# **Does Showing Off Help to Make Friends?**

# Experimenting a Sociological Game on Self-Exhibition and Social Networks

Christophe Aguiton, Dominique Cardon, Aymeric Castelain, Pierre Fremaux\*, Hélène Girard, Fabien Granjon, Charles Nepote\*, Zbigniew Smoreda, Dilara Trupia\*, Cezary Ziemlicki

Laboratoire SENSE, Orange Labs, 38-40 rue du Général Leclerc, 92794 Issy Moulineaux, France domi.cardon@orange-ftgroup.com

\*faberNovel, 42 bd Sébastopol, 75003 Paris, France pierre.fremaux@fabernovel.com

\*Fondation Internet Nouvelle Génération (FING), 151 rue Montmartre, 12 galerie Montmartre, 75002 Paris, France charles.nepote@fing.org

#### Abstract

The purpose of this study is to give an empirical glance on different forms of self-exposure on Social Network Sites (SNS). Based on a sociological on-line game, it explores the different tendencies in the self-exhibition shift and tries to find out how it is linked to different strategies in order to choose friends. In the first game, people have to select, among four ranked pictures, the one they would accept to publish on their personal webpage. In the second game, they had to choose friends by discovering, step by step, five informational attributes to their internet profile. Analysis of a sample of 12,354 French respondents shows a middle-range level of exhibition and isolates five different ways to expose oneself: Modest, Traditional Exhibition, Bodily Immodesty, Show-off and Provocative. Those different self-exhibition patterns lead to specific relational behaviors on the Internet. The study underlines socio-demographic differences (age, gender, diploma, and occupation) in self-disclosure practices and shows that exhibition on the Internet must be considered as a strategic performance.

#### Introduction

Rising web 2.0 platforms articulate closely the production of online identity to social networking practices [1]. Many works have underlined the way that users must continuously produce new information in order to maintain, or increase, their networks of contacts in the case of blogging comments [2], conversations around photos on Flickr [3], friend requests on MySpace [4] or on Facebook [5]. Self expression on social network sites (SNS) is less narcissism or social isolation than an attempt to utilize users' conversational networks in building "weak cooperation" [6]. Those studies underlined the necessity for users to constantly produce signals on their personal page in order to

Copyright © 2009, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

maintain the "social grooming" that characterizes life on web 2.0 platforms [7]. Even though the effectiveness of the various elements published by users in conveying information about their personality is uncertain, they are most of the time related to their identity. On top of that, the growing number of user-generated content sites, multiplies as well the signals used to create an online identity: tagline, status, pictures of events, personal videos, tastes, musical preferences, personal productions, etc. [8] In this way, the diversification of web 2.0 services makes identity being increasingly distributed in multiple contents and narratives by which participants try to distinguish themselves from others [9].

That's the reason why many observers underline the link between involvement in social network sites and a tendency to reveal additional private information on his or her personal life. In their study on Facebook, Lampe et al. [5] have shown that the number of friends is strongly correlated to the amount of personal information given by the users; moreover, they insist that this network effect is reinforced when personal information is closely linked to the real world of the user. Indirectly, others have suggested a similar correlation. For example, Dwyer et al. [10] demonstrated that Facebook users had greater trust in Facebook than MySpace users had in MySpace, and were thus more willing to share information on the website.

This empirical question has become a frequently evoked issue in numerous public debates about users' behavior on SNS. The first argument deals with the privacy matter. In their profile, users disclose personal information such as a personal photo, date of birth, current residence, but also private information of several kinds – union affiliation, political and religious views [11]. Incidentally, many questions have been raised around the paradox of privacy where consumers' wish for data security and control conflict with their practices of self-disclosure [12, 13].

The second public debate has more moral considerations when compared to the first one. Young peoples' behavior on SNS shows a strong social cleavage between those who control their visibility and those who, consciously or unconsciously, take privacy risks [14]. Some observers have criticized the rise of narcissism, indecent exposure, and provocative behavior, underlying the fact that they are exacerbated by the existence of SNS [15, 16]. In fact, this debate is mainly focused on unwanted solicitations by sexual predators [17]. From a sociological point of view, it gives a limited understanding of the way people more frequently disclose some sensitive information about themselves on SNS, or to change their online behavior patterns. Despite numerous studies on digital identity, there are few empirical studies on the changing sensibilities about self-exhibition in web 2.0 culture.

What are the different ways people expose themselves on major SNS? Are there sociological determinations among their level of exhibition? And last but not the least, how do different forms of self-exhibition lead to specific relational behaviors on the Internet?

#### **Related works**

Our research gathered different backgrounds concerning shift in public self-exposition, cultural demographical distribution of SNS practices and online impression management, respectively. Since Goffman [18] and Elias [19] seminal works, a lot of historical and sociological researches have studied the changing sensibilities in behavior and self-presentation in public places [20]. But the hypothesis raised by Elias about a continuous tendency in developed society toward emotional self-control and behavioral self-correction has not much been study in the Internet field. Though, news forms of online show off seem to contradict Elias' thesis and should be interpreted. Most of the time, we approach the idea of a cultural shift in public exposure through qualitative studies of identity management on SNS, like for example in the case of dating sites [21] or bodybuilders [22]. But, to our knowledge, there are no quantitative study considering the question of immodest behavior on Internet in a broad sociological perspective embracing different public styles of expression.

