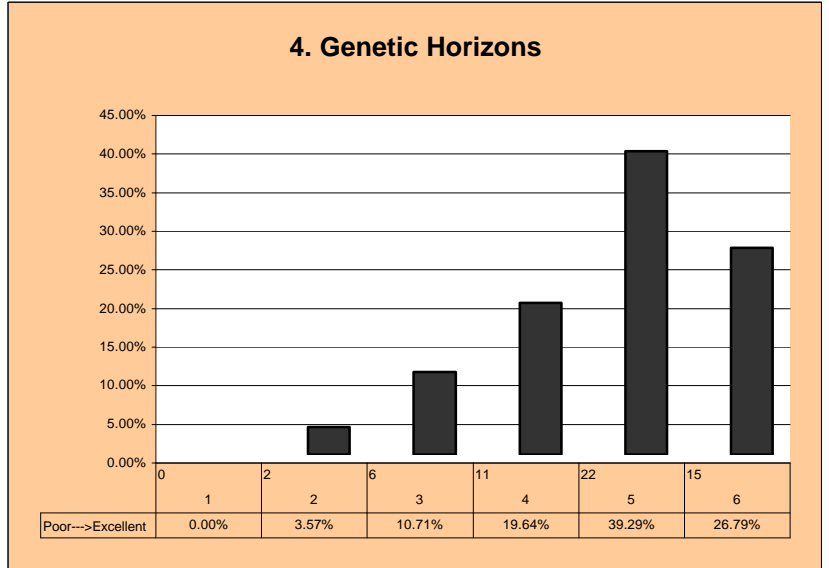
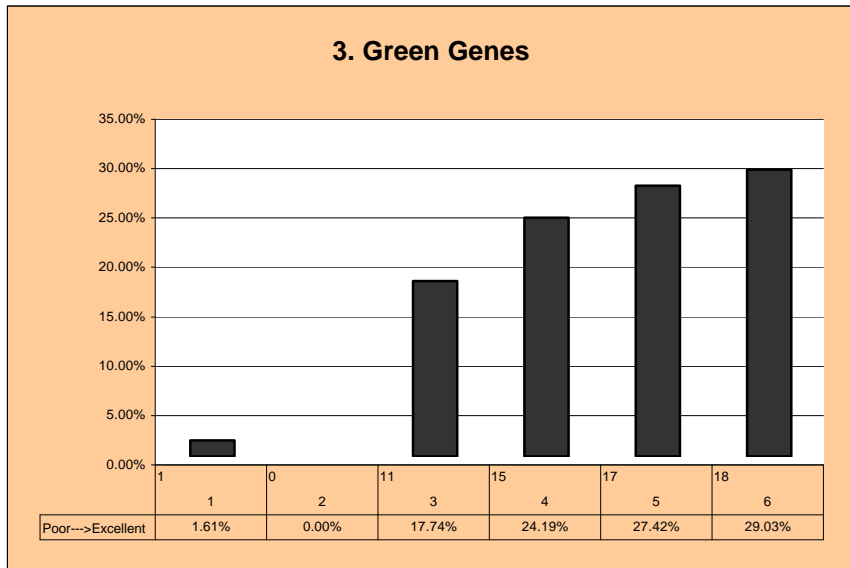
Q02. Overall, how would you rate any of the following DNALC workshops that you attended while you were in elementary or high school?

3. Green Genes

1	1	1.61%	Poor
2	0	0.00%	
3	11	17.74%	
4	15	24.19%	
5	17	27.42%	
6	18	29.03%	Excellent
Total	62	100.00%	

4. Genetic Horizons

1	0	0.00%	Poor
2	2	3.57%	
3	6	10.71%	
4	11	19.64%	
5	22	39.29%	
6	15	26.79%	Excellent
Total	56	100.00%	



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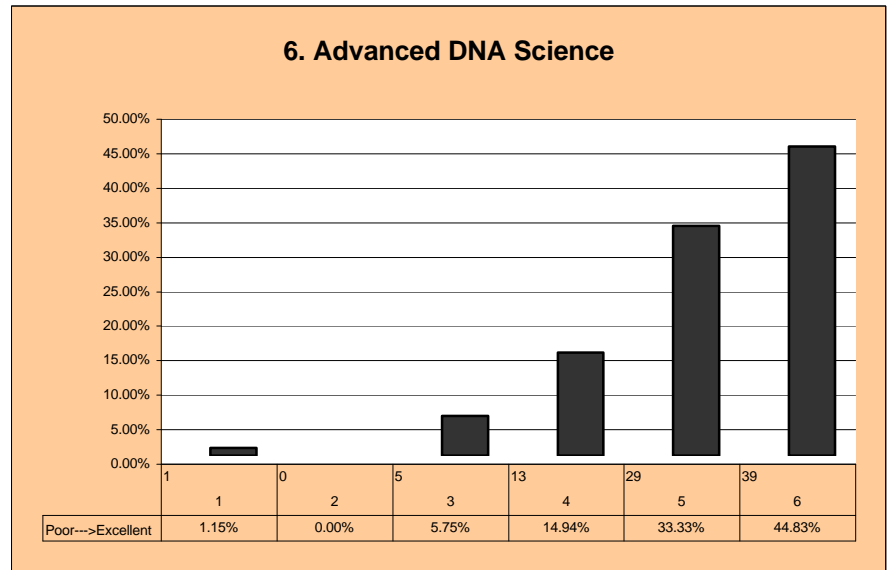
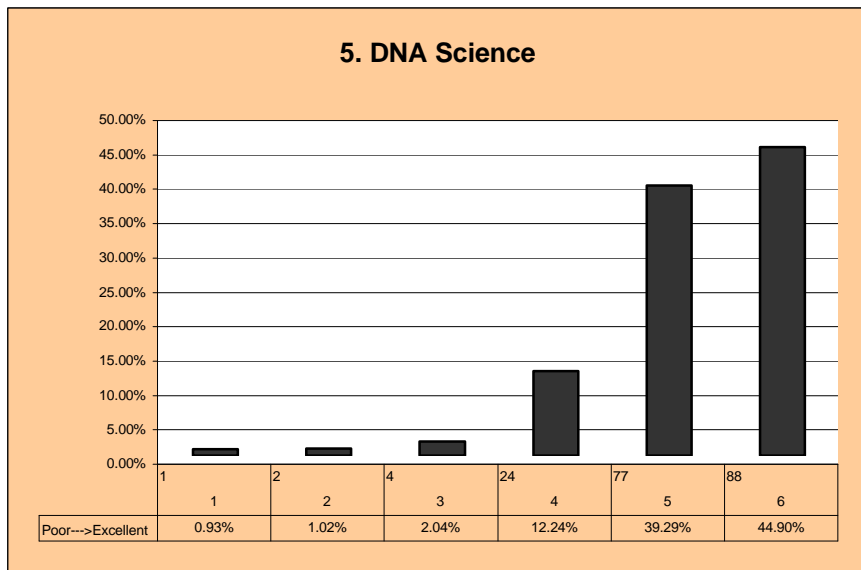
Q02. Overall, how would you rate any of the following DNALC workshops that you attended while you were in elementary or high school?

5. DNA Science

1	1	0.93%	Poor
2	2	1.02%	
3	4	2.04%	
4	24	12.24%	
5	77	39.29%	
6	88	44.90%	Excellent
Total	196	100.42%	

6. Advanced DNA Science

1	1	1.15%	Poor
2	0	0.00%	
3	5	5.75%	
4	13	14.94%	
5	29	33.33%	
6	39	44.83%	Excellent
Total	87	100.00%	

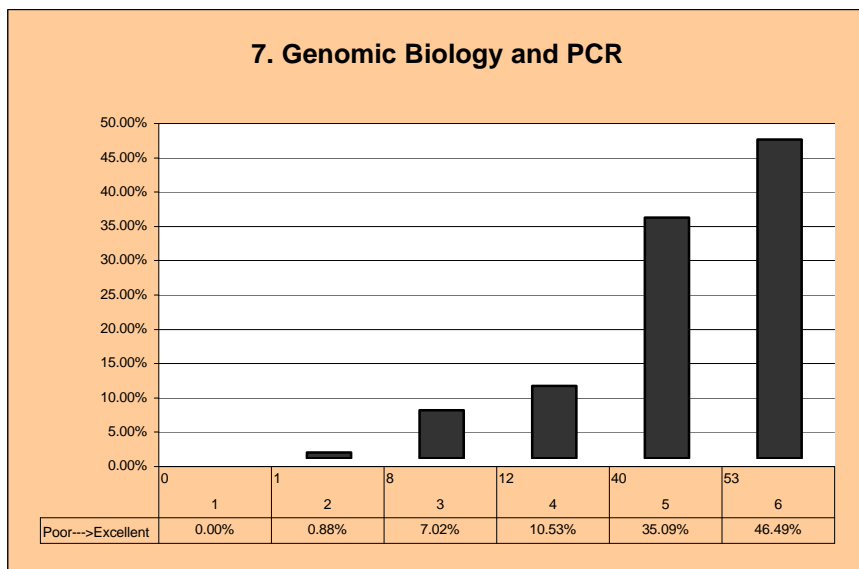


The Impact of Student Workshops at the Dolan DNA Learning Center, Survey results as of October 21, 2004. 314 college students surveyed

Q02. Overall, how would you rate any of the following DNALC workshops that you attended while you were in elementary or high school?

7. Genomic Biology and PCR

1	0	0.00%	Poor
2	1	0.88%	
3	8	7.02%	
4	12	10.53%	
5	40	35.09%	
6	53	46.49%	Excellent
Total	114	100.00%	

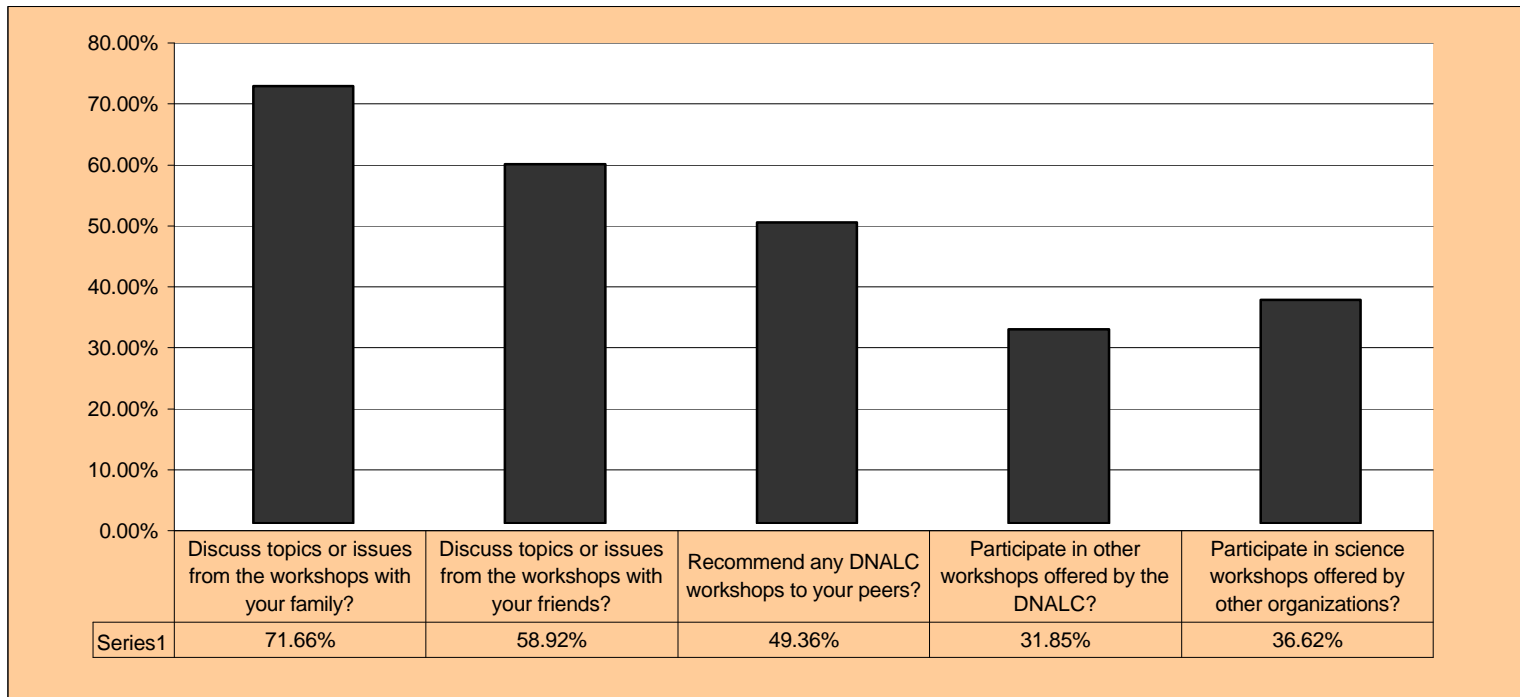


*The Impact of Student Workshops at the Dolan DNA Learning Center ,
Survey results as of October 21, 2004. 314 college students surveyed*

Q03. After attending a summer workshop at the DNALC, did you:

Discuss topics or issues from the workshops with your family?	225	71.66%
Discuss topics or issues from the workshops with your friends?	185	58.92%
Recommend any DNALC workshops to your peers?	155	49.36%
Participate in other workshops offered by the DNALC?	100	31.85%
Participate in science workshops offered by other organizations?	115	36.62%

