



Virtual Group Dynamics and Social Networks

a.a. 2016-2017

Dr. Andrea Guazzini

*Department of Education and Psychology
and Centre for the Study of Complex Dynamics (CSDC)
University of Florence*

Contacts

e-mail: andrea.guazzini@unifi.it - andrea.guazzini@gmail.com

website: <http://virthulab.complexworld.net/>

Understanding our online behaviour

Internet and Control



Internet surfing allow us to meet the world from our own territory, and this may well provide us with a strong sense of security which leads to feelings of confidence (Amichai-Hamburger, 2005)

- McKenna et. al (2002) have shown that **people have a greater sense of control in online environments.**
- People tend to **feel less anxious when they interact online**, rather than in FtF, so inviting significant self disclosure (Ben-Ze'ev, 2005)
- The internet **allows individuals to participate in social and collaborative enterprises**, and this may have **special meaning for individuals with physical or psychological limitations** (Blair, 2006; Warr, 2008)

Understanding our online behaviour

Internet and Finding similar others



Maslow's (1971) hierarchy of human needs includes the need to belong to a group as one of the basic human requirements. Tajfel and Turner (1986) explain that being a member of a group that shares your goals and interests is one of the major ways through which to enhance self-esteem.

- ***The individual identity is enriched (and polarized) significantly by means of the exploration and identification within the web of similar (or so perceived) others (Amichai-Hamburger, 2012)***
- ***Visiting websites of people who are similar may make people feel that their group are much larger than they had imagined..***

Understanding our online behaviour

Internet and Finding similar others



Maslow's (1971) hierarchy of human needs includes the need to belong to a group as one of the basic human requirements. Tajfel and Turner (1986) explain that being a member of a group that shares your goals and interests is one of the major ways through which to enhance self-esteem.

- Moreover ***people from stigmatized group are more likely to be involved in a news group of similar others*** and considered their belonging to the group as ***more important to their identity*** (McKenna and Bargh, 1998).
- Youn and Lee (2002) found that adult video gamers demonstrated ***more tolerance towards their peers in social interactions in comparison to nongamers.***

Understanding our online behaviour

Internet and Personality



It is thought that personality affects how users choose and interpret different activities that are offered online (Guadagno, Okdie, & Eno, 2008)

- There are *various personality factors that can explain why patterns of online consumption fluctuate* (Swickert, Hittner, Harris, & Herring, 2002).

Researchers have singled out several personality traits that appear to act as leading components in influencing surfer behavior on the Internet.

Understanding our online behaviour

Internet and Personality



Researchers have singled out several personality traits that appear to act as leading components in influencing surfer behavior on the Internet.

- Sensation seeking (Alonzo & Aiken, 2004; Lòpez-Bonilla, 2010; Lu, 2008);
- Locus of control (Chak & Leung, 2004; Hoffman, Novak, & Schlosser, 2003)
- Extroversion (Amichai-Hamburger, Wainapel & Fox, 2002)
- Openness (Weibel, Wissmath, & Mast, 2010)

Understanding our online behaviour

Internet and Personality



Researchers have singled out several personality traits that appear to act as leading components in influencing surfer behavior on the Internet.

- Neuroticism (Amichai-Hamburger, 2002)
- Need for closure (Amichai-Hamburger, Fine & Goldstein, 2004; Jung, Min, & Kellaris, 2011)
- Need for cognition (Amichai-Hamburger & Kinar, 2007; Kinar et al. 2008)
- Attachment (Gerson, 2011; Lei & Wu, 2007; Weisskirch and Delevi, 2011)

Understanding our online behaviour

Internet and Personality



In the same way people may well be empowered by the net.

- **Socially shy, closed, introverted and neurotic may undergo a transformation and become highly interactive, open, social beings** with a large network of online connections (Hamburger & Ben-Artzi, 2000)
- The *“Poor get richer”* effect says that **those who are poor socially offline become richer socially online** (Maldonado et al, 2001)
- **Introverted subjects send messages with an extroverted tone.** These messages contain more information than those sent by extroverted subjects. It seems that on the net, introverts do not act in accordance with their usual behavior patterns (Maldonado, 2001)

Understanding our online behaviour

Internet and Personality



In the same way people may well be empowered by the net.

