

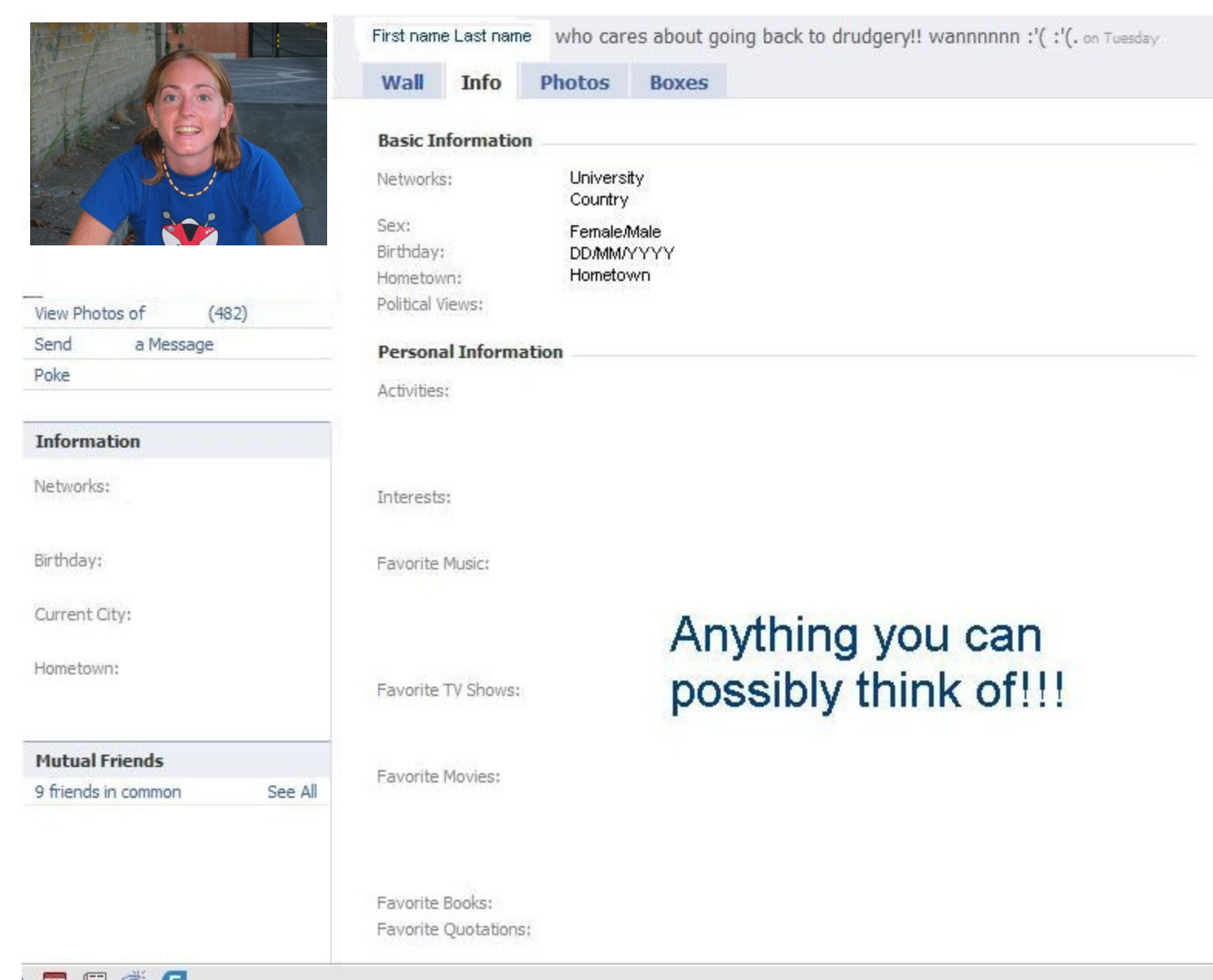
#72 **Privacy concerns and information disclosure:
An illusion of control hypothesis**

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Motivation for this study:

Even though people seem to be very concerned about privacy violations, they reveal a lot of private information, especially on the internet.

