The Mind in the Web: Psychology in the Internet Age

GIUSEPPE RIVA, Ph.D., and CARLO GALIMBERTI, Ph.D.

INTRODUCTION

The emergence of information technology is changing the way people interact with computers. Technological advances have gradually shifted the focus from computers, which have become less of an end in themselves, and more of a means in terms of what people actually do with them. The most evident sign of this change has been the diffusion of the Internet.

The technological evolution of the media leads us to believe that Internet could become in the very near future, the predominant medium, or rather, it is possible that will become a general communication interface; an interface used for interpersonal relationship and for the creation and management of information. Its success is creating a new psychosocial space that is the fertile ground for social relationships, roles, and a new sense of self. As recently noted in an interview by Sherry Turkle, a Massachusetts Institute of Technology researcher, “The Internet is the identity technology—much of what people do online, is self-explanation and presentation, form searching and e-mailing, to chatting or creating a home page” (p. 17).

“The Web is a safe place to try out different roles, voices and identities” confirms John Suler, psychologist and Web researcher for the Rider University. “It’s sort of like training wheels for the self you want to bring out in real life” (p. 17).

The result of these new selves is a new sense of presence that fills the space with a fluid form of network/community that is usually called Cyberspace. Cyberspace is a universe made up of things that can be seen and heard, but they are neither physical objects nor necessarily a representation of physical objects. They are built of information coming partly from operations of the physical world, but largely from the accumulation and exchange of knowledge arising from human initiatives in the fields of culture, science, and art. In this sense, a key goal for psychology is doing more thinking and theorizing about how to get people to make better connections between Cyberspace and the rest of their lives. If we accept the definition of the Internet as a general communication interface, questions arise spontaneously on what form the Internet is taking, how it is possible to give it a form and, most important, how it will affect us. This inevitably leads us to ask ourselves what type of reality is the Internet.

The Internet is a medium that can be experienced in many guises. Though a computer and

1 Applied Technology for Neuro-Psychology, Istituto Auxologico Italiano, Verbania, Italy.
2 Department of Psychology, Universita Cattolica del Sacro Cuore, Milan, Italy.
keyboard are usually the mediator of our Internet experience, there are different ways in which the users can explore the Internet, present themselves, and communicate using it.

Recently, Wallace\(^7\) identified six different Internet environments. They differ in certain basic features affecting the way we behave when we experience them:

- the World Wide Web;
- electronic mail (E-mail);
- asynchronous discussion forum (newsgroups);
- synchronous chats (Internet Relay Chat)
- multiuser dungeons (MUD): text based virtual environments;
- metaworlds (3D MUDs): 3D virtual environments; and
- interactive video and voice (Web cam).

As noted by this author, “the most important mediator of behavior in these Internet environments is the purpose of the people who visit or inhabit them” (p. 5). Particularly, their use depends on how they are interpreted, what projects are in them, and what we think about daily reality.\(^8\)

In this sense, the Internet experience may be defined as a process by which a group of social actors in a given situation negotiate the meaning of the various situations which arise between them.\(^9\)

This definition has two important implications that have a decisive affect on how psychology should approach the Internet. If the Internet experience is a process of negotiation, then

1. the only way to understand it is by analyzing the subjects involved in it, and in the environment in which they operate, meaning that the social context in which the Internet experience occurs plays a crucial role; and
2. new processes and activities will develop that challenge and change the initial relationship between subject and context.

Most researchers would broadly agree that these two statements are true. According to Mantovani,\(^8\) the early 1990s saw changes in the study paradigms of person–computer and person–computer–person interaction. The main result of this has been the realization that interaction can only be understood fully through detailed analysis of the social context in which it happens:\(^8\) “... at this point we should no longer see people simply as ‘users’ of given systems, but as social ‘actors.’ In other words, whether expert computer users or not, people act independently and have their own reasons for what they do, and it is computers and systems that have to adapt to people, not vice versa” (p. 63).

In this sense psychologists have a double task. First, Internet research calls for careful longitudinal study of technology-related social routines in the groups and organizations in which they happen.\(^10\) But, it also calls for the analysis of the relationship between objectives, technology and actors to explain why similar groups, though working to fulfill the same objectives, perceive and use this technology in different ways.

Even if psychologists are already hard at work studying the Internet’s effects,\(^11\) research in this area is still sparse and limited in both the number and scope of studies: actual research, especially studies with strict methodologies, is only just beginning. This is why their findings have been mixed so far. For instance, Kraut and colleagues recently examined the Internet’s impact on emotional well-being.\(^12\) The results, discussed in the American Psychologist, showed that greater use of the Internet resulted in a small but statistically significant increase in depression and loneliness, and a decrease in social engagement. Even if these data are usually used by the press to support the risk of the Internet experience, according to different critics these results are biased by a weak methodology.\(^13\) The study lacks random selection and a control group, which the researchers say they couldn’t afford.

In general, Web-based experiments present specific problems\(^14,15\):

- it is difficult to control the study environment because Web users use different types of hardware, software, and Internet connection. There is no way to ensure that everyone who participates in the experiment will receive exactly the same stimuli in terms of sound, color, or timing;
- study participants are usually unmoni-
tored, so the researcher cannot be sure about the information collected. Members of electronic communities very often adopt false “nickname” identities or gender switches, and openly accept them in others; and

- people who participate in online experiments are self-selected and by no means randomly representative of the general population. In particular they are usually skewed toward the high end of the socioeconomic and educational spectrum.