Number of respondents: 314



The Impact of Student Workshops at the Dolan DNA Learning Center ,
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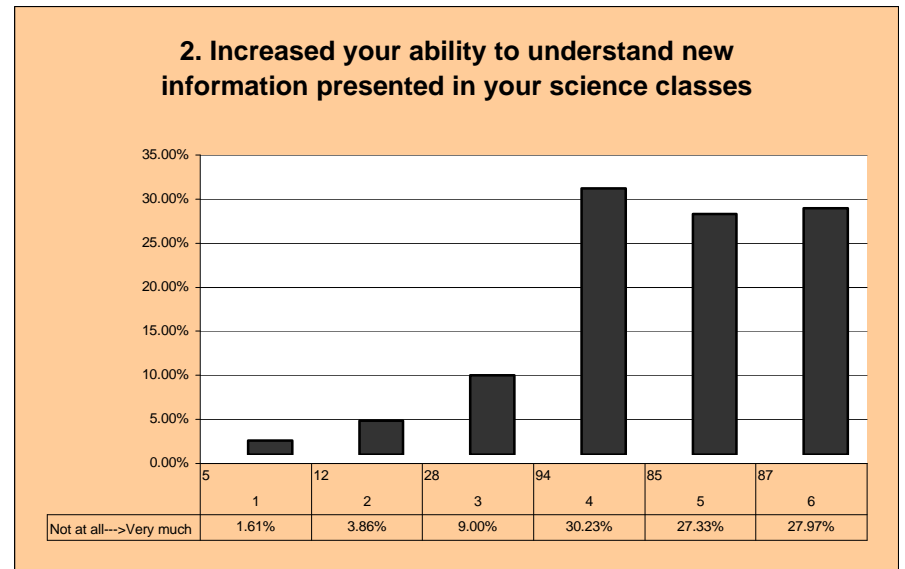
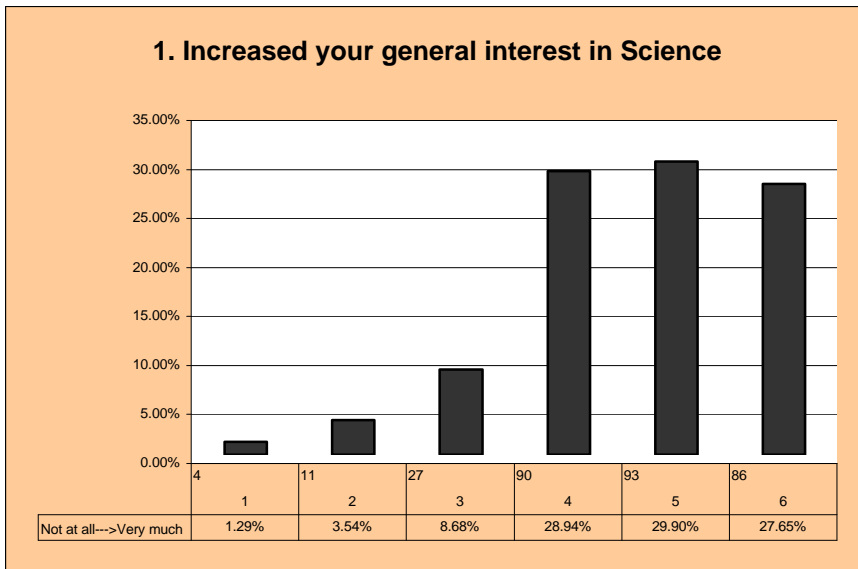
Q04. To what extent did workshops taken at the DNALC affect you?

1. Increased your general interest in science.

1	4	1.29%	Not at all
2	11	3.54%	
3	27	8.68%	
4	90	28.94%	
5	93	29.90%	
6	86	27.65%	Very much
Total	311	100.00%	

2. Increased your ability to understand new information presented in your science classes.

1	5	1.61%	Not at all
2	12	3.86%	
3	28	9.00%	
4	94	30.23%	
5	85	27.33%	
6	87	27.97%	Very much
Total	311	100.00%	



The Impact of Student Workshops at the Dolan DNA Learning Center,
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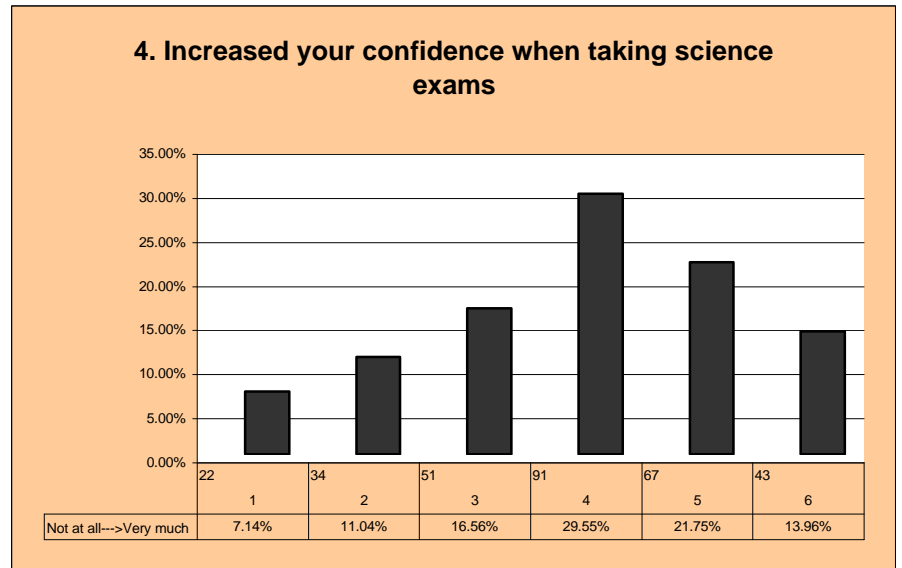
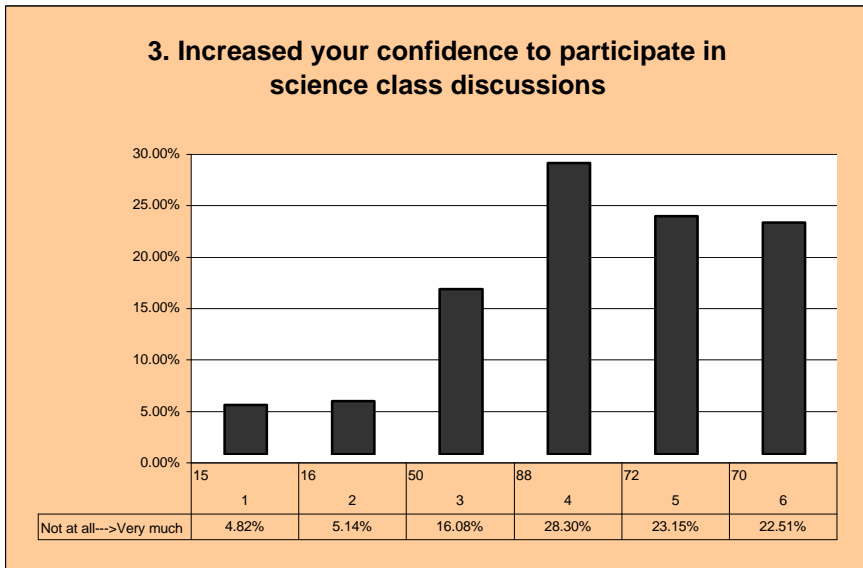
Q04. To what extent did workshops taken at the DNALC affect you?

3. Increased your confidence to participate in science class discussions.

1	15	4.82%	Not at all
2	16	5.14%	
3	50	16.08%	
4	88	28.30%	
5	72	23.15%	
6	70	22.51%	Very much
Total	311	100.00%	

4. Increased your confidence when taking science exams.

1	22	7.14%	Not at all
2	34	11.04%	
3	51	16.56%	
4	91	29.55%	
5	67	21.75%	
6	43	13.96%	Very much
Total	308	100.00%	



The Impact of Student Workshops at the Dolan DNA Learning Center, Survey results as of October 21, 2004. 314 college students surveyed

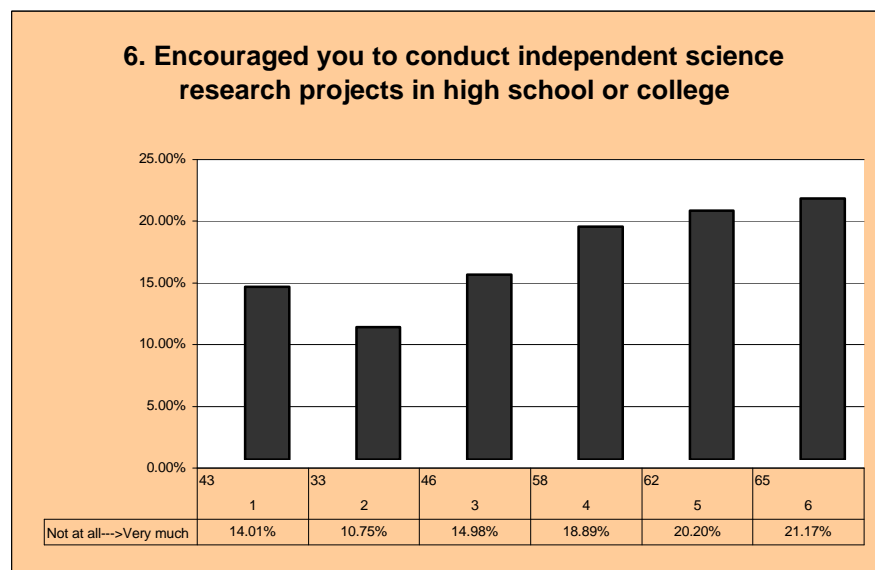
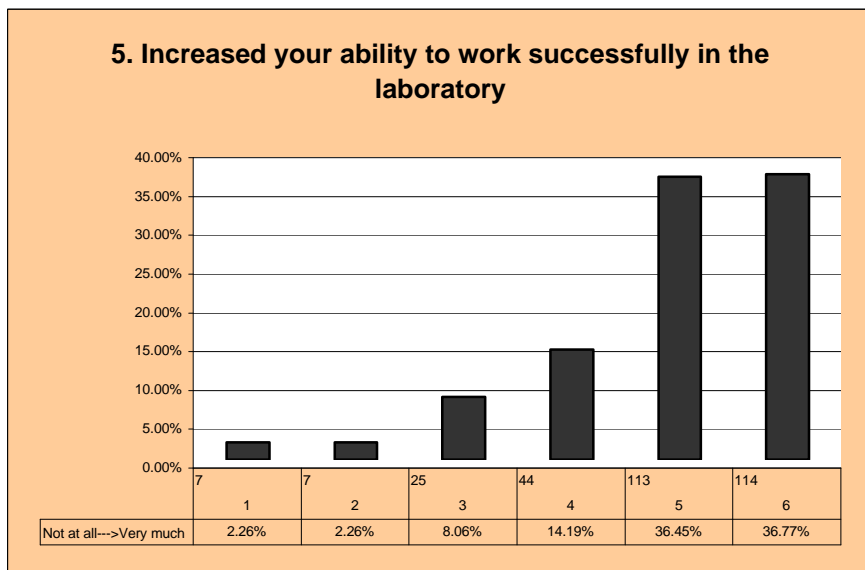
Q04. To what extent did workshops taken at the DNALC affect you?

5. Increased your ability to work successfully in the laboratory.

1	7	2.26%	Not at all
2	7	2.26%	
3	25	8.06%	Very much
4	44	14.19%	
5	113	36.45%	
6	114	36.77%	
Total	310	100.00%	

6. Encouraged you to conduct independent science research projects in high school or college.

1	43	14.01%	Not at all
2	33	10.75%	
3	46	14.98%	Very much
4	58	18.89%	
5	62	20.20%	
6	65	21.17%	
Total	307	100.00%	



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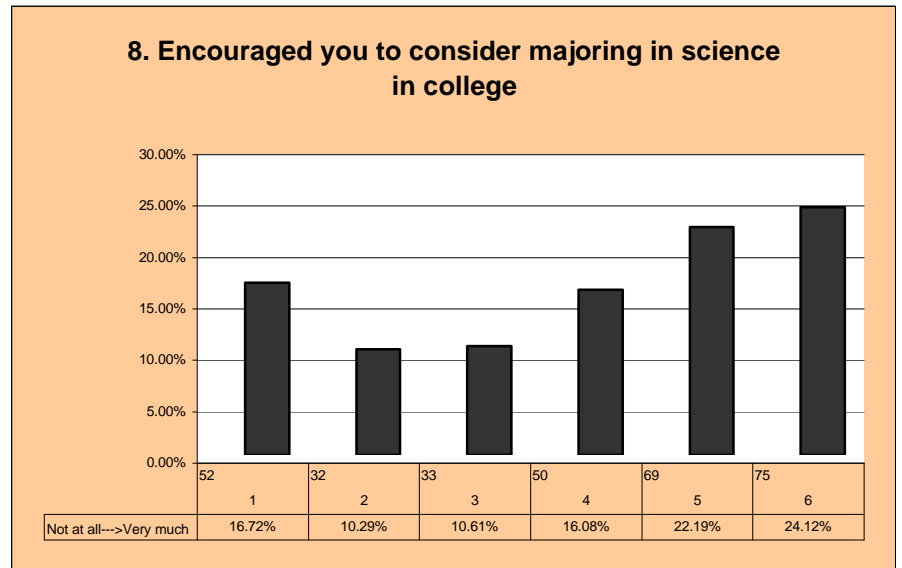
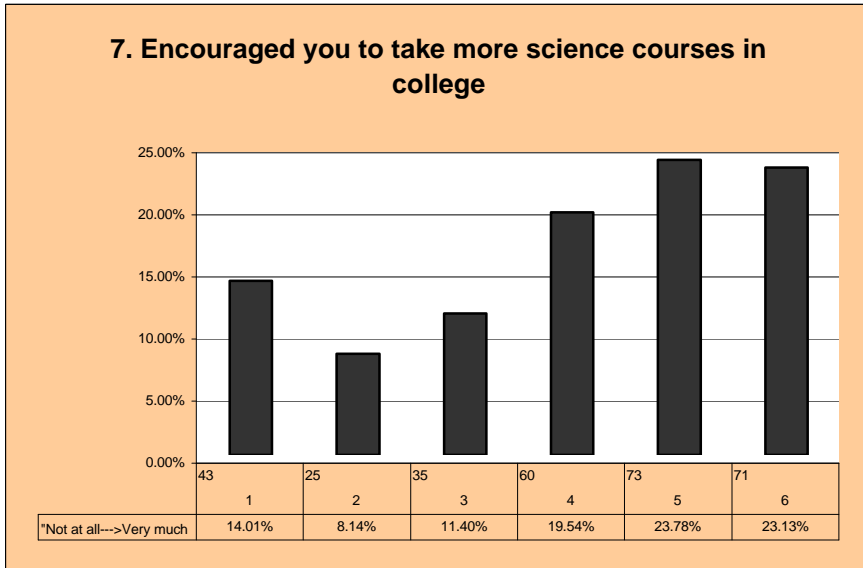
Q04. To what extent did workshops taken at the DNALC affect you?