Example: online social networks

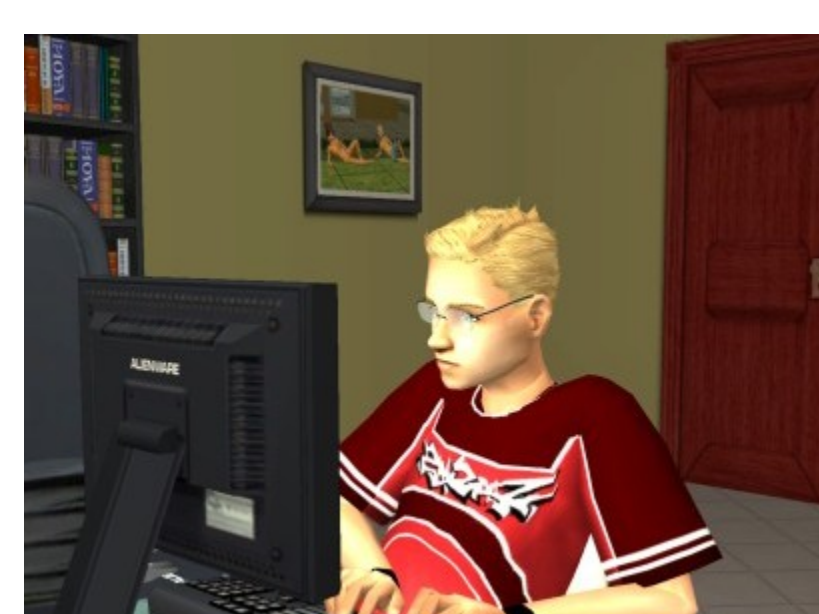


The Pew Internet & American Life Project published a survey in April 2007 (Pew Internet & American Life Project, 2007) about the use of online social networks by teenagers and, among their results, they report that:

- 82% of surveyed profile creators posted their first name online and 29% also posted their last name (11% on publicly accessible profiles);
- 79% included pictures of themselves;
- 61% published the name of their city or town;
- 29% posted their email address and 2% added a mobile number.

Another example:

Spiekermann, Grossklags and Berendt (2001) conducted an experiment on people’s privacy concerns and attitudes in the context of online shopping. They find that even the most privacy-aware and concerned subjects reveal a lot of private information, regardless of its relevance with respect to the product being bought. Quite daunting result, especially considering that in this study people were asked to sign a consent form allowing for their data to be sold to an unspecified third party.



Several possible explanations for this inconsistency:

- **Trust:** People could perceive an online social network like Facebook “as a closed, trusted, and trustworthy community” (Acquisti & Gross, 2006). This perception will then fuel their willingness to reveal private information.

- **Underweighting of small probabilities:** One of the most serious risks that one runs when he/she reveals private information is identity theft. Even though this crime is becoming more and more common over the years, the FTC estimates that about 3 to 4.5% of the US population is victim of identity theft each year: a relatively small proportion. One reason why people in general are willing to reveal so much private information could be that they underweight the probability of becoming a victim and they might think that it will never happen to them. Risk (mis)perceptions are the base of prospect theory (Kahneman & Tversky, 1979).



- **Hyperbolic time discounting:** People are rational economic agents and, when facing decisions regarding protection of their privacy online, they compare the costs and benefits of revelation of private information. Their “mistake” consists in underweighting the costs of revelation, costs that are typically further away in the future, relative to the corresponding immediate benefits. This is due to the fact that the discount rate that people use in their analyses is not constant, but declines over time. Therefore, a perfectly rational individual, who strongly values privacy, might end up revealing more information than it would be optimal for him because of self-control problems and time-inconsistencies in his optimizing behavior: what appears to be the best action now may not be the best action once the time of taking it actually arrives (Acquisti, 2004).



-I've never looked through a keyhole without finding someone was looking back.

