

**SUPPLEMENTARY ONLINE MATERIALS FOR**

**Intuitions About Personal Identity  
Are Rooted in Essentialist Thinking Across Development**

Zachary Horne\*

Arizona State University

Andrei Cimpian

New York University

\* Email: [Zachary.Horne@asu.edu](mailto:Zachary.Horne@asu.edu)

Table S1

*The Experimental and Control Vignettes Used in Study 1*

---

*Experimental Vignette*

Claire Sylvia underwent a heart and lung transplant because she was dying from pulmonary hypertension. Following the surgery, she described feeling changes in her behavior and emotions. For example, she began to crave beer and fried chicken – foods she had never liked before. She became more aggressive, independent, and confident, and for the first time walked with a swagger. Even her favorite colors changed, from pink and red to blue and green. Sylvia attributed these changes to characteristics of her donor, a young man in his early 20s. She said she felt “a new male energy” in her body, as if the man’s “purer essence” now inhabited her. Sylvia’s therapist concurred, “I am beginning to believe that some of the donating man’s essence was transmigrated to Claire... If the transplant has somehow passed on elements of male temperament and personality, then psychological residues of a man may now inhabit Claire.”

*Control Vignette*

Crystal Simone underwent a procedure to remove her teeth because they were rapidly decaying. Following the surgery, she described feeling changes in her ability to chew and enjoy food. For example, she began to crave beer and fried chicken – things she had never been able to drink and eat before without pain. She became more independent and confident thanks to her dentures and for the first time walked with a swagger. Even her favorite colors changed, from pink and red to blue and green because they complimented her new bright smile. Simone attributed these changes to getting the dentures; they gave her a really nice smile. She said, “it’s as if the dentures renewed the confidence I had all along” and she referred to “this new energy” she felt. Simone’s therapist concurred, “I am beginning to believe that the dentures really have helped Crystal... The surgery has helped her confidence and personality.”

---

Table S2

*The Manipulation Check Used in Studies 1 and 2*


---

I would pay the same amount of money for an original Picasso as for a perfect replica of it, assuming that experts could not tell the difference between the two. (R)

I would pay a lot of money for a pair of jeans that Elvis wore.

Trying on a sweater that Hitler wore, even if it was washed thoroughly beforehand, would make me very uncomfortable.

I would be okay with eating at a restaurant booth that a serial killer sat at recently. (R)

People who receive heart transplants from violent criminals could become a little more violent themselves.

If a hard-working person gave someone a kidney, the recipient would be exactly as hard-working after the operation as they were before the operation. (R)

I would be exactly as intelligent after receiving a liver donation from someone with a genius-level IQ as I was before the operation. (R)

I hope I never get a heart transplant from a person who was mean, even if their heart was healthy.

Receiving a pancreas transplant from someone who was obsessive-compulsive might make me ever so slightly more obsessive-compulsive.

It makes absolutely no difference if you receive a kidney transplant from a pedophile or a social worker, as long as both kidneys are fully functioning. (R)

---

*Note.* The items marked with (R) were reverse-scored.

Table S3

*The Identity Judgment Question in Studies 1 and 2*

---

Jim is an accountant living in Chicago. One day, Jim is severely injured in a tragic car accident. Jim's only chance for survival is participation in an advanced medical experiment called a Type 3 procedure. Jim agrees. It is the year 2140 and scientists are able to grow generic versions of all parts of the human body, including the brain. A stock of bodies is kept cryogenically frozen to be used as spare parts in the event of an emergency. In a Type 3 procedure, a team of doctors copy Jim's brain and carefully place it in a stock body. The original body and brain are destroyed in the operation. After the operation, all the new neural connections are checked to ensure they exactly match the original neural connections. The doctors test all physiological responses and determine that everything is functioning properly. The doctors scan the new brain and verify that the memories in it are the same as those that were in the brain before the operation.

Rate the extent to which you agree with the following statement:

“The person that the doctors have finished operating on is still Jim.”

---

Table S4

*The Experimental and Control Vignettes Used in Study 2*

---

*Experimental Vignette*

Claire Sylvia underwent a bone marrow transplant because she had multiple myeloma. Following the transplant, after the new stem cells in her bone marrow had time to synthesize new blood cells, Sylvia described feeling very subtle changes in her behavior and emotions. For example, she began to crave beer and fried chicken sometimes – foods she had never liked before. She became a little more aggressive, independent, and confident, and for the first time she felt like she walked with more of a swagger. She even started liking blue and green, though she never liked them very much before. Sylvia attributed these changes to characteristics of her donor, a young man in his early 20s. She said she felt “a new male energy”, as if the man's “purer essence” now inhabited her. Sylvia’s therapist concurred, “I am beginning to believe that some of the donating man's essence was transmigrated to Claire... If the bone marrow, and the blood it helped synthesize, has somehow passed on elements of male temperament and personality, then psychological residues of a man may now inhabit Claire.”

