

Appendix table 7-1

**Leading source of current news, by respondent characteristic: 2004**

(Percent)

Characteristic	Newspaper	Magazine	Internet	Books/ other print	Television	Radio	Government agency	Family	Friend/ colleague	Other	Do not know	Sample (n)
All adults .....	22	3	12	1	51	8	—	1	2	—	—	2,009
Male .....	25	2	16	1	44	10	—	1	1	—	—	897
Female .....	20	3	9	1	56	6	—	2	2	—	—	1,112
Formal education												
<High school .....	11	3	2	1	73	4	—	1	4	1	—	138
High school graduate .....	21	2	9	1	56	7	—	2	2	—	—	1,152
Baccalaureate .....	25	3	18	1	38	11	—	1	1	—	1	446
Graduate/professional degree .....	31	9	25	2	26	7	—	1	0	—	—	260
Science/mathematics education <sup>a</sup>												
Low .....	19	2	6	1	61	6	—	2	2	—	—	753
Middle .....	22	3	8	1	52	7	1	2	3	—	1	480
High .....	25	3	21	1	38	10	—	1	1	—	—	774
Family income (quartile)												
Top .....	24	4	20	2	37	11	—	1	1	—	—	509
Second .....	24	3	12	1	46	9	—	3	1	—	—	491
Third .....	18	3	12	0	55	7	—	1	4	—	1	453
Bottom .....	19	2	7	1	61	6	—	1	2	1	—	411
Age (years)												
18–24 .....	23	1	14	1	49	3	1	4	4	—	—	115
25–34 .....	18	1	20	0	44	11	—	3	2	—	—	275
35–44 .....	18	2	17	1	47	9	—	2	2	—	—	427
45–54 .....	25	2	12	2	48	9	—	0	2	—	—	436
55–64 .....	23	4	6	1	57	7	—	0	1	—	5	350
65+ .....	26	5	1	1	60	5	—	0	1	—	1	399
Minor children at home												
Yes .....	21	2	15	1	46	9	—	3	3	—	—	714
No .....	23	3	10	1	54	7	—	1	1	—	—	1,294

— = ≤0.5% responded

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.NOTES: Responses to: *We are interested in how people get information about events in the news. Thinking about the kind of issues we have been talking about, where do you get most of your information about current news events?* Some respondents did not provide information about highest level of education. Detail may not add to total because of rounding.

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Science and Engineering Indicators 2006

Appendix table 7-2

**Leading source of information about science and technology, by respondent characteristic: 2004**

(Percent)

Characteristic	Newspaper	Magazine	Internet	Books/ other print	Television	Radio	Government agency	Family	Friend/ colleague	Other	Do not know	Sample (n)
All adults .....	14	14	18	5	41	2	—	2	2	1	1	2,003
Male .....	14	16	22	4	38	2	—	1	2	1	1	897
Female .....	14	13	14	6	44	2	—	3	3	1	1	1,106
Formal education												
<High school .....	7	8	8	3	62	1	—	2	4	—	4	135
High school graduate .....	15	13	15	4	46	2	—	2	2	1	—	1,149
Baccalaureate .....	13	17	28	6	28	3	—	2	2	1	—	446
Graduate/professional degree .....	14	26	27	10	16	2	—	2	2	1	1	261
Science/mathematics education <sup>a</sup>												
Low .....	14	9	11	4	52	2	—	3	2	1	1	744
Middle .....	14	17	16	4	42	1	—	2	2	1	—	480
High .....	14	19	26	7	26	2	—	1	2	2	—	777
Family income (quartile)												
Top .....	13	20	25	6	29	3	—	1	2	1	—	510
Second .....	16	14	20	5	37	1	—	3	2	1	—	489
Third .....	14	14	18	4	42	2	—	1	2	1	1	454
Bottom .....	12	11	11	7	51	2	—	2	2	1	1	406
Age (years)												
18–24 .....	12	9	25	6	37	—	1	4	2	4	—	115
25–34 .....	11	8	28	4	43	1	—	3	2	—	1	275
35–44 .....	9	15	23	4	39	3	—	2	4	2	—	426
45–54 .....	17	15	19	6	34	2	—	2	2	1	1	436
55–64 .....	14	22	10	8	41	3	—	1	2	—	—	347
65+ .....	20	17	4	5	48	2	—	2	2	—	2	397
Minor children at home												
Yes .....	11	14	22	5	39	1	—	2	3	1	1	715
No .....	16	15	15	5	42	2	—	2	2	1	1	1,287

— = ≤0.5% responded

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.NOTES: Responses to: *We are interested in how people get information about events in the news. Thinking about the kind of issues we have been talking about, where do you get most of your information about current news events?* Some respondents did not provide information about highest level of education. Detail may not add to total because of rounding.

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Science and Engineering Indicators 2006

Appendix table 7-3

**Leading source of information about specific scientific issue, by respondent characteristic: 2004**

(Percent)

Characteristic	Newspaper	Magazine	Internet	Books/ other print	Television	Radio	Government agency	Family	Friend/ colleague	Other	Do not know	Sample (n)
All adults .....	6	9	52	12	13	—	1	1	1	3	1	2,007
Male .....	6	9	54	11	13	—	1	1	1	3	1	897
Female .....	5	8	51	13	13	—	—	1	2	4	2	1,110
Formal education												
<High school .....	7	6	29	9	33	—	2	1	3	4	6	136
High school graduate .....	6	8	50	13	15	—	—	1	1	4	1	1,151
Baccalaureate .....	3	11	66	9	5	1	—	1	1	2	—	449
Graduate/professional degree .....	5	12	62	14	1	—	1	1	—	2	1	259
Science/mathematics education <sup>a</sup>												
Low .....	8	6	42	12	21	1	1	1	2	4	2	748
Middle .....	6	10	53	12	11	—	1	1	—	3	1	480
High .....	4	11	63	11	5	—	—	1	1	2	1	777
Family income (quartile)												
Top .....	4	10	71	7	6	—	—	—	1	1	1	511
Second .....	3	9	59	11	11	—	—	2	1	2	1	489
Third .....	9	10	52	10	12	—	—	1	1	4	1	454
Bottom .....	6	8	34	17	23	1	2	1	1	5	2	409
Age (years)												
18–24 .....	2	5	63	16	8	—	—	1	2	3	—	115
25–34 .....	4	5	71	10	7	—	—	—	—	2	—	275
35–44 .....	3	8	64	9	9	1	—	1	3	2	1	428
45–54 .....	4	9	56	11	15	—	—	1	1	2	1	436
55–64 .....	6	12	46	13	12	1	—	1	2	5	2	349
65+ .....	13	12	19	15	24	1	2	2	1	6	4	397
Minor children at home												
Yes .....	3	8	66	10	9	—	—	—	1	2	—	716
No .....	8	10	43	13	16	1	1	2	1	4	2	1,290

— = ≤0.5% responded

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Responses to: *We are interested in how people get information about events in the news. Thinking about the kind of issues we have been talking about, where do you get most of your information about current news events?* Some respondents did not provide information about highest level of education. Detail may not add to total because of rounding.

