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Sustainable Science Outreach - Shuda

Supplemental Tables

Supplementary Table 1a. *Elementary School Knowledge, 2010-17 (n=8397 for all questions)*

		OE average	MT average	OE/MT difference	Adjusted p-value
K1 Where do you get your DNA from? (Answer: Parents)	K1 PRE average	72.4%	78.3%	5.9%	<0.001
	K1 POST average	87.1%	91.7%	4.7%	<0.001
	K1 difference.	14.6%	13.4%	-1.2%	1.979
K2.0 How many chambers does a FISH heart have? (Answer: Two) [2010-2013]	K2.0 PRE average	39.8%	39.6%	-0.2%	7.180
	K2.0 POST average	79.7%	72.4%	-7.4%	<0.001
	K2.0 difference.	39.9%	32.8%	-7.1%	0.007
K2.1 How many chambers does a HUMAN heart have? (Answer: Four) [2013-2017]	K2.1 PRE average	19.3%	30.8%	11.5%	<0.001
	K2.1 POST average	82.3%	81.8%	-0.6%	5.510
	K2.1 difference.	63.1%	51.0%	-12.1%	<0.001
K3 What body part is NOT found in a fish? (Answer: Lungs)	K3 PRE average	40.1%	44.9%	4.9%	<0.001
	K3 POST average	73.0%	71.5%	-1.5%	1.569
	K3 difference.	32.9%	26.6%	-6.3%	<0.001
K4 The zebrafish embryo is protected by the: (Answer: Chorion)	K4 PRE average	20.2%	25.7%	5.4%	<0.001
	K4 POST average	64.8%	72.4%	7.6%	<0.001
	K4 difference.	44.6%	46.7%	2.2%	1.151
K5.1 Which of these characteristics does a temperate environment have, making it unsuitable for zebrafish to live? (Answer: The weather is warm in the summer and cold in the winter) [2010-11]	K5.1 PRE average	38.3%	37.6%	-0.7%	6.481
	K5.1 POST average	33.1%	40.8%	7.6%	0.089
	K5.1 difference.	-5.2%	3.1%	8.3%	0.375
K5.2 Which of these statements about temperate environments is true? (Answer: A temperate environment is warm in the summer and cold in the winter) [2011-14]	K5.2 PRE average	73.9%	82.9%	9.0%	<0.001
	K5.2 POST average	63.8%	75.1%	11.3%	<0.001
	K5.2 difference.	-10.1%	-7.8%	2.3%	1.907

*Notes: Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis.

Supplementary Table 1b. *Elementary School Knowledge, 2010-17 (n=8397 for all questions)*

		OE average	MT average	OE/MT difference	Adjusted p-value
K5.3 Which of these statements about tropical environments is true? (Answer: A tropical environment is hot all year) [2014-2017]	K5.3 PRE average	35.5%	39.4%	4.0%	0.496
	K5.3 POST average	57.5%	64.3%	6.7%	0.012
	K5.3 difference.	22.1%	24.9%	2.8%	1.775
K6.0 If you are writing a hypothesis, you are: (Answer: Making a statement that predicts an answer to your question) [2010-11]	K6.0 PRE average	60.3%	65.2%	4.9%	0.780
	K6.0 POST average	66.3%	66.5%	0.1%	7.705
	K6.0 difference.	6.0%	1.3%	-4.7%	0.963
K6.1 If you are writing a hypothesis, you are: (Answer: Writing a guess for the question you are trying to figure out) [2011-2017]	K6.1 PRE average	56.1%	65.5%	9.5%	<0.001
	K6.1 POST average	64.1%	69.5%	5.4%	<0.001
	K6.1 difference.	8.1%	4.0%	-4.1%	0.021
K7 Zebrafish can be used to research human diseases and medicines. (Answer: True)	K7 PRE average	52.2%	52.6%	0.4%	5.929
	K7 POST average	68.9%	76.8%	7.9%	<0.001
	K7 difference.	16.7%	24.2%	7.5%	<0.001
K8.0 Zebrafish and human DNA have many of the same genes. (Answer: True) [2010-14]	K8.0 PRE average	40.1%	42.8%	2.7%	0.588
	K8.0 POST average	71.3%	65.1%	-6.1%	<0.001
	K8.0 difference.	31.2%	22.3%	-8.8%	<0.001
K8.1 Zebrafish and humans are genetically similar. (Answer: True) [2014-2017]	K8.1 PRE average	34.8%	40.5%	5.8%	0.055
	K8.1 POST average	81.9%	79.0%	-2.9%	0.779
	K8.1 difference.	47.1%	38.5%	-8.7%	0.005
	Total PRE average	45.7%	50.7%	5.0%	<0.001
	Total POST average	70.9%	74.3%	3.4%	<0.001
	Total average difference.	25.2%	23.6%	-1.6%	0.002

**Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis.*

Supplementary Table 2a. *Middle School Knowledge, 2010-17 (n=10641 for all questions)*

		OE average correct	MT average correct	OE/MT difference	Adjusted p-value
K1.1 Where do you get your genetic information from? (Answer: Parents) [2010-11]	K1.1 PRE average	63.6%	86.8%	23.2%	<0.001
	K1.1 POST average	73.4%	89.2%	15.8%	<0.001
	K1.1 difference	9.8%	2.4%	-7.4%	0.082
K1.2 Where do you get your genes from? (Answer: Parents) [2011-14]	K1.2 PRE average	93.8%	95.0%	1.2%	0.579
	K1.2 POST average	94.7%	96.3%	1.6%	0.054
	K1.2 difference	0.9%	1.3%	0.4%	5.006
K1.3 A section of DNA that affects one specific trait is called a: (Answer: Gene) [2014-2017]	K1.3 PRE average	81.8%	81.1%	-0.7%	5.384
	K1.3 POST average	85.4%	85.0%	-0.4%	6.680
	K1.3 difference	3.6%	3.9%	0.3%	7.578
K2.1 When you state a possible explanation for a specific question during Scientific Inquiry it is called: (Answer: Hypothesis) [2010-11]	K2.1 PRE average	66.8%	76.8%	10.0%	0.010
	K2.1 POST average	69.8%	84.8%	15.0%	<0.001
	K2.1 difference	3.1%	8.0%	4.9%	1.126
K2.2 When you state a guess that might answer a specific question during Scientific Inquiry it is called the: (Answer: Hypothesis) [2011-14]	K2.2 PRE average	82.7%	84.8%	2.1%	0.400
	K2.2 POST average	86.7%	89.6%	2.8%	0.017
	K2.2 difference	4.0%	4.8%	0.7%	4.746
K2.3 Which of the following is NOT a reason zebrafish are used in research? (Answer: Zebrafish only have a few offspring) [2014-2016]	K2.3 PRE average	31.5%	32.7%	1.2%	4.625
	K2.3 POST average	57.2%	58.0%	0.8%	6.125
	K2.3 difference	25.7%	25.3%	-0.4%	7.877
K2.4 All of the following is a reason zebrafish are used in research EXCEPT: (Answer: Zebrafish only have a few offspring) [2016-2017]	K2.4 PRE average	25.4%	22.5%	-2.9%	3.554
	K2.4 POST average	44.1%	53.7%	9.6%	0.153
	K2.4 difference	18.7%	31.2%	12.5%	0.138
K3 An organism that inherits two copies of the same allele is considered: (Answer: Homozygous)	K3 PRE average	42.8%	39.1%	-3.7%	0.002
	K3 POST average	63.6%	63.1%	-0.6%	5.122
	K3 difference	20.8%	24.0%	3.2%	0.083
K4.0 In genetics, the physical characteristics of your genes are called the: (Answer: Phenotype) [2010-11]	K4.0 PRE average	23.9%	26.0%	2.1%	4.474
	K4.0 POST average	38.3%	56.0%	17.7%	<0.001
	K4.0 difference	14.4%	30.0%	15.6%	0.002

*Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis

Supplementary Table 2b. *Middle School Knowledge, 2010-17 (n=10641 for all questions)*

