

**Questionnaires & transcript**

## A. Participant characteristics

## Race.

Please select which race/ethnicity you most identify as:

1=white

2=black

3=latino/hispanic

4= asian

5=other

## Ladder

Think of the ladder below as representing where people stand in the United States. At the top of the ladder (10) are the people who are the best off: those who grew up with the most money, the most education, and the most respected jobs. At the bottom (1) are the people who are the worst off: those who grew up with the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom. Where would you place yourself on this ladder?

1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10  
 (worst off) ————— (best off)

## Religious

Where would you place yourself on a scale in terms of how religious you are - where 1 is “not at all religious” and 7 is “extremely religious”

1 — 2 — 3 — 4 — 5 — 6 — 7  
 (not at all) ————— (extremely)

## Religious attendance

Besides weddings and funerals, how often do you attend religious services?

0 = never

1 = seldom

2 = few times a year

3 = 1-2 times a month

4 = one time a week

5 = >1 time per week

## Social politics

When it comes to SOCIAL policy, do you consider yourself liberal or conservative? Please answer on the following scale.

1 = extremely liberal

2 = liberal

3 = slightly liberal

4 = moderate

5 = slightly conservative

6 = conservative

7 = extremely conservative

8 =other / can't say

#### Economic politics

When it comes to ECONOMIC policy, do you consider yourself liberal or conservative? Please answer on the following scale.

1 = extremely liberal

2 = liberal

3 = slightly liberal

4 = moderate

5 = slightly conservative

6 = conservative

7 = extremely conservative

8 =other / can't say

#### Membership

To what extent do you agree with the following statement: "Being a member of my political party is an important part of who I am"

0 = not at all

1 = not like me

2 = not much like me

3 = neutral

4 = somewhat like me

5 = like me

#### Belong

How strongly do you agree or disagree with the following statement: "I have a strong sense of belonging to my age group."

1 = strongly disagree

2 = disagree

3 = somewhat disagree

4 =neither agree nor disagree

5 = somewhat agree

6 = agree

7 = strongly agree

#### Empathy

To what extent does the following statement describe you: "I am an empathetic person"

1 Not at all true of me

2 Not very true of me

3 Kind of true of me

4 Very much true of me

5 Completely true of me

#### VR experience

Have you worn a VR headset before?

1 = Yes

0 = No

#### VR dizzy

If you answered yes, have you experienced motion sickness or dizziness while using VR?

1= Yes

0 = No

Motion sick

Where would you place yourself on a scale of how easily do you get motion sickness or carsick, where 1 is “I don’t easily get motion sickness or car sickness” and 7 is “I very easily get motion sickness or car sickness”?

1 -----7

Conditions

Do you have any condition that would make you especially susceptible to dizziness, disorientation or nausea (including pregnancy)?

1 = Yes

0 = No

### **B. Modified Tellegen absorption scale**

Modified from the Tellegen Absorption Scale (Tellegen and Atkinson 1974). The original scale has 34 items that one marks as “true” or “false.” A participant gets a point for every item marked as “true.” The questions tap participants’ willingness to be caught up in their imaginative and sensory experience. We used a subset of 7 items from the original scale, designed to find questions which captured the essence of the survey to save time during data collection. Responses were summed across the questions with greater values indicating stronger absorption.

- 1) Sometimes I feel and experience things as I did as a child
- 2) When I listen a music I can get so caught up in it that I don’t / notice anything else
- 3) I can often somehow sense the presence of another person / before I actually see or hear her/him
- 4) The crackle and flames of a wood fire stimulate my / imagination
- 5) Different colors have distinctive and special meanings for / me
- 6) I often take delight in small things (like the five-pointed star / shape
- 7) Some of my most vivid memories are called up by scents and / smells

### **C. Social Presence questionnaire**

These questions were developed from relevant items from the Networked Minds Social Presence Inventory (Biocca and Harms 2002) and Nowak and Biocca’s social presence measure (2003) and slightly

modified to fit the current context. Participants selected from the following response options: not at all, slightly, moderately, strongly, and very strongly. Responses were summed across the questions with greater values indicating stronger social presence.

To what extent did you feel....

- 1) that Leland/Hennessy was present?
- 2) that you were in the same environment as Leland/Hennessy?
- 3) that Leland/Hennessy was watching you?
- 4) that Leland/Hennessy was aware of your presence?
- 5) that Leland/Hennessy was real?

#### **D. Environmental presence questionnaire**

The five-item scale was adapted from presence scales used in previous studies (Yee and Bailenson 2007; Ahn 2011; Nowak and Biocca 2003). Participants selected from the response options not at all, slightly, moderately, strongly, and very strongly. Greater values indicate stronger environmental presence.