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-4  
**Access to the Internet at home, by respondent characteristic: 2001 and 2004**  
 (Percent)

Characteristic	2001			2004		
	No	Yes	Sample (n)	No	Yes	Sample (n)
All adults .....	41	59	1,574	30	70	2,005
Male .....	37	63	751	26	74	898
Female .....	45	55	823	34	66	1,107
Formal education						
<High school .....	68	32	116	71	29	137
High school graduate .....	42	58	834	35	65	1,155
Baccalaureate degree .....	19	81	393	11	89	448
Graduate/professional degree .....	19	81	221	8	92	261
Science/mathematics education <sup>a</sup>						
Low .....	55	45	674	48	52	744
Middle .....	31	69	469	30	70	481
High .....	18	82	431	11	89	780
Family income (quartile)						
Top .....	NA	NA	NA	5	95	509
Second .....	NA	NA	NA	14	86	486
Third .....	NA	NA	NA	35	65	455
Bottom .....	NA	NA	NA	59	41	409

NA = not available

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Some respondents did not provide information about highest level of education. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (2001); and University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-5

**Level of public interest in science and technology issues: Most recent year**

(Percent)

Issue	United States (2001) (n = 1,574)				Europe (2005) (n = 24,895)				China (2001) (n = 8,350)					South Korea (2004) (n = 1,007)				Japan (2001) (n = 2,146)			Malaysia (2000) (n = 5,000)				
	VI	MI	NI	Index score	VI	MI	NI	Index score	GI	FI	NMI	NI	Index score	VI	MI	NI	Index score	VI	Index score	NI	I	MI	SI	NI	Index score
Agriculture and farming .....	29	46	25	53	—	—	—		38	37	18	7	69	33	39	28	53	—	42	—	—	—	—	—	—
Economy and business conditions .....	45	45	10	67	—	—	—		17	36	32	15	52	57	35	8	75	—	73	—	21	30	27	22	50
Environmental pollution .....	48	43	8	70	38	49	12	63	30	42	20	9	64	58	36	7	76	—	75	—	32	36	21	11	63
International and foreign policy .....	28	49	23	52	—	—	—		25	36	25	14	58	19	49	32	44	—	52	—	8	21	30	41	32
Local schools.....	59	31	10	74	—	—	—		—	—	—	—	—	49	36	15	67	—	52	—	16	27	28	29	43
Military and defense policy .....	38	44	18	60	—	—	—		32	34	22	11	62	24	42	35	45	—	44	—	—	—	—	—	—
New inventions and technologies.....	43	47	10	66	30	48	21	54	30	43	20	7	66	27	45	28	49	—	48	—	23	28	28	21	51
New medical discoveries .....	65	32	4	80	33	50	16	58	27	41	24	8	62	27	48	25	51	—	61	—	18	26	29	27	45
New scientific discoveries.....	47	45	9	69	30	48	20	54	37	41	17	5	70	27	45	28	50	—	44	—	18	24	27	31	43
Space exploration .....	26	47	27	50	—	—	—		15	26	36	23	44	—	—	—	—	—	40	—	18	20	26	37	39

— = not asked

VI = very interested; MI = moderately interested; NI = not interested; GI = great interest; FI = fair interest; NMI = not much interest; I = interested; SI = slightly interested

NOTES: Responses to: *There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested.* "Don't know" responses not included. Responses converted to 0–100 scale with 100 for VI, 50 for MI, and 0 for NI. In China, values were 100 for GI, 67 for FI, 33 for NMI, and 0 for NI. Values for Malaysia were 100 for I, 67 for MI, 33 for SI, and 0 for NI. Indices were obtained by adding all values for each policy issue and computing average. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (2001); Chinese Ministry of Science and Technology, *China Science and Technology Indicators 2002* (2002); Korea Science Foundation, Survey on Public Attitude of Science & Technology 2004 (2004); National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology, The 2001 Survey of Public Attitudes Toward and Understanding of Science & Technology in Japan (2002); Malaysian Science and Technology Information Centre, Ministry of Science, Technology and the Environment, *Public Awareness of Science and Technology Malaysia 2000* (2001); and European Commission, Research Directorate-General, Eurobarometer 224/Wave 63.1: *Europeans, Science and Technology* (2005).

Science and Engineering Indicators 2006

Appendix table 7-6  
**Types of establishments visited during the past 12 months: Most recent year**  
 (Percent)

	Public library	Zoo or aquarium	Art gallery	Science and technology museum
United States (2001) .....	75	58	32	30
Europe (2005).....	34	27	23	16
Belgium.....	39	28	26	16
Denmark.....	67	45	42	16
Germany.....	31	37	26	20
Greece.....	14	12	14	12
Spain.....	23	19	20	16
France.....	30	30	24	15
Ireland.....	41	24	19	10
Italy.....	17	11	19	11
Luxembourg.....	23	30	26	24
Netherlands.....	60	53	42	16
Austria.....	23	25	19	11
Portugal.....	17	17	11	6
Finland.....	75	29	32	16
Sweden.....	75	34	39	36
United Kingdom.....	52	30	25	19
Republic of Cyprus.....	11	28	10	8
Czech Republic.....	38	37	25	18
Estonia.....	52	28	20	11
Hungary.....	26	27	16	11
Latvia.....	34	31	18	8
Lithuania.....	33	19	18	10
Malta.....	27	12	22	9
Poland.....	38	22	11	12
Slovakia.....	34	26	13	11
Slovenia.....	51	23	18	16
Bulgaria.....	16	13	7	7
Romania.....	19	17	12	8
Croatia.....	34	17	14	7
Turkey.....	18	20	11	7
Iceland.....	80	36	57	24
Switzerland.....	40	45	36	26
Norway.....	58	36	34	27
Russia (2003).....	16	9	7	1
China (2001).....	27	32	NA	14
Japan (2001).....	47	43	35	13

NA = not available

NOTE: Percentages for respondents within respective country.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (2001); and other surveys.

Appendix table 7-7

**Feeling informed about selected policy issues: Selected years, 1979–2004**

(Percent)

