



Virtual Group Dynamics and Social Networks

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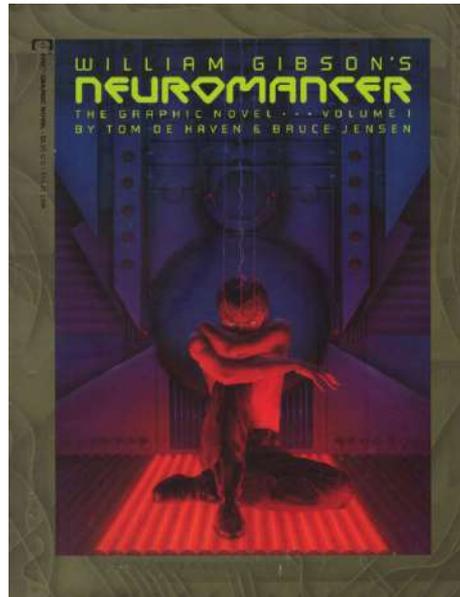
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Cyberspace

The science fiction writer, William Gibson (1986) is credited with coining the phrase 'cyberspace' in his novel *Neuromancer*.

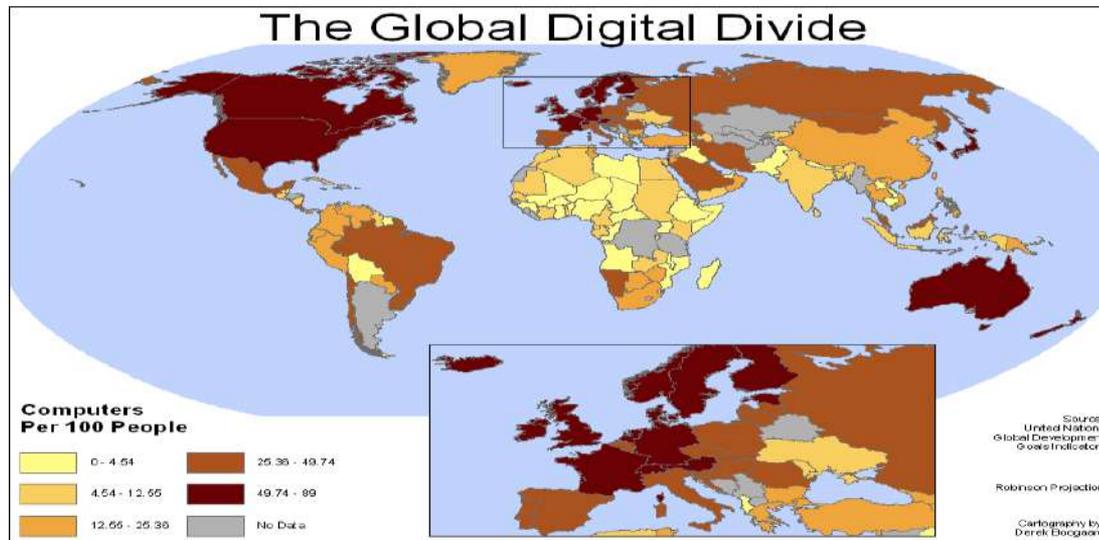
Within Gibson's matrix, entities attain a 'hyperreality'.



It is generally understood that cyberspace is the space generated by software within a computer that produces a virtual reality

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Digital Divide



The 'digital divide' is a critical social issue because it tends to represent and reinforce socioeconomic divides, including social interaction.

- **Individuals can participate in, or be excluded from, networks of information and communication** by virtue of which side of the digital divide they are on (Katz and Aspden 1997a, b, 1998; Rice et al. 2001).
- In the US **differences can be explained by basic demographic/socio-economic factors such as income, age, education and, in the case of race, awareness of the Internet** (Hoffman 1998; Katz and Aspden 1997b, 1998; Katz and Rice 2002; Net users 2001; NTIA 2002; Walsh et al. 2001).
- More **complex forms of divide exist**, such as those based on conceptualizations of access (Liff and Shepherd 2004), kinds of usage (Net users 2001), differences in use by sex within ethnic groups (Shade 2004) or by race within low-income groups (Mossberger et al. 2003), by those with sight, hearing or mobility disabilities (NTIA 2002) and across national boundaries (Anderson and Tracey 2002: 144-146; Chen et al. 2002: 84; Rose 2004).