7. Encouraged you to take more science courses in college.

1	43	14.01%	Not at all
2	25	8.14%	
3	35	11.40%	
4	60	19.54%	
5	73	23.78%	
6	71	23.13%	Very much
Total	307	100.00%	

8. Encouraged you to consider majoring in science in college.

1	52	16.72%	Not at all
2	32	10.29%	
3	33	10.61%	
4	50	16.08%	
5	69	22.19%	
6	75	24.12%	Very much
Total	311	100.00%	



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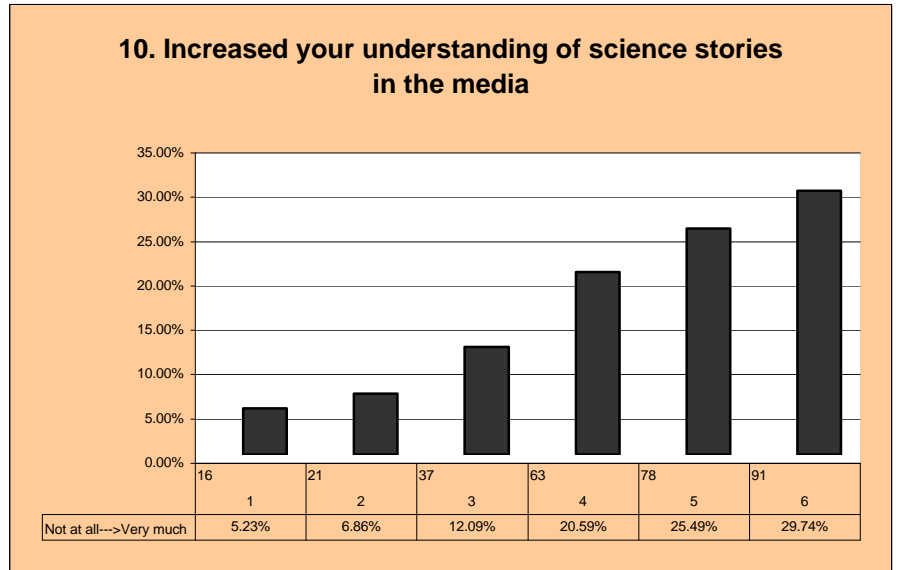
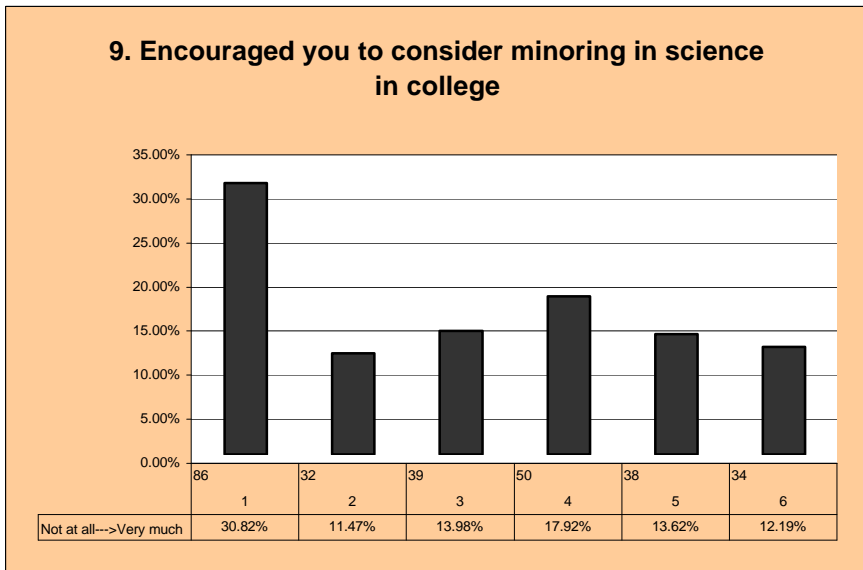
Q04. To what extent did workshops taken at the DNALC affect you?

9. Encouraged you to consider minoring in science in college.

0	35		No answer
1	86	30.82%	Not at all
2	32	11.47%	
3	39	13.98%	
4	50	17.92%	
5	38	13.62%	
6	34	12.19%	Very much
Total	279	100.00%	

10. Increased your understanding of science stories in the media (such as TV, newspaper, internet, etc.).

0	8		No answer
1	16	5.23%	Not at all
2	21	6.86%	
3	37	12.09%	
4	63	20.59%	
5	78	25.49%	
6	91	29.74%	Very much
Total	306	100.00%	



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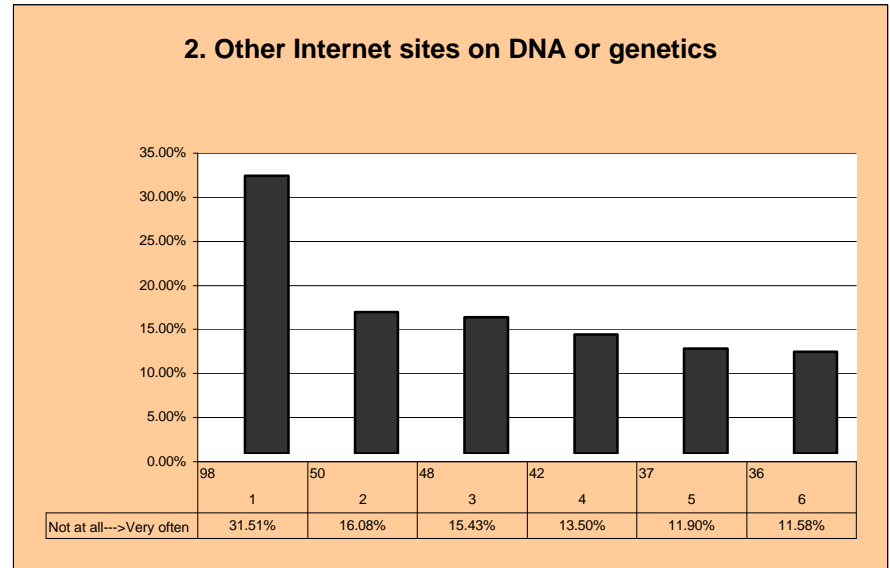
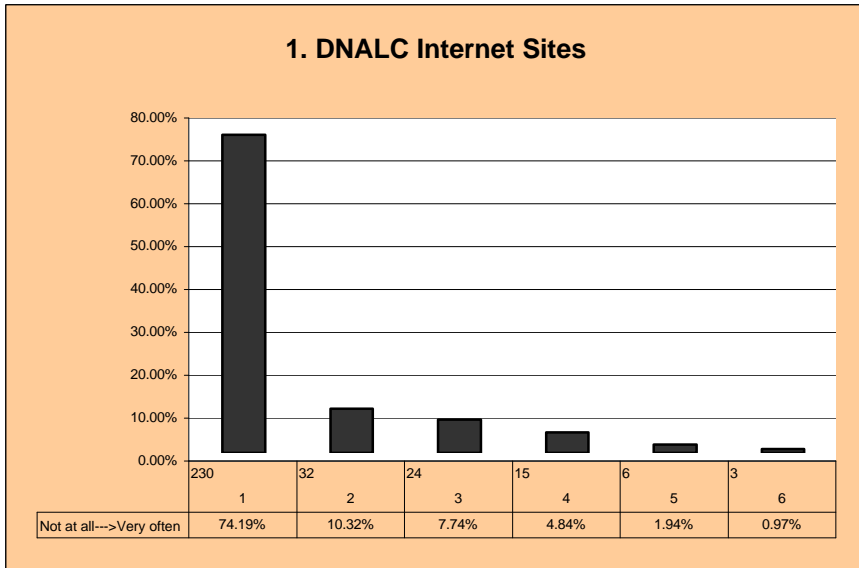
Q05. In the past year, how often have you visited:

1. DNALC Internet Sites

1	230	74.19%	Not at all
2	32	10.32%	
3	24	7.74%	
4	15	4.84%	
5	6	1.94%	
6	3	0.97%	Very often
Total	310	100.00%	

2. Other Internet sites on DNA or genetics

1	98	31.51%	Not at all
2	50	16.08%	
3	48	15.43%	
4	42	13.50%	
5	37	11.90%	
6	36	11.58%	Very often
Total	311	100.00%	



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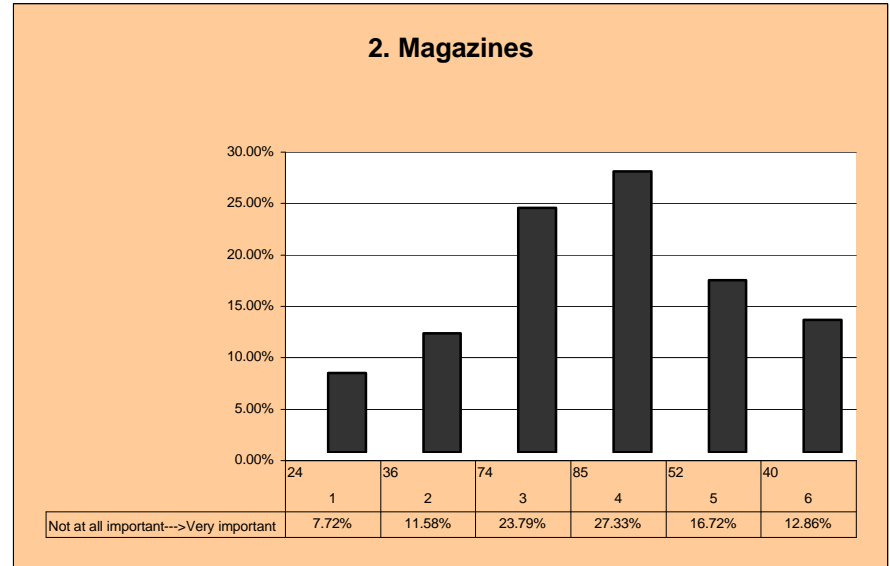
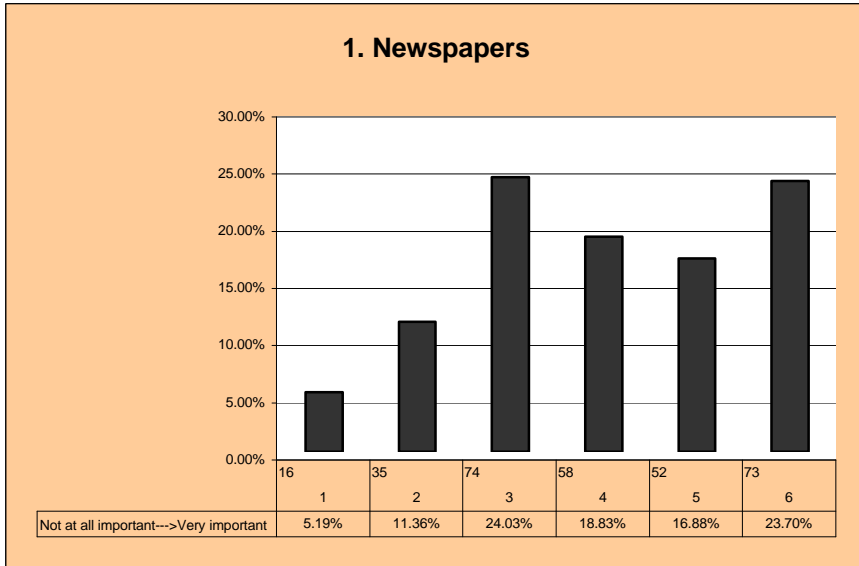
Q06. How important is each of the following as your source of information about science and technology?

