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Supplemental information

Understanding changes in genetic literacy over time and in genetic research participants

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Table S1. Mean(SD) of familiarity with each genetic term on scale from 1 (not at all familiar) to 7 (completely familiar).

Genetic Term	2013 GP	2021 GP	SPARK
Genetic	5.48(1.83)	5.87(1.47)	6.26(1.2)
Chromosome	4.97(2.01)	5.50(1.66)	5.94(1.41)
Susceptibility	4.50(2.27)	4.97(1.98)	5.52(1.78)
Mutation	4.99(2.07)	5.59 (1.68)	5.99(1.46)
Variation	4.67(2.24)	5.30(1.84)	5.74(1.6)
Abnormality	5.27(2.04)	5.65(1.66)	6.10(1.34)
Genome	—	4.29 (2.06)	5.00(1.87)
Heredity	5.51(1.90)	5.71(1.67)	6.27(1.28)
Sporadic	4.12(2.37)	4.62(2.15)	5.31(2)

Table S2. Proportion of the sample that correctly responded to each of six skills questions.

Skills Item	2021 GP	SPARK
Question 1 (Genetic Testing)	0.18	0.43*
Question 2 (Mutations)	0.65	0.77*
Question 3 (Positive Results)	0.38	0.45*
Question 4 (Negative Results)	0.28	0.39*
Question 5 (Inheritance)	0.53	0.69*
Question 6 (De Novo Variant)	0.64	0.83*

*Significantly higher than 2021 GP, $p<.001$

Table S3. Proportion of each sample that correctly responded to each statement.

Knowledge Statement	2013 GP	2021 GP	SPARK
One can see genes with the naked eye.*	0.79	0.77	0.89
Healthy parents can have a child with a genetic disease.	0.81	0.81	0.95
The onset of certain diseases is due to genes, environment, and lifestyle.	0.72	0.69	0.9
A gene is a disease.	0.84	0.83	0.95
The carrier of a disease gene may be completely healthy.	0.75	0.73	0.9
All serious diseases are hereditary.	0.76	0.71	0.87
A gene is a molecule that controls hereditary characteristics.	0.59	0.68	0.59
Genes are inside cells.	0.54	0.60	0.7
The child of a disease gene carrier is always also a carrier of the same disease gene.	0.49	0.44	0.63
A gene is a piece of DNA.	0.66	0.75	0.77
A gene is a cell.	0.38	0.38	0.57
A gene is a part of a chromosome.	0.42	0.59	0.66
Different body parts include different genes.	0.32	0.32	0.38
Genes are bigger than chromosomes.	0.25	0.31	0.45
The genome is not susceptible to human intervention.	0.08	0.17	0.07
It has been estimated that a person has about 22,000 genes.	0.13	0.28	0.28
Environmental factors, such as UV radiation, do not play a role in our genome.+	—	0.48	0.61

*__Bolded__ statements intentionally false.

+Included only in survey completed by 2021 GP and SPARK.

Table S4. Six questions and response choices included in the skills module. The correct response(s) is in bold.

Question 1: *What is the purpose of genetic testing for autism spectrum disorder? Select all that apply.*	1. **Genetic testing can provide the family or clinicians with an explanation for the diagnosis.** 2. **Genetic testing can confirm an ASD diagnosis.** 3. **Genetic testing uses DNA analysis to find any genetic mutations associated with ASD.**
Question 2: *Please select the phrase that best completes the following statement: Genetic mutations that could increase a person's risk of autism spectrum disorder…*	1. **Can each convey different amounts of risk.** 2. Are always identical between siblings. 3. Not sure.
Question 3: *About what percentage of individuals* ***who receive genetic testing*** *are found to have a variant associated with a higher risk for autism spectrum disorder?*	Enter a number from 0–100: **25** %
Question 4: *Out of 100 individuals* ***who receive genetic testing****, about how many will receive results with no genetic mutations associated with autism spectrum disorder?*	Enter a number from 0–100: **75**
Question 5: *If neither the mother nor the father has ASD, it is* ***impossible*** *for their child to have ASD.*	1. Not Sure 2. True **3. False**
Question 6: *It is possible for a child to have a genetic mutation increasing their risk for ASD that* ***neither*** *their biological mother* ***nor*** *father have.*	1. Not Sure **2. True** 3. False