Surveys on social distribution of networking practices are essential to understand difference among users self-exhibition. Hargittai [23] has shown that within a students' sample, there were some statistical differences in SNS usage depending on gender, ethnicity and education. And boyd [24] shows that the social class contrast between Facebook and MySpace users is also correlated to an opposition between controlled and limited self-disclosure and a less controlled and more exacerbated show-off.

Our research has been prepared in sociological tradition, but we borrowed some of the questions and methods used in psychologists' experiments on online impression management [25]. Many works have been conducted, showing how people can have some impressions about others in a CMC environment with little available information and despite the absence of the nonverbal cues. Stecher and Counts [26] have shown that users can make predictive inferences using condensed profiles and that some attrib-

utes contribute more to these condensed profiles than others. Their study strongly influenced our work and the second part of our game. Many works that have studied self-disclosure on the Internet insist on the relational dimension of oneselfs' revealing process [27]. In this way, we've based our study on the idea that self-exhibition strategies are linked to network behaviors.

## Sociogeek: a game and a sociological survey

The survey has been launched as the outcome of a cooperative group based in the Parisian co-working space, *La Cantine*. During 2008, we have gathered social scientists, students, consultants and developers for a weekly openseminar on "Social Sciences and Web 2.0. (W2S)". After many discussions on digital identities, we have decided to experiment with an on-line survey conceived as a quiz in order to reach a large audience. We developed a website (http://sociogeek.com) with a game in three parts.

If you were on theses pictures... In the first part of the game, we asked respondents to choose one picture that they could publish on their personal pages in 20 series of 4 photos ranging from the most conventional to the most eccentric, immodest, nude, etc. The example below (Fig 1) shows how the selection works: if the respondent choose to publish the third photo, that means he accepts to publish the first and second one. Each sequence has a specific theme such as eating, couples, sex, nudity, family, holidays, etc., chosen in order to explore various dimensions of self-exhibition. After selecting one picture from series, respondents have the possibility to eliminate up to 5 photos and then to elect their three favorites.



Figure 1. One example of photos series (eating)

The second part of the procedure was a classical questionnaire. Respondents were asked to give their sociodemographical characteristics, to describe their social media practices and their social life. We also asked questions about social network behaviors such as the way they accept new friends and if they have created groups on SNS.

The third part of the survey was conceived as another game, inspired by the study of Stecher and Counts [26], in which the participants had to choose three friends by discovering, one by one, the targets' profile information; we proposed a set of criteria corresponding each to a specific information to reveal about the 6 hidden profiles and asked the respondents to choose one of them, examine the information posted on each profile and finally to eliminate the one containing the less wanted information. In this way, respondents come to their final choices by eliminating one

profile at a time, according to the specific information they had chosen to reveal about profiles. At the end of the game, participants receive their game profile with the photos and the friends they had chosen during the first and the second game. We also gave them their rate of "web appeal" on two axes: discrete/exhibit and stay-athome/adventurous as well as a chart showing their position among the other respondents (Fig. 2). It should be noticed that these rates are not given as a scientific measurement of users' on-line behaviors but as an incentive for respondents to play the game till the end and to spread it through blogs for potential users.

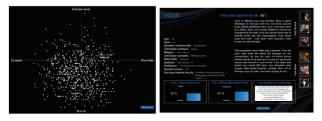


Figure 2. Respondent results at the end of the game

Sample. As it is rare for sociological surveys, 14,000 Internet users have responded anonymously and fully to our online questionnaire (it lasts about 20 minutes)<sup>1</sup>. After cleaning up incomplete, duplicate and doubtful answers, we've worked on a sample of 12,354 respondents. Most of the respondents were technology and social network enthusiasts. Males (71.1%) and young adults (average age about 28) are over-represented: 11.6% are younger than 20 and only 9.4% are more than 40 years old. 95.7% of Internet users who replied to the survey are connecting to the Internet several times a day and are members of at least one SNS. There is also an unusual ratio of high-level diploma holders: 46.9% have PhD degree or "Grandes Ecoles"<sup>2</sup> diploma level. Beside 33.4% of students, the sample overrepresents engineers (13.4%) and technicians (8.6%) (both, mostly in computer sectors) as well as entrepreneurs (2.2%), consultants (4.8%), senior executives (9%), academics and researchers (2.3%) and artists (3.6%). On the contrary, employees (5.5%) and workers (1.1%) are underrepresented.