Issue	1979 (n = 1,635)			1981 (n = 3,195)			1983 (n = 1,631)			1985 (n = 2,005)			1988 (n = 2,041)			1990 (n = 2,033)			1992 (n = 2,001)			1995 (n = 2,006)			1997 (n = 2,000)			1999 (n = 1,882)			2001 (n = 1,574)			2004 (n = 2,025)		
	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI
Agriculture and farming .....	10	44	45	14	42	44	—	—	—	17	47	35	20	52	27	13	46	42	—	—	—	11	47	42	13	49	38	11	43	45	14	44	43	10	43	47
Economic and business conditions.....	14	55	31	29	51	20	28	52	20	22	51	26	22	55	22	25	55	20	29	54	17	25	53	22	25	51	24	23	53	24	23	56	22	22	58	19
Environmental pollution .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32	55	13	29	56	15	24	56	20	23	55	21	21	54	25	18	58	24	17	54	29
International and foreign policy .....	8	54	37	17	54	28	14	51	35	15	53	32	14	55	31	22	57	22	19	54	26	10	52	37	10	52	38	14	52	34	12	46	43	13	50	37
Local schools.....	20	48	32	32	45	22	34	41	25	30	47	22	33	44	23	32	46	21	32	46	22	36	46	18	38	44	17	35	47	18	35	48	17	33	47	20
Military and defense policy .....	—	—	—	—	—	—	21	50	29	21	48	31	17	51	32	26	51	23	24	51	25	17	47	36	18	42	40	21	46	33	15	48	37	21	48	31
New inventions and technologies.....	10	50	39	11	48	40	14	55	32	12	54	34	12	51	36	11	53	35	10	56	33	12	55	33	16	56	28	17	53	30	12	52	36	14	53	33
New medical discoveries .....	—	—	—	—	—	—	—	—	—	24	57	18	22	59	19	24	57	20	22	58	21	23	57	20	28	56	16	25	56	19	21	59	20	19	55	26
New scientific discoveries.....	10	52	37	13	49	38	13	53	34	13	59	27	14	55	31	14	55	31	12	54	34	13	58	29	19	58	23	17	56	28	14	57	29	16	52	32
Space exploration .....	—	—	—	14	46	40	13	52	34	16	52	32	13	52	34	11	51	38	9	48	44	9	48	43	16	50	34	13	48	40	10	45	46	14	43	43

— = not asked

VI = very well informed; MI = moderately well informed; NI = poorly informed

NOTES: Responses to: *Now I'd like to go through this list with you again, and for each issue, I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed.* "Don't know" responses not included. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

Science and Engineering Indicators 2006

Appendix table 7-8

**Feeling informed about selected policy issues: Selected years, 1979–2004**

(Mean index score)

Issue	1979 (n = 1,635)	1981 (n = 3,195)	1983 (n = 1,631)	1985 (n = 2,005)	1988 (n = 2,041)	1990 (n = 2,033)	1992 (n = 2,001)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2004 (n = 2,025)
Agriculture and farming .....	33	35	—	41	46	36	—	35	38	33	35	31
Economy and business conditions .....	42	55	54	48	50	53	56	52	51	50	51	51
Environmental pollution .....	—	—	—	—	—	60	57	52	51	48	47	44
International and foreign policy .....	35	44	40	42	42	51	46	36	36	40	35	38
Local schools.....	44	55	54	54	55	55	55	59	61	58	59	56
Military and defense policy .....	—	—	46	45	43	51	49	40	39	44	39	45
New inventions and technologies.....	35	35	42	39	38	38	38	40	44	43	38	40
New medical discoveries .....	—	—	—	53	52	53	51	52	56	53	51	46
New scientific discoveries.....	36	38	40	43	42	42	39	42	48	44	42	42
Space exploration .....	—	37	39	42	39	37	33	33	41	37	32	36

— = not asked

NOTES: Responses to: *Now, I'd like to go through this list with you again, and for each issue, I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed.* Responses converted to 0–100 scale, with 100 for very well informed, 50 for moderately well informed, and 0 for poorly informed. Indices obtained by adding all values for each policy issue and computing average.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

*Science and Engineering Indicators 2006*



Appendix table 7-9  
**Feeling informed about selected policy issues, by respondent characteristic: 2004**  
 (Mean index score)

Sex and education level	Agriculture and farming	Economy and business conditions	Environmental pollution	International and foreign policy	Local schools	Military and defense policy	New inventions and technologies	New medical discoveries	New scientific discoveries	Space exploration	Sample (n)
All adults .....	31	51	44	38	56	45	40	46	42	36	2,025
Male .....	34	56	46	45	54	52	46	44	45	43	903
Female .....	29	47	43	31	58	40	36	48	40	29	1,122
<b>Formal education</b>											
<High school .....	30	35	34	25	41	36	27	39	31	27	139
High school graduate .....	33	49	43	35	57	45	39	46	39	34	1,156
Baccalaureate degree .....	29	59	48	42	59	48	45	47	49	41	449
Graduate/professional degree .....	26	61	56	55	62	52	53	53	57	43	261
<b>Science/mathematics education<sup>a</sup></b>											
Low .....	32	44	41	31	51	40	32	44	35	32	761
Middle .....	31	52	44	37	58	45	39	43	40	33	481
High .....	31	60	48	46	61	51	51	51	52	42	780
<b>Family income (quartile)</b>											
Top .....	27	62	48	47	58	52	49	47	49	39	513
Second .....	32	52	42	36	60	45	39	46	41	35	493
Third .....	32	50	41	35	57	46	37	44	38	35	459
Bottom .....	34	43	47	33	53	41	38	47	42	35	414
<b>Age (years)</b>											
18–24 .....	31	54	41	39	59	53	52	47	49	44	116
25–34 .....	27	52	41	33	54	46	42	41	39	34	276
35–44 .....	30	53	44	38	63	48	41	45	44	38	430
45–54 .....	30	51	44	43	56	43	38	47	42	32	441
55–64 .....	35	54	47	39	55	42	40	47	44	39	351
65+ .....	38	46	47	35	52	42	35	50	39	32	403
<b>Minor children at home</b>											
Yes .....	28	51	41	36	64	47	40	43	40	34	721
No .....	33	52	46	38	51	44	41	48	43	37	1,303

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Responses to: *Now, I'd like to go through this list with you again, and for each issue, I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed.* Responses converted to 0–100 scale, with 100 for very well informed, 50 for moderately well informed, and 0 for poorly informed. Indices obtained by adding all values for each policy issue and computing average.

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-10

**Correct answers to specific science literacy questions, by country/region: Most recent year**

(Percent)

Questions	United States (2004) (n = 2,010)	United States (2001) (n = 1,574)	EU-25 (2005) (n = 24,895)	EU-15 (2001) (n = 16,029)	China (2001) (n = 8,350)	South Korea (2004) (n = 1,007)	Japan (2001) (n = 2,146)	Malaysia (2000) (n = 5,000)	Russia (2003) (n = 2,107)
<i>The center of the Earth is very hot. (True)</i> .....	78	80	86	88	39	87	77	74	—
<i>All radioactivity is man-made. (False)</i> .....	73	76	59	53	46	48	56	33	35
<i>It is the father's gene that decides whether the baby is a boy or a girl. (True)</i> .....	62	65	64	48	39	59	25	46	22
<i>Lasers work by focusing sound waves. (False)</i> .....	42	45	47	35	16	31	28	34	24
<i>Electrons are smaller than atoms. (True)</i> .....	45	48	46	41	24	46	30	42	44
<i>Antibiotics kill viruses as well as bacteria. (False)</i> .....	54	51	46	40	18	30	23	21	18
<i>The universe began with a huge explosion. (True)</i> .....	35 <sup>a</sup>	33	—	—	17	67	63	41	35
<i>The continents have been moving their location for millions of years and will continue to move. (True)</i> .....	77	79	87	82	45	87	83	62	40
<i>Human beings are developed from earlier species of animals. (True)</i> .....	44 <sup>a</sup>	53	70	69	70	64 <sup>b</sup>	78	61	44
<i>Does the Earth go around the Sun, or does the Sun go around the Earth? (Earth around the Sun)</i> .....	71	75	66	67	59	86	—	81	—