1. Newspapers

1	16	5.19%	Not at all important
2	35	11.36%	
3	74	24.03%	
4	58	18.83%	
5	52	16.88%	
6	73	23.70%	Very important
Total	308	100.00%	

2. Magazines

1	24	7.72%	Not at all important
2	36	11.58%	
3	74	23.79%	
4	85	27.33%	
5	52	16.72%	
6	40	12.86%	Very important
Total	311	100.00%	



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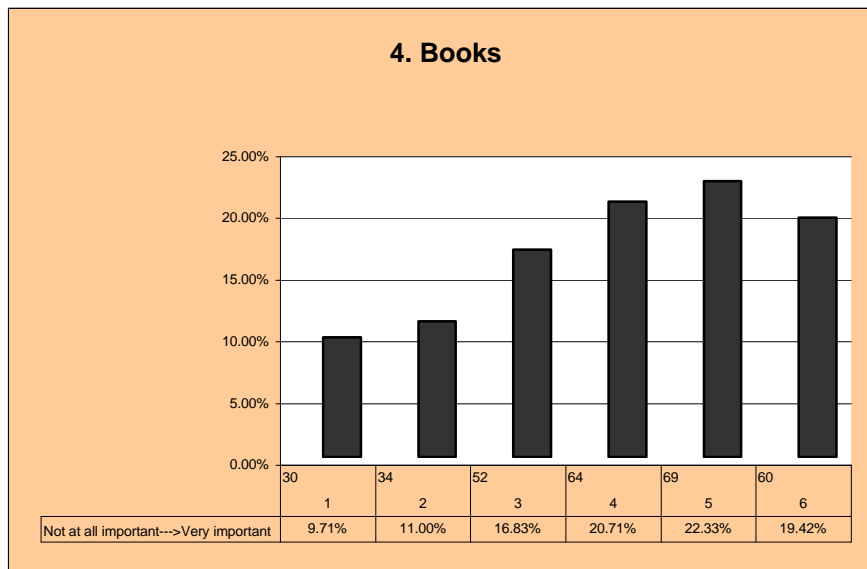
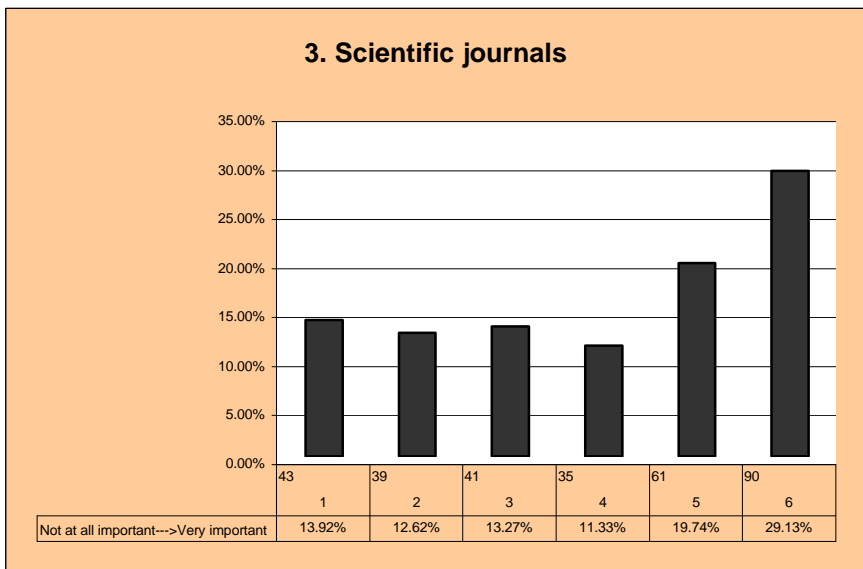
Q06. How important is each of the following as your source of information about science and technology?

3. Scientific journals

1	43	13.92%	Not at all important
2	39	12.62%	
3	41	13.27%	
4	35	11.33%	
5	61	19.74%	
6	90	29.13%	Very important
Total	309	100.00%	

4. Books

1	30	9.71%	Not at all important
2	34	11.00%	
3	52	16.83%	
4	64	20.71%	
5	69	22.33%	
6	60	19.42%	Very important
Total	309	100.00%	



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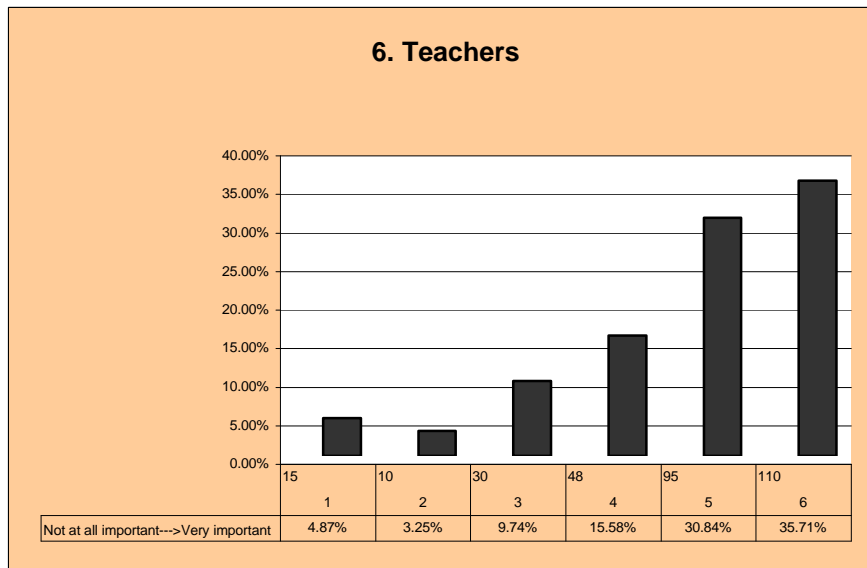
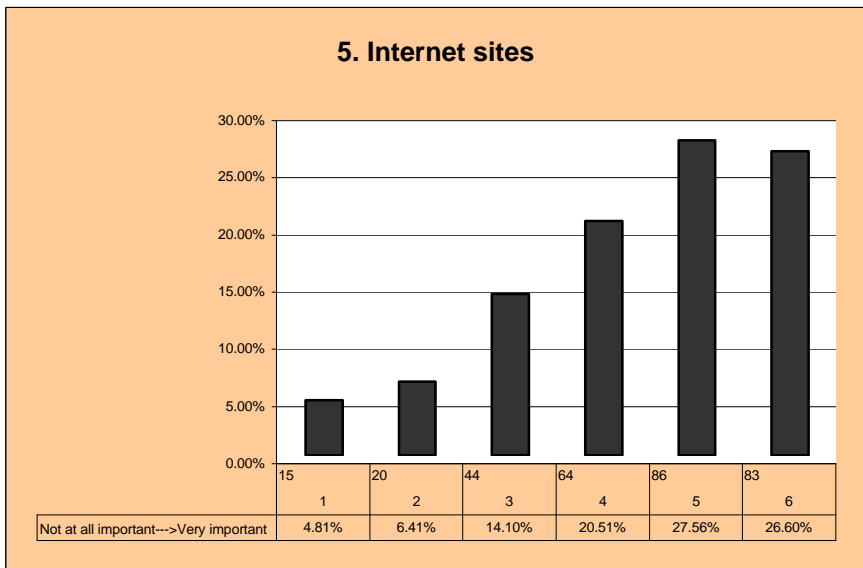
Q06. How important is each of the following as your source of information about science and technology?

5. Internet sites

1	15	4.81%	Not at all important
2	20	6.41%	
3	44	14.10%	
4	64	20.51%	
5	86	27.56%	
6	83	26.60%	Very important
Total	312	100.00%	

6. Teachers

1	15	4.87%	Not at all important
2	10	3.25%	
3	30	9.74%	
4	48	15.58%	
5	95	30.84%	
6	110	35.71%	Very important
Total	308	100.00%	

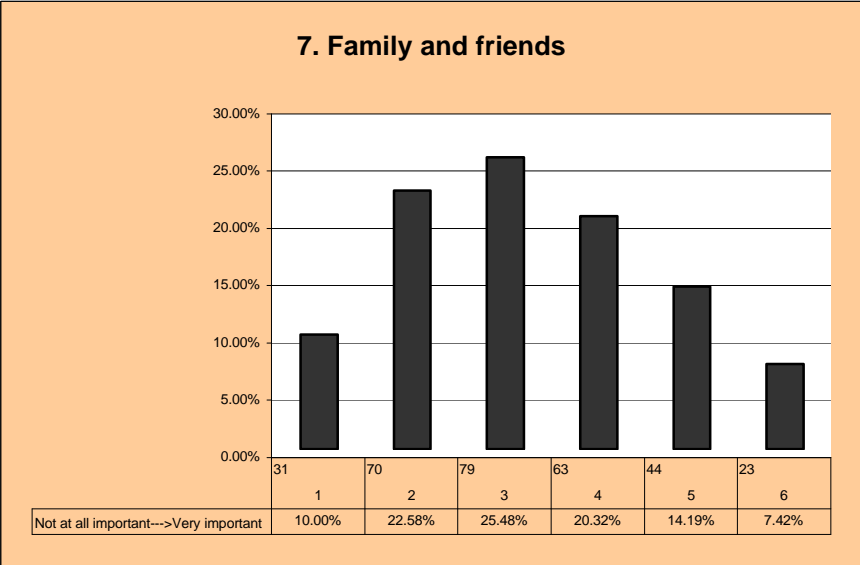


The Impact of Student Workshops at the Dolan DNA Learning Center ,
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Q06. How important is each of the following as your source of information about science and technology?

7. Family and friends

1	31	10.00%	Not at all important
2	70	22.58%	
3	79	25.48%	
4	63	20.32%	
5	44	14.19%	
6	23	7.42%	Very important
Total	310	100.00%	



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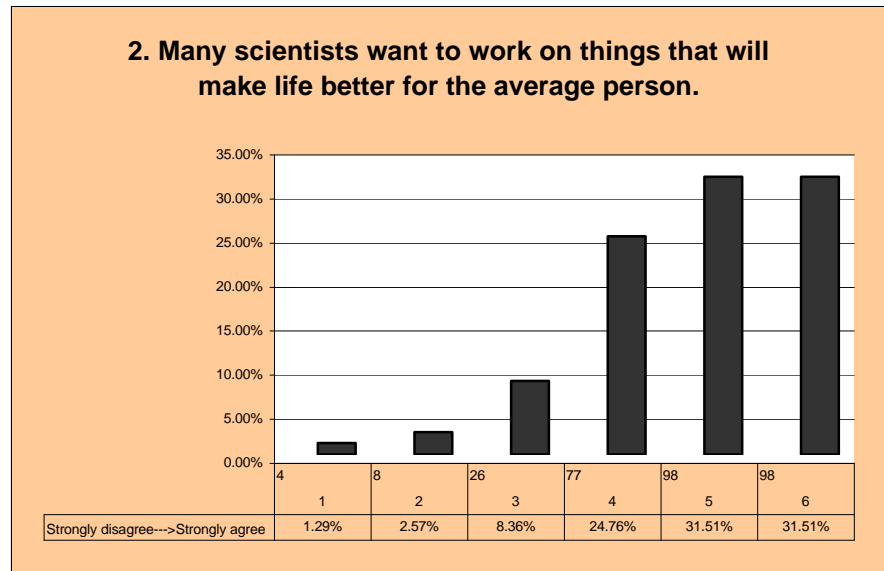
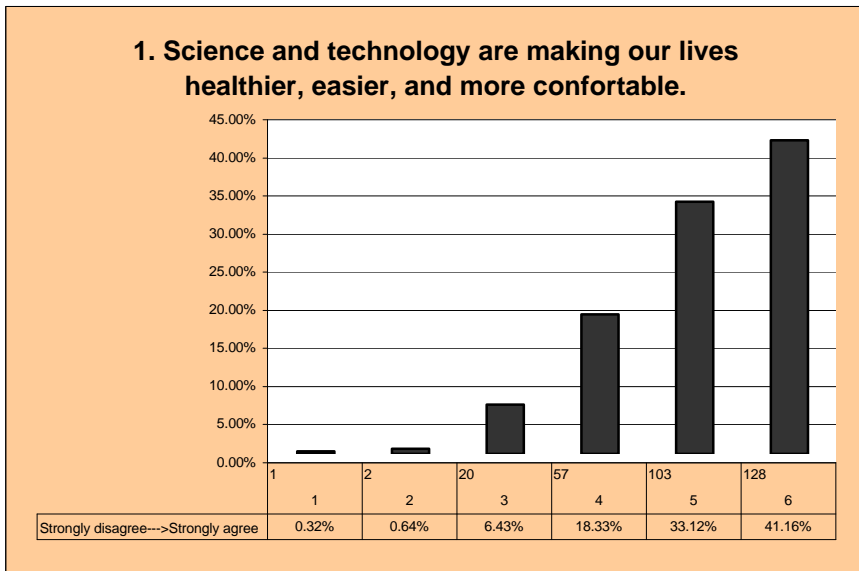
Q07. In the following section you will be presented with various statements about science and technology.