However, two important points must be taken into consideration. First, even if it is very large, our sample is not representative of French SNS users. It mainly gathers heavy Internet users and web 2.0 "geeks". Second, respondents could have various ways to play our games. Some answers may be playful, random, or ironic (i.e., non-"realistic" regarding everyday practices). This kind of online survey records multiple representations of respondents' personal use of SNS which can differ inherently from their

real activity on the web. Nevertheless, we observed a meaningful and homogenous distribution of answers through the whole dataset.

# How far do we show our identity?

Does SNS increase the level of immodesty in our society? How can we measure self-exhibition of web 2.0 enthusiasts? Sociogeek data allows us to build a conventional rate representing users' potential exhibition on SNS. The general meaning of self-exhibition index (constructed as an average of respondent's choices for every set of photos ranked from 1 to 4) is 2.04 (SD=0.51). A strong difference can be observed between males (2.1) and females (1.89³). In order to explain the variation in people's self-exhibition, the index was analyzed following personal characteristics and web practices.

We observed a loose negative relationship between self-exhibition and age  $(r=-0.114, p<.0001)^4$ ; education-level is also negatively related to self-disclosure (F(6,12347)=43.14, p<.0001)). However, there is not a significant correlation between occupational status and self-exhibition. Furthermore, in the next section, we will detail different forms of self-exhibition and discovered correlation with sociocultural properties.

We tested our self-exhibition index with different social and web practices recorded via the questionnaire. First, an extraversion index was constructed from answers to 6 specific items concerning the ability to contact strangers or to introduce new people to friends in different situations (bars, associations, conferences, parties...). Second, a socializing index was built with the frequency of participation in social events such as family meetings, cinema, restaurant, visiting friends, etc. Thirdly, we measured the disclosure of different kinds of personal information on SNS services using a 16-items questionnaire (age, name, gender, political view...). We observed a correlation between selfexhibition index and the extraversion index  $(r=.22^5)$ , socializing index (r=.14) and the disclosure of personal information index (r=.355). All these results confirm the hypothesis that people having stronger involvement in their social life are more likely to disclose information on the web.

We correlated web 2.0 usages and self-exhibition level to test the proposal that people tend to show more of themselves when they are heavy SNS users. Surprisingly, there is no correlation between the maximal use frequency of the preferred SNS platform and the respondents' self-exhibition index (r=.08). It means that, considering our sample, people can very well be active on SNS without having to disclose much personal and sensitive information. However, we observed some link between average

<sup>1.</sup> First published results on a smaller sample and the whole set of anonyms data are available on www.sociogeek.com/resultats/.

<sup>2.</sup> The *Grandes écoles* are elite schools of French higher education establishments - outside the mainstream framework of the public university system

<sup>3.</sup> The difference is statistically significant F(1.12352)=431.03, p<.0001

<sup>4.</sup> The Pearson product-moment correlation coefficient.

<sup>5.</sup> All correlation coefficients are significant at p<.0001 level.

number of friends among different SNS and self-exhibition index (r=.12). If people do not have to show themselves to use SNS, it seems that they have to disclose some information to increase their friends' number. It appears even better, when we examine answers to questions about behaviors on SNS. First, people who have created groups on expose themselves more (F(2,12351)=74.22,p < .0001). Secondly, self-exhibition index is highly correlated to respondents' attitude to friend requests. The one who always accepts invitations is also more likely to expose him or herself than those who prefer to check common friends or to look carefully to the requestors profile (F(3,8100)=92.65, p<.0001). It shows us that to understand the level of self-exposure, we need to consider it as a strategic performance linked to the actors' characteristics and different patterns of self presentation.

Table 1: Factor analysis on intensity of the picture dimensions choice: Rotated component matrix<sup>a</sup>

	l= Show-off	2 = Bodily immodesty	3= Traditional self exhibition	4=Provocative
Office	.686	.076	.075	.074
Anger	.627	.166	.084	.210
Eat	.623	.019	.109	.279
Dance	.609	.210	.361	004
Alcohol	.599	.241	.145	.240
Manifestation	.580	.029	.149	.066
Bed	.397	.106	170	.394
Sexuality	.044	.741	136	.212
Couple	.191	.710	.218	026
Pregnancy	.101	.673	084	.127
Nudity	.158	.637	.088	.264
Vacation	.187	048	.708	.052
Marriage	.129	.132	.662	053
Family	051	035	.645	.337
Supporter	.322	023	.631	.072
Illness	.209	.013	.207	.617
Pimples	.203	.201	114	.595
Tears	.198	.253	.151	.529
Child	.031	.311	.270	.474

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations; 48.27% of variance explained.

### **Self-exhibition Types**

A Principal Component Analysis was performed on 19 choice-scale series<sup>6</sup>. The four component solution is presented in the Table 1. Four factorial scores were constructed using linear regression for each subject. Then a two-step SPSS cluster analysis was applied in order to construct meaningful clusters of subjects. This analysis isolates five different groups of respondent according to the factorial scores distribution.