— = question not asked

EU = European Union

<sup>a</sup>This question asked of slightly >75% of survey respondents.<sup>b</sup>Did not include question about evolution. Answer came from South Korea 2002 survey.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (2001); University of Michigan, Survey of Consumer Attitudes (2004); Chinese Ministry of Science and Technology, *China Science and Technology Indicators 2002* (2002); Korea Science Foundation, Survey on Public Attitude of Science & Technology 2004 (2004); National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology, The 2001 Survey of Public Attitudes Toward and Understanding of Science & Technology in Japan (2002); Malaysian Science and Technology Information Centre, Ministry of Science, Technology and the Environment, *The Public Awareness of Science and Technology Malaysia 2000* (2001); L. Gokhberg and O. Shuvalova, *Russian Public Opinion of the Knowledge Economy: Science, Innovation, Information Technology and Education*, British Council, Russia (2004); European Commission, Research Directorate-General, Eurobarometer 55.2: *Europeans, Science and Technology* (2001); and Eurobarometer 224/Wave 63.1: *Europeans, Science and Technology* (2005).

Science and Engineering Indicators 2006

Appendix table 7-11

**Correct answers to scientific terms and concept questions: Selected years, 1995–2004**

(Percent)

Characteristic	1995	1997	1999	2001	2004
All adults .....	63	61	62	64	59
Male .....	69	67	67	70	65
Female .....	58	56	58	59	55
Formal education					
<High school .....	45	48	48	50	41
High school graduate .....	60	61	62	63	56
Baccalaureate .....	72	73	75	77	70
Graduate/professional .....	81	79	80	80	76
Science/mathematics education <sup>a</sup>					
Low .....	53	53	54	56	48
Middle .....	67	65	68	68	60
High .....	78	79	79	81	73
Family income (quartile)					
Top .....	NA	NA	NA	NA	71
Second .....	NA	NA	NA	NA	64
Third .....	NA	NA	NA	NA	57
Bottom .....	NA	NA	NA	NA	50
Age (years)					
18–24 .....	NA	NA	NA	NA	65
25–34 .....	NA	NA	NA	NA	63
35–44 .....	NA	NA	NA	NA	63
45–54 .....	NA	NA	NA	NA	61
55–64 .....	NA	NA	NA	NA	58
65+ .....	NA	NA	NA	NA	48
Minor children at home					
Yes .....	NA	NA	NA	NA	57
No .....	NA	NA	NA	NA	62

NA = not available

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Measure includes responses (true/false) to:

- *The center of the Earth is very hot.* (True)
- *All radioactivity is man-made.* (False)
- *It is the father's gene that decides whether the baby is a boy or a girl.* (True)
- *Lasers work by focusing sound waves.* (False)
- *Electrons are smaller than atoms.* (True)
- *Antibiotics kill viruses as well as bacteria.* (False)
- *The universe began with a huge explosion.* (True)
- *The continents on which we live have been moving their location for millions of years and will continue to move in the future.* (True)
- *Human beings, as we know them today, developed from earlier species of animals.* (True)

The following short-answer item was also included:

- *Does the Earth go around the Sun, or does the Sun go around the Earth?* (Earth around the Sun)

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-12  
**Correct answers to science literacy questions, by respondent characteristic: 2004**  
 (Percent)

Characteristic	<i>The center of the Earth is very hot.</i> (True)	<i>All radioactivity is man-made.</i> (False)	<i>It is the father's gene that decides whether the baby is a boy or a girl.</i> (True)	<i>Lasers work by focusing sound waves.</i> (False)	<i>Electrons are smaller than atoms.</i> (True)	<i>Antibiotics kill viruses as well as bacteria.</i> (False)
All adults (n = 2,025)	78	73	62	42	45	54
Male (n = 903)	86	82	51	59	52	49
Female (n = 1,122)	72	66	70	28	39	58
Formal education						
<High school (n = 139)	65	47	49	18	27	17
High school graduate (n = 1,156)	77	72	61	39	40	50
Baccalaureate (n = 449)	85	85	69	53	60	72
Graduate/professional (n = 261)	89	87	67	62	64	82
Science/mathematics education <sup>a</sup>						
Low (n = 761)	68	63	56	28	29	39
Middle (n = 481)	80	73	62	42	44	54
High (n = 780)	89	86	69	59	65	74
Family income (quartile)						
Top (n = 513)	86	84	70	58	56	71
Second (n = 493)	84	78	69	45	46	66
Third (n = 459)	76	71	61	39	41	51
Bottom (n = 414)	70	64	50	32	41	35
Age (years)						
18–24 (n = 116)	91	64	61	46	63	47
25–34 (n = 276)	81	74	67	42	52	56
35–44 (n = 430)	78	78	68	53	47	63
45–54 (n = 441)	81	77	64	48	46	58
55–64 (n = 352)	76	74	60	40	39	55
65+ (n = 403)	69	67	48	26	32	42
Minor children at home						
Yes (n = 721)	81	73	71	47	48	60
No (n = 1,303)	76	74	55	39	43	51

Characteristic	<i>The universe began with a huge explosion.</i> (True)	<i>The continents on which we live have been moving their location for millions of years and will continue to move in the future.</i> (True)	<i>Human beings, as we know them today, developed from earlier species of animals.</i> (True)	<i>Does the Earth go around the Sun, or does the Sun go around the Earth?</i> (Earth around the Sun)	<i>Please tell me in your own words, what is DNA?</i>
All adults (n = 2,025)	40	77	50	71	33
Male (n = 903)	47	85	54	82	35
Female (n = 1,122)	34	71	47	63	32
Formal education					
<High school (n = 139)	30	71	43	48	9
High school graduate (n = 1,156)	36	75	46	68	29
Baccalaureate (n = 449)	49	84	57	83	47
Graduate/professional (n = 261)	58	91	71	93	54
Science/mathematics education <sup>a</sup>					
Low (n = 761)	31	69	40	57	20
Middle (n = 481)	41	79	49	73	35
High (n = 780)	49	86	63	87	49
Family income (quartile)					
Top (n = 513)	51	87	61	83	48
Second (n = 493)	42	80	51	76	40
Third (n = 459)	38	76	47	72	29
Bottom (n = 414)	33	71	44	60	22
Age (years)					
18–24 (n = 116)	42	84	68	86	49
25–34 (n = 276)	42	78	58	80	44
35–44 (n = 430)	42	79	51	76	38
45–54 (n = 441)	40	76	49	71	34
55–64 (n = 352)	45	77	47	66	26
65+ (n = 403)	31	73	36	57	17
Minor children at home					
Yes (n = 721)	37	76	50	77	38
No (n = 1,303)	41	78	50	68	30

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Correct responses to questions. Some respondents did not provide information about highest level of education.