1. Science and technology are making our lives healthier, easier, and more comfortable.

2. Many scientists want to work on things that will make life better for the average person.

1	1	0.32%	Strongly Disagree
2	2	0.64%	
3	20	6.43%	
4	57	18.33%	
5	103	33.12%	
6	128	41.16%	Strongly Agree
Total	311	100.00%	

1	4	1.29%	Strongly Disagree
2	8	2.57%	
3	26	8.36%	
4	77	24.76%	
5	98	31.51%	
6	98	31.51%	Strongly Agree
Total	311	100.00%	



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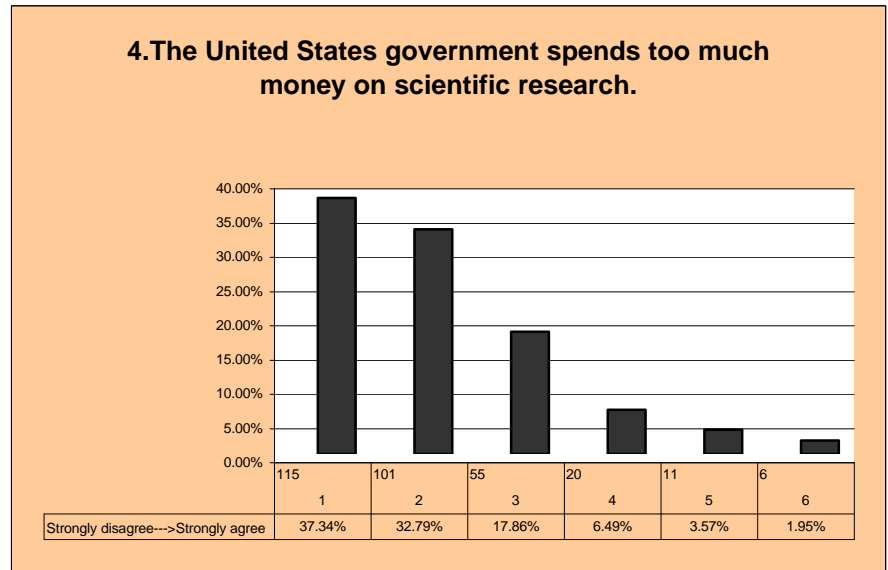
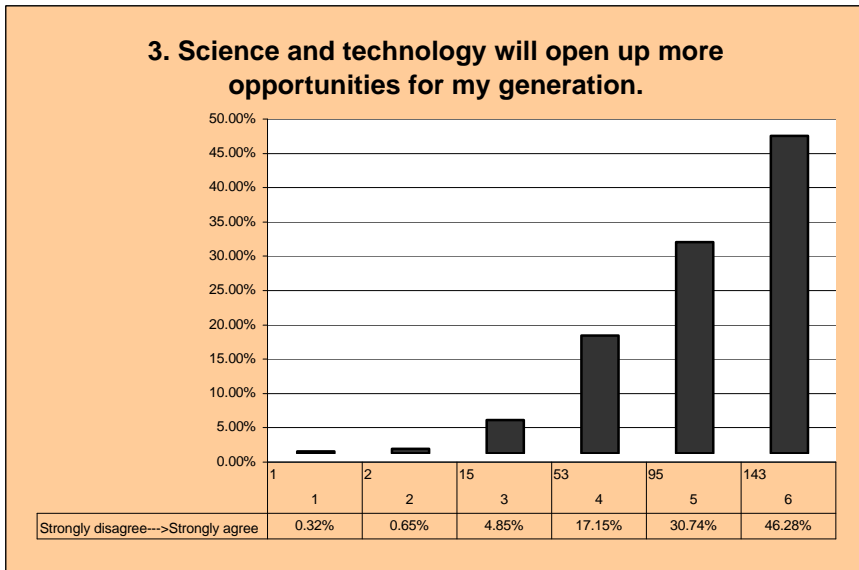
Q07. In the following section you will be presented with various statements about science and technology.

3. Science and technology will open up more opportunities for my generation.

1	1	0.32%	Strongly Disagree
2	2	0.65%	
3	15	4.85%	
4	53	17.15%	
5	95	30.74%	
6	143	46.28%	Strongly Agree
Total	309	100.00%	

4. The United States government spends too much money on scientific research.

1	115	37.34%	Strongly Disagree
2	101	32.79%	
3	55	17.86%	
4	20	6.49%	
5	11	3.57%	
6	6	1.95%	Strongly Agree
Total	308	100.00%	

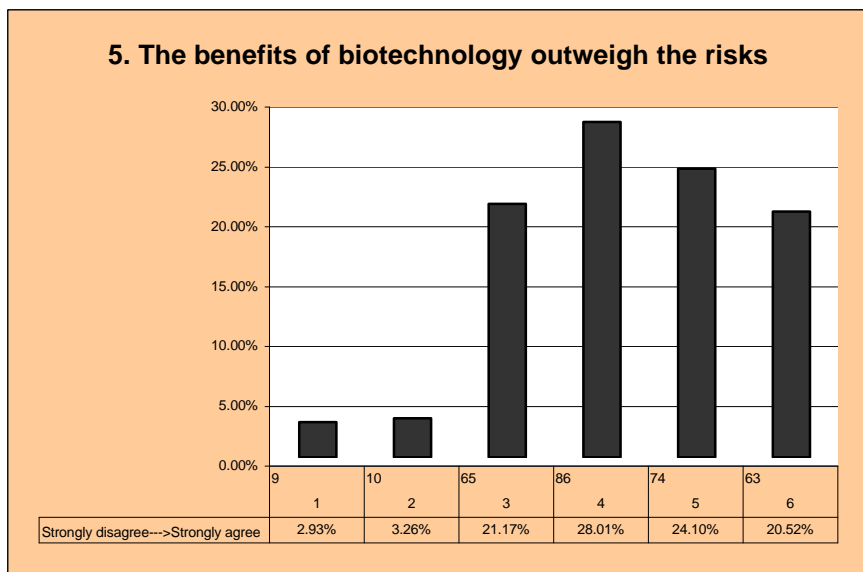


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Q07. In the following section you will be presented with various statements about science and technology.

5. The benefits of biotechnology outweigh the risks.

1	9	2.93%	Strongly Disagree
2	10	3.26%	
3	65	21.17%	
4	86	28.01%	
5	74	24.10%	
6	63	20.52%	Strongly Agree
Total	307	100.00%	



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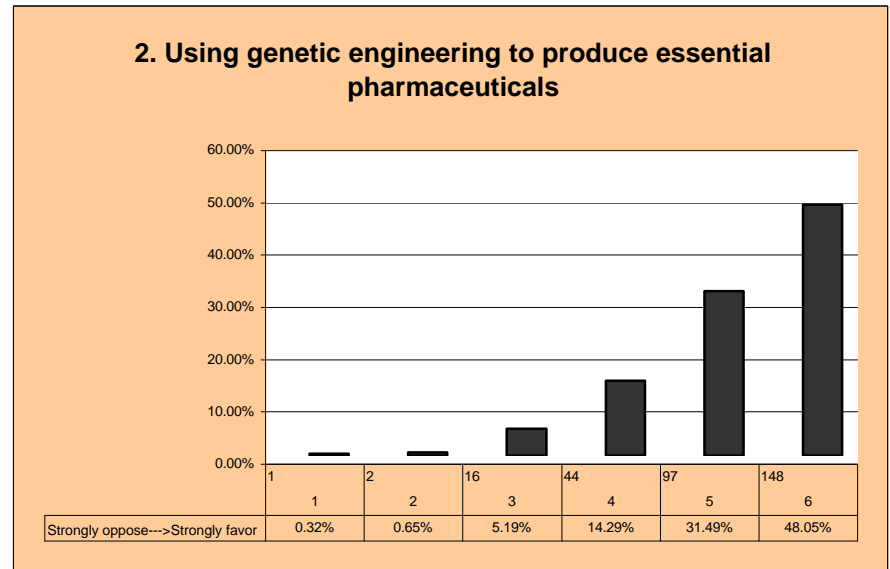
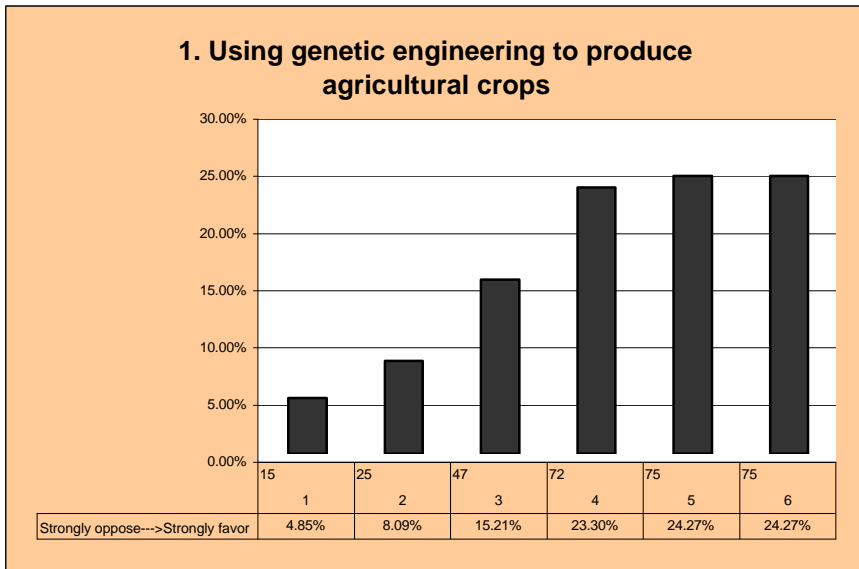
Q08. To what extent do you favor or oppose the following technologies?

1. Using genetic engineering to produce agricultural crops.

1	15	4.85%	Strongly oppose
2	25	8.09%	
3	47	15.21%	
4	72	23.30%	
5	75	24.27%	
6	75	24.27%	Strongly favor
Total	309	100.00%	

2. Using genetic engineering to produce essential pharmaceuticals.

1	1	0.32%	Strongly oppose
2	2	0.65%	
3	16	5.19%	
4	44	14.29%	
5	97	31.49%	
6	148	48.05%	Strongly favor
Total	308	100.00%	



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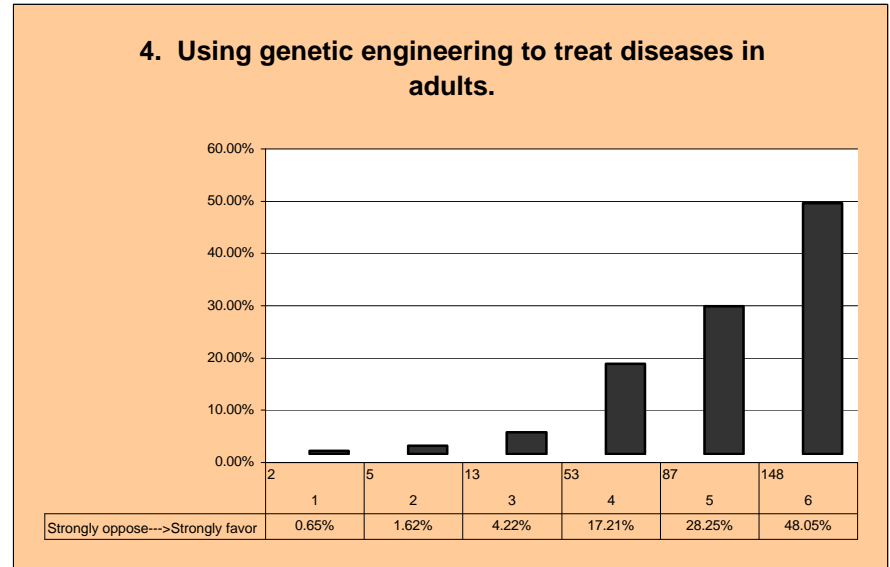
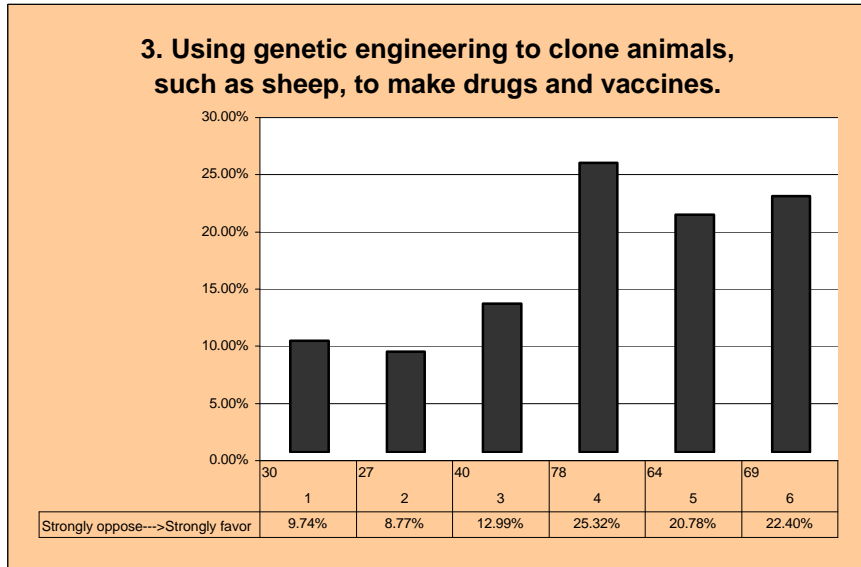
Q08. To what extent do you favor or oppose the following technologies?