-- Judy Garland, actress --

-Relying on the government to protect your privacy is like asking a peeping tom to install your window blinds.

-- John Perry Barlow, founder of the Electronic Frontier Foundation --



One further possible explanation for this seemingly irrational behavior is

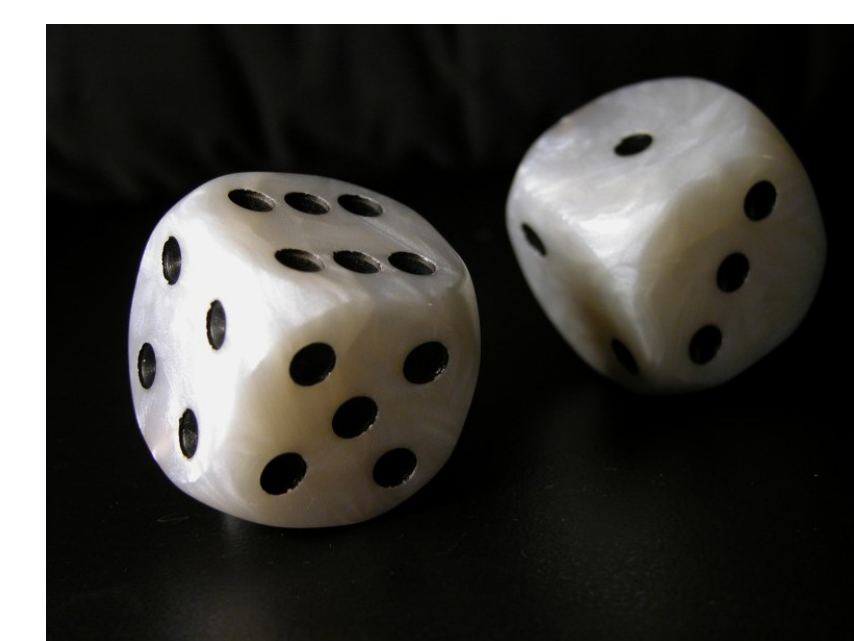
ILLUSION OF CONTROL:

the attitude of people to “behave as though chance events are subject to control” (Langer, 1975). People don’t seem to be good at distinguishing cases where skill is necessary for success from instances where success relies exclusively on chance.

Examples:

- **dice:** it’s been observed that, when rolling dice in craps, people tend to throw harder if they want high numbers.

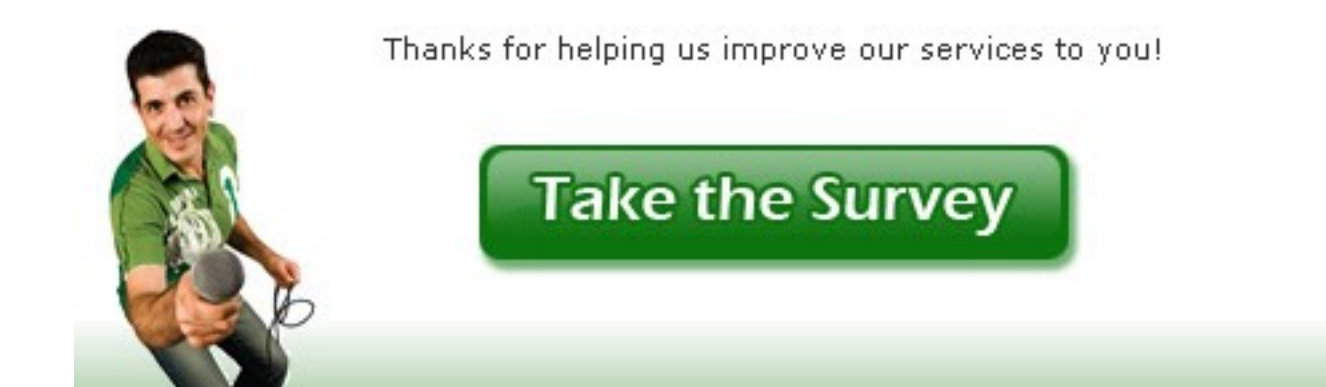
- **experiment:** under some circumstances, experimental subjects have been induced to believe that they could affect the outcome of a purely random coin toss. Subjects who guessed a series of coin tosses more successfully began to believe that they were actually better guessers, and believed that their guessing performance would be less accurate if they were distracted (Langer & Roth, 1975).