		OE average correct	MT average correct	OE/MT difference	Adjusted p-value
K4.1 In genetics, the outward, physical characteristics of your genes are called the: (Answer: Phenotype) [2011-2017]	K4.1 PRE average	33.9%	32.4%	-1.6%	1.126
	K4.1 POST average	54.9%	56.9%	2.1%	0.488
	K4.1 difference	20.9%	24.6%	3.6%	0.033
K5 To determine the probability of inheriting traits, you should create a: (Answer: Punnett square)	K5 PRE average	44.6%	41.6%	-3.0%	0.029
	K5 POST average	77.9%	81.5%	3.6%	<0.001
	K5 difference	33.4%	39.9%	6.6%	<0.001
K6.1 If rolling your tongue is a dominant trait, which answer would show a 3:1 ratio of parents passing on the trait? (Answer: Aa x Aa) [2010-11]	K6.1 PRE average	41.8%	47.6%	5.8%	0.916
	K6.1 POST average	51.4%	62.8%	11.4%	0.009
	K6.1 difference	9.6%	15.2%	5.6%	1.657
K6.2 Which answer shows the inheritance of a recessive trait with two heterozygous parents? (Answer: Aa x Aa) [2011-13, 2014-2017]	K6.2 PRE average	42.8%	41.8%	-0.9%	3.776
	K6.2 POST average	54.3%	52.4%	-1.9%	0.849
	K6.2 difference	11.6%	10.6%	-1.0%	4.453
K6.3 Which answer shows a 25% chance of the inheritance of a recessive trait from two heterozygous parents? (Answer: Aa x Aa) [2013-14]	K6.3 PRE average	46.9%	55.0%	8.1%	0.068
	K6.3 POST average	70.0%	75.7%	5.7%	0.291
	K6.3 difference	23.1%	20.7%	-2.4%	4.616
K7 Stem cells have to potential to become many different kinds of cells. (Answer: True) [2010-16]	K7 PRE average	60.8%	58.8%	-2.1%	0.417
	K7 POST average	82.4%	81.0%	-1.5%	0.705
	K7 difference	21.6%	22.2%	0.6%	5.462
K8 Genetic mutations are almost always harmful. (Answer: False)	K8 PRE average	67.0%	70.3%	3.3%	0.005
	K8 POST average	77.3%	76.3%	-1.0%	2.296
	K8 difference	10.3%	6.0%	-4.3%	0.001
K9 Model organisms can help scientists learn about human genes, diseases, and cures. (Answer: True)	K9 PRE average	84.2%	85.9%	1.7%	0.146
	K9 POST average	90.0%	90.7%	0.7%	2.227
	K9 difference	5.8%	4.8%	-1.1%	1.986
	Total PRE average	57.2%	58.9%	1.7%	<0.001
	Total POST average	72.8%	75.2%	2.4%	<0.001
	Total average difference	15.7%	16.4%	0.7%	0.067

*Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis

Supplementary Table 3a. *High School Knowledge 2010-17 (n=7487 for all questions)*

		OE average	MT average	OE/MT difference	Adjusted p-value
K1 Typically, how are fish born? (Answer: From an externally fertilized egg)	K1 PRE average	55.1%	62.2%	7.1%	<0.001
	K1 POST average	79.5%	84.9%	5.4%	<0.001
	K1 difference	24.4%	22.7%	-1.7%	1.766
K2.0 For a recessive gene to be expressed: (Answer: 2 gene copies are necessary) [2010-11]	K2.0 PRE average	50.8%	60.4%	9.6%	1.549
	K2.0 POST average	54.5%	79.3%	24.8%	<0.001
	K2.0 difference	3.7%	18.9%	15.2%	0.409
K2.1 For a recessive gene to be expressed, an organism needs: (Answer: 2 copies of the recessive gene) [2011-2016]	K2.1 PRE average	58.8%	74.5%	15.8%	<0.001
	K2.1 POST average	66.9%	82.4%	15.4%	<0.001
	K2.1 difference	8.2%	7.9%	-0.3%	7.254
K2.2 For a recessive trait to be expressed, an organism needs: (Answer: 2 copies of the recessive allele) [2016-2017]	K2.2 PRE average	59.6%	62.2%	2.6%	3.872
	K2.2 POST average	69.5%	75.3%	5.8%	0.531
	K2.2 difference	9.9%	13.0%	3.1%	3.502
K3.0 Which is NOT a characteristic of a model organism? (Answer: They live for many years) [2010-11]	K3.0 PRE average	37.6%	58.5%	20.9%	0.037
	K3.0 POST average	55.0%	86.8%	31.8%	<0.001
	K3.0 difference	17.5%	28.3%	10.8%	1.662
K3.1 Which is NOT a characteristic of an ideal model organism? (Answer: They live for many years) [2011-2017]	K3.1 PRE average	32.0%	39.5%	7.5%	<0.001
	K3.1 POST average	53.0%	66.3%	13.3%	<0.001
	K3.1 difference	21.0%	26.8%	5.8%	0.001
K4.0 The part of Scientific Inquiry where you state a possible explanation for a specific question is the: (Answer: Hypothesis) [2010-14]	K4.0 PRE average	62.9%	77.4%	14.5%	<0.001
	K4.0 POST average	65.9%	80.2%	14.3%	<0.001
	K4.0 difference	3.0%	2.8%	-0.2%	8.188
K4.1 In a test cross, an individual showing a dominant trait is bred with: (Answer: A homozygous recessive individual) [2014-2016]	K4.1 PRE average	28.9%	34.4%	5.4%	0.026
	K4.1 POST average	36.6%	48.4%	11.8%	<0.001
	K4.1 difference	7.6%	14.0%	6.3%	0.068

*Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis

Supplementary Table 3b. *High School Knowledge 2010-17 (n=7487 for all questions)*

		OE average	MT average	OE/MT difference	Adjusted p-value
K4.2 Two alleles for the same gene have different DNA sequences. This difference is called: (Answer: A mutation) [2016-2017]	K4.2 PRE average	33.2%	39.6%	6.4%	0.472
	K4.2 POST average	43.9%	47.1%	3.2%	3.213
	K4.2 difference	10.7%	7.5%	-3.3%	3.805
K5.0 Somites give rise to: (Answer: All of these [skin, bone, muscle]) [2010-11]	K5.0 PRE average	61.8%	94.3%	32.5%	<0.001
	K5.0 POST average	64.8%	88.7%	23.8%	<0.001
	K5.0 difference	3.0%	-5.7%	-8.7%	0.963
K5.1 Somites give rise to: (Answer: Skin, muscle, and bone) [2011-2017]	K5.1 PRE average	39.1%	35.6%	-3.5%	0.040
	K5.1 POST average	55.3%	55.1%	-0.2%	7.973
	K5.1 difference	16.2%	19.5%	3.3%	0.293
K6 Who is known as "The Father of Genetics" and what was his model organism? (Answer: Gregor Mendel and pea plants)	K6 PRE average	62.1%	65.5%	3.4%	0.031
	K6 POST average	76.4%	73.3%	-3.1%	0.035
	K6 difference	14.3%	7.7%	-6.5%	<0.001
K7 Unspecialized cells that can multiply repeatedly and potentially develop into many types of cells, such as heart, skin, liver etc., are called: (Answer: Stem cells)	K7 PRE average	42.4%	58.0%	15.0%	<0.001
	K7 POST average	68.0%	77.8%	9.9%	<0.001
	K7 difference	25.6%	19.8%	-5.7%	<0.001
K8.0 Which of these Punnett Squares shows the possibility of inheriting a recessive trait from two heterozygous parents? (Answer: Aa x Aa) (2010-2011)	K8.0 PRE average	57.7%	67.9%	10.2%	1.185
	K8.0 POST average	65.5%	77.4%	11.8%	0.479
	K8.0 difference	7.8%	9.4%	1.6%	7.027
K8.1 Which Punnett square shows a 3:1 ratio of offspring inheriting a dominant trait? (Answer: Aa x Aa) (2011-2017)	K8.1 PRE average	65.7%	74.5%	8.8%	<0.001
	K8.1 POST average	72.2%	83.6%	11.4%	<0.001
	K8.1 difference	6.5%	9.2%	2.7%	0.344
	Total PRE average	50.6%	58.0%	7.4%	<0.001
	Total POST average	65.3%	73.2%	8.0%	<0.001
	Total average difference	14.7%	15.3%	0.5%	0.265

*Shading indicates significance. All questions have the same n, as blank responses were counted as incorrect answers in the analysis