3. Using genetic engineering to clone animals, such as sheep, to make drugs and vaccines.

1	30	9.74%	Strongly oppose
2	27	8.77%	
3	40	12.99%	
4	78	25.32%	
5	64	20.78%	
6	69	22.40%	Strongly favor
Total	308	100.00%	

4. Using genetic engineering to treat diseases in adults.

1	2	0.65%	Strongly oppose
2	5	1.62%	
3	13	4.22%	
4	53	17.21%	
5	87	28.25%	
6	148	48.05%	Strongly favor
Total	308	100.00%	



The Impact of Student Workshops at the Dolan DNA Learning Center ,
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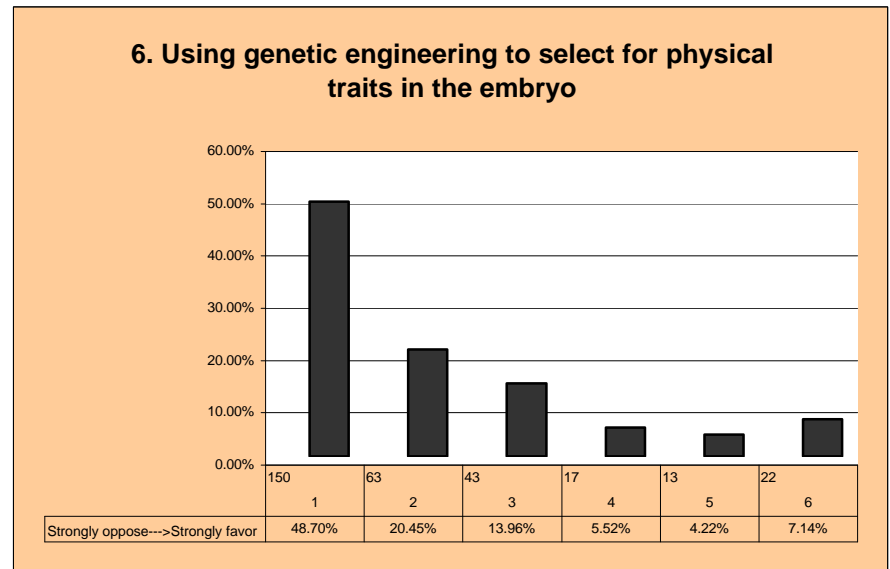
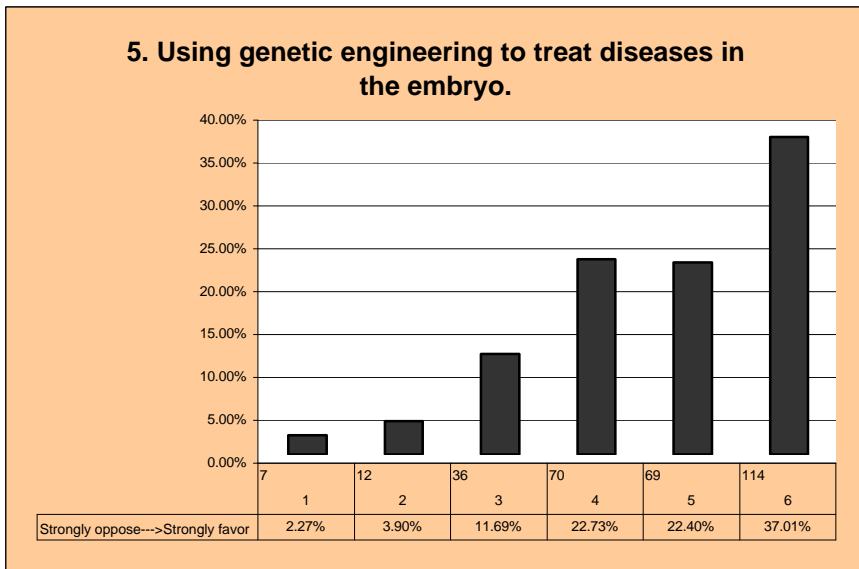
Q08. To what extent do you favor or oppose the following technologies?

5. Using genetic engineering to treat diseases in the embryo.

1	7	2.27%	Strongly oppose
2	12	3.90%	
3	36	11.69%	
4	70	22.73%	
5	69	22.40%	
6	114	37.01%	Strongly favor
Total	308	100.00%	

6. Using genetic engineering to select for physical traits in the embryo

1	150	48.70%	Strongly oppose
2	63	20.45%	
3	43	13.96%	
4	17	5.52%	
5	13	4.22%	
6	22	7.14%	Strongly favor
Total	308	100.00%	

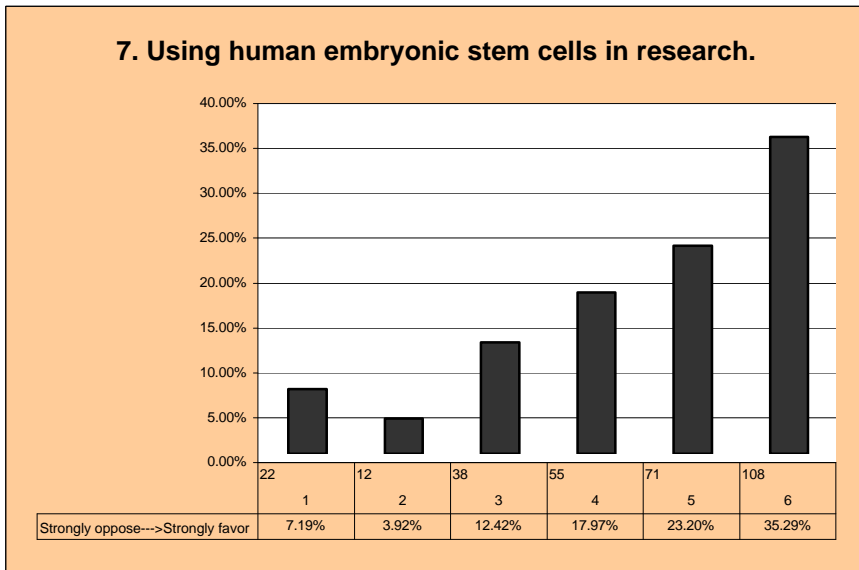


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Q08. To what extent do you favor or oppose the following technologies?

7. Using human embryonic stem cells in research.

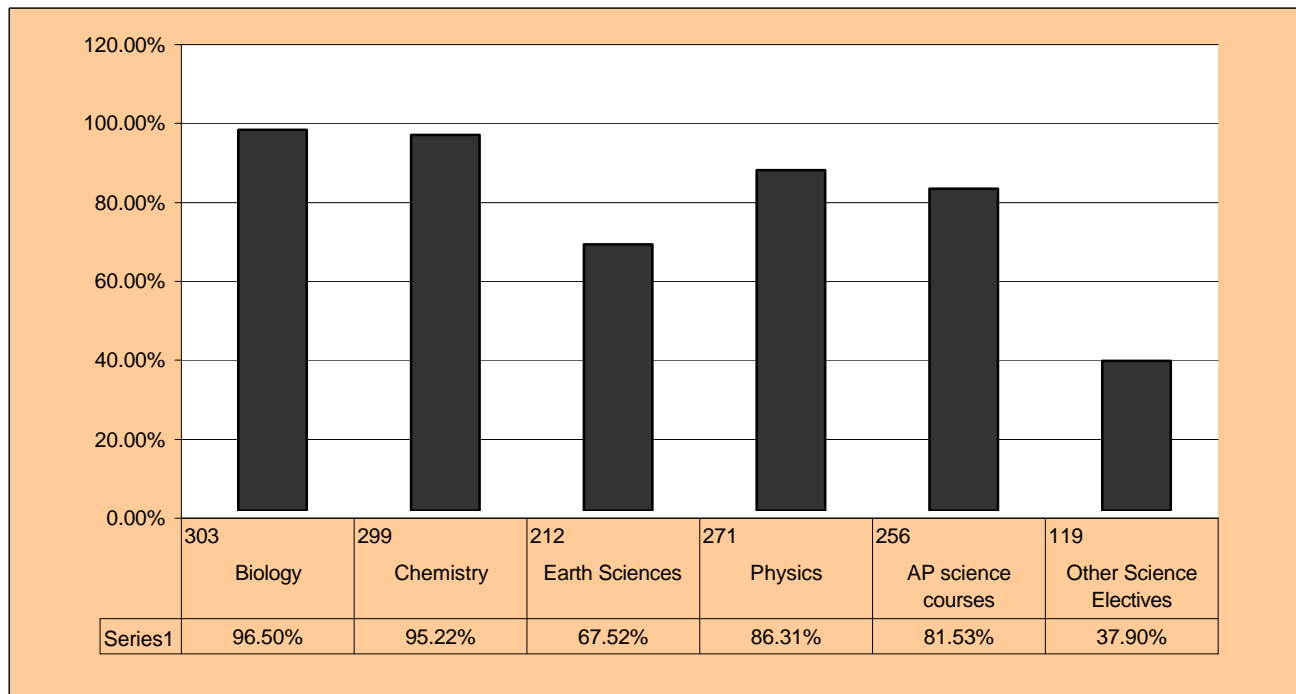
1	22	7.19%	Strongly oppose
2	12	3.92%	
3	38	12.42%	
4	55	17.97%	
5	71	23.20%	
6	108	35.29%	Strongly favor
Total	306	100.00%	



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Q09. Thinking back in time, what science classes did you take in high school?

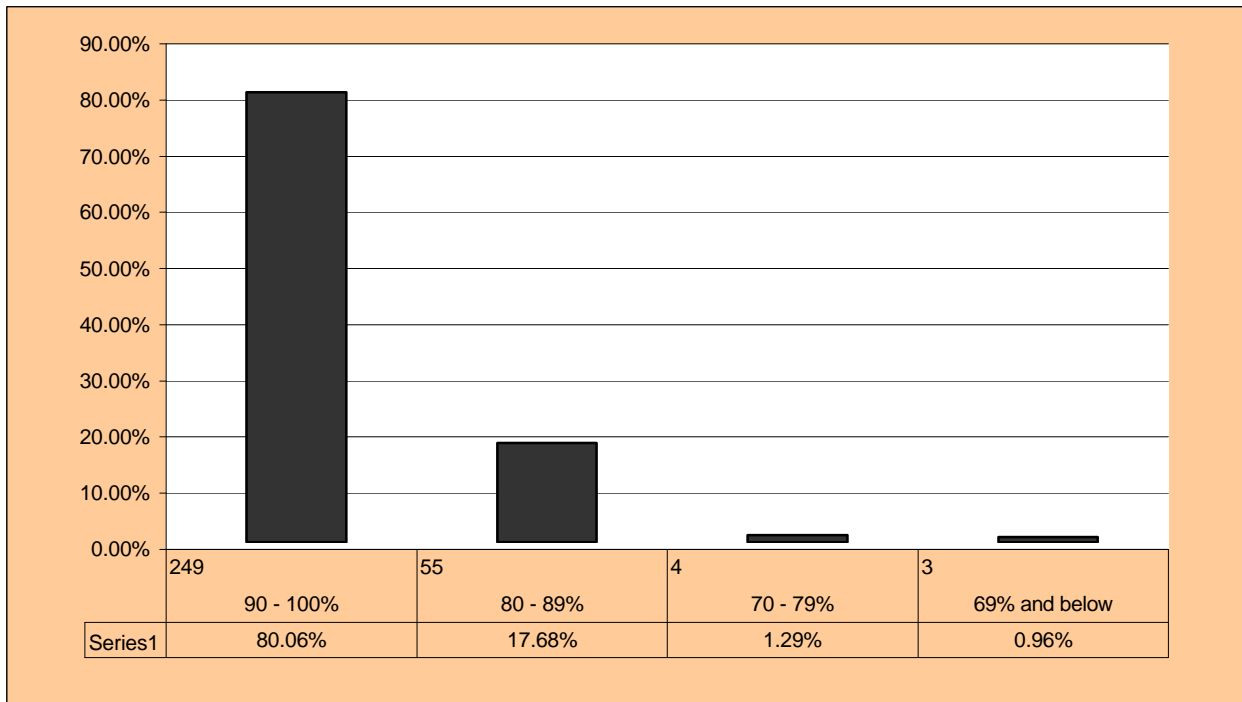
Biology	303	96.50%
Chemistry	299	95.22%
Earth Sciences	212	67.52%
Physics	271	86.31%
AP science courses	256	81.53%
Other Science Electives	119	37.90%
Number of respondents:	314	



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Q10. Which range listed below best represents your average grade percentage in high school science courses?

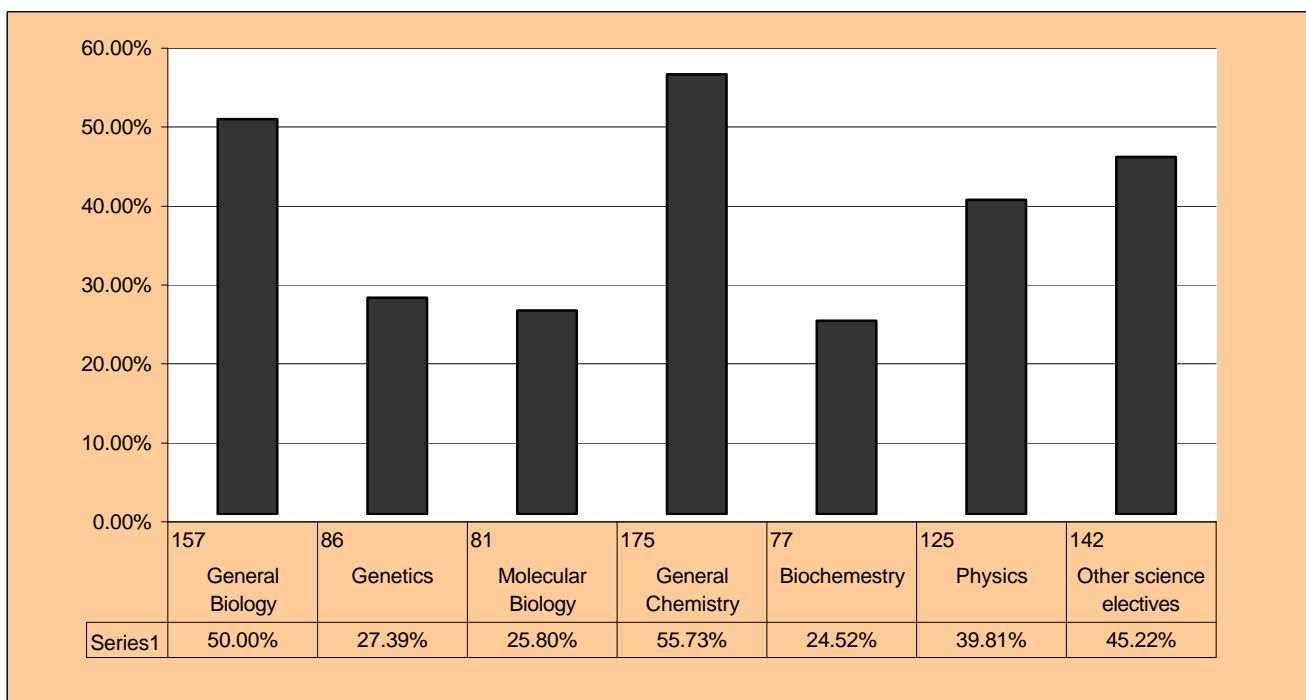
90 - 100%	249	80.06%
80 - 89%	55	17.68%
70 - 79%	4	1.29%
69% and below	3	0.96%
Total	311	100.00%



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Q09. Thinking back in time, what science classes did you take in high school?