- **Introverts perceive the online world as a preferred social environment over the offline world. and feel that their relationships on the net are more special than their relationships offline (Amichai-Hamburger, 2002)**
- **Nevertheless, Introverts who use the net reported higher level of loliness as compared with surfers who are extroverts (Kraut, 2002).**
- **And finally, extroverts who have highly developed social skills and make more friend offline, finally make more friends even on the net (Kraut, 2002)**

Understanding our online behaviour

Personality and Social Networking



Amichai-Hambirger, Kaplan, and Derpatcheon (2008) examined the relationship between personality and social networking in its initial stage.

- **Extroverted made greater use of the net as a social tool** (for social interaction) as compared to introverts.
- In Facebook **extroverts have more social interactions in social network** than introverts (Amichai-Hamburger & Vinitzky, 2010)
- The **size of the social network of introverts tend to be smaller than those of extroverts.**
- **Introverts** nevertheless do **invest more effort into building and designing their personal profile on Facebook.** They place more personal information on their Facebook profiles than extroverts (Social Anxiety???).

Understanding our online behaviour

Personality and Social Networking



Amichai-Hambirger, Kaplan, and Derpatcheon (2008) examined the relationship between personality and social networking in its initial stage.

- **Wikipedia member are significantly less extroverted than non wikipedia member** (Amichai-Hamburger, 2008)
- Guadagno, et al 2008, found that **personality characteristics related to blogging are openness to new experiences and neuroticism, with no relation between introversion and blogging.**
- **Introverts tend to build a more attractive avatars in comparison with extroverts** (Dunn & Guadagno, 2012)

Understanding our online behaviour

**Netified: Social Cognition in Crowds
and Clouds**



While the early years of the Internet were about connecting documents by hypertext or connecting web sites and information resources by links, recent years were about linking the digital representations of people in a variety of ways. This social web portrays our social ties, activities, and interests and has substantial consequences regarding social cognition.

- Technological systems can be defined as a **new Social Layer** (A new social operating system), characterized by complex structure, evolution, and deep interaction with societal and social consequences (Bauer, Patrick, 2004).

Intensive use of Internet during the 1990s for collaborative purposes generates the so-called Web 2.0 applications (O'Reilly, 2007)

Understanding our online behaviour

Netified: Social Cognition in Crowds and Clouds



Intensive use of Internet during the 1990s for collaborative purposes generates the so-called Web 2.0 applications (O'Reilly, 2007)

- These are platform that **host content provided by users**, where technology is a host to social and intellectual activity
- **Online social platforms catalyzed the process of netification in which thoughts, conversations, creativity, and relationships materialize on network applications where they persist**, as well as await research
- ***Almost a quarter of the time people spend online is devoted to social networks*** where social interaction is a central attraction and motivation for activity (Nielsen Wire, 2011).

Amichai-Hamburger, Y. (2013). *The social net*. Oxford University Press.

Understanding our online behaviour

Netified: Social Cognition in Crowds and Clouds



Intensive use of Internet during the 1990s for collaborative purposes generates the so-called Web 2.0 applications (O'Reilly, 2007)

Crowd

On the web, a crowd is a networked social cognition, bringing together the minds and creativity of many people.

Cloud

The cloud describes large amounts of information which can now be aggregated and always made accessible.

Understanding our online behaviour

**Netified: Social Cognition in Crowds
and Clouds**



Social Cognition

SC describes the mutual influences between cognition and social life. Cognition is influenced fundamentally by social environment. Social facilitation (Guerin, 2009), social loafing (Forsyth, 2010), social roles, and mental representations has shown distinct social influences on cognitive ability and task performance (Kunda, 1999). Social Cognition is also about the cognitive underpinnings of social behavior (Devine, Hamilton, & Ostrom, 1994).

In short, social cognition research explores the influence of the social environment on cognition, and of cognition on social behaviour.