Supplementary Table 4. *Elementary School Attitudes 2011-17 (total n=6682)*

		OE average	MT average	Difference	Adjusted p-value
A1 Science is interesting. (n=6569)	A1 PRE average	4.23	4.25	0.03	3.042
	A1 POST average	4.31	4.30	-0.01	6.676
	A1 Difference	0.09	0.05	-0.04	0.892
A2 Science is necessary to help us understand the world around us. (n=6504)	A2 PRE average	4.30	4.37	0.07	0.011
	A2 POST average	4.30	4.37	0.08	0.010
	A2 Difference	0.00	0.00	0.00	9.562
A3.1 Men are better at science than women. (n=6219)	A3.1 PRE average	2.21	2.09	-0.11	0.021
	A3.1 POST average	2.20	2.11	-0.09	0.114
	A3.1 Difference	0.00	0.01	0.01	9.306
A4.2 I know what it's like to be a scientist. (n=6198)	A4.1 PRE average	2.91	2.91	0.00	10.177
	A4.1 POST average	3.37	3.31	-0.06	0.977
	A4.1 Difference	0.47	0.40	-0.06	0.985
A5 Everyone should know a little bit about science. (n=6489)	A5 PRE average	4.09	4.09	0.01	7.970
	A5 POST average	4.12	4.15	0.04	1.551
	A5 Difference	0.03	0.06	0.03	3.553
A6 Scientific discoveries have an impact on our health. (n=6464)	A6 PRE average	3.91	3.99	0.08	0.042
	A6 POST average	4.03	4.17	0.15	<0.001
	A6 Difference	0.12	0.17	0.05	0.942
A7 I would be interested in learning about different types of careers in science. (n=6454)	A7 PRE average	3.82	3.72	-0.10	0.037
	A7 POST average	3.79	3.65	-0.14	<0.001
	A7 Difference	-0.03	-0.07	-0.05	1.800
A8 Ordinary people can be scientists. (n=6484)	A8 PRE average	3.72	3.85	0.13	<0.001
	A8 POST average	3.82	3.92	0.10	0.021
	A8 Difference	0.10	0.07	-0.03	4.240
A9 Science is becoming more popular than it used to be. (n=6450)	A9 PRE average	3.51	3.51	0.00	10.441
	A9 POST average	3.64	3.63	-0.01	9.162
	A9 Difference	0.13	0.12	-0.01	9.130
A10 Scientific research is important. (n=6464)	A10 PRE average	4.35	4.44	0.09	0.001
	A10 POST average	4.33	4.41	0.08	0.006
	A10 Difference	-0.02	-0.02	-0.01	9.145
A11 I can imagine myself as a scientist. (n=6504)	A11 PRE average	3.28	3.13	-0.15	<0.001
	A11 POST average	3.36	3.16	-0.20	<0.001
	A11 Difference	0.08	0.03	-0.05	1.396
	Total PRE average	3.67	3.68	0.01	0.259
	Total POST average	3.76	3.75	0.00	0.642
	Total average diff.	0.09	0.07	-0.02	0.098

**Shading indicates significance. The signs for statement 3.1 were reversed in the aggregate averages.*

Supplementary Table 5. *Middle School Attitudes 2011-17 (total n=9421)*

		OE average	MT average	Difference	Adjusted p-value
A1 Science is interesting. (n=9263)	A1 PRE average	4.04	4.08	0.04	0.458
	A1 POST average	4.08	4.09	0.01	5.902
	A1 Difference	0.03	0.00	-0.03	1.215
A2 Science is necessary to help us understand the world around us. (n=9185)	A2 PRE average	4.20	4.21	0.02	4.408
	A2 POST average	4.16	4.18	0.02	3.929
	A2 Difference	-0.03	-0.03	0.00	9.107
A3.1 Men are better at science than women. (n=9142)	A3.1 PRE average	2.04	2.08	0.04	1.604
	A3.1 POST average	2.02	2.02	0.00	9.715
	A3.1 Difference	-0.02	-0.06	-0.04	0.452
A4.2 I know what it's like to be a scientist. (n=9167)	A4.1 PRE average	2.73	2.73	0.01	8.470
	A4.1 POST average	3.01	2.99	-0.02	4.247
	A4.1 Difference	0.29	0.25	-0.03	1.982
A5 Everyone should know a little bit about science. (n=9189)	A5 PRE average	4.13	4.12	-0.01	5.291
	A5 POST average	4.10	4.09	-0.01	8.094
	A5 Difference	-0.03	-0.03	0.01	8.223
A6 Scientific discoveries have an impact on our health. (n=9154)	A6 PRE average	4.13	4.12	-0.02	4.329
	A6 POST average	4.17	4.18	0.02	4.611
	A6 Difference	0.04	0.07	0.03	1.418
A7 I would be interested in learning about different types of careers in science. (n=9151)	A7 PRE average	3.45	3.39	-0.06	0.168
	A7 POST average	3.36	3.30	-0.07	0.119
	A7 Difference	-0.09	-0.09	0.00	10.368
A8 Ordinary people can be scientists. (n=9165)	A8 PRE average	3.74	3.75	0.01	8.503
	A8 POST average	3.77	3.74	-0.03	2.627
	A8 Difference	0.03	-0.01	-0.03	1.597
A9 Science is becoming more popular than it used to be. (n=9126)	A9 PRE average	3.49	3.49	-0.01	8.744
	A9 POST average	3.57	3.55	-0.02	2.766
	A9 Difference	0.08	0.06	-0.02	3.586
A10 Scientific research is important. (n=9110)	A10 PRE average	4.28	4.29	0.00	8.748
	A10 POST average	4.27	4.27	0.00	9.540
	A10 Difference	-0.01	-0.02	-0.01	8.443
A11 I can imagine myself as a scientist. (n=9160)	A11 PRE average	2.80	2.73	-0.07	0.241
	A11 POST average	2.86	2.79	-0.07	0.140
	A11 Difference	0.06	0.05	-0.01	7.465
	Total PRE average	3.55	3.54	-0.01	0.311
	Total POST average	3.58	3.57	-0.01	0.128
	Total average diff.	0.03	0.03	0.00	0.463