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-13

**Public understanding of nature of scientific inquiry, by respondent characteristic: 2004**

(Percent)

Characteristic	Inquiry	Scientific study	Experiment	Probability
All adults .....	39	23	46	64
Male .....	43	25	49	67
Female .....	36	22	43	62
Formal education				
<High school .....	10	3	15	35
High school graduate .....	32	16	39	63
Baccalaureate .....	61	39	67	77
Graduate/professional .....	70	51	75	79
Science/mathematics education <sup>a</sup>				
Low .....	19	8	27	52
Middle .....	40	23	46	68
High .....	62	41	67	77
Family income (quartile)				
Top .....	62	39	66	77
Second .....	48	28	54	73
Third .....	34	19	41	62
Bottom .....	22	11	30	51
Age (years)				
18–24 .....	43	29	55	66
25–34 .....	47	27	50	71
35–44 .....	49	33	53	73
45–54 .....	43	26	46	69
55–64 .....	34	20	44	58
65+ .....	20	6	30	48
With minor children at home				
Yes .....	46	28	48	73
No .....	35	20	43	59

<sup>a</sup>Low = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses.

NOTES: Level of understanding of nature of scientific inquiry estimated by combining each survey participant's responses to three questions. To be classified as understanding nature of scientific inquiry, respondent had to answer all probability questions correctly and either provide "theory-testing" response to question about what it means to study something scientifically or correct response to open-ended questions about experiment, i.e., explain why it was better to test a drug using a control group. Responses to:

- *When you read news stories, you see certain sets of words and terms. We are interested in how many people recognize certain kinds of terms, and I would like to ask you a few brief questions in that regard. First, some articles refer to the results of a scientific study. When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means? If the response is "clear understanding" or "general sense," in your own words, could you tell me what it means to study something scientifically?*

- *Now, please think of this situation: Two scientists want to know if a certain drug is effective in treating high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many experience lower blood pressure levels. The second scientist wants to give the drug to 500 people with high blood pressure and not give the drug to another 500 people with high blood pressure and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? Why is it better to test the drug this way?*

- *Now think about this situation: A doctor tells a couple that their "genetic makeup" means that they've got one in four chances of having a child with an inherited illness. Does this mean that if their first child has the illness, the next three will not? Does this mean that each of the couple's children will have the same risk of suffering from the illness?*

SOURCE: University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-14  
**Public assessment of astrology, by respondent characteristic: Selected years, 1979–2004**  
 (Percent)

Characteristic	1979 (n = 1,635)	1981 (n = 1,631)	1985 (n = 2,005)	1988 (n = 2,041)	1990 (n = 2,033)	1992 (n = 1,004)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2004 (n = 2,010)
<b>All adults</b>											
Very scientific.....	7	10	8	6	6	6	7	7	7	9	6
Sort of scientific.....	34	35	31	31	29	29	28	29	29	31	26
Not at all scientific.....	50	51	57	60	60	62	60	59	59	56	66
Do not know.....	9	4	4	3	5	3	5	5	5	4	2
<b>Male</b>											
Very scientific.....	7	9	7	5	5	6	7	7	7	9	5
Sort of scientific.....	30	29	29	25	23	25	24	27	25	27	21
Not at all scientific.....	54	58	60	67	67	67	65	63	63	60	72
Do not know.....	9	4	4	3	5	2	4	3	5	3	1
<b>Female</b>											
Very scientific.....	8	10	9	7	6	7	7	7	7	8	6
Sort of scientific.....	37	41	32	37	35	32	32	31	32	36	31
Not at all scientific.....	46	44	55	53	55	58	55	55	56	52	62
Do not know.....	9	5	4	3	4	3	6	7	5	4	1.7
<b>Formal Education</b>											
<b>&lt;High school</b>											
Very scientific.....	11	13	14	11	7	12	11	11	13	14	10
Sort of scientific.....	34	37	38	35	31	33	28	37	34	35	39
Not at all scientific.....	39	40	43	50	50	49	48	42	41	45	51
Do not know.....	16	10	5	4	12	6	13	10	12	6	1
<b>High school graduate</b>											
Very scientific.....	7	10	8	6	6	6	8	7	7	9	7
Sort of scientific.....	37	38	29	32	32	31	30	30	30	35	29
Not at all scientific.....	50	50	60	59	60	61	59	59	60	52	62
Do not know.....	6	2	3	3	2	2	3	4	3	4	2
<b>Baccalaureate or higher</b>											
Very scientific.....	2	3	3	2	3	3	2	3	2	4	1
Sort of scientific.....	20	25	25	23	18	17	22	19	19	21	17
Not at all scientific.....	71	69	70	74	77	78	74	76	76	74	81
Do not know.....	7	3	2	1	2	2	2	2	3	2	1
<b>Family income (quartile)</b>											
<b>Top</b>											
Very scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2
Sort of scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18
Not at all scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
<b>Second</b>											
Very scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Sort of scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25
Not at all scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	68
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
<b>Third</b>											
Very scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7
Sort of scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29
Not at all scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	62
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
<b>Bottom</b>											
Very scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8
Sort of scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35
Not at all scientific.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	57
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1

NA = not available

NOTES: Responses to: *Would you say that astrology is very scientific, sort of scientific, or not at all scientific?* Some respondents did not provide information about highest level of education.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-15

**Public assessment of astrology or fortune telling, by country/region: 2001 or 2004**

(Percent)

	Astrology U.S. (2004)	Astrology EU-15 (2001)	Fortune telling China (2001)	Fortune telling and Sa-Ju South Korea (2004)
Very scientific .....	6	na	1	3
Sort of scientific.....	26	53	10	34
Scientific subtotal .....	32	53	11	37
Not at all scientific .....	66	39	74	63
Do not know .....	2	8	15	na

na = not applicable

EU = European Union

NOTES: Responses to: *Would you say that astrology is very scientific, sort of scientific, or not at all scientific?* For United States, China, and South Korea, "scientific subtotal" is a sum of "very scientific" and "sort of scientific." EU-15 questions said, *rather scientific* and *not very scientific*.

SOURCES: University of Michigan, Survey of Consumer Attitudes (2004); Chinese Ministry of Science and Technology, *Science and Technology Indicators 2002* (2002); Korea Science Foundation, *Survey on Public Attitude of Science & Technology 2004* (2004); and European Commission, Directorate-General for Research, Eurobarometer 55.2: *Europeans, Science and Technology* (2001).

