

## Discussions in Cyberpsychology

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### The Online Persona

As the internet age takes firmly hold in human interaction, an examination of how people present themselves and act toward each other online is necessary for the development and understanding of virtual environments. Early researchers such as John Suler discovered a pattern of behavior, termed the online disinhibition effect, which pointed to the conclusion that “people say and do things in cyberspace that they wouldn’t ordinarily say and do in the face-to-face world. They loosen up, feel less restrained, and express themselves more openly.” (Suler, pg. 321) This behavior pattern leads to the question of which expression of personality is truer, the real world expression or the online expression? Suler concluded that “the self does not exist separate from the environment in which that self is expressed. If someone contains his aggression in face-to-face living, but expresses that aggression online, both behaviors reflect aspects of self.” (Suler, pg. 325)

Suler’s conclusions are supported when moving from the two-dimensional online world of the internet which he studied, to the 3D virtual world that is pervasive today and in the future. Dr. Marjorie Zielke studied the use of virtual behavior as a predictor for real-life outcomes by examining the “virtual DNA, or data and patterns left behind by digital behavior” (Zielke, pg. 3) in the artistic works created for the Metaverse Gallery, a 3D Second Life island sponsored by the Institute for Interactive Arts and Engineering at the University of Texas at

Dallas. Dr. Zielke found that indeed, expressions of self in a 3D virtual environment are as reflective of a “true” self as those in real-life, to the point that “the virtual becomes reality,” and “the need to use virtual behavior to per se ‘predict’ real world outcomes becomes less critical.” (Zielke, pg. 8)

These foundations of the online persona have led researchers to explore the use of the internet and 3D virtual worlds as a means of extending the effectiveness of various types of physical and psychological treatment and rehabilitation. Dr. Azy Barak finds the online disinhibition effect particularly apparent when examining the effectiveness of the Israeli suicide prevention project called SAHAR. The project in fact depends on the characteristics of the online disinhibition effect in order to succeed: “because of the accessibility, anonymity, and unidentifiability that characterize Internet communications, these procedures are apparently successful in reaching out to various populations that otherwise avoid conventional psychological services and in providing them with much needed professional intervention.” (Barak, pg. 972) 3D virtual worlds have also proven effective in the treatment of alcohol cravings. Traditionally, patients are exposed to alcohol craving inducing stimuli in the form of slides, pictures, videos or paraphernalia in a process known as CET (cue-exposure therapy). The patient is required to imagine the high-risk environment in which these cues are likely to occur, and therefore the treatment is limited to the patient’s ability to mentally recreate such environments. Researchers have found the answer in 3D virtual reality, which “can provide immersive 3D environments and dynamic social interactions resembling the real world.” (Cho, pg. 303)

What is the future of the online persona? According to Ray Kurzweil, the implications of the merging of real-life and online personas today will lead to a complete merging of humans and machines in the next century, with machines having such a similarity to the computational style of humans that they believe they are in fact human, and humans relinquishing their attachment to a particular body and transporting the “self” from body to body in the form of downloadable data, or existing with no bodily attachment at all. Humans will also have the ability to merge with other humans via an all-encompassing web, creating a definitive form of collective intelligence. Some humans will not join the collective, choosing instead to depend on their own carbon-based computational capabilities, though most often enhanced with neural implants. Some will even decide to forego the neural implants. These humans, known as MOSHs (Mostly Original Substrate Humans) will lead a lonely existence, for “humans who do not utilize such implants are unable to participate in dialogues with those who do.” (Kurzweil, pg. 234) While Kurzweil’s predictions may seem more akin to science fiction than reality today, it is important to remember that many of the technological feats of the 20<sup>th</sup> century were dreams in the minds of the science fiction writers of the 19<sup>th</sup> century.

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## \Ethics

John Suler's research into the online persona and the creation of highly realistic virtual 3D environments have opened the door for therapists and psychologists to potentially use these tools to extend the abilities of the traditional, real world professional. However, another door has opened: these methods create a new set of questions regarding ethics, and how ethical standards created for the real-life world can be applied to, or need to be altered for, the virtual world. To answer these questions, one must first identify areas of potential ethical conflict within the virtual environment, and then propose ethical guidelines to address these conflicts when needed.

