

## CHAPTER 17

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# THEORETICAL PERSPECTIVES IN THE STUDY OF COMMUNICATION AND THE INTERNET

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In W. Dutton (Ed.), *Oxford handbook of Internet studies* (pp. 353-377).  
Oxford, UK: Oxford University Press

### INTRODUCTION

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SOCIAL science research and theory on computer-mediated communication (CMC), including the Arpanet and Bitnet, began in the early 1970s (Hiltz and Turoff 1978; Johansen et al. 1974; Rice 1980a, 1980b, 1992; among others). Social science articles specifically referring to the Internet first appeared in the early 1990s, and to the World Wide Web, in the early 2000s. Coverage of the Internet and the Web appeared earlier in technical, business, and popular publications (Rice 1984), but we consider only social science, communication-related academic journal articles here.

The first social science articles that used the word “Internet” in their titles and abstracts were about its history (Perry et al. 1988), NSFNET (Catlett 1989), library networks (Lynch 1989), and online security (Ryland 1989). The first appearances of “world wide web” in article titles considered use at work (Cheung et al. 2000), research information sharing (McCain 2000), and online representations of the Philippine diaspora (Tyner and Kuhlke 2000). Early articles with this term in the abstract analyzed citizen networks (Deibert 2000), privacy (Miller and Weckert 2000), and social isolation (Franzen 2000).

Growth in coverage of these topics in social science journals continued through about 2004, with slight increases since then, and a rise of articles with terms referring to more specific Internet and Web 2.0 media (Table 17.1). Similar searches for the terms “Internet” or “World Wide Web” during 2010 found them in 22,343 entries in the Web of Science for Social Sciences (which includes information science and computer science; 2,208

Table 17.1 Frequency of Internet, World Wide Web, and Web 2.0 terms in titles and abstracts of social science articles, 2000–2010

Year	Terms in Title		Terms in Abstract						
	Internet or World Wide Web	Internet or World Wide Web	Internet or World Wide Web	(Internet or World Wide Web) and (communication)	Blog or weblog	Facebook or Myspace or Friendster	Twitter or microblog	Wiki	Instant Messaging
2000	318	560	105	0	0	0	0	0	0
2001	491	813	143	0	0	0	0	0	1
2002	551	942	145	0	0	0	0	0	5
2003	636	1428	222	1	0	0	0	1	7
2004	743	2438	300	5	1	1	0	0	20
2005	829	2703	358	26	1	1	0	1	22
2006	794	2650	344	31	6	6	0	6	25
2007	734	2955	341	56	16	16	0	5	59
2008	830	3174	413	78	57	57	0	12	46
2009	610	2593	303	53	68	68	8	25	40
2010	749	3091	383	111	131	131	45	34	38
Total	7285	23347	3057	361	280	280	53	84	263

were in the Communication subject area), and in 51,900 entries for Arts, Humanities, and Social Sciences (not separable) in Google Scholar (as of April 25, 2011).

This chapter describes the major theoretical/conceptual approaches to studying social aspects of the Internet during the period 2000–09, identifying the main theories, more general theoretical themes, and global theoretical themes, as well as meta-theoretical approaches, in 315 articles. The next section briefly summarizes the methodology. Then each global theme and its associated primary themes, as well as the theoretical frameworks, are described, and illustrated with representative articles.

## METHOD

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We searched the Social Science collection noted in Table 17.1, with (“Internet” or “World Wide Web”) AND (“communication” and “theory”). We then searched all the International Communication Association (ICA) journals from the ICA website, from 2000 to 2009; all National Communication Association journals online; and *New Media & Society* and *Information, Communication & Society* (2000–09); and downloaded the full-text version where available. Finally, we added a few relevant reviews or meta-theoretical integrations from other journals within this period, resulting in an initial set of around 400 entries.

We used an inductive, consensual form of content analysis similar to the grounded theory method of inquiry (Charmaz 2006; Glaser 2004; Strauss and Corbin 1998), thus not using any pre-existing typology. Articles were initially coded for reference, abstract, primary theory, secondary theory(ies) and article type. Type 1 articles were “meta,” that is at the theory level only, while Type 2 articles were “analyses,” involving some kind of test or evaluation. All articles were coded for theories and themes, but the Type 1 articles were analyzed separately to see ways in which theories/concepts were treated. After multiple passes through the materials and codes, then we coded the final set of about 75 entries, following the same set of procedures, looking for additional primary theories, themes and possible global themes, recategorizing prior codes where appropriate, and then revising the themes and global themes. Our final sample consisted of 315 articles, from 46 journals.

## GLOBAL AND PRIMARY THEMES (315 ARTICLES)

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The following sections provide brief operationalizations for, and summarize each of, the twenty-seven themes within the six global themes, along with example primary theories (except the named theme theory itself), and brief examples from two articles each, illustrating as much as possible the range of primary theories, concepts, and contexts.

## Global theme: media attributes (35)

*Theme: Interactivity (12).* Contexts of interactivity range from initial interpersonal interactions to the adaptation of new immigrants. Example primary theories in these articles include cultural variety, customization, discourse theory, interactivity model for initial interactions, and tailoring. One thread in these articles is the development, explanation, or critique of interactivity typologies and dimensions (Downes and McMillan 2000). Another approach is to contextualize the implications of Internet interactivity, such as how teenage immigrants from the former Soviet Union to Israel, facing challenges of adaptation and loneliness, use the Internet to maintain a social support system of friends and family (Elias and Lemish 2009).

*Theme: Media Attributes (23).* Studies of media attributes range from multimodal communication to web design features (including design, genre, history, media ecology, or website features analysis; often linked to effects). Media attributes include characteristics and affordances such as media richness or website features, as well as more comparative media ecology approaches, and historical and genre approaches. Example primary theories include extended parallel processing model, information and communication technology (ICT) succession theory, media genres, real-virtual dichotomy, social construction of technology, social presence theory, and theory of channel complementarity.