*Control Vignette*

Crystal Simone underwent a procedure to remove her teeth because they were rapidly decaying. Following the surgery, after she got used to the new dentures, she described feeling subtle changes in her ability to chew and enjoy food. For example, she began to crave beer and fried chicken sometimes – things she had never been able to drink and eat before without pain. She became a little more independent and confident thanks to her dentures and for the first time felt like she walked with a swagger. She even started liking blue and green, though she never liked them very much before, because they complimented her new bright smile. Simone attributed these changes to getting the dentures; they gave her a really nice smile. She said, “it’s as if the dentures renewed the confidence I had all along” and she referred to “this new energy” she felt. Simone’s therapist concurred, “I am beginning to believe that the dentures really have helped Crystal... The surgery has helped her confidence and personality.”

---

Table S5

*The Identity Vignettes Used in Study 3*

---

*Same-Stuff Vignette*

Jim is living in Chicago. It is the year 2140. One day, he is severely injured in a tragic accident. His only chance for survival is a newly-developed machine that rebuilds patients' bodies using their own molecules. Jim agrees to try the machine. The machine scans Jim's body, including all the neural connections in his brain, and calculates a precise blueprint of it. Next, the machine breaks down Jim's body to the level of molecules. Finally, the machine rebuilds Jim's body with the exact original molecules that made up the original body. The doctors scan all the new neural connections to ensure they exactly match the original neural connections. They also test all physiological responses and determine that everything is functioning properly. The doctors scan the new brain and verify that the memories in it are the same as those that were in the brain before the operation.

*New-Stuff Vignette*

Jim is living in Chicago. It is the year 2140. One day, he is severely injured in a tragic accident. His only chance for survival is a newly-developed machine that rebuilds patients' bodies using new molecules chemically synthesized in a lab. Jim agrees to try the machine. The machine scans Jim's body, including all the neural connections in his brain, and calculates a precise blueprint of it. Next, the machine destroys Jim's body. Finally, the machine rebuilds Jim's body with the new molecules that were synthesized in a lab. The doctors scan all the new neural connections to ensure they exactly match the original neural connections. They also test all physiological responses and determine that everything is functioning properly. The doctors scan the new brain and verify that the memories in it are the same as those that were in the brain before the operation.

---

Table S6

*The Scale of Individual Differences in Essentialism Used in Study 3*

---

Throughout life, a person's thoughts and actions leave traces that permeate their body, making them unique.

A person's individuality is embodied in the unique chemical details of their nervous system.

A person's biological makeup, down to the level of molecules, makes them a distinctive individual.

At the microscopic level, there is something about the physical substance of each person's body that makes them who they are.

---

Table S7

*The Child-Friendly Identity Vignettes Used in Study 4*

---

*Same-Stuff Vignette*

Kyle is a 10-year-old boy who lives in the future and loves to ride his bike. One day, Kyle really hurts his head riding his bike. It is very sad because he might not be able to ride his bike anymore. To get better, Kyle needs help from a doctor. The doctor tells Kyle's parents that the hospital has a machine that might help Kyle. Kyle's parents agree to try the machine.

Since it is the future, this machine is able to rebuild people's bodies using *their own* blood and bones and stuff like that, the exact stuff they're made of. Here's how the machine helped Kyle: First, the machine broke down Kyle's body and took a very close look at the stuff that he is made of. Then, it fixed Kyle's original blood and bones and stuff like that, the exact stuff Kyle's made of. Finally, the machine put all of these parts together, and made sure everything was put together right.

*New-Stuff Vignette*

Paul is a 12-year-old boy who lives in the future and loves to play soccer. One day, Paul really hurts his head playing soccer. It is very sad because he might not be able to play soccer anymore. To get better, Paul needs help from a doctor. The doctor tells Paul's parents that the hospital has a machine that might help Paul. Paul's parents agree to try the machine.

Since it is the future, this machine is able to rebuild people's bodies using *brand new* blood and bones and stuff like that, the exact stuff people are made of. Here's how the machine helped Paul: First, the machine broke down Paul's body and took a very close look at the stuff that he is made of. Then, it built brand new blood and bones and stuff like that, that are exactly like Paul's, except new. Finally, the machine put all of these new parts together, and made sure everything was put together right.

---

Table S8

*The Four Items in the Individual-Differences Measure of Essentialism in Study 4*

---

Ok, so now I am going to give you ten more coins to spend. Here is another thing you can spend your coins on. One person was selling an original pair of Benjamin Franklin's glasses (*point to picture*), and they were also selling an exact copy of those glasses (*point to other picture*) that look and feel like the originals – no one can tell the difference between them. How would you spend your ten coins?

Ok, so now I am going to give you ten more coins to spend. Here is another thing you can spend your coins on. One person was selling an exact copy of Abraham Lincoln's hat (*point to picture*) that looks and feels like the original – no one can tell the difference between the copy and the original – and they were also selling Abraham Lincoln's original hat (*point to other picture*). How would you spend your ten coins?

Ok, so now I am going to give you ten more coins to spend. Here is another other thing you can spend your coins on. One person was selling an exact copy of Thomas Edison's lightbulb (*point to other picture*) that looks and works like the original – no one can tell the difference between the exact copy and the original – and they were also selling Thomas Edison's original lightbulb (*point to picture*). How would you spend your ten coins?

Ok, so now I am going to give you ten more coins to spend. Here is another thing you can spend your coins on. One person was selling the Queen of England's original jewels (*point to picture*), and they were also selling an exact copy of the jewels (*point to other picture*) that look and feel like the originals – no one can tell the difference between them. How would you spend your ten coins?

---