Science and Engineering Indicators 2006

Appendix table 7-16

**Attitudes toward science and technology, by country/region: Most recent year**

(Percent)

(Page 1 of 2)

Statement	United States (2004)						United States (2001)						EU-25 (2005)				China (2001)				
	Total agree	Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total agree	Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total agree	Agree	Don't know	Disagree	Total agree	Agree	Basically agree	Don't know	Don't agree
Promise of science																					
<i>Science and technology are making our lives healthier, easier, and more comfortable.....</i>	91	28	63	0	7	2	86	14	72	3	10	1	78	78	14	6	94	65	30	4	1
<i>Most scientists want to work on things that will make life better for the average person....</i>	—	—	—	—	—	—	89	11	78	3	8	1	—	—	—	—	85	50	35	10	5
<i>With the application of science and new technology, work will become more interesting ...</i>	77	13	64	1	19	2	72	9	63	5	21	2	69	69	18	10	81	46	35	14	5
<i>Because of science and technology, there will be more opportunities for the next generation.....</i>	86	24	62	1	12	1	85	21	64	2	12	2	77	77	12	8	78	45	32	16	6
Benefit versus harm																					
<i>Have the benefits of scientific research outweighed the harmful results?.....</i>	84	56	28	3	10	3	72	47	25	19	7	3	52	52	29	14	76	—	76	7	0
Reservations about science																					
<i>We depend too much on science and not enough on faith.....</i>	56	17	39	1	33	10	51	11	40	4	41	5	40	40	26	30	—	—	—	—	—
<i>It is not important for me to know about science in my daily life.....</i>	15	2	13	0	55	30	16	2	14	1	61	22	—	—	—	—	17	6	12	9	74
<i>Science makes our way of life change too fast.....</i>	33	5	28	1	55	11	38	4	34	2	54	5	60	60	18	21	73	37	35	11	16



## Attitudes toward science and technology, by country/region: Most recent year

(Percent)

Statement	South Korea (2004) <sup>a</sup>						Japan (2001)						Malaysia (2000)			Russia (1996 or 2003) <sup>b</sup>					
	Total agree	Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total agree	Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total agree	Agree	Don't know	Disagree	Total agree	Agree	Basically agree	Don't know	Don't agree
Promise of science																					
<i>Science and technology are making our lives healthier, easier, and more comfortable.....</i>	93	39	54	1	5	1	73	6	67	13	13	1	87	87	—	—	53	—	53	34	13
<i>Most scientists want to work on things that will make life better for the average person.....</i>	77	20	57	2	18	4	60	4	56	18	20	2	83	83	—	—	—	—	—	—	—
<i>With the application of science and new technology, work will become more interesting...</i>	82	28	54	3	14	2	54	4	50	20	25	2	86	86	—	—	—	—	—	—	—
<i>Because of science and technology, there will be more opportunities for the next generation.....</i>	83	31	52	3	12	2	66	6	60	18	16	1	—	—	—	—	—	—	—	—	—
Benefit versus harm																					
<i>Have the benefits of scientific research outweighed the harmful results?.....</i>	61	26	35	30	7	1	40	13	27	28	15	6	44	44	48	8	59	—	59	30	5
Reservations about science																					
<i>We depend too much on science and not enough on faith.....</i>	58	17	41	3	34	5	—	—	—	—	—	—	25	25	—	—	19	—	19	55	26
<i>It is not important for me to know about science in my daily life.....</i>	34	6	28	2	41	23	25	2	23	8	57	11	—	—	—	—	—	—	—	—	—
<i>Science makes our way of life change too fast.....</i>	84	32	51	2	13	2	62	8	54	13	24	1	70	70	—	—	30	—	30	22	48

— = not asked or different response categories were offered.

EU = European Union; B&gt;&gt;H = benefits strongly outweigh harmful results; B&gt;H = benefits slightly outweigh harmful results; B=H = benefits equal harmful results; H&gt;B = harmful results slightly outweigh benefits; H&gt;&gt;B = harmful results strongly outweigh benefits

<sup>a</sup>South Korea survey 2004 changed question from “will eventually destroy the Earth” to “will cause the global crisis,” so result of 2002 South Korean survey, which was comparable to U.S. survey, was used.<sup>b</sup>Russian responses for “Science and technology are making our lives healthier . . .” and “We depend too much . . .” are from the 1996 survey. Responses for “Have the benefits . . .” and “Science makes our way of life change . . .” are from 2003.SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (2001); University of Michigan, Survey of Consumer Attitudes (2004); Chinese Ministry of Science and Technology, *China Science and Technology Indicators 2002* (2002); Korea Science Foundation, Survey on Public Attitude of Science & Technology 2004 (2004); National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology, The 2001 Survey of Public Attitudes Toward and Understanding of Science & Technology in Japan (2002); Malaysian Science and Technology Information Centre, Ministry of Science, Technology and the Environment, *The Public Awareness of Science and Technology Malaysia 2000* (2001); L. Gokhberg and O. Shuvalova, *Russian Public Opinion of the Knowledge Economy: Science, Innovation, Information Technology and Education as Drivers of Economic Growth and Quality of Life*, British Council, Russia (2004); and European Commission, Research Directorate-General, Eurobarometer 224/Wave 63.1: *Europeans, Science and Technology* (2005).

Science and Engineering Indicators 2006

**Public assessment of general scientific research, by respondent characteristic: Selected years, 1979–2004**

(Percent)

Characteristic	1979 (n = 1,635)	1981 (n = 1,536)	1985 (n = 2,005)	1988 (n = 975)	1990 (n = 2,033)	1992 (n = 997)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2004 (n = 1,912)
<b>All adults</b>											
Benefits strongly outweigh harmful results .....	46	42	44	57	47	42	43	47	47	47	56
Benefits slightly outweigh harmful results.....	24	28	24	25	25	31	29	28	27	25	28
Benefits equal harmful results .....	19	13	13	5	15	11	16	13	11	19	3
Harmful results slightly outweigh benefits.....	7	12	13	9	10	12	10	8	10	7	10
Harmful results strongly outweigh benefits .....	4	5	6	4	3	4	3	4	5	3	3
<b>Male</b>											
Benefits strongly outweigh harmful results .....	51	48	48	59	54	45	47	52	50	49	60
Benefits slightly outweigh harmful results.....	23	27	23	25	24	30	28	27	27	27	27
Benefits equal harmful results .....	16	11	10	5	9	9	13	10	9	15	3
Harmful results slightly outweigh benefits .....	7	10	13	7	9	11	9	7	10	7	7
Harmful results strongly outweigh benefits .....	3	5	6	4	4	5	4	4	4	2	2
<b>Female</b>											
Benefits strongly outweigh harmful results .....	42	37	40	55	40	40	39	42	45	44	52
Benefits slightly outweigh harmful results.....	25	28	26	25	26	31	30	29	28	23	29
Benefits equal harmful results .....	23	16	14	6	20	13	19	15	12	22	3
Harmful results slightly outweigh benefits .....	6	14	14	10	11	12	10	10	10	8	13
Harmful results strongly outweigh benefits .....	4	5	6	4	3	4	3	4	5	3	3
<b>Formal education</b>											
<b>&lt;High school graduate</b>											
Benefits strongly outweigh harmful results .....	26	26	20	37	24	24	18	30	25	28	31
Benefits slightly outweigh harmful results .....	25	23	21	30	25	33	30	28	25	27	37
Benefits equal harmful results .....	32	25	26	9	30	17	34	21	18	26	4
Harmful results slightly outweigh benefits .....	12	18	20	17	17	20	14	18	22	13	23
Harmful results strongly outweigh benefits.....	5	9	13	7	4	7	3	3	10	6	5
<b>High school graduate</b>											
Benefits strongly outweigh harmful results .....	50	43	47	59	49	41	44	46	47	45	51
Benefits slightly outweigh harmful results .....	26	31	26	25	27	32	30	30	31	25	31
Benefits equal harmful results .....	16	10	10	5	11	10	13	13	10	20	3
Harmful results slightly outweigh benefits .....	5	12	13	7	10	12	10	6	8	8	12
Harmful results strongly outweigh benefits.....	3	4	4	4	3	5	3	5	4	2	3
<b>Baccalaureate and higher</b>											
Benefits strongly outweigh harmful results .....	69	64	67	80	72	66	67	67	71	64	72
Benefits slightly outweigh harmful results .....	18	22	23	16	18	22	23	23	19	23	20
Benefits equal harmful results .....	8	7	2	1	6	8	6	6	5	9	3
Harmful results slightly outweigh benefits .....	2	4	6	2	2	3	3	3	4	2	3
Harmful results strongly outweigh benefits.....	3	2	2	1	2	2	1	1	1	2	2
<b>Family income (quartile)</b>											
<b>Top</b>											
Benefits strongly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72
Benefits slightly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21
Benefits equal harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
Harmful results slightly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
Harmful results strongly outweigh benefits.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1