Thus any study of Internet use and social interaction must control for socio-demographic influences on usage.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction



Considerable significance has been accorded to the question of whether Internet use is associated with more, or less, social interaction, in various forms (American Behavioral Scientist 2001; DiMaggio et al. 2001; Rice 2002; Wellman and Haythornthwaite 2002).

- Social interaction issues are particularly significant because ***they are central to notions of how the Internet might reconfigure access to information, people, services and technologies, such as in changing personal relationships with family, pairs, colleagues and friends*** (Dutton 1999, 2004).
- This may affect social capital through decreased or increased social interaction with others. Thus there is a need to understand in what ways, within different contexts, the ***Internet might reduce, maintain or increase current forms of social interaction and expression, or foster new forms***. (Hiltz and Turoff 1995; Parks and Floyd 1996; Turkle 1996).

Social Interaction

Conceptualizations of social interaction Social interaction is a broad concept, with many different components. The dedicated surveys usually incorporated a small set of variables that represent three main dimensions of social interaction: ***Offline interpersonal; Offline mediated; and Online interaction.***

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: the bad side



- Some researchers have argued that **information and communication technologies (ICTs) are inherently impersonal and mediating and enable deception and misinformation**, which could undermine their role in enabling the formation of meaningful interpersonal relationships (Stoll 1995; Turkle 1996).
- **Internet detracts from meaningful real-world communities and reduces social capital** (Beniger 1987; Gergen 1991; Kiesler et al. 1984; Nie 2001), for example because spending more time on the Internet 'crowds out' more meaningful relationships and higher quality communications and decreases meaningful social interaction and social integration (Kraut et al. 1998; Selnow 1994; Putnam 2000).
- **There is some evidence that Internet use is associated with social withdrawal, such as the way it can provide some protection from anxiety by those who are shy** (Birnie and Horvath 2002). Riphagen and Kanfer's (1997) survey showed that email users and non-users had similar numbers of relationships, but users had more distant relationships, suggesting those came at the cost of local interactions.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: the bad side



The Carnegie-Mellon HomeNet study (Kraut et al. 1998)

Provided one of the earliest quantitative field surveys of Internet use which found negative effects of Internet use on social interaction.

They recruited 96 volunteer families and provided them with computers and dial-up Internet access and then surveyed these novice users for three years.

- At the midpoint, ***those who used the Internet most reported lower levels of family face-to-face communication and interaction in social circles, as well as greater loneliness, depression and stress.***

The authors concluded that Internet use displaces interactions with close social ties. Nie and Hillygus (2002) also found, through a cross-sectional time diary study, that interactions with family members decrease with more Internet use.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: the good side



However, others have argued that yet another context for social interaction, creativity and emotional and informational support, is provided by the Internet, including through the use of discussion lists and newsgroups; health and psychological support groups; Internet Relay Chats; Multi-User Dungeons (MUDs) and online dating services (Baym 1995; Katz and Rice 2002; Matei and Ball-Rokeach 2001; Rice 1987a, b; Rice 2001).

Later evidence from the HomeNet study (Kraut et al. 2002) shifted from its initial conclusion that heavy Internet use caused isolation and depression to stating that, after three years:

- ***The heaviest Internet users were happier and had more social contacts***, including increased social interaction with family members increased (Gershuny, 2002),
- ***Internet users were involved in as much social activity as non-users*** and that new users actually increased the time they devoted to social and leisure activities.
- ***People who had more experience using the Internet were more likely to have called a friend or relative*** ‘yesterday’ just to talk and also turn to more people for help.
- In addition, controlling for demographic variables, ***Internet experience was significantly associated with perceived increases in those users’ connection with friends and family and their ability to meet new people*** (Howard 2004: 15–16).

