

## Experiment Month Results: Intuitions about Scientific Progress

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### Survey Materials

Each participant is given one of the following vignettes:

(1) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with the Theory of Relativity, the scientists were trying to find particles that travel faster than light. One day, during a day of routine calculations, the computer program the scientists were using managed to mathematically demonstrate the existence of these faster-than-light particles with an equation. As it turns out, this equation works perfectly, and these particles, called “tachyons,” really do exist. The scientists reviewed the logs immediately, and they figured out how the program performed the demonstration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(2) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with the Theory of Relativity, the scientists were trying to find particles that travel faster than light. One day, during an anomalous power surge, the computer program the scientists were using managed to mathematically demonstrate the existence of these faster-than-light particles with an equation. As it turns out, this equation works perfectly, and these particles, called “tachyons,” really do exist. The scientists reviewed the logs immediately, and they figured out how the program performed the demonstration.

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No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(3) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with the Theory of Relativity, the scientists were trying to find particles that travel faster than light. One day, during a day of routine calculations, the computer program the scientists were using managed to mathematically demonstrate the existence of these faster-than-light particles with an equation. As it turns out, this equation works perfectly, and these particles,

called “tachyons,” really do exist. The scientists reviewed the logs immediately, but they could not figure out how the program performed the demonstration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(4) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with the Theory of Relativity, the scientists were trying to find particles that travel faster than light. One day, during an anomalous power surge, the computer program the scientists were using managed to mathematically demonstrate the existence of these faster-than-light particles with an equation. As it turns out, this equation works perfectly, and these particles, called “tachyons,” really do exist. The scientists reviewed the logs immediately, but they could not figure out how the program performed the demonstration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(5) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with electronic circuit boards, the scientists were trying to find particles that travel faster than light. One day, during a day of routine calculations, the computer program the scientists were using managed to physically accelerate the particles in the circuit boards to speeds faster than that of light. As it turns out, the circuit boards work perfectly, and these faster-than-light particles, called “tachyons,” really were being accelerated. The scientists reviewed the logs immediately, and they figured out how the program performed the acceleration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(6) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with electronic circuit boards, the scientists were trying to find particles that travel faster than light. One day, during an anomalous power surge, the computer program the scientists were using managed to physically accelerate the particles in the circuit boards to speeds faster than that of light. As it turns out, the circuit boards work perfectly, and these faster-than-light particles, called “tachyons,” really were being accelerated. The scientists reviewed the logs immediately, and they figured out how the program performed the acceleration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(7) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with electronic circuit boards, the scientists were trying to find particles that travel faster than light. One day, during a day of routine calculations, the computer program the scientists were using managed to physically accelerate the particles in the circuit boards to speeds faster than that of light. As it turns out, the circuit boards work perfectly, and these faster-than-light particles, called “tachyons,” really were being accelerated. The scientists reviewed the logs immediately, but they could not figure out how the program performed the acceleration.

On a 7-point scale, 1 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No Progress			Some Progress			Enormous Progress
1	2	3	4	5	6	7

(8) A group of scientists at the Institute for Advanced Study has been studying the speed of light. Working with electronic circuit boards, the scientists were trying to find particles that travel faster than light. One day, during an anomalous power surge, the computer program the scientists were using managed to physically accelerate the particles in the circuit boards to speeds faster than that of light. As it turns out, the circuit boards work perfectly, and these faster-than-light particles, called “tachyons,” really were being accelerated. The scientists reviewed the logs immediately, but they could not figure out how the program performed the acceleration.

On a 7-point scale, 0 meaning “no progress” and 7 meaning “enormous progress,” how much scientific progress has been made in the story above?

No			Some			Enormous
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Progress			Progress			Progress
1	2	3	4	5	6	7