Modest (18.9% of the sample) cluster represents people with the lowest rate of self-exhibition on each set of photos. They deliberately choose images with a low possibility of person recognition, or very familiar types of self-presentation (Fig. 3). In our sample, there is a strong correlation between age and modesty (Table 2). Female users are dominant. People are older, and have higher levels of education. Senior executives, teachers and researchers are numerous in this cluster. They also have the smallest network size with a median of 60 friends on their most used SNS platform.



Fig. 3. Photos charactering "Modest" cluster (Family 1, Eating 1, Vacancy 1)

Traditional self-exhibition (24.1%) is the usual way of displaying one's private life: photos of family, vacation, wedding; or preferences such as which teams one roots for (Fig. 4). This type of exhibition appeared in the end of nineteenth century as a way to make public family life and has been strongly conventionalized through ritualized genre such as family, holidays or wedding representations. In this cluster, people are not reluctant to public exhibition, but they are also not familiar with individual self-presentation. They present themselves with their family (we observe a very strong resistance of younger people to show their parents on SNS). They share their hobbies and their passion with tact and in a conventional way.



Fig. 4. Photos characterizing "Traditional selfexhibition" (vacancy 4, couple 2, family 4, wedding 4)

<sup>6.</sup> One set of photos concerning expression of religious sentiment was excluded from our analysis because of its ambiguity.

In our survey, people belonging to this type can have various ages, even if they are older than the sample average (Table 2). Women are strongly over-represented as well as highly educated people and senior-executives, liberal professions, entrepreneurs and engineers. They also appear as more conservative: they practice religion, have right leaning political views and are strictly heterosexuals. Their median online network size is 72 friends.

In opposition to traditional self-exhibition, the **Bodily Immodesty (20%)** cluster appears to be associated with a tendency to show the most intimate parts of individual life characterized by nudity and sexuality exposure. We can compare these two forms of exhibition with the organization of housing at the end of the nineteenth century, opposing the closed bedroom to the living-room where families receive friends and acquaintances in a semi-public space where they expose family ritual photos. The Bodily Immodesty cluster is characterized by physical nudity, sexual intimacy, and one's love life. The specific choices in this group include photos of kissing, nudity, images of sexual acts and of pregnancy (Fig. 5).

People gathered in this cluster are primarily male and either very young or more than 40 (Table 2). People with the lowest diplomas of our sample, students in professional course of study, employees, workers and technicians are over-represented. Homosexuals and bisexual are also over-represented in this cluster. Their median network size is the second most important with 86 friends.



Figure 5. Photos characterizing "Bodily Immodesty" (pregnancy 4, couple 4, nudity 3)

The next type of self-exhibition, the Show-off (24.2%) cluster assembles people displaying a form of self-exhibition where one shows him or herself in theatrical, bold and expressive poses in variety of contexts: eating, relaxing at work, being angry, drunk, protesting, or showing the disorderliness of one's bed. Without according any pejorative connotations, it features behaviors such as posing, being flashy, showing an attractive image of the self or trying to give the impression of being interesting. This characterizes a new culture of juvenile expressivity, where what matters is showing that one is "cool". On SNS, people have to show happy and highly-sociable representation

of them. <sup>7</sup> Pictures of groups, parties, couples, dinner with friends and holidays are the most favored (Figure 6).

Table 2: Self-exhibition clusters distribution by gender, age,

diploma, and occupational status.