To what extent did you feel...

- 1) that you were really inside the forest/Stanford Main Quad?
- 2) that you were surrounded by the trees/ arches of the Main Quad?
- 3) that you actually visited the forest/Main Quad?
- 4) that the forest/Main Quad seemed like the real world?
- 5) that you could reach out and touch the objects in the forest/Main Quad?

#### **E. Behavioral Intention measures**

Developed for this study, we asked participants to rate their willingness to follow any advice they received from the virtual other ("Follow": yes, maybe or no), as an indicator of their responsiveness to that other and the virtual environment.

Five days later they were asked if they followed that advice ("Followed": yes or no) as an indicator of whether the experience was compelling enough not only to stay with them but to affect their behavior.

**F. Post lab experience scale**

Developed for this study, we asked subjects:

During the past week how often did you....

1) visually imagine Leland/Hennessy while not in virtual reality, even if it was just a passing thought?

2) dream of Leland/Hennessy?

3) Think of Leland/Hennessy?

4) have a pretend-conversation with him?

5) feel that you heard Leland/Hennessy's voice in your mind?

6) think that you heard him speak with your ears, even if quickly?

7) think that you had seen Leland/Hennessy with your eyes, even if it was only out of the corner of your eye?"

[Items were scored 1-5 never to always]

**G. Additional post lab experience questions:**

Participants were asked the following additional questions:

1) How peaceful do you feel as a result of this experience? (0-10 Very agitated-very peaceful)

2a) During the past week, how often were you aware of an unusual presence? (1-5 never to always)

2b) If so, how often did you associate that presence with Leland/Hennessy? (1-5 never to always)

3a) During the past week, did you have unusual sensations in your body (goosebumps, tingling, etc.?) (1-5 never to always)

3b) If so, how often did you associate that sensation with Leland/Hennessy? (1-5 never to always)

4) How sharp were your mental images this week compared to previous weeks? (1-5 not at all to quite a bit more)

**H. Transcript of 10 minute audio track:**

"Allow yourself to relax. Allow a wave of relaxation to spread throughout your entire body. Take another deep breath and, as you exhale, allow the pleasant relaxation to spread through every nerve and fiber of your being. Allow yourself to release the stress and anxiety of the day. Focus your thoughts in this room and on this place."

Then participants were asked to engage sensorially in the virtual reality environment in the way that many prayer practices cultivate an inner sensory engagement in practice (for example, the Ignatian Spiritual Exercises as described in Foster 1978, 2008).

“You find yourself in an open field surrounded by a wood. Look around you. See the tall stands of trees in the distance, graceful and calm. Listen to the birds as they trill from the tree tops. In the distance, you can hear the bees gently hum. Feel the breeze brush against your cheeks, and the sun against your shoulders. The grass feels cool at your feet. Take a deep breath and smell the spring. Allow yourself to relax in the tranquility of the green meadow.”

All participants were then invited to see Leland Stanford Junior, although he appeared in an opaque form only to some of them, and in translucently form, or not at all, to others.

“Slowly you notice that someone else is here with you in the peaceful meadow, surrounded by its trees. He is a boy on the threshold of manhood, with a square jawline. He seems old beyond his years, and yet you catch a twinkle in his eyes. He feels familiar to you, as if somewhere you have seen him before, but he is a boy from another century. Look at his nineteenth century clothes, oddly formal. Look at his jacket, his tie, his leather shoes. His name is Leland.”

All participants were invited to participate in a relationship with Leland in which they walked with him and talked with him and in which he gave them good advice. They were encouraged to feel warmly about Leland and about the experience in general.

“You smile at him, and he nods in return. He is far from you, the boy, but also very close. You feel that you can trust him.

In your mind, you turn and walk together a little while. The birds swoop and circle. [at this point, birds were represented as flying in the virtual reality landscape]. The light flickers on the leaves. The breezes ruffle your hair. Now get to know Leland. Look at him. Look at his eyes, and the cast of his shoulders. Allow him to talk to you. Listen to what he has to say about himself.

And now using sentences you speak in your mind, tell Leland about something that has been worrying you. Something that has been bothering you and you have not quite known what to do or how to think about it. Explain this to Leland, and then listen for what he says. Listen carefully. He will give you good advice, which you should follow. Allow him to speak to you in your mind.

Now feel a warm rush of affection for Leland. This has been a happy visit, but now the visit is coming to an end. Leland begins to move away. He waves goodbye. [At this point, the avatar Leland waved for those who saw him.] Keep the memory of him close. He will come again to help you if you ask. “