However, when Web-related research technology matures, the opportunity for more creative and interactive experiments will grow. It is also true that the benefits of larger and different study samples and the reduced costs far outweigh the disadvantages for most types of psychological research.14

Apart from studying the Internet, psychology is also discovering the great opportunities inherent in this medium.11,16,17 Different psychological applications using the Internet, especially the World Wide Web, have recently appeared. Specifically, according to Barak,18 it is possible to identify 10 types of psychological Internet applications: information resources on psychological concepts and issues; self-help guides; psychological testing and assessment; help in deciding to undergo therapy; information about specific psychological services; single-session psychological advice through E-mail or E-bulletin boards; ongoing personal counseling and therapy through E-mail; real-time counseling through chat, Web telephony, and videoconferencing; synchronous and asynchronous support groups, discussion groups, and group counseling; and psychological and social research.

Drawing on research in the social sciences, communications, and other fields, this special issue wants to analyze how the online environment is influencing the experience of psychology. The contributions in this special issue are among the first scientific attempts to take a serious look at various aspects of Internet-related psychology. However, we need not start from scratch. Psychology has a broad knowledge about the factors that affect human behavior in other settings. So, the papers collected for this special issue are descriptive and practical in nature.

Riva opens the special issue with a paper that tries to define a model of data analysis (Complementary Explorative Multilevel Data Analysis: CEMDA) suited to the constraints on Internet research. Main characteristics of the model are: the focus on different frames and objects for each of the three levels considered (context, situation, and interaction), the mixed use of quantitative and qualitative tools, and the final integration of results in general framework.

Also concerned with methods is the paper by Barry. This author, studying the acculturation experiences of Arabic immigrants through online tools, assesses the utility of the Internet as a data collection tool.

How can we produce a better Internet experience? This is the question that Boechler, G. Mantovani, Gamberini and Bussolon, Wolfe, and Stanley try to answer. Boechler argues that cognitive psychologists have a key role to play in the identification and analysis of how the processes of the mind interact with the Web. Particularly, the body of literature on cognitive processes offers tested models about spatial perceptions, strategies for navigation in space, memory functions, and the formation of mental representations of environments that can be used to better explore the Internet experience. G. Mantovani shows how psychological models influence both design and use of the Internet. Specifically, his paper analyzes characteristics and effects of three different models: cognitive, social, and cultural. Gamberini and Bussolon focus their analysis on the issues related to human navigation in an electronic environment. In their paper a hybrid navigation system called Percepta, that combines two different approaches (hypermedia and 3D environments) was created and is discussed.

According to Wolfe, the novelty and versatility of the Web places cognitive burdens on learners that can be overcome through the use of analogies and metaphors. This paper explores three uses of figurative communication as design elements in Web-based learning environments, and provides empirical illustrations of each. Last, Stanley suggests that the key to understanding the psychology of the Internet is to enter into dialogue with people—not
to test them in isolation, but to study their interrelatedness as they perform social life.

A second topic of this Special Issue is the relation between the Internet and personal identity. Miller and Arnold explore how far the Internet provides opportunities for new forms of identity. Their analysis also verifies whether the identity presented on the web is still rounded in people’s physical and institutional existence. The research of Talamo and Ligorio focuses on how identities are perceived and built in Cyberspace. Their results show that cyberspace users build their identities using strategic “positioning” depending on the interactive situation. Identities are thus dynamic and strongly connected to the context, created and constantly recreated by the users.

Knowing how others perceive us is an important aspect of social life. The goal of the study proposed by Sherman and colleagues was to compare meta-accuracy of WWW home page creators to meta-accuracy of people in face-to-face interactions.

A third area explored by the papers in this Special Issue is how the Internet shapes the interaction process. Galimberti and colleagues studied the characteristics of cooperative activities in networked environments. The presented results are analyzed to identify the psychosocial roots used to support cooperation in a computer-mediated communication.

The characteristics of interpersonal attraction on the Internet are the focus of the paper presented by F. Mantovani. In the presented model, the process of online seduction is defined as a strategic communication process.

Finally, the possible impact of the Internet on a key area of our discipline—clinical psychology—is discussed by Ookita and Tokuda. They propose both a specific therapy model and an Internet-based therapeutic environment that allows the user to participate in group counseling.

In the end, it seems that the psychology discipline is at the stage of investing in extensive Internet research on the one hand, and in discovering the great opportunities inherent in this medium on the other. As noted by Barak, psychology “is driving on a superhighway that is taking the world to an unknown destination” (p. 242). To avoid problems, better methodological considerations, international brainstorming, and intensive attention to this new medium may help people to make better connections between cyberspace and the rest of their lives, minimizing the costs of this journey. Fortunately, as underlined by Wallace, “we have many questions about the psychology of the Internet and few solid answers, but we do have much research on human behavior to guide us” (p. 255).

REFERENCES

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Address reprint requests to:
Prof. Giuseppe Riva, Ph.D.
Istituto Auxologico Italiano
Applied Technology for Neuro-Psychology Lab.
Casella Postale 1
28900 Verbania, Italy

E-mail: auxo.psylab@auxologico.it