One major area of ethical consideration is effectiveness: is an online version of a real-world therapy as successful as the real-world approach? Doctors Azy Barak, Meyran Boniel Nissim and John Suler applied this question to the area of online support groups. Beginning with a few groups in the 1990s which were not particularly accepted by professionals, "[the online support group] movement...has now grown into a mass social phenomenon that is estimated to number hundreds of thousands of such groups worldwide." (Barak, pg. 1868) With such numbers participating, it is important to be able to show that these groups provide a viable benefit to the participants. Firstly, a support group is not a therapy group. Therapy deals with specifics, while a support group is a means of emotional support which "has the great potential to contribute to participants' sense of personal empowerment." (Barak, pg. 1869) The online support group has the added benefit of the online disinhibition effect, allowing participants to express themselves more freely than they might in person, and thus extending their feelings of personal empowerment. This sense of personal empowerment is a key

measure in determining the effectiveness of any support group, and research has shown that online support groups provide for a “general emotional relief and an elevated sense of control – two essential components of personal empowerment.” (Barak, pg. 1879)

Important ethical and legal considerations were raised by a panel of professionals convened to explore how the virtual world of Second Life could be used to improve substance abuse treatment outcomes, and it is logical to conclude that these same considerations can be applied to most, if not all, therapeutic applications of virtual environments. First, Second Life does not yet qualify as evidence-based practice, and the only solution to this problem is to conduct research and establish it “as a building block on a new road of practice.” (Gustafson, pg. 9) Second, proper licensing of virtual world therapists is mandatory, and under current law an avatar’s real-life controller must be within the licensing area that the counselor is certified to practice. The panel agreed that amending 20<sup>th</sup> century laws would be the best solution to this problem, and that “telemedicine rules as applied to modern advances in technology may be a current or future source of precedent for redefining certain laws and regulations.” (Gustafson, pg. 9)

Thirdly, and perhaps the most important ethical consideration for using virtual worlds for therapeutic treatment, is the issue of confidentiality. For instance, in Second life, anyone can create an avatar, and if a patient’s password is compromised, unknown persons could gain access to that patient’s personal, confidential information, and at worst could actually control the patient’s avatar in a therapy session. Therefore, “for a therapist, knowledge of who is controlling a given avatar in a therapy session is essential, at the very least, for purposes of billing, confidentiality and confidence in the overall therapeutic process.” (Gustafson, pg. 10)

Therefore virtual worlds such as Second Life, if they are to offer these types of services, must be able to guarantee the security of the environment.

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**Critique: *Distress, Coping, and Blogging: Comparing New Myspace Users by Their Intention to Blog***

In *Distress, Coping and Blogging: Comparing New Myspace Users by Their Intention to Blog*, the authors utilize a questionnaire based research methodology to determine psychological differences between those who intended to blog and those who did not. The interest in those who blog stems from the authors' assumed association between the coping mechanism of journal writing and the potential coping mechanism of blogging. This association is supported by the study, which found that intending bloggers were more psychologically distressed than those who did not intend to blog, and they were less satisfied with their level of social integration and number of online and face-to-face friends. Thus those who intended to blog were psychologically predisposed to seek emotional support of some sort. The authors conclude that "intending bloggers may view this activity as a potential mechanism for coping with distress in situations in which they feel inadequately linked with social supports." (Baker, pg. 81)

Several key factors support the plausibility of the authors' conclusion. Aspects of the online disinhibition effect are at play: the asynchronicity of communication between the blogger and respondents allows for communication that "may progress more steadily and quickly towards deeper expressions of benign and toxic disinhibition that avert social norms." (Suler, pg. 323) By creating a world outside of their perceived social norms, bloggers are more apt find relief for social distresses. Additionally, "the traditional Internet philosophy holds that everyone is an equal, that the purpose of the net is to share ideas and resources among peers." (Suler, pg. 324) This minimization of authority allows bloggers to more readily express

themselves in an uncensored manner, promoting an atmosphere of openness they may not experience in real world life.