uipioilia, allu occupatio	iiai sta	tus.				
% within gender	Provocative	Bodily Im- modesty	Show-off	Traditional self exhibition	Modesty	Total
Male	15.7	21.1	25.6	20.3	17.4	100
Female	5.8	17.2	20.8	33.4	22.8	100
Total	12.8	20.0	24.2	24.1	18.9	100
% within age	P	В	S	Т	M	Total
<19	14.0	27.5	30.1	17.7	10.7	100
19-22	13.6	22.7	26.2	24.6	12.9	100
23-26	12.5	17.4	26.4	25.9	17.8	100
27-30	12.5	16.3	26.1	25.1	20.0	100
31-40	11.2	18.7	21.2	23.4	25.6	100
41 & +	15.0	24.0	11.7	22.7	26.6	100
Total	12.8	20.0	24.2	24.1	18.9	100
Total % within education	12.8 P	20.0 B	24.2 S	24.1 <b>T</b>	18.9 M	100 Total
% within education	P	В	S	T	M	Total
% within education Without	<b>P</b> 13.1	B 31.2	S 27.9	<b>T</b> 15.1	<b>M</b> 12.6	Total
% within education Without vocational	P 13.1 17.5 14.2 15.3	B 31.2 32.9 25.4 21.6	S 27.9 17.2 25.7 23.7	T 15.1 16.5 20.8 22.0	M 12.6 16.0 13.9 17.3	100 100 100 100
% within education Without vocational 12th Grade	P 13.1 17.5 14.2	B 31.2 32.9 25.4	S 27.9 17.2 25.7 23.7 25.0	T 15.1 16.5 20.8 22.0 27.7	M 12.6 16.0 13.9 17.3 <b>21.6</b>	Total 100 100 100
Without vocational 12th Grade Bachelor Master PhD	P 13.1 17.5 14.2 15.3 10.0 10.4	B 31.2 32.9 25.4 21.6 15.7 13.4	S 27.9 17.2 25.7 23.7 25.0 23.4	T 15.1 16.5 20.8 22.0 27.7 30.1	M 12.6 16.0 13.9 17.3 21.6 22.8	Total 100 100 100 100 100 100 100
% within education Without vocational 12th Grade Bachelor Master PhD Total	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9	Total 100 100 100 100 100 100 100 100 100
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation	P 13.1 17.5 14.2 15.3 10.0 10.4	B 31.2 32.9 25.4 21.6 15.7 13.4	S 27.9 17.2 25.7 23.7 25.0 23.4	T 15.1 16.5 20.8 22.0 27.7 30.1	M 12.6 16.0 13.9 17.3 21.6 22.8	Total 100 100 100 100 100 100 100
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation Blue collars	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9	Total 100 100 100 100 100 100 100 100 100
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8 P	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0 B	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2 S	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1	M 12.6 16.0 13.9 17.3 <b>21.6</b> <b>22.8</b> 18.9	Total 100 100 100 100 100 100 100 Total
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation Blue collars Clerical, service and	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8 P 17.8	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0 B 32.6	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2 S	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1 T 15.6	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9 M	Total 100 100 100 100 100 100 100 Total
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation Blue collars Clerical, service and intermediate technical Craftsman, shopkeeper Semi-professionals	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8 P 17.8 12.7 10.7	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0 B 32.6 27.0 21.1 20.7	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2 S 23 10.9 22.6 21.6	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1 T 15.6 10.9 26.8 21.8	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9 M 11.1 18.5 18.8	Total 100 100 100 100 100 100 100 100 100 10
Without vocational 12th Grade Bachelor Master PhD Total Within occupation Blue collars Clerical, service and intermediate technical Craftsman, shopkeeper Semi-professionals Professionals, managers	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8 P 17.8 12.7 10.7 15.4 11.0	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0 B 32.6 27.0 21.1 20.7 16.9	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2 S 23 10.9 22.6 21.6 23.2	15.1 16.5 20.8 22.0 27.7 30.1 24.1 T 15.6 10.9 26.8 21.8 26.8	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9 M 11.1 18.5 18.8 20.6 22.2	Total 100 100 100 100 100 100 100 100 100 10
% within education Without vocational 12th Grade Bachelor Master PhD Total % within occupation Blue collars Clerical, service and intermediate technical Craftsman, shopkeeper Semi-professionals	P 13.1 17.5 14.2 15.3 10.0 10.4 12.8 P 17.8 12.7 10.7	B 31.2 32.9 25.4 21.6 15.7 13.4 20.0 B 32.6 27.0 21.1 20.7	S 27.9 17.2 25.7 23.7 25.0 23.4 24.2 S 23 10.9 22.6 21.6	T 15.1 16.5 20.8 22.0 27.7 30.1 24.1 T 15.6 10.9 26.8 21.8	M 12.6 16.0 13.9 17.3 21.6 22.8 18.9 M 11.1 18.5 18.8	Total 100 100 100 100 100 100 100 100 100 10

People belonging to this type are the youngest of our sample (average age of 26 years vs. 28 for the sample). Students are the core population of this cluster in which we find the highest socializing and extraversion indexes. The cluster members also appear more liberal than other groups. They declare no religious affiliations and express leftist political views. Their median network size is 83 friends.



Figure 6. Photos characterizing "Show-off" (office 4, dance 4, eating 3, demonstration 4)

<sup>7.</sup> Significantly and more generally, for the whole sample, photos of sadness have received the lowest evaluation. Photos Crying 3 (3.22%) and 4 (3.16%) have the lowest score of the entire sample.

"Provocative" (12.8%) group corresponds to extreme forms of self-exhibition in which participants display also "negative" images of themselves – drunk, crying, sick or with pimples. Provocative behavior, gaudy clothes, bad taste, corporal risks are characteristics of trash culture that have arisen with popular TV shows and reality TV [28]. A small part of our sample deliberately chooses photos of drunken people, crying persons and situations where one's body is put at risk (Fig. 7). We could hypothesize that part of this group are people who "played" with our web-based game in giving marginal, provocative and highly immodest answers. But, these tendencies, even limited to very popular practices, are quite present on some SNS such as MySpace or Skyblog (a French blog platform very popular among the youngest digital natives) [24, 29].

This cluster gathers a very masculine part of our sample (Table 2). They are mostly undergraduates and with vocational education. But there are no clear differentiations among ages. The average network size here is the most important in the sample with the median of 103 friends.