Understanding our online behaviour

Netified: Social Cognition in Crowds and Clouds



- Social cognition views individuals as being engaged most of the time in **information processing, encoded from a social context, interpreted, elaborated, evaluated, inferred, and attributed.**
- **Judgement and behaviour can be the result of short-cuts known as heuristics.**
- The main social processes in social cognition research have been **attribution, attitude change, impression formation, social comparison, decision-making, and social construction of reality** (Fulk, 1993).

The Online Social Space

The computer mediated social space is characterized variously. The online environment defines new loci, within which new rules for social behaviour may be defined.

Understanding our online behaviour

*Netified: Social Cognition in Crowds
and Clouds*



Social Cognition is important in searching for information and organizing our knowledge.

- **“The Filter Bubble”** is a phenomenon which defines the effect produced by the personalization by search algorithms, that confines our cognition to the limits envisioned by search software developers (Pariser, 2011)
- Communities have shifted to a **“Glocalized”** state, where both local and global connections are important (Wellman, 2002).
- Other evidences based on academic research claim that **our brain is changing, an actual change in cognitive abilities, due to our reliance on Google’s search services** (Carr, 2011; Sparrow, Liu, & Wegner, 2011).
- **Our brain** may start to **exhibit a new pattern** due to web surfing (Sparrow et. al, 2011)

Amichai-Hamburger, Y. (2013). *The social net*. Oxford University Press.

Understanding our online behaviour

***Netified: Social Cognition in Crowds
and Clouds***



Information bonds people online (Seely Brown & Duguid, 2000)

Engagement with information is a form of social activity, it serves as cultural glue, be it via reading, listening, speaking, or reviewing.

In itself just an evolutionary stable trait of human beings.

Understanding our online behaviour

Netified: Online presentation and perception of other



The internet provides numerous opportunities to affect what Goffman would call “the presentation of self” (Donath, 1999; Stone, 2001)

- The construction of a personal home page, the introduction one is required to make when entering an online forum, the short descriptions many provide as ***a rite of inclusion into various social software arenas***, the constant updates one posts to social networking sites (SNSs), and the profiles one accumulates for oneself willingly or not on a variety of online systems, all have **a narcissistic potential** (Mehdizadeh, 2009; Ong et al., 2011; Ryan & Xenos, 2011)
- With the increasing prevalence of SNSs where anonymity is almost nonexistent, ***online deception become less prevalent than in the past*** (Zhao, Grasmuck, & Martin, 2008).

Understanding our online behaviour

Netified: Online presentation and perception of other



The internet provides numerous opportunities to affect what Goffman would call “the presentation of self” (Donath, 1999; Stone, 2001)

- Pionieristic works concluded that **online impression formation is faulty and wrought with stereotypical and prejudiced assumptions used to “fill in the blanks”** (Albright, 2001) of the reduced social cues, and terms such as “fluid identities” (Turkle, 1995).
- More recent reasearch approached these questions in a more nuanced manner, and showed that online self-portrayals are important, that these acts of **online self-presentation actually influence the construction of self identity**, and that gaps between these portrayals and what others perceive as the truth have significant negative consequences (Boucher, Hancock, & Dunham, 2008; DeAndrea & Walther, 2011)

Understanding our online behaviour

Netified: Online presentation and perception of other



Online impression formation is complex and multifaceted, probably not less than offline impression formation.

- Research shows that **senders sometimes try to optimize their self-presentation by mentioning information they perceive as impressive**, while holding back information which is less so (Walther & Burgoon, 1992).
- **Impression formation is a continuous process**, often based on the combination of information attained over time from a variety of online and offline sources (DeAndrea & Walther, 2011)

Understanding our online behaviour

Netified: Online presentation and perception of other



Online impression formation is complex and multifaceted, probably not less than offline impression formation.

- **Online impression formation of members of SNS could be influenced not only by what they post about themselves, but also by what people they are linked with (“friends”) say about them, and by the physical appearance of these friends (Walther, Van Der Heide, Kim, Westerman, & Tong, 2008)**
- **By the number of friends they are linked to (Tong, Van Der Heide, Langwell, & Walther, 2008).**

Understanding our online behaviour

Netified: Online presentation and perception of other



Online impression formation is complex and multifaceted, probably not less than offline impression formation.