Illusion of control in the context of **privacy in online social networks:**

- belief that **revelation of private information implies control over access and use** of that information by third parties.

The argument of this study is that, even after the individual makes this information about himself accessible by the members of the community (or even to the larger universe of internet users), he suffers from an illusion of control upon it. Even though he is perfectly aware that the information he posts on his profile becomes available to his friends (or to everyone on the internet), he unconsciously assumes nobody will use it without his authorization. On the other hand, if a third party is responsible for the revelation of the same information that the individual would be ready to share on the network, he may feel a loss of control and realize that once private information is made public (for instance, published online) not only can it be accessed, but also used by others.



Experimental design

In order to test for illusion of control in the context of privacy in online social networks, we will run three experiments.

- **Recruitment:** We will recruit students from two different Universities, one in the USA and one in Italy, and ask them to take a 5 minute survey about their life on and off campus. They will be told that the study is about the creation of a new University networking website.

- **Content:** The questions are the same across the 3 experiments and include open-ended, multiple choice and rating questions. Some of them request for personally identifiable information, others are privacy-intrusive, others are not. There are no compulsory fields and participants are explicitly told that they can skip as many questions as they want.

- **Model:** Across the various studies, the dependent variable of interest is, primarily, whether the subject decides to answer the questions, and in particular whether she answers the more privacy-intrusive questions.

First experiment:

Participants are randomly assigned to one of two conditions:

- **first condition:** they are told that none of the questions requires an answer, but the answers that they decide to provide will appear as part of a profile that will be automatically created for them and posted on the new university networking website, accessible to members of their University only (students, faculty, staff);
- **second condition:** for each question they are also explicitly asked whether they want their answer to appear on their profile or not. Notice that in this last condition they are endowed with more control over the publication of their private information, not over access to and use of that information by others.

- **Expected results:** more information in the latter condition would be a strong piece of evidence that revelation of private information is really a matter of control over the publication of that information.

Second Experiment:

Again, subjects are randomized in two groups and assigned to one of two conditions:

- **first condition:** identical to the first condition in the previous experiment, so participants are told that none of the questions requires an answer, but the answers that they decide to provide will appear as part of their profile on the university networking website, accessible to members of their University only (students, faculty, staff).
- **second condition:** they are told that a random subset (50%) of the answers provided will be posted as part of their profile.

- **Expected results:** if our hypothesis is correct, people may be willing to reveal more in the first condition, where there is no random outcome, despite the fact that the amount of information published online will certainly be lower in the second condition.

Third experiment:

This last experiment has a 2x2 design, meaning that we manipulate both the control that subjects have over the publication of private information and the accessibility of their profile by others, resulting in 4 conditions in total.

- **first condition:** they will read that none of the questions is mandatory but that all the answers provided will be part of their online profile, which will only be accessible by members of their University;
- **second condition:** we vary the control dimension telling subjects that a random (50%) subset of the answers provided will be posted online, but we leave the accessibility dimension unaltered (the profile will still be accessible by members of their University only);
- **third condition:** all the answers provided will be part of the online profile, which will be accessible by members of the subjects’ University and of nearby Universities;
- **fourth condition:** subjects will be told that a random (50%) subset of the answers provided will be published and that their profile will be accessible by members of their own University and of nearby Universities.

- **Expected results:** if subjects were not responding to the accessibility manipulation, they would be strongly suggesting “irrationality” in their decision of publication of private information, reinforcing our hypothesis that other psychological mechanisms and heuristics, rather than classical rationality, guide people’s online privacy decision making.