**Public assessment of general scientific research, by respondent characteristic: Selected years, 1979–2004**

(Percent)

Characteristic	1979 (n = 1,635)	1981 (n = 1,536)	1985 (n = 2,005)	1988 (n = 975)	1990 (n = 2,033)	1992 (n = 997)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2004 (n = 1,912)
<b>Second</b>											
Benefits strongly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58
Benefits slightly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29
Benefits equal harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
Harmful results slightly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8
Harmful results strongly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2
<b>Third</b>											
Benefits strongly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53
Benefits slightly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29
Benefits equal harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4
Harmful results slightly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11
Harmful results strongly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
<b>Bottom</b>											
Benefits strongly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43
Benefits slightly outweigh harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33
Benefits equal harmful results .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
Harmful results slightly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18
Harmful results strongly outweigh benefits .....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4

NA = not available

NOTES: Responses to: *People have frequently noted that scientific research has produced both beneficial and harmful consequences. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits?* If respondents answered benefits outweighed results, they were asked: *Would you say that the balance has been strongly in favor of beneficial results or only slightly?* If respondents answered harmful results outweighed benefits, they were asked: *Would you say that the balance has been strongly in favor of harmful results or only slightly?* Some respondents did not provide information about highest level of education. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

Science and Engineering Indicators 2006

Appendix table 7-18

(Page 1 of 2)

**Public opinion on whether federal government should fund basic research, by respondent characteristic:  
Selected years, 1985–2004**

(Percent)

Characteristic	1985	1988	1990	1992	1995	1997	1999	2001	2004
<b>All adults</b>									
Strongly agree.....	9	16	17	14	19	22	21	19	30
Agree.....	70	65	62	63	61	57	61	62	53
Do not know.....	5	4	4	3	3	3	3	3	1
Disagree.....	16	14	15	18	17	15	13	15	15
Strongly disagree.....	0	1	2	2	2	3	2	1	2
<b>Male</b>									
Strongly agree.....	11	20	23	17	19	24	24	23	33
Agree.....	71	63	60	62	60	54	60	63	52
Do not know.....	2	2	2	2	2	3	2	2	0
Disagree.....	15	13	13	17	18	16	12	11	13
Strongly disagree.....	1	2	2	2	1	3	2	2	2
<b>Female</b>									
Strongly agree.....	8	11	13	11	15	20	18	16	26
Agree.....	68	68	65	64	62	59	62	61	54
Do not know.....	8	6	5	4	5	4	4	5	1
Disagree.....	16	14	16	19	16	15	14	18	16
Strongly disagree.....	0	1	1	2	2	2	2	1	2
<b>Formal education</b>									
<b>&lt;High school graduate</b>									
Strongly agree.....	5	6	10	10	8	20	17	13	14
Agree.....	65	66	59	61	59	50	55	66	58
Do not know.....	9	7	8	5	7	5	7	5	1
Disagree.....	21	18	20	21	24	22	18	16	25
Strongly disagree.....	0	3	3	3	2	3	3	0	2
<b>High school graduate</b>									
Strongly agree.....	8	17	18	12	16	19	18	18	28
Agree.....	72	66	65	64	63	60	66	60	54
Do not know.....	4	3	2	3	3	3	2	3	1
Disagree.....	15	13	14	19	17	15	12	17	16
Strongly disagree.....	1	1	1	2	1	3	2	1	2
<b>Baccalaureate</b>									
Strongly agree.....	19	26	27	22	24	31	34	23	32
Agree.....	68	62	60	64	62	56	53	68	54
Do not know.....	2	3	2	2	2	2	1	1	1
Disagree.....	10	8	10	12	11	10	10	8	12
Strongly disagree.....	1	1	1	0	1	1	2	1	1
<b>Graduate degree</b>									
Strongly agree.....	20	29	31	26	43	40	40	32	52
Agree.....	70	61	58	53	46	51	51	56	39
Do not know.....	2	2	4	5	2	2	1	3	0
Disagree.....	8	7	6	14	8	5	8	8	7
Strongly disagree.....	0	1	1	2	1	2	0	1	2

Appendix table 7-18

(Page 2 of 2)

**Public opinion on whether federal government should fund basic research, by respondent characteristic:  
Selected years, 1985–2004**

(Percent)

Characteristic	1985	1988	1990	1992	1995	1997	1999	2001	2004
Family income (quartile)									
Top									
Strongly agree.....	NA	NA	NA	NA	NA	NA	NA	NA	37
Agree .....	NA	NA	NA	NA	NA	NA	NA	NA	51
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	0
Disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	11
Strongly disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	1
Second									
Strongly agree.....	NA	NA	NA	NA	NA	NA	NA	NA	29
Agree .....	NA	NA	NA	NA	NA	NA	NA	NA	56
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	0
Disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	13
Strongly disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	1
Third									
Strongly agree.....	NA	NA	NA	NA	NA	NA	NA	NA	31
Agree .....	NA	NA	NA	NA	NA	NA	NA	NA	55
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	0
Disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	11
Strongly disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	2
Bottom									
Strongly agree.....	NA	NA	NA	NA	NA	NA	NA	NA	23
Agree .....	NA	NA	NA	NA	NA	NA	NA	NA	52
Do not know.....	NA	NA	NA	NA	NA	NA	NA	NA	1
Disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	20
Strongly disagree .....	NA	NA	NA	NA	NA	NA	NA	NA	3

NA = not available

NOTE: Responses to: *Even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government—do you strongly agree, agree, disagree, or strongly disagree?*

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and University of Michigan, Survey of Consumer Attitudes (2004).