One of the central debates in the literature concerns both the types of media attributes associated with the Internet, and how the Internet complements, substitutes for, or provides new channels and media genres. For example, a more historical approach finds Internet genres already existing in traditional media, adapted genres to incorporate linking and interactivity, and new genres developed to meet audience members' unique communication needs (Crowston and Williams 2000). The channel substitution approach is illustrated by Ledbetter (2008), who focuses on which channels tend to be used in association with others in best friend pairs, showing that postal mail use declined between 1987 and 2002, gradually replaced by email; telephone contact was a particularly important predictor of closeness, while face-to-face was a less stable indicator. These results were explained by two primary attributes—efficiency and convenience.

## Global theme: media implications/use and understanding (75)

*Theme: Credibility/Trust (5).* Because an Internet source may be anonymous, temporary, or masked behind many levels, yet provide highly consequential information, issues of credibility and trust are a central concern of researchers, users, and policy-makers. These studies focus on message, source/sponsor, and medium credibility, as well as factors influencing perceptions of trust. Example primary theories in these articles include trust theory and cybertrust.

Media uses and perceptions of credibility and trust may vary depending on the genre and content of a website. For example, Flanagin and Metzger (2007) found that news websites were perceived as most credible, and personal websites were found to be least credible for message, site, and sponsor credibility, while e-commerce and special-interest websites were rated between these. The credibility assessments appeared to be due to web attributes, rather than to familiarity with sponsors. Perceived Internet credibility and trust also depend on traditional source characteristics such as gender; male bloggers (a website "characteristic") were perceived in one study to be more credible than female bloggers (Armstrong and McAdams 2009).

*Theme: Diffusion of Innovations (12).* Diffusion of innovation studies range from individual adoption of technology, to cross-cultural comparisons of ICT adoption, and to the role of the Internet in communicating innovations (Rice 2009). Example primary theories include actor-network theory, digital divide, mediamorphosis, network analysis, peer influence, radical/disruptive vs incremental innovations, social shaping of technology, and technology acceptance model.

This research applies a wide range of theories to help explain Internet adoption, diffusion, or rejection. For example, White and Scheb's (2000) study supports the concept of third-person perception, indicating that people believe general Internet use is higher than it is, fostering a sense of Internet anxiety. With world-wide adoption of the Internet, cross-cultural and macro-level analyses are increasing. Countries with higher levels of ICT adoption are associated with greater GDP, size of service sector, education, and governmental effectiveness (Billon et al. 2009). In developing countries adoption is positively associated with population age and urban population, and negatively associated with Internet costs.

*Theme: Media Effects (19).* Contexts of individual or psychological media effects (not explicitly represented by another theme) range from persuasive campaigns to organizational website design features, here emphasizing Internet-use outcomes. Example primary theories include agenda-setting, attribution theory, computers as social actors paradigm, flow, heuristic-systematic model, knowledge gap, social identification/deindividuation model, social information processing theory, and social presence.

Online group interaction can be studied or designed as an influence on attitudes about campaigns. David and colleagues (2006) report that interactants developed more pro-marijuana attitudes and subjective normative beliefs than those who viewed the ad only. Rather than outcomes, as in Diffusion of Innovation studies, adoption and usage are analyzed for their effect, such as on tolerance and diversity of opinions. For example, users are somewhat more tolerant, but there are differences across tolerance issues (racial, family, sexual, and political), according to Robinson and Martin's (2009) analysis of four General Social Surveys.

*Theme: Media Use/Adaptation (12).* Articles on media use continue a long tradition of identifying influences on particular media use (as an outcome variable), or comparing channel substitution/displacement/complementarity when additional media become available (as an explanatory variable). Articles specifically mentioning changes in sociality, or uses and gratifications theory, are included in those separate themes.

Example primary theories include actor-network theory, domestication theory, media substitution, social capital, social information processing theory, socio-technical perspective, and technological convergence.

An example of a more interpersonal approach to Internet use as an explanatory variable examines how parenting styles (authoritarian, authoritative, permissive, and uninvolved) and access to the Internet influenced mediation techniques (factual, evaluative, and restrictive) (Eastin et al. 2006). Focusing on usage as a dependent variable, Wilson and Tan (2005) apply ludenic newsreading theory and phenomenological analysis to assess how several Asian audiences engage with news websites as play, declarations of identity, consumption, navigation, and labor.

*Theme: Possibly Harmful Internet Use (16).* Possibly harmful Internet use consists of behaviors that violate norms, beliefs, or behaviors of a particular social group, including the specific “problematic Internet use” concept. This use and its implications have been an ongoing debate and concern. Contexts of possibly harmful Internet use range from individual addiction to inappropriate workplace behaviors. Example primary theories include addiction, interruption management, locus of control, moral panic, and third-person effect.

In the context of Internet pornography, Lee and Tamborini (2005) examine the influence of individualism-collectivism on the third-person effect. US-based participants perceived that the negative effects of pornography were greater on others than on themselves, and this perception was associated with greater support for Internet censorship, while collectivism diminished this third-person perception. Counter to the typical concerns about negative and harmful uses, Holmes (2009) questions the extent of young people’s risks from Internet use (such as sharing personal information), instead emphasizing young people’s competencies and the benefits of Internet use.

*Theme: Uses and Gratifications (10).* Certainly uses and gratifications theory has been increasingly applied to understand both motivations for, and gratifications from, using the Internet. Example primary theories associated with the Uses and Gratifications approach (U&G) include interactivity, social cognitive theory, socialization theory, and spiral of silence.

Many of these studