

# Trust in Second Life

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Comments Welcome

**Abstract:** Some issues are raised with regard to conducting decision-making experiments in virtual worlds. The issues are illustrated via a visit to an experimental laboratory on Second Life. **Keywords:** Experimental economics, virtual worlds, Second Life.

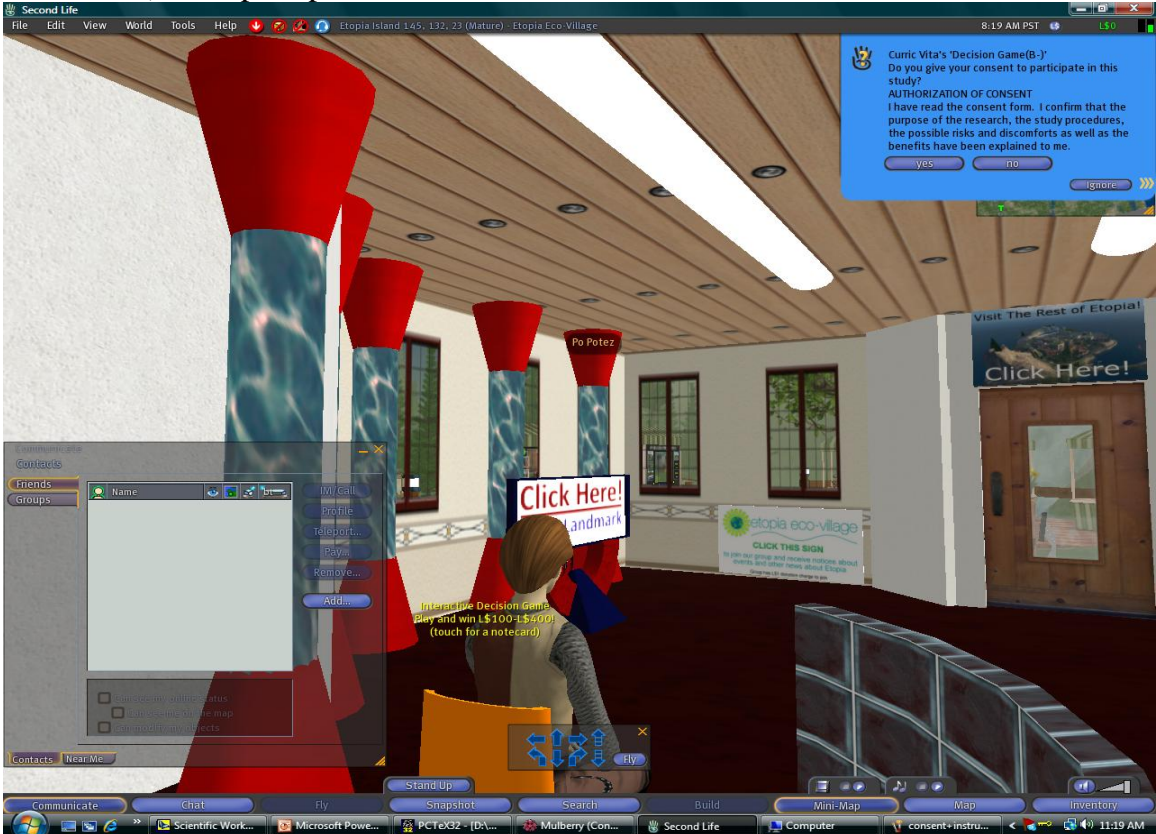
Recently, several researchers have promoted the idea of conducting economic experiments in virtual worlds –see, e.g., Bloomfield (2007), Castranova (2006). This is a very intriguing idea. As a macroeconomist, I am keen to find ways to harness massively multiplayer role playing games for research purposes. However, it seems to me that a drawback of operating in such environments is that there is little control over who shows up to participate, their knowledge of economics and indeed, the truthfulness of any demographic or other information they provide to the researchers conducting the experiment.

The simplest way in which I can demonstrate my concerns is to document my February 1, 2008 visit to the “Experimental Economics Lab” on Linden Lab’s *Second Life* virtual world where I participated in an experiment conducted by Stephen Atlas of Tufts University.