Figure 7. Photos characterizing "Provocative" cluster (alcohol 4, pimples 4, angry 4, bed 4)

This classification of the different self-exhibition forms shows that, along with the questions of modesty and bodily immodesty which has a long and traditional existence, a new form of immodesty is also emerging developing, what French Internet users often describe as "exhib" or "showoff". This form of self-exhibition characterizes a shift to a highly-individualized society where people have to constantly singularize themselves by producing distinctive and "cool" identity signals. At the opposite of ritualized selfpresentation in public such as wedding, family and holiday photos, people show pictures in which they are relaxed, cool and festive. Meanwhile, this tendency must not be interpreted as an unwanted capture of uncontrolled and private scene of individual life. Most of the time, actors involve themselves in a rigorous and strategic "control of the uncontrolled" of their public image as it has been observed by Wouters in his historical survey on the rise of "informalization" in public manners [20]. This distribution of self-exhibition also shows that, contrary to Traditional public exhibition, Show-off and Provocative behaviors are linked to an increase number of friends on SNS.

### How do we make friends?

During the second game, respondents had to choose unknown friends by discovering step by step, five informational attributes to their internet profile, choosing one at a time amongst 21 (photo, about me, age, sexual preferences...). We created an indicator of preferred attributes by giving 5 points for the first selected attribute, 4 for the second and so on. Since this part of the survey is repeated three times (respondents select three friends in the end), the score of each attribute ranges from 0 to 158. Confirming Stecher and Counts results [26], the personal photo appears, far before all others, as the most selected attribute. In a sense, it is rather logical from the point of view of the respondents as a photo provides rather rich information (gender, age, "look", etc.). Messages on a friend's wall, "about me", age and favourite music are the next most selected items. On the opposite, diplomas, status and religious views are less selected attributes in order to discover friends in the game.

At that point, we will detail by characterizing different strategies subjects are using to discover a stranger on the Internet. Globally, we can isolate three different set of variables determining research strategies. First, female respondents asked significantly less for photo (F= 198.3), sexual preferences (F=673.9), or gender (F=343.3) information than males. They are more willing to ask for favourite books (F=274.8), "about me" (F=235.2), personal production (F=62.7) and "view by my friends" (F=80.3) items. Analyses also show a strong correlation between subject's sexual orientation and choosing the attribute "sexual preferences" (F=592.1), which confirms preferential choice of this attribute by homo- and bisexuals. Secondly, age leads to different attribute choices. The younger the respondents are, the more they ask to see the age (F=163.6) and the photo (F= 57.6). The older the respondents, the more they look at personal production (F=88.5) and favourite books (F=70.9) rather than age or photos. Thirdly, socio-demographic characteristics have an influence on checking for high educational and occupational level. High diploma holders choose occupational attributes (F=58.6) and diplomas (F=42.2) more frequently and are less interested in age (F=96.1) or gender (F=47.8). High occupational level goes together with interest for age (F=60.7) and occupation (F=50.5). Briefly, we can sum up by observing that (1) females are more reluctant to request attributes and prefer long-standing definitions of the person and the opinion of their friends; (2) younger individuals are very careful about age homogeneity of their friendship network; and (3) upper classes are looking for sociocultural homogeny in friend choice.

8. Analysis shows that there are no significant statistical differences in discovering strategies between the three friend choices considering the whole sample data. Individually people could have different tactics in the succeeding three games.

<sup>9.</sup> In order to easily compare between groups mean of friend invitation cue choice, we systematically performed one way ANOVAs and indicate here corresponding Fisher's F statistics (all statistically significant at p<.0001 level.).

But the strategies to discover friends are also different according to people's self-exhibition behaviours. Table 3 presents correlations between the self-exhibition typology and attributes selected. Modest people have a tendency to look at incorporated and long-standing identity criteria such as occupation, diploma and "about me". In the same way, but with slight differences, Traditional self exhibition people have prudent strategies and carefully check occupation, potential interest centre (group of friends), and how theirs friends view them and post on their wall. In a very different way, Bodily Immodest people have the most interest in discovering photo, age, sexual preferences, gender, and relationship status. They are clearly more concerned with a seductive and adventurous approach of networking. Also, interested by photos, gender and age, Show off and Provocative people are more interested in friends' activities and tastes. They look at personal content and quotes. Finally, we observed significant differences in taste preferences: Modest and Traditional self exhibition clusters look at traditional culture with favourite books when Show-off cluster look at mass culture with favourite music, movies and TV shows.

Table 3: Means of new friend attribute preference note by self-exhibition typology