Dr. Azy Barak et al's research into online support groups also lends credence to this study. For its participants, "the group functions as a durable and accountable help resource through which they transmit and obtain information, provide and receive emotional support, socialize and form interpersonal relationships, and experience comradeship with others sharing a similar distress, thereby helping to reduce their perceived anomaly." (Barak, pg. 1868) Bloggers may experience many of these same benefits through respondent's communication, allowing them to create the social relationships they feel are lacking in their real world lives. In essence, bloggers are attempting to create their own online support group, one with a constantly changing topic. The act of writing itself is also a means of coping with distress: by writing, bloggers "understand themselves and their own experiences in a clear and organized way, while balancing emotions and thought. The clarity achieved by writing gives one a sense of empowerment and control over one's life." (Barak, pg. 1873)

Blogging as a means of coping with psychological distress may in part explain the tremendous explosion of blogs in the last few years. "According to Technorati, an important blog search engine, by April 2007 there were over 70 million blogs that had surfaced on the service's radar screen. It is estimated that there are 1.6 million new postings per day in the ever-enlarging blogosphere, while each day sees around 120,000 new blogs mushrooming on the internet." (Huang, pg. 472) The proliferation of bloggers is logical, in the sense that blogging allows an individual to take advantage of the potentially cathartic process of writing one's thoughts and feelings down, combined with the social interaction function supplied by the fact

that a blog exists for anyone and everyone to read. Thus blogs can be a tool for the release of tension and emotion, a tool for organization of thought, and a tool for social interaction and relationship development.

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### Critique: Ray Kurzweil's 2009 Predictions

In 1999, Ray Kurzweil published *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*. In it he boldly predicted what would be the “state of the art” according to decade: 2009, 2019, and 2029, concluding with a long look toward the future of 2099. Ten years later, we are able to look at Kurzweil’s predictions for 2009 and observe how he fared. While making predictions in many areas, Kurzweil’s main focus was on the advancement of computers, and in this arena he was more hit than miss. Some correct predictions include the proliferation of portable computers with no moving parts, and the use of both large home servers, or storage devices, and the use of services to keep data in a central repository. He correctly predicted the reliance on wireless functionality for computers and peripherals, and the use of language user interface, which is currently utilized for telephone banking and telephone customer service. High resolution computer displays and chip based audio speakers are also in common use.

One area that Kurzweil correctly predicted has had results he may not have seen: “unused computes on the internet are being harvested, creating virtual parallel supercomputers with human brain hardware capacity.” (Kurzweil, pg. 191) It is true, these “unused computes” are indeed being harvested, but by and large the harvesting is done by hackers. In Kurzweil’s 1999, “the internet was an almost exclusively American domain, and computer skills were concentrated in the high-connectivity countries with well-educated populations. Since then, internet access has exploded – with over a billion users now online – while technical skills have proliferated across middle- and low-income countries.” (Gilman, pg. 1) These poor but skilled technicians have banded to create a \$10 billion per year industry,

causing an estimated \$100 billion per year in damage. Kurzweil's "harvesting" is used to pirate thousands upon thousands of personal computers, using them to send billions of spam emails, or to generate Denial of Service attacks against corporate and government websites.

Some aspects of computing on which Kurzweil missed: people do not routinely have a dozen computers on and about them, which are networked and monitor various bodily functions. Personal computers do still rely on the keyboard for text input, continuous speech recognition (CSR) software has not yet killed it (though CSR is gaining ground). Eyeglasses do not commonly have computer displays in them, and computers do not routinely recognize their owners through optical face recognition.

Another area that Kurzweil hit almost squarely on the head: "in terms of circuitry, three-dimensional chips are commonly used, and there is a transition taking place from the older, single-layer chips." (Kurzweil, pg. 190) In fact, in 2007 IBM "announced a breakthrough chip-stacking technology in a manufacturing environment that paves the way for three-dimensional chips that will extend Moore's Law beyond its expected limits. The technology – called 'through-silicon vias' (TSVs) - allows different chip components to be packaged much closer together for faster, smaller, and lower-power systems." (IBM, pg. 1) And while he may have been slightly off in predicting them to be commonly used, TSVs are well into the development stage and are in fact poised for mass production.

In education, Kurzweil correctly predicted intelligent courseware as a common means of learning, and the proliferation of distance learning. In communications, he was correct in stating that most telephone communication is wireless and includes moving images, and that digital objects such as books and movies are easily downloadable to a portable device.

However, his idea that haptic technology, allowing for touching and feeling at a distance, would be commonplace was unfortunately inaccurate. He correctly predicted that China would be a leading economic force, and that people would work together despite geographic separation, but was off (by almost 400%) when predicting Microsoft would have a \$1 trillion market capitalization. This means he also did not see the dot-com bust of 2001 or the 2008 recession, which has proven to be the worst economic downturn since the great Depression. All in all Kurzweil did remarkably well, positing about 50 predictions, and getting about 30 mostly right, for a total of 60% correct.

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