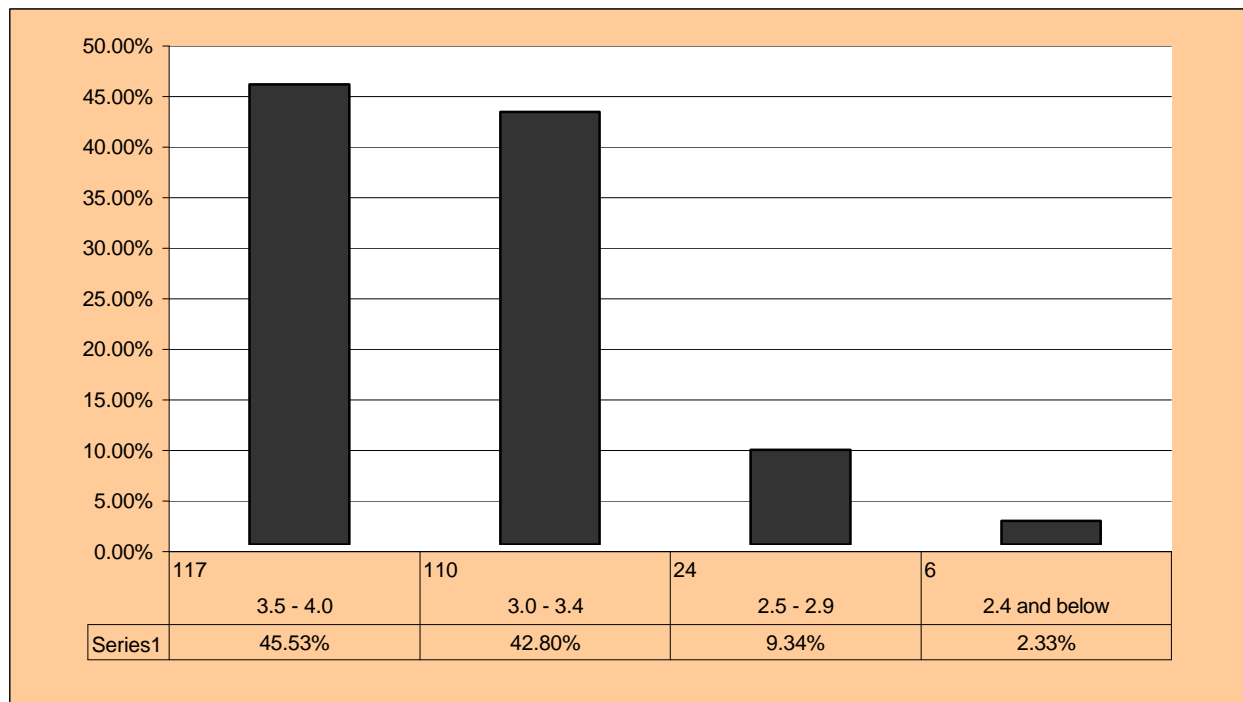
General Biology	157	50.00%
Genetics	86	27.39%
Molecular Biology	81	25.80%
General Chemistry	175	55.73%
Biochemistry	77	24.52%
Physics	125	39.81%
Other science electives	142	45.22%
Number of respondents:	314	



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Q12. Which range listed below best represents your average grade percentage in high school science courses?

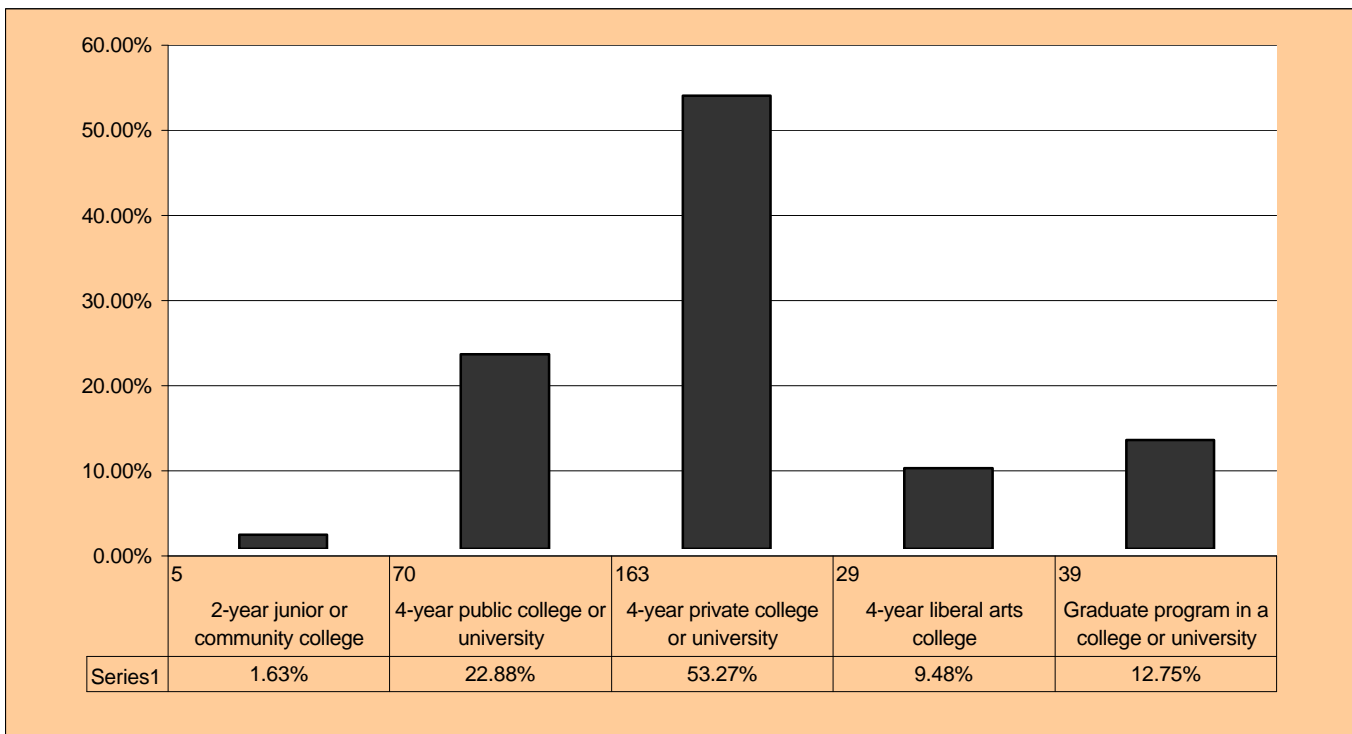
3.5 - 4.0	117	45.53%
3.0 - 3.4	110	42.80%
2.5 - 2.9	24	9.34%
2.4 and below	6	2.33%
Total	257	100.00%



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Q13. Which of the following best describes the college or university you attended or are currently attending?

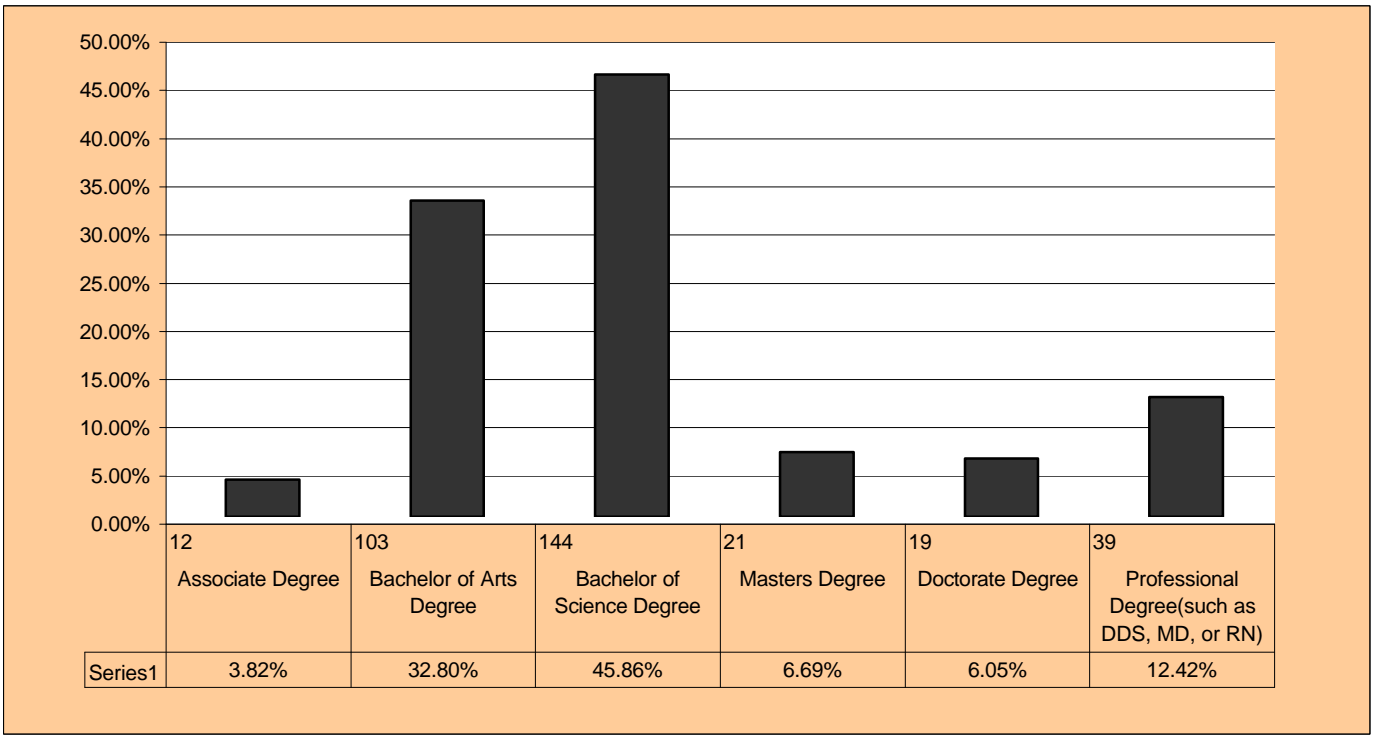
2-year junior or community college	5	1.63%
4-year public college or university	70	22.88%
4-year private college or university	163	53.27%
4-year liberal arts college	29	9.48%
Graduate program in a college or university	39	12.75%
Total	306	100.00%



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Q14. Which of the following degrees have you obtained or are you in the process of obtaining?

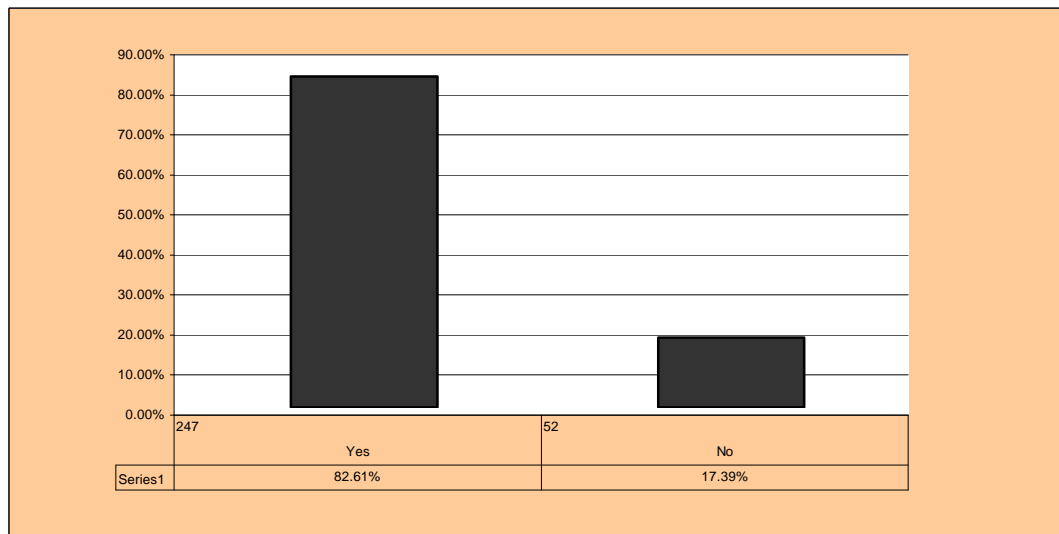
Associate Degree	12	3.82%
Bachelor of Arts Degree	103	32.80%
Bachelor of Science Degree	144	45.86%
Masters Degree	21	6.69%
Doctorate Degree	19	6.05%
Professional Degree(such as DDS, MD, or RN)	39	12.42%
Number of respondents	314	



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Q15. Have you (or did you) formally declared a major and minor?