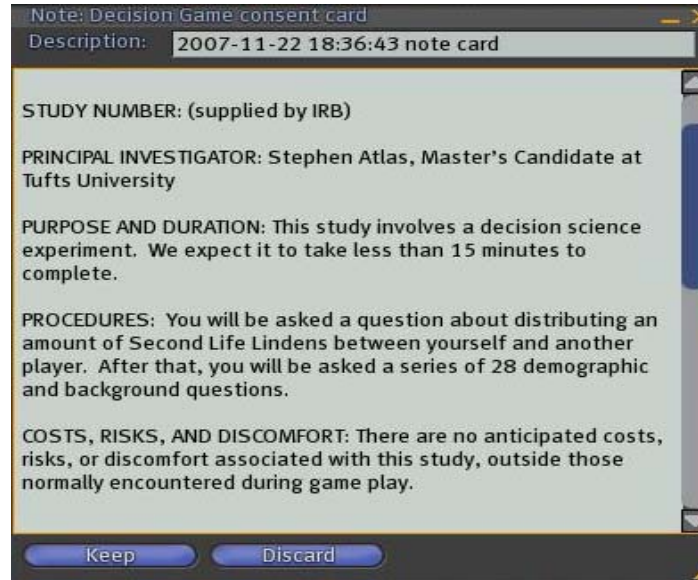
The first screenshot shot (below) shows my handsome avatar “Po Potez” outside the Brown-Tufts experimental laboratory. There are several experimental laboratories in operation on Second Life. I picked one randomly. I was able to “teleport” to the lab after searching for its location. Upon arrival, I find a strictly self-service type of individual-decision-making experiment. The sign over the door promises \$100-400 Linden dollars (the Second Life currency) for 15 minutes of my time. At current exchange rates, approximately \$265 Linden per \$1 US, these are *low* stakes compared with typical economic decision-making experiments. No one greets me at the door and there is no screening of any type. I just enter the lab and sit down in the chair as the sign over the door instructs.



After sitting down on a chair in a pleasant virtual environment (fluorescent lighting-very au courant!), I am prompted to read a consent form.

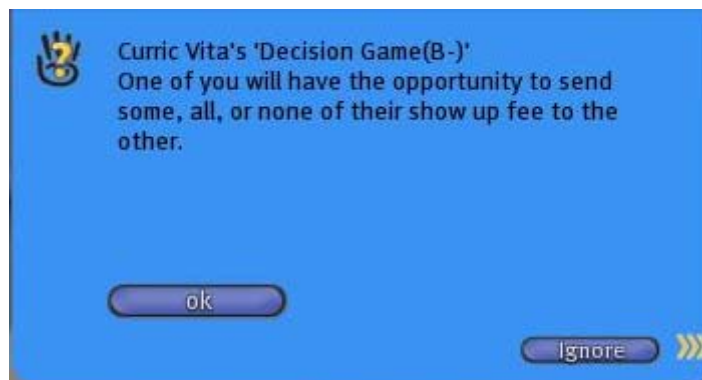


A portion of the consent form, which appears in a pop-up box as a “note card” is shown below. After scrolling through it, at the bottom I give my consent to participate in the study.

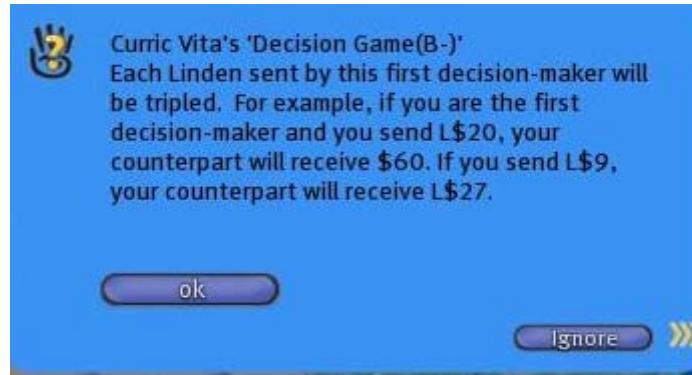


After giving consent I am immediately asked my real-life *age*. Thinking of my avatar as a younger version of myself, I *lie* and state that I am younger than I really am.

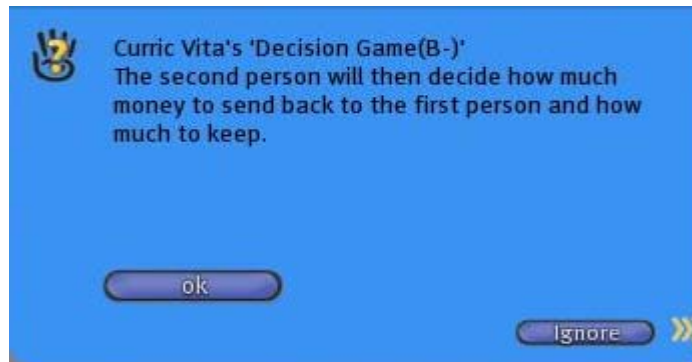
Next, the experimental instructions appear in a series of boxes in the upper right hand corner of the screen. I learn that I and another anonymous participant have been matched and that both of us have been endowed with a show-up fee of L\$100 Linden dollars (US \$0.38). There is another chair in the room but it is empty. I see no other participants in the room with me, or any other avatar besides myself. Perhaps they are invisible. The instructions indicate that in the experiment, one of us will have to decide whether to give up some, all or none of our show-up fee (endowment) to the other participant:



The instructions continue,



and (Holy Cow!) it becomes evident that I am playing Berg et al.'s (1995) trust game:



This well-known experimental game is shown in extensive form below in Figure 1.