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: the good side



The Carnegie-Mellon HomeNet study replication

LaRose et al. (2001) analysed a survey replication of the HomeNet data with different causal assumptions, they found no direct influence of Internet use on depression.

Rather, that ***relationship was mediated by self-efficacy and expectations of experiencing stressful situations*** on the Internet and email was used to communicate with close associates to obtain social support which helped to reduce depression.

Thus, they argue, increased depression among the novice users in the HomeNet study arose because they did not have enough self-efficacy to handle sufficiently the stresses of using the new technology in their home.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: users vs non-users



- Katz and Aspden (1997a), in apparently the first national random study of users and non-users, found that ***there was no social deficit for users compared to nonusers.***
- Looking at this subject but with different data several years later: Robinson et al. (2000) concluded that ***Internet users engage in more telephone and face-to-face communication with friends and family than non-users.***
- ***The degree that email and Internet communication masks some interpersonal behaviours and cues, it may well foster more honest and insightful online friendships*** (McKenna and Bargh 2002).
- ***The Internet may enable diverse people to share information, interests and support*** (Kavanaugh and Patterson 2001; Sullivan et al. 2002; Wellman et al. 2001), but also ***reconfigure patterns of communication***, reshaping not only who people know and communicate with but also how they access services and other technologies (Dutton 1999, 2004; Rheingold 1993).

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: users vs non-users



- **People who move can use the Internet to maintain their prior social relationships and associated social support and consequent psychological well-being**, as well as to communicate with others in the new location to reduce uncertainty (Shklovski et al. 2005).
- **Those who communicate more and have broader social networks are likely to use the Internet for the same purposes:** Birnie and Horvath's (2002) survey of undergraduates found that frequency and intimacy of Internet communication were positively associated with frequency and intimacy of face-to-face and telephone communication.
- A poll conducted by the Pew Research Center for the Pew Internet and American Life Project (2000) reported that **Internet users indicated email had improved their social and kinship connections and more so for those who had used the Internet longer and more frequently.** Indeed, there were fewer social isolates among users than non-users and users had a greater number of recent social contacts and greater access to social support.
- Parks and Floyd (1996) and Parks and Roberts (1998) found evidence of **intimate and well-developed online relationships, often leading to real-world interactions.**

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: core Vs significant ties



Boase et al. (2006) assessed this fundamental question in a somewhat different way through a Pew nationally representative survey in 2004 about the role of the Internet and social ties.

- This study distinguished two types of relations: **'core ties'** (very close relationships involving frequent contact, important matters, or help) and **'significant ties'** (lower levels of these relationships).
- People who keep in contact with most of their core ties via email also keep in touch with 25 per cent more of their core ties by telephone than non-emailers and people who keep in contact with most of their significant ties via email also keep in touch with 50 per cent more by in-person contact.
- Controlling for other factors, such as income, education, network size, or more diverse occupational networks, Internet users were also more likely to get help on up to eight issues from their core as well as significant ties (such as in caring for someone with a major illness, finding a new place to live, changing jobs, deciding for whom to vote, etc.) compared to non-users and for more issues.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: core Vs significant ties



Boase et al. (2006) assessed this fundamental question in a somewhat different way through a Pew nationally representative survey in 2004 about the role of the Internet and social ties.

- Further, Internet users have more significant ties (though not more core ties) and 31 per cent report that using the Internet increased the number of their significant ties and 28 per cent said core ties increased.
- Women tend to use email to support family relationships (elderly parents, siblings, extended family), keep in touch with distant people and enjoy email more than do men for such purposes. The authors conclude that email better fits women's 'expressive style,' involving 'emotional intimacy and sharing of personal information Boneva et al. (2001).

They conclude that Internet use supplements and complements in-person and telephone communication; helps maintain social networks including those who do not live nearby; allows users to seek medical, financial, or other support from others in their networks; and shifts major sources of social capital from a physical community to diverse people and resources.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Internet and Social Interaction: physical communities and internet use



Some studies have analysed how community access to the Internet is associated with social interaction measures such as network density, visits or mediated communication with friends and family (Wellman et al. 2001).