Attribute	Provocative	Bodily im- modesty	Show-off	Traditional exhibition	Modesty	Total
Photo	9.65	10.43	9.66	9.80	8.43	9.61
Wall	3.04	2.70	3.16	3.36	3.27	3.12
About me	2.75	2.42	3.01	3.74	3.18	3.07
Age	3.20	3.60	3.01	3.00	2.46	3.04
Favorite music	2.58	2.38	3.02	2.14	2.50	2.52
Favorite movie	2.48	2.27	2.72	2.17	2.70	2.46
Favorite book	2.05	1.82	2.12	1.97	2.94	2.17
Sexual preferences	2.68	3.29	1.78	1.57	1.70	2.13
Occupation	1.71	1.81	1.88	2.50	2.52	2.12
View by my friends	1.44	1.17	1.84	2.29	1.75	1.75
Gender	2.07	2.53	1.53	1.36	1.36	1.73
Personal content	1.68	1.40	1.71	1.53	1.99	1.65
Quotes	1.45	1.27	1.48	1.36	1.46	1.40
Political views	1.47	1.21	1.42	1.11	1.59	1.34
Looking for	1.16	1.14	0.99	1.28	1.28	1.16
Favorite TV	1.08	0.99	1.18	0.99	1.03	1.06
Groups	0.85	0.76	1.06	1.27	1.07	1.02
Number of friends	0.72	0.85	0.74	0.75	0.85	0.78
Diploma	0.61	0.64	0.69	0.89	0.98	0.77
Relationship status	0.87	1.02	0.68	0.67	0.59	0.75
Status	0.75	0.62	0.68	0.71	0.65	0.68
Religion	0.69	0.68	0.64	0.54	0.69	0.64

**Friends' final choice.** At the end of the questionnaire, respondents had to choose "friends" among three set of six portraits that we have designed for the game. In their

choice, we observed some homophily effects that we will detail in a further work. Nevertheless, regarding previous results, it is interesting to look at which of the friends' portraits have been preferred by the self exhibition types we isolated. The preferred character for Provocative people is Ghanina (25 years old, bisexual, 342 friends) a young funny and gothic girl. Bodily Immodesty chooses preferentially Simone (20 years old) and Lydia (19), two pretty, young and festive girls. Adrien (30, musician, 2973 friends), Tristan (28, marketing assistant, 259 friends) and Lilian (31, photograph, night clubber, 288 friends), three young cool and trendy guys, have been chosen by Showoff cluster. Jerome (29, businessman, 541 friends), Martine (47, librarian) and Marie (45, lawyer, Christian, 61 friends) have been chosen by Traditional exhibition people. And, the Modesty cluster preferred Anne-Carole (34, surgeon, 103 friends), Louis (45, architect, 30 friends) and Jean-François (53, director of company, 103 friends). Those choices show that--according to their self-exhibition behaviour--people tend to develop different strategies to choose friends, and that those strategies are globally efficient. The seductive approach of Bodily Immodesty cluster leads to two young and physically attractive girls who define themselves mostly with festive activities. Young Show-off people found young extraverted trendy guys who exhibit their musical and cultural passions. Traditional exposition people show more interest in family and professional-oriented profiles. And Modesty people chose older high-occupation profiles.

### Conclusion

The results presented here are a part of an outgoing research work. Other aspects of our data will be analyzed more precisely later. One of the underlying results of Sociogeek survey is the idea that with SNS, users can develop different strategies of self-exhibition, and that those strategies are strongly related to some socio-demographic variables. Accordingly, those strategies are also correlated to different ways of selecting friends on SNS, and to value different identity attributes. In this regard, three general comments should be made.

At first, people don't have to show off to make friends. Modest and Traditional exposition people have an important involvement on SNS (even if not as important as others types) without being forced to reveal sensible aspect of their live. However, when people want to conquer new friends and extent their social capital, they are conduced to have more adventurous behaviors. But immodesty attitude will also transform the perception of others and determine the kind of relation they could engage on [30].

Secondly, results show the importance of socio-cultural determinants of the Internet public attitudes. Lesser educated people are more constraint to use their body in order to distinguish themselves and are lead to Provocative and

Bodily Immodest self-exhibition tactics [31]. On the other hand, Show-off determinants are less correlated to education level than to age. It appears as the most representative form of students' identity performance on SNS like Skyblog, MySpace or Facebook. Our data also suggest that a higher level of education and reflexivity is required to be able to renew a daily narrative of ones identity, competencies that are not equally distributed in society.

Thirdly, those socio-economic differences appear also in the way people manage their social capital. For example, when we've asked respondents about their attitude towards a new friend request, we observed that the Modest and Traditional clusters engage in a carefully checking of new friend invitations. On the contrary, Provocative, Bodily Immodesty and Show-off cluster members accept new friends much easier, and in almost 30% of the time even "automatically", without any inspection. Those differences are also strongly correlated to the education level and occupational status. Upper classes control the extension of their friend lists, when lower classes are more open to new relationships. By this way, we could hypothesize that it's easier for them to try to extent their lower social capital online. However, further work is needed to validate this hypothesis.

## Acknowledgements

We wish to thank Claire Filou for her help in building the webgame. Sociogeek has been developed by David Amoneau at SpinMedias. Stephane Distinguin, Daniel Kaplan and Christophe Prieur helped us to develop this survey. The French newspaper *Libération* promoted Sociogeek on its website.