Online impression formation is also influenced by the nonverbal clues which are available online. These include:

- **Chronemic** (time related) cues, as well as a host of other CMC cues such as **punctuation marks, asterisks, character repetitions, and capitalization** (Kalman, & Gergle, 2010; Riordan & Kreuz, 2010)
- **Chronemic cues** such as the time and day and delays in response have been shown to **influence impression formation, and to interact with other parameters such as communicator valence and status** (Kalman & Rafaeli, 2011; Sheldon, Thomas-Hunt, & Proell, 2006; Walther & Tdwell, 1995)

Understanding our online behaviour

Netified: Online presentation and perception of other



Online impression formation is also influenced by the nonverbal clues which are available online. These include:

- Moreover **Chronemic feature is the only ICT factor from a standard SNSs allowing to predict the social closeness between interactors** in a SNSs (Guazzini, 2013)
- The Social Information Processing (SIP) theory posits that communicators exchange social information through the **content, style, and timing** of verbal messages online” (Walther & Parks, 2002)

Understanding our online behaviour

Netified: Groups Online



All social cognitive aspects of interacting with others as well as self-perception are repeated and compounded in online groups.

What are online groups and how do they compare with face-to-face groups? Many terms have been used to describe influential Internet-based interactions between several participants.

- Virtual communities (Rheingold, 1993)
- Virtual teams (Lipnack & Stamps, 2000)
- Virtual groups (Wallace, 2001)

Understanding our online behaviour

Netified: Groups Online



All social cognitive aspects of interacting with others as well as self-perception are repeated and compounded in online groups.

They have evolved into “groups” or “circles” in commercial SNSs such as Facebook and in Google+.

- In general ***people participate in online groups for work, education, and leisure, acquiring, dissemination, and sharing information and knowledge, collaborating, and socializing*** (Haythornthwaite, 2007; McKenna, 2008; Rheingold, 1993).

Understanding our online behaviour

Netified: Groups Online



A central focus of research on online groups was on understanding the differences between traditional groups, and online groups. Why do people group online, how effective are online groups, and what influences this effectiveness?

- Like any group, **online group** too are **social units** in which the participants are **interdependent**, and **behave accordingly to explicit and implicit social norms**.
- Online groups show, just like other groups, both **examples of social compensation as well as social loafing**, and even effects such as **crowding and deindividuation** have been documented (Spears, Postmes, Lea & Wolbert, 2002)

Understanding our online behaviour

Netified: Groups Online



A central focus of research on online groups was on understanding the differences between traditional groups, and online groups. Why do people group online, how effective are online groups, and what influences this effectiveness?

- **Socialization occurs after people join a group, learning the norms and normative behaviour**, which are partially communicated directly and explicitly, while other parts are implicit. Explicit norms are usually communicated by means of FAQs, or Answer to newcomers posts (Ahuja & Galvin, 2003; Burnett & Bonnici, 2003).
- **Lurking** is a phenomenon quite recently revealed and defined as the **behaviour of spending more or all time observing the group's goings on**, without contributing.
- The reported **proportion of lurkers varied from around the 90% to around the 50%** (Katz, 1998; Mason, 1999; Nonnecke & Preece, 2000; Soroka, Jacovi, & Ur, 2003).

Understanding our online behaviour

Netified: Groups Online



Like any medium, computers too are not neutral media, and they influenced the message as it travels from sender to recipient.

- Often, the **inanimate computer is treated by its users as a person, and the spaces it depicts are perceived as real spaces** (Reeves & Nass, 1996).
- This opens the door research about **HCI (human computer interaction) as a tool to study the human mind and behaviour** (Nass & Yen, 2010)
- The leading thinkers about HCI now advocates an **approach to design that adds visceral and reflective layers to the functional layer** (Norman, 2005, 2009, 2010)

Understanding our online behaviour

Netified: Groups Online



Like any medium, computers too are not neutral media, and they influenced the message as it travels from sender to recipient.