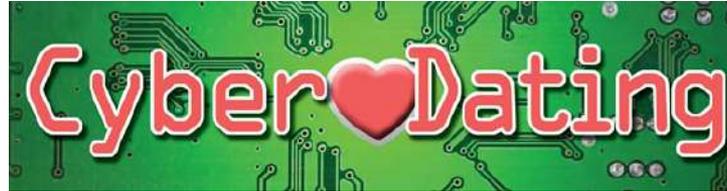
The Camfield Estates–MIT Creating Community Connections Project (Pinkett and O’Bryant 2003):

- **Strengthened and expanded local ties** (visiting others’ homes, talking to others, recognition of others, emailing other residents, phoning other residents, greater connection to friends and family in the area);
- **Being better informed about local activities, including increased communication flow in the development** (such as calendars of events and discussion forums);
- **Increased motivation to be informed locally, nationally and internationally and increased confidence in themselves and their ability to learn** (transition to a sense of competency and activeness and awareness of skills and abilities of the community).
- Over time, more neighbours were known and chatted with (although they were more geographically dispersed around the suburb) and **an increase in neighbourhood interaction, discussion and mobilization around local issues increased** (Hampton and Wellman 2003).
- These changes were associated with being among the wired participants.

Controlling for gender, age, education and length of residence, being wired still showed increased presence of weak ties, in terms of having being ‘recognized’ and ‘talked with’ other community members. This increased social interaction also shaped other social behaviour, such as enabling the community to pressure the developer to fix various problems.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

On-line romantic relationship development: dating



Cyberspace can potentially provide a space for individuals to be more private and have their dating activities far less monitored than they would be in more traditional spaces.

While early theories on computer-mediated relating (CMR) presented a rather negative view of online relationships, later theorists argued that the Internet provides a unique way to get to know others as well as to self-disclose to others. The ways individuals go about developing these relationships varies according to which space the relationship is initiated in cyber space.

- Sherry Turkle (1995) have argued that cyberspace provides an opportunity for individuals to experiment with identity and transcend their traditional roles.

Empirical evidence does not convincingly support this notion completely.

- Whitty (2004) has found that the ways individuals flirt in chat rooms is in many ways the same ways men and women flirt offline. She found that women were more likely than men to cyber-flirt by utilizing non-verbal substitutes, such as laughing and emphasizing physical attractiveness. Men, in this study, were also more likely than women to initiate contact with women they were attracted to online.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet



Definition

Though there is continuing discussion about the definition of trust, from a psychological perspective it can be broadly defined as ***'confident expectations of positive outcomes from an intimate partner'*** (Holmes and Rempel 1989: 188).

More specifically, trust can be conceptualized as a three-part relation, involving two individuals and an action: a person trusts another person to do (or not do) a specific action (Hardin 2001). On the Internet, a primary form of trust may involve sharing information. Individuals may trust others to provide honest and accurate information, or to keep private information confidential. This trust may expand to include in-person meetings or other responsibilities.

Relationships that begin online pose unique challenges:

- **False identities are easy to create and difficult to verify** (see, for example, Van Gelder 1985; Turkle 1995).
- **Visual and non-verbal cues are typically absent, despite the technical possibilities for video and audio transmissions.**
- **Because individuals communicating online are likely to be geographically distant** from one another, it is often impossible to rely on mutual acquaintances to vouch for the trustworthiness of a person

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet: development



Trust moves through stages as relationships develop (Holmes and Rempel 1989). Some of these stages are likely to be similar in face-to-face and Internet relationships, but others may differ.

Unique features of computer-based communication – the ease and speed of sending messages, the absence of non-verbal feedback, the increased anonymity and different norms and standards of etiquette – may alter the kinds of interactions that occur via the Internet (Kiesler et al. 1984).