Both players are endowed with L\$100. The first mover, player A, chooses an amount  $S \in [0, L\$100]$  to send to the second mover, player B. Amounts were restricted to be integers in the game I played. Any amount sent is then exogenously tripled by the experimenters. If  $S > 0$ , Player B then decides how much of the tripled amount  $3S$  to keep,  $K$ , for himself. Again choices for  $K$  are restricted to be integers. The game is then over. Payoffs to each player are shown at the bottom of the game tree.

In the one-shot version of this game – the game I was playing was one-shot- the unique subgame perfect equilibrium prediction is that the second mover, player B, will keep all  $3S$  of the money for himself  $K=3S$ , and therefore, the first mover, player A, is better off not sending the second mover anything,  $S=0$ , keeping L\$100 for himself.

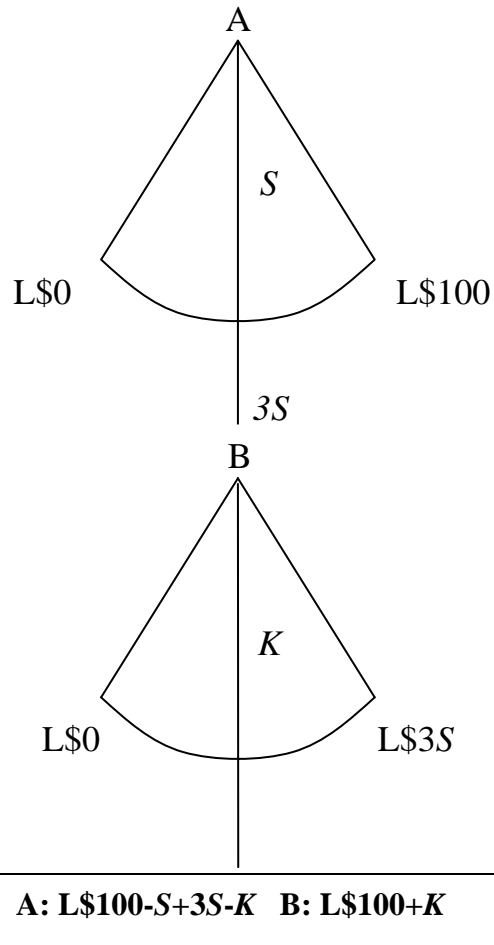
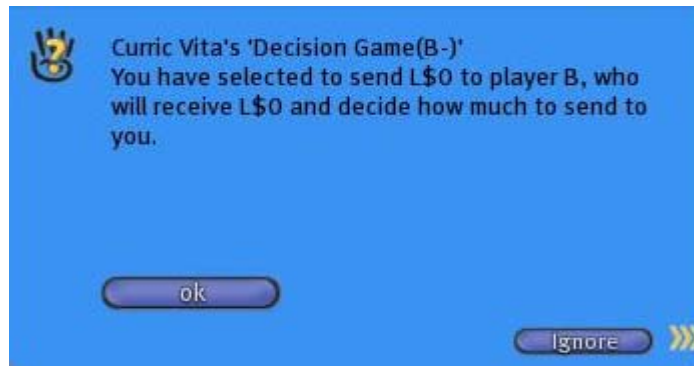


Figure 1: The Trust Game I Played on *SL*

In the experiment I participated in, I was designated as the first mover –Player A- and decided to play according to the subgame perfect equilibrium, that is, I chose to send L\$0 to the second mover, Player B:



After clicking OK and earning L\$100, I was prompted to answer 28 demographic and background questions about myself for no extra payment. Considering the real cash value of my final earnings, I decided this was not worth my time and I chose to quit the experiment. Hopefully, as a consequence, my data are not recorded by Mr. Atlas for publication purposes.

Nevertheless, by this stage in the experiment, I believe my main concerns are well-established. I was able to lie about my age and participate in a decision-making experiment despite understanding the equilibrium prediction and presumably the hypothesis the researchers were testing, and for all I know, my misinformation and background were not vetted in any way (until now). The low stakes offered for participating in the study caused me to drop out prematurely, which should raise concerns about possible selection biases.

I have visited only one virtual laboratory, so others may be different. Still, in any such laboratory, I think it would be hard to overcome issues of sample selection and the truthfulness of demographic information, especially in virtual worlds where pretending-to-be-someone-other-than-you-are is the norm (and indeed, may be the primary motivation for participation). More generally, this same critique applies to any anonymous experiment conducted over the internet. For example, there is little control over whether the *same* individual is logged in on multiple machines, under different identities, perhaps playing a two-person game with himself. Of course, traditional laboratory experiments also face a number of control issues, for instance the experience level that subjects bring with them. However, it is my belief that more careful screening and monitoring of subjects is possible when they meet together in a physical laboratory under the observation of an experimenter, than in virtual worlds.

I am keen to study behavior in virtual worlds, which I think have certain advantages. For instance they contain a larger and more diverse population of individuals than we can typically recruit from in traditional laboratory experiments. However, the challenges I raise in this note seem to me to be difficult to overcome. I welcome a vigorous discussion on how these issues might be (or are being) addressed by economists working in virtual worlds.

## References

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