

# Privacy Concerns and Information Disclosure: An Illusion of Control Hypothesis

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## ABSTRACT

In this paper, we run a series of experiments in order to investigate one possible cause of inconsistency in people's behavior and concerns regarding online privacy. Even though individuals claim that privacy is very important, many end up revealing considerable private information in online social networks. It is possible that individuals suffer from illusion of control when dealing with the privacy of their data: when subjects are personally responsible for the publication of private information online, they may also tend to perceive some form of control over the access and use of that information by others. If, instead, a third party were responsible for the publication of the same data, they may feel a loss of control and realize that once private information is posted online not only can it be accessed, but also used by others without authorization: once it is available on the network, that information becomes indeed public.

## Keywords

Digital Information, Privacy, Illusion of Control.

## 1. INTRODUCTION

We investigate one possible cause of inconsistency in people's behaviors and concerns regarding online privacy. Even though most individuals claim that their privacy is important, many end up revealing considerable private information in numerous occasions. Many explanations for this (real or apparent) dichotomy have been proposed in the literature; we investigate the novel hypothesis that individuals may suffer from a form of "illusion of control" when dealing with the privacy of their data. Namely, we hypothesize that when subjects are personally responsible for the *publication* of private information online, they may also tend to perceive some form of control over the *access* of that information by others, thereby confounding publication with access. If, instead, a third party were responsible for the publication of the same data, they 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 without authorization.

In the psychological literature, the illusion of control is defined as a cognitive bias by which one is convinced that he

can influence an event with his behavior, while rationally it is clear that he has no power to affect the outcome. Ellen Langer referred to the attitude of people to "behave as though chance events are subject to control" (Langer, 1975). Langer emphasized the fact that people have troubles in distinguishing cases where skill is necessary for success from instances where success relies exclusively on chance, a common feeling that is also captured by proverbs like "God helps those who help themselves", or "Fortune favors the bold". This heuristic has been detected in several experiments, which provide significant supporting evidence of illusion of control, not only when the outcome depends totally on chance but also when it is contingent on somebody else's behavior.

## 2. EXPERIMENTAL DESIGN

In order to test for illusion of control in the privacy realm we are running a series of experiments which focus on information revelation in online social networks. The illusion of control in the context of privacy in online social networks can be interpreted as the belief that direct publication of private information on an online profile implies control over access and use of that information by third parties.

In one study, we created two online surveys, containing questions about students' life on campus. Subjects were randomly assigned to take one or the other survey. In a control condition, the first page of the questionnaire contained three lines of instructions, explaining that none of the questions required an answer, but that all the answers provided would be published on a new campus networking website under construction, accessible to the campus community only (students, professors, and staff). Instead, individuals in a treatment group answered the same questions, but were also explicitly asked whether they wanted each single answer to be published on the website or not. The questionnaire included personal questions in open-ended, multiple choice, and rating formats. The difference between the two conditions consisted of the treatment group being endowed with more control over the publication of private information, because they could choose whether to post each single answer on their profile or not. In none of the conditions, however, subjects controlled the *access* to their profiles and use of the published information by others.

In a second study (in progress), Study 1 protocol was modified in the following way: a control group is informed that none of the question is mandatory but all the answers will be automatically posted as part of the subjects' profile; the treatment group, on the other hand, is informed that only a random 50% subset of the answers provided will be posted as part of their profile. If our hypothesis is correct, people may be willing to reveal *more* in the control condition, where there is no random outcome, despite the fact that the amount of information published online will certainly be *lower* in the treatment condition.

In a third study (also in progress), we turned the framework of Study 1 into a 2x2 design: we manipulate both the control that subjects have over the publication of private information and the accessibility of their profile by others. In one condition, subjects are informed 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 the campus community. In a 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 the CMU community only). In a third condition, subjects are informed that all the answers provided will be part of their online profile, which will be accessible by members of campus community, but also communities at other nearby campuses. In a fourth condition, subjects are told that a random (50%) subset of the answers provided will be published and that their profile will be accessible by members of the various nearby campuses mentioned above. 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.

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.