**Shading indicates significance. The signs for statement 3.1 were reversed in the aggregate averages.*

Supplementary Table 6. *High School Attitudes 2011-17 (total n=6433)*

		OE average	MT average	Difference	Adjusted p-value
A1 Science is interesting. (n=6237)	A1 PRE average	4.03	4.30	0.27	<0.001
	A1 POST average	4.08	4.21	0.14	<0.001
	A1 Difference	0.04	-0.08	-0.12	5.753
A2 Science is necessary to help us understand the world around us. (n=6197)	A2 PRE average	4.35	4.49	0.14	<0.001
	A2 POST average	4.32	4.46	0.13	<0.001
	A2 Difference	-0.03	-0.05	-0.02	9.663
A3.1 Men are better at science than women. (n=6159)	A3.1 PRE average	1.95	1.68	-0.27	<0.001
	A3.1 POST average	1.97	1.78	-0.19	<0.001
	A3.1 Difference	0.02	0.08	0.06	6.561
A4.2 I know what it's like to be a scientist. (n=6170)	A4.1 PRE average	2.65	2.79	0.14	0.134
	A4.1 POST average	3.06	3.19	0.13	0.018
	A4.1 Difference	0.41	0.41	0.00	7.970
A5 Everyone should know a little bit about science. (n=6196)	A5 PRE average	4.19	4.36	0.17	<0.001
	A5 POST average	4.16	4.30	0.13	<0.001
	A5 Difference	-0.03	-0.07	-0.04	4.769
A6 Scientific discoveries have an impact on our health. (n=6164)	A6 PRE average	4.33	4.46	0.12	<0.001
	A6 POST average	4.33	4.38	0.06	<0.001
	A6 Difference	0.00	-0.06	-0.06	10.109
A7 I would be interested in learning about different types of careers in science. (n=6172)	A7 PRE average	3.55	3.85	0.30	0.004
	A7 POST average	3.51	3.59	0.09	0.325
	A7 Difference	-0.05	-0.27	-0.23	0.393
A8 Ordinary people can be scientists. (n=6176)	A8 PRE average	3.80	3.93	0.13	0.199
	A8 POST average	3.78	3.89	0.11	0.072
	A8 Difference	-0.02	-0.02	0.00	6.622
A9 Science is becoming more popular than it used to be. (n=6142)	A9 PRE average	3.57	3.81	0.23	0.123
	A9 POST average	3.68	3.85	0.17	9.658
	A9 Difference	0.11	0.04	-0.07	0.189
A10 Scientific research is important. (n=6152)	A10 PRE average	4.34	4.54	0.20	<0.001
	A10 POST average	4.33	4.50	0.17	<0.001
	A10 Difference	-0.01	-0.04	-0.02	10.491
A11 I can imagine myself as a scientist. (n=6155)	A11 PRE average	2.90	3.22	0.31	<0.001
	A11 POST average	2.99	3.16	0.18	<0.001
	A11 Difference	0.07	-0.06	-0.14	0.301
	Total PRE average	3.58	3.68	0.10	<0.001
	Total POST average	3.63	3.71	0.08	<0.001
	Total average diff.	0.04	0.03	-0.02	0.019

**Shading indicates significance. The signs for statement 3.1 were reversed in the aggregate averages.*