Appendix table 7-19

**Public assessment of funding of scientific research by government: Selected years, 1996–2005**

(Percent)

Response	United States (2004)	EU-25 (2005)	China (2001)	South Korea (2004)	Japan (2001)	Malaysia (2000)	Russia (1996)
Strongly agree .....	30	—	—	39	19	—	—
Agree.....	53	—	65	52	61	82	—
Basically agree .....	—	76	24	—	—	—	71
Do not know .....	1	13	9	2	12	—	24
Disagree.....	15	7	1	6	7	—	5
Strongly disagree.....	2	—	—	1	1	—	—
Sum of agreed.....	83	76	89	91	80	82	71

— = different response categories were offered

EU = European Union

NOTE: Responses to: *Even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government. Do you strongly agree, agree, disagree, or strongly disagree?*

SOURCES: University of Michigan, Survey of Consumer Attitudes (2004); Chinese Ministry of Science and Technology, *Science and Technology Indicators 2002* (2002); South Korea Science Foundation, Survey on Public Attitude of Science & Technology 2004 (2004); National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology, The 2001 Survey of Public Attitudes Toward and Understanding of Science & Technology in Japan (2002); Malaysian Science and Technology Information Centre, Ministry of Science, Technology and the Environment, *The Public Awareness of Science and Technology Malaysia 2000* (2001); L. Gokhberg and O. Shuvalova, *Russian Public Opinion of the Knowledge Economy: Science, Innovation, Information Technology and Education as Drivers of Economic Growth and Quality of Life*, British Council, Russia (2004); and European Commission, Research Directorate-General, Eurobarometer 224/Wave 63.1: *Europeans, Science and Technology* (2005).

*Science and Engineering Indicators 2006*

Appendix table 7-20

**Public assessment of federal government spending, by policy area: Selected years, 1981–2004**

(Percent)

Policy area	1981 (n = 1,659)	1983 (n = 1,631)	1985 (n = 2,005)	1988 (n = 2,041)	1990 (n = 2,033)	1992 (n = 2,001)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,322)	2004 (n = 1,364)
Exploring space											
Too little.....	18	17	9	17	9	12	14	15	11	12	15
Too much .....	43	39	45	42	52	50	45	46	48	38	39
Reducing pollution											
Too little.....	52	54	69	76	76	72	65	65	63	60	64
Too much .....	14	11	6	4	5	7	8	7	6	7	6
Improving health care											
Too little.....	61	—	68	68	75	79	68	71	70	75	79
Too much .....	6	—	3	2	3	5	7	5	4	4	4
Supporting scientific research											
Too little.....	31	—	29	34	30	34	34	37	36	36	40
Too much .....	18	—	18	15	16	19	14	14	14	14	13
Improving education											
Too little.....	62	71	73	76	77	81	76	75	76	74	74
Too much .....	6	5	3	4	4	4	6	6	5	5	5
Helping older people											
Too little.....	73	—	72	76	75	73	66	71	73	—	—
Too much .....	3	—	3	2	2	4	5	4	3	—	—
Spending for Social Security											
Too little.....	—	—	54	55	52	—	—	—	—	61	66
Too much .....	—	—	7	6	6	—	—	—	—	5	5
Improving national defense <sup>a</sup>											
Too little.....	33	19	11	11	15	15	23	31	29	31	39
Too much .....	26	47	50	53	40	40	32	25	25	22	26
Helping low-income people											
Too little.....	45	—	54	55	57	56	44	49	53	—	—
Too much .....	24	—	13	12	15	17	23	19	15	—	—
Assistance to the poor											
Too little.....	—	—	65	69	68	—	—	—	—	67	70
Too much .....	—	—	10	7	7	—	—	—	—	8	6

— = not asked

<sup>a</sup>Only 1,013 responses in 1988 because question asked on split ballot.

NOTES: Responses to: *We are faced with many problems in this country. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think that the Government is spending too little money on it, about the right amount, or too much.* Detail does not add to total because "about the right amount" and "do not know" responses not shown.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (various years); and J.A. Davis, T.W. Smith, and P.V. Marsden, General Social Survey 1972–2004 Cumulative Codebook, University of Chicago, National Opinion Research Center (2005) for 2002 and 2004; and Spending for Social Security and Assistance to the Poor (selected years).

Science and Engineering Indicators 2006

Appendix table 7-21

**Public confidence in leadership of various institutions: 1973–2004**

(Percent)

Institution	1973 (n = 1,504)	1974 (n = 1,484)	1975 (n = 1,490)	1976 (n = 1,499)	1977 (n = 1,530)	1978 (n = 1,532)	1980 (n = 1,468)	1982 (n = 1,506)	1983 (n = 1,599)	1984 (n = 989)	1986 (n = 1,470)	1987 (n = 1,466)	1988 (n = 997)	1989 (n = 1,035)	1990 (n = 899)	1991 (n = 1,017)	1993 (n = 1,057)	1994 (n = 2,011)	1996 (n = 1,925)	1998 (n = 1,911)	2000 (n = 1,887)	2002 (n = 912)	2004 (n = 877)
Medicine	54	60	50	54	51	46	52	45	51	50	46	52	51	46	46	48	39	41	45	44	44	37	38
Scientific community	37	45	39	43	41	36	41	38	41	44	39	45	39	40	37	41	37	38	39	40	41	39	43
Military	32	40	35	39	36	29	28	31	29	36	31	34	34	32	33	60	42	37	37	36	39	55	59
U.S. Supreme Court	31	33	31	35	35	28	25	30	27	33	30	36	35	34	35	37	31	30	28	37	32	37	32
Banks and financial institutions	—	—	32	39	42	33	32	27	24	31	21	27	27	19	18	12	15	18	25	26	29	22	30
Major companies	29	31	19	22	27	22	27	23	24	30	24	30	25	24	25	20	21	25	23	26	28	18	19
Organized religion	35	44	24	30	40	31	35	32	28	31	25	29	20	22	23	25	23	24	25	27	28	19	24
Education	37	49	31	37	41	28	30	33	29	28	28	35	29	30	27	30	22	25	23	27	27	25	29
Executive branch of federal government	29	14	13	13	28	12	12	19	13	18	21	18	16	20	23	26	12	11	10	14	13	27	22
Organized labor	15	18	10	12	15	11	15	12	8	8	8	10	10	9	11	11	8	10	11	11	13	12	15
Congress	23	17	13	14	19	13	9	13	10	12	16	16	15	17	15	18	7	8	8	11	12	13	14
Press	23	26	24	28	25	20	22	18	13	17	18	18	18	17	15	16	11	8	11	9	10	10	9
Television	18	23	18	19	17	14	16	14	12	13	15	12	14	14	14	14	12	9	10	10	10	10	10
Average <sup>a</sup>	30	33	26	29	31	24	26	26	24	27	25	28	26	25	25	29	22	22	23	24	25	25	26

— = not asked

<sup>a</sup>Excluding banks and financial institutions.

NOTES: Data represent respondents expressing "great deal of confidence" when asked: *As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?* Survey not conducted in 1979 and 1981 and every other year from 1994 through 2004; question not asked in 1985. Sample size not exact for all variables.

SOURCE: J.A. Davis, T.W. Smith, and P.V. Marsden, General Social Survey 1972–2004 Cumulative Codebook, University of Chicago, National Opinion Research Center (2005).

Science and Engineering Indicators 2006