- **Trust or lack of trust may be a key factor in determining whether online relationships will thrive and move to deeper levels**, providing reliable social support, or whether they will remain weak ties that provide little benefit to the individual and do little to build social capital (Green and Brock 1998).
- **Revealing personal appearance and other identity details typically takes place later in an Internet relationship** (e.g., McKenna et al. 2002).
- There is some evidence that **in-person friendships are higher in quality than online friendships in the early stages, but that these differences are diminished in relationships lasting a year or more** (Chan and Cheng 2004).
- However, other **research suggests that Internet relationships can progress to intimate levels more quickly than in-person relationships** (Walther 1996; McKenna et al. 2002).
- **Individuals may be willing to share more intimate information with online partners**, because those partners are not connected with the person's existing social circle and thus cannot pass sensitive information along to those individuals (cf. Derlega and Chaikin 1977).

Disclosure is associated with trust, so conditions that foster high disclosure may also be those that evoke greater trust.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet: development



On the Internet, nobody knows you're a dog

Dramatic cases of online deception have rocked Internet communities and grabbed media headlines.

- In one such case, a male psychiatrist pretended to be a young disabled woman (van Gelder 1985);
- In another, a person invented a fictitious daughter (Kaycee Nicole) who was dying of leukemia and documenting her life on a weblog.

In both of these instances, people felt that they had formed real friendships with the fictitious personas and were stunned when the betrayal was revealed.

Of course, even more serious misrepresentations can occur, as when sexual predators pose as children or teens online in order to lure young victims.

BUT

Despite the potential negative impact on trust, the ability to 'hide behind the screen' may have some positive aspects as well. Anonymity may reduce the perceived risks of self-disclosure (Derlega and Chaikin 1977; Bargh and McKenna 2004).

Individuals may not need to develop a high degree of trust to be willing to disclose information about themselves. Similarly, under some circumstances, anonymity could also have benefits for more trusting relationships in an intergroup context by removing salient cues to group differences.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet: development



Lying on the net

Online deception itself may sometimes be a product of a lack of trust.

- Individuals (particularly women) concerned about their safety may be reluctant to reveal their real names, ages, or other personal details that may make them vulnerable (e.g., Whitty and Gavin 2001).
- Individuals low in generalized trust are more likely to use false identities online (Uslaner 2004).
- Of course, online deception may have other roots as well, including psychiatric illness, identity play, or the desire to reveal a true or ideal self (see Joinson and Dietz-Uhler 2002).
- People who lied to their Internet partner trusted that partner less

Online deception may be even more difficult to detect because non-verbal and paralinguistic cues to deception are eliminated.

- Individuals are not particularly good at detecting deception even in face-to-face contexts, however; studies have shown accuracy only slightly greater than chance (e.g., DePaulo 1994).

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet: development



Personal factors Experience and time spent online

Experience with computers and with online technology may influence trust.

- **More time spent online** (both in number of years using the Internet and number of hours used per day or week) may make people less wary of the technology itself, as people gain a greater understanding of how various aspects of the Internet work and this comfort may extend to the interactions that take place on the Internet. Of course, a longer amount of time spent online also provides more time for relationships to develop.
- A study of chat room users suggested **that the more time individuals spent in chat rooms, the more likely they were to have received emotional support from them.** Conversely, people who spent few hours per week on chat rooms were more likely to have lied in chats (Whitty 2002).

Obviously, with increasing experience in the relatively low-information environment of the Internet, individuals may learn to identify or seek out more accurate cues to trustworthiness.

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.

Trust and social interaction on the internet: development



Personal factors Experience and time spent online

Experience with computers and with online technology may influence trust.

- **Perceptions of an Internet partner's personality** – particularly their degree of friendliness and secondarily their intelligence – **are positively related to trust** (Green 2005).
- People who are bright and kind inspire trust even on the web.
- **Similarity also matters**, though similarity in values and personality is more important than similarity in background
- Although people in longer relationships are generally aware of their partner's race, **trust does not seem to be significantly affected by being a member of the same or a different ethnic group** (Green 2005).

This may be a key difference between relationships formed online rather than in person: similarity may be based on internal, psychological similarities rather than more categorical or superficial ones (see also Bargh et al. 2002).

Reference: Joinson, A. (2007). *Oxford handbook of internet psychology*. Oxford University Press.