#### References

- [1] boyd d., Ellison N., 2007, "Social network sites: Definition, history, and scholarship", *JCMC*, vol. 13, n°1.
- [2] Mishne G., Glance N., 2006, "Leave a Reply: An analysis of Weblog Comments", 3<sup>rd</sup> annual workshop on the Weblogging Ecosystem, Edimburgh, WWW06.
- [3] Prieur C., Cardon D., Beuscart J.-S., Pissard N., 2007, "The strength of weak cooperation: A case study on Flickr", http://arxiv.org/ftp/arxiv/papers/0802/0802.2317.pdf
- [4] Beuscart J.-S., 2008, "Sociabilité en ligne, notoriété virtuelle et carrière artistique. Les usages de MySpace par les musiciens autoproduits", *Réseaux*, n° 152, p.139-168.
- [5] Lampe C., Ellison N., Steinfeld C., 2007, "A Familiar Face(book): Profile Elements as Signals in an Online Social Network", *Proceedings of CHI 2007*, September.
- [6] Aguiton C., Cardon D., 2007, "The Strength of Weak Cooperation: An attempt to Understand the Meaning of Web2.0", *Communications & Strategies*, n°65, 1<sup>st</sup> quarter, p. 51-65.
- [7] Donath, J., 2007, "Signals in social supernets", JCMC, 13(1).
- [8] Liu, H., 2007, "Social Network Profiles as Taste Performances", *JCMC*, 13(1).

- [9] Cardon D., 2008, "Le design de la visibilité. Un essai de cartographie du web 2.0", *Réseaux*, n° 152, p. 93-137.
- [10] Dwyer C, Hiltz S., Passerini K., 2007, "Trust and Privacy concern within social networking sites", *Conference on Information Systems*, Keystone, Colorado.
- [11] Gross R., Acquisti A., 2005, "Information revelation and privacy in online social networks", WPES'05, Alexandria.
- [12], Edwards L., Brown I., 2009, "Data Control and Social Networking: Irreconcilable Ideas?", in Matwyshyn A., ed, *Harboring data: information security, law and the corporation*, Stanford University Press, 2009.
- [13] Cardon D., 2009, "Public/privé: nouvelles stratégies de visibilité", *Hermès*, April.
- [14] Lenhart, A., Madden, M., 2007, "Teens, privacy, & online social networks", Pew Internet and American Life Project Report. [15] Keen A., 2007, *The Cult of Amateur*, Boston, Nicholas Brealey Publishing.
- [16] Rosen C., 2007, "Virtual friendship and the new narcissism", *The New Atlantis*, summer.
- [17] Finkelhor, D., Ybarra, M., Lenhart, A., boyd, d., & Lordan, T., 2007, "Just the facts about online youth victimization: Researchers present the facts and debunk myths", *Internet Caucus Advisory*Committee

  Event.
- http://www.netcaucus.org/events/2007/youth/20070503transcript.pdf
- [18] Goffman E., 1959, *The Presentation of Self in Everyday Life*, Garden City, NY: Doubleday Anchor.
- [19] Elias N., 2000, *The Civilizing Process. Sociogenetics and Psychogenetic Investigations*, Cambridge, MA: Blackwell.
- [20] Wouters C., 2007, Informalization. Manners and Emotions since 1890, London, Sage.
- [21] Ellison N., Rebecca H., Gibbs J., 2006, "Managing Impressions Online: Self-Presentation Processes in the Online Dating Environment", *JCMC*, 11, n°2.
- [22] Ploderer B., Howard S., Thomas P., Reitberger W., 2008, "Hey world, take a look at me! Appreciating the human body on social networks sites", *Persuasive 2008*, p. 245-248.
- [23] Hargittai E., 2007, "Whose space? Differences among users and non-users of social network sites", *JCMC*, vol. 13, n°1.
- [24] boyd d., 2007, "Viewing American class divisions through Facebook and MySpace", *Apophenia Blog Essay*. June 24. http://www.danah.org/papers/essays/ClassDivisions.html.
- [25] Chester A., Bretherton D., 2007, "Impression Management and Identity online", *in Joinson A.*, McKenna K., Postmes T., Reips U.-D. eds., *The Oxford Handbook of Internet Psychology*, Oxford, Oxford University Press.
- [26] Stecher K., Scott Counts S., 2008, "Thin Slices of Online Profile Attributes", *Proceedings of ICWSM'08*, Seattle.
- [27] Joinson A., Paine C., 2007, "Self-disclosure, privacy and the Internet", *in* Joinson A., McKenna K., Postmes T., Reips U.-D. eds, *The Oxford Handbook of Internet Psychology*, Oxford, Oxford University Press.
- [28] Olster S., 2003, *The Trash Phenomenon. Contemporary Literature, Popular Culture and the Making of American Century*, Athens, The University of Georgia Press.
- [29] Le Breton D., 2004, "Jackass, Dirty Sanchez: sur la trash adolescence", *La lettre de l'enfance et de l'adolescence*, 58(4).
- [30] Tong S., Van der Heide B., Langwell L., Walther J., 2008, "Too Much of a Good Thing? The Relationship Between Number of Friends and Interpersonal Impressions on Facebook", *Journal of Computer Mediated Communication*, vol. 13, n°3, p. 531-549.
- [31] Boltanski, L., 1971, "Les usages sociaux du corps", *Les Annales*, 1, p. 205-233.