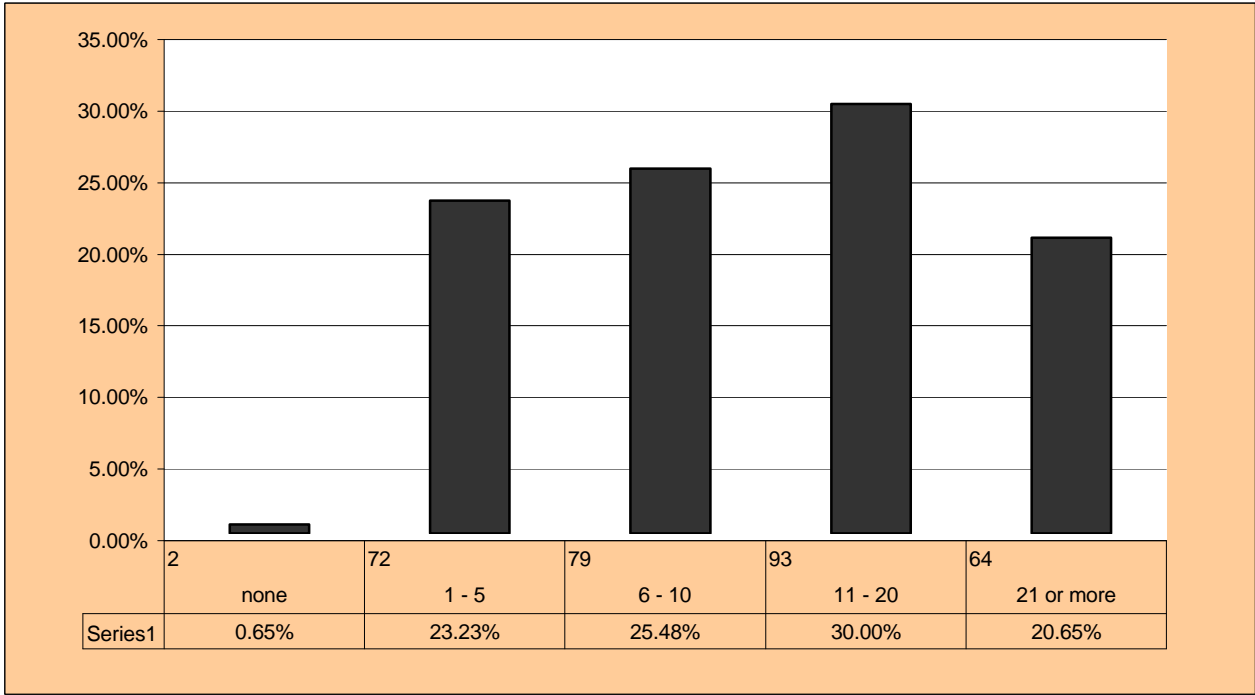
Yes	247	82.61%
No	52	17.39%
Total	299	100.00%



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Q16. How many books did you read in the past year?

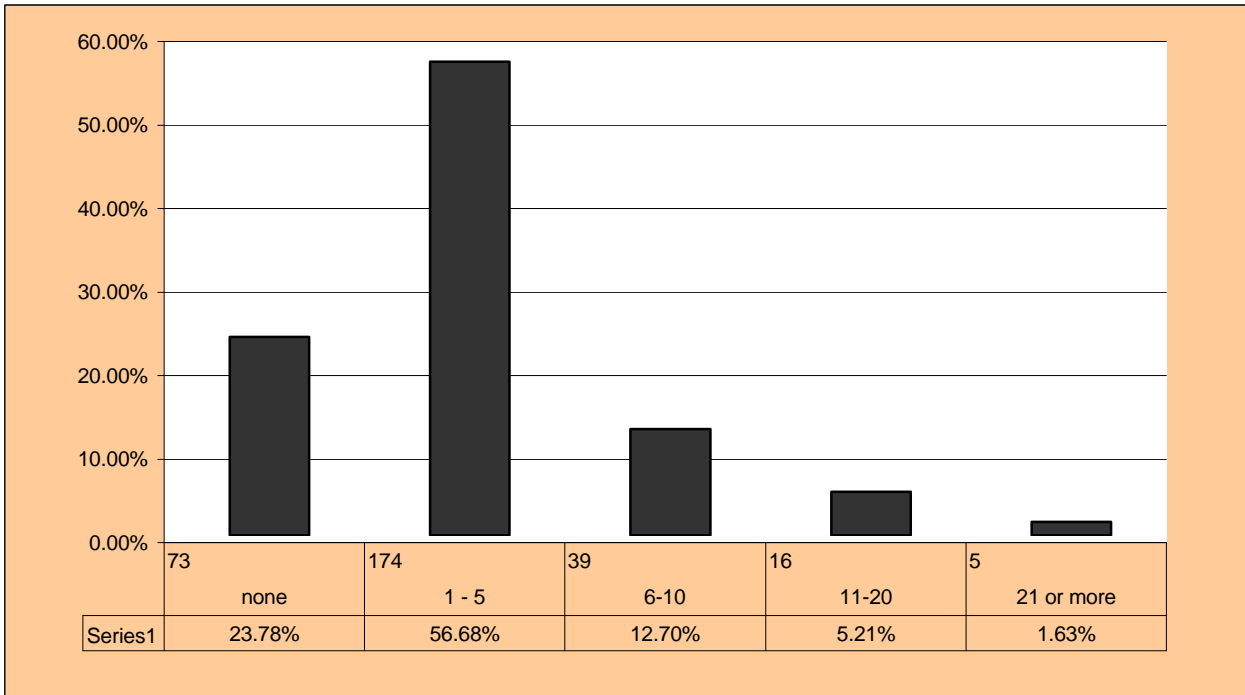
none	2	0.65%
1 - 5	72	23.23%
6 - 10	79	25.48%
11 - 20	93	30.00%
21 or more	64	20.65%
Total	310	100.00%



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Q17. Of the books you read within the past year, how many of them were science-related?

none	73	23.78%
1 - 5	174	56.68%
6-10	39	12.70%
11-20	16	5.21%
21 or more	5	1.63%
Total	307	100.00%

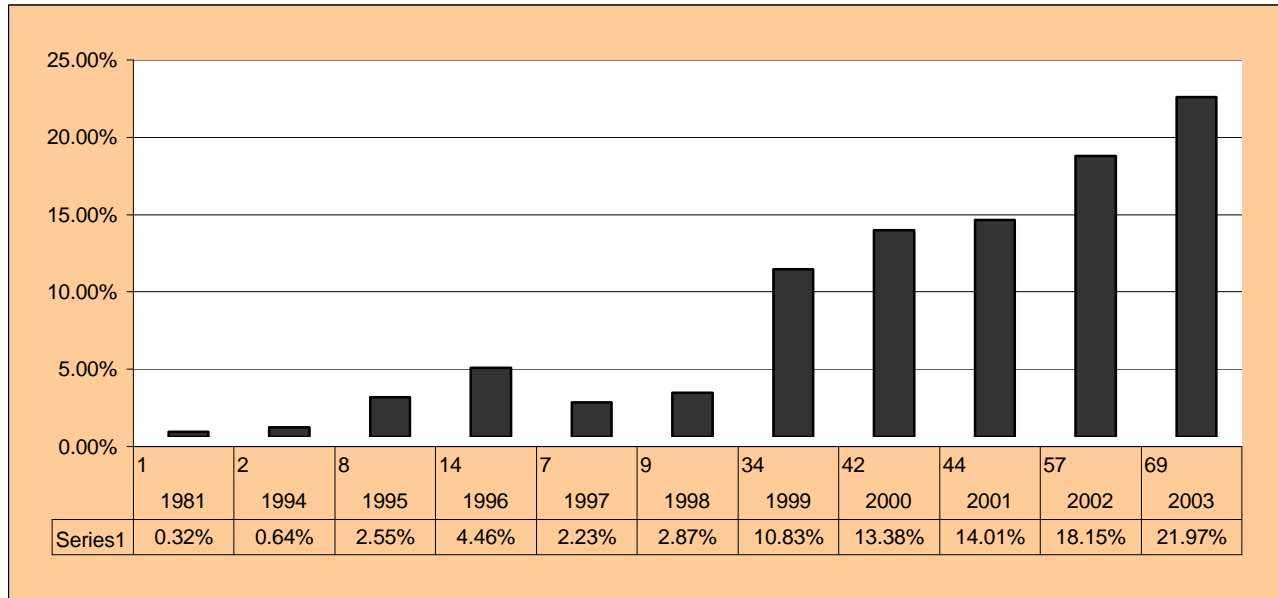


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Q18. What year did you graduate, or do you intend to graduate, from high school?

1981	1	0.32%
1994	2	0.64%
1995	8	2.55%
1996	14	4.46%
1997	7	2.23%
1998	9	2.87%
1999	34	10.83%
2000	42	13.38%
2001	44	14.01%
2002	57	18.15%
2003	69	21.97%

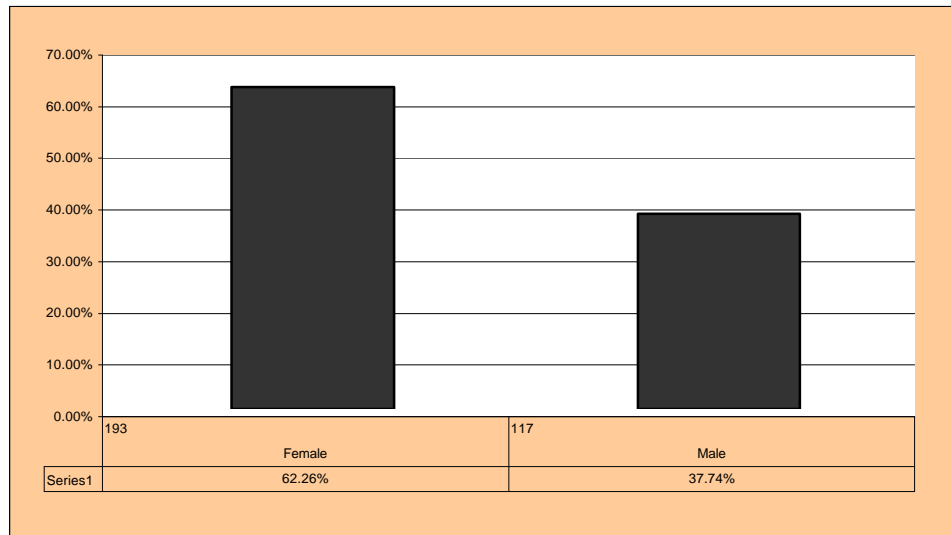
Number of respondents: 314



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Q19. What is your gender?

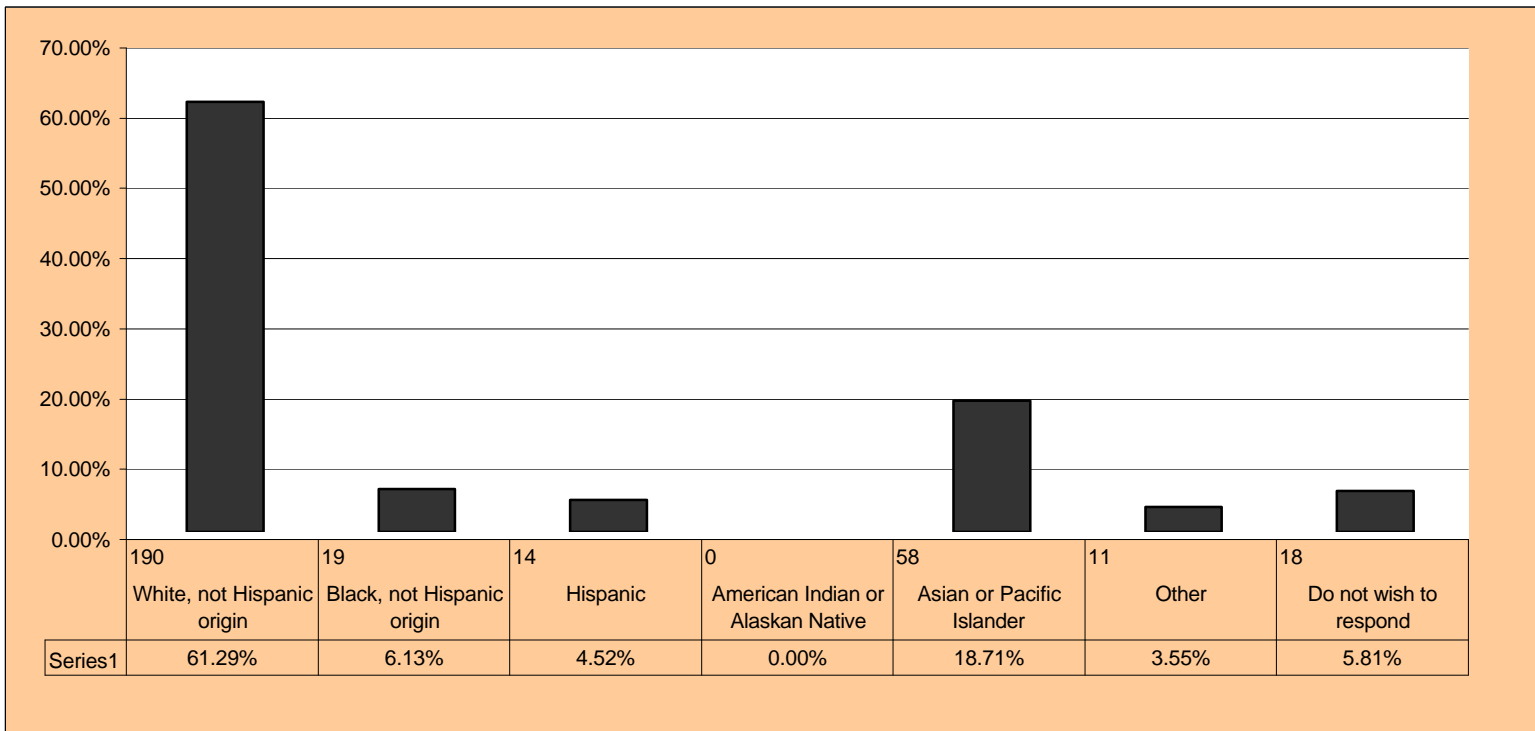
Female	193	62.26%
Male	117	37.74%
Total	310	100.00%



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Q20. Which of the following best describes your ethnic/racial status?

White, not Hispanic origin	190	61.29%
Black, not Hispanic origin	19	6.13%
Hispanic	14	4.52%
American Indian or Alaskan Native	0	0.00%
Asian or Pacific Islander	58	18.71%
Other	11	3.55%
Do not wish to respond	18	5.81%
Total	310	100.00%



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