- **Interactivity has proven to be one of the most important factors behind the successful design of HCI**, considered as a variable describing a communication process, whether mediated or not (McMillan, 2006; Rafaeli, 1988; Rafaeli & Ariel, 2007).
- **It focuses on the human need for meaningful responses, and suggests that communication processes which are perceived as interactive have positive effects** such as *fostering engagement* (Ha & James, 1998), *increasing positive perceptions* of brands advertising (Marcias, 2013), and *heightening the sense of telepresence* (Coyle & Thorson, 2001).

Understanding our online behaviour

Groups Online

Work and Leisure



Agrowing portion of work in the postindustrial era is taking place in context of the knowledge economy or information society, and is performed by knowledge workers (Machlup, 1962; Porat, 1977)

- **Human work is increasingly focused on producing knowledge goods** (Amichai_Hamburger, 2013)
- As a consequence the traditional **physical divide between “work and home” is blurring** (Lewis, 2010)
- Another consequence of the increasing ability for instant communication is the challenge of **“information overload”** (Eppler & Mengis, 2004), as well as of “osical information overload” (Lincoln, 2011)

Understanding our online behaviour

Groups Online

Work and Leisure



Agrowing portion of work in the postindustrial era is taking place in context of the knowledge economy or information society, and is performed by knowledge workers (Machlup, 1962; Porat, 1977)

- Effects of **exceeding “cognitive processing load” limits are reported** in large scale empirical measures of online behaviour (Jones & Rafaeli, 1999, 2000a, 2000b; Jones, Ravid, & Rafaeli, 2001a, 2001b; Sudweeks et al., 1998).
- At the extreme, online information **overload as a social phenomenon may amount to a new form of crowding**, with all the familiar social psychological attendants of such overpopulation.

Understanding our online behaviour

Groups Online

Private and Public



The executive officer of Sun Microsystems, Scott McNealy, said in 1999 “You have zero privacy anyway. Get over it” (Sprenger, 1999)

The need to know how one is perceived by others, to try and manage this perception, and to know about others is a fundamental social cognitive need, and it encapsulates the tension between the private and the public (Hodges, 1994)

- The concept of **privacy is context dependent and has transformed throughout history and among cultures and subcultures** (Graham, 2010; Locke, 2010)
- The demonstration of the complexity of balancing the privacy needs of online users is the **ongoing debate over privacy settings in SNSs** (Boyd, 2008; Boyd & Hargittai, 2010)

Understanding our online behaviour

Groups Online

Private and Public



The executive officer of Sun Microsystems, Scott McNealy, said in 1999 “You have zero privacy anyway. Get over it” (Sprenger, 1999)

- ***The consequent disagreements over the nature of the private and public***, about individual rights and societal needs, and over norms and ethical guidelines for individuals, commercial organizations, nongovernmental organizations, and government ***are inevitable*** (Miyazaki & Fernandez, 2000; Steinbrook, 2008; Tang, Hu, & Smith, 2008; Grubbs Hoy & Phelps, 2009)

Nevertheless, a deep understanding of the relativity and context sensitivity of the concepts, and of the cosiocognitive needs of netified individuals is a prerequisite for planning insightful research about online privacy (Boyd, Hargittai, Schultz, & Palfrey, 2011)

Understanding our online behaviour

Social Influence on the Internet and Beyond



The Influence Hierarchy



Amichai-Hamburger, Y. (2013). *The social net*. Oxford University Press.

Understanding our online behaviour

Social Influence on the Internet and Beyond



In order to talk about social influence is useful to adopt a dual process approach to attitude change on the internet;

The dual-process approach suggests that message receivers can be persuaded through two possible processes:

- 1. A careful reflection on a message's arguments, structure, and quality**
- 2. Using simple decision rules, or heuristics, to formulate an attitude**

The first process can be described by the **Elaboration likelihood model** of Petty and Cacioppo (1986), and the second by the **Heuristic-Systematic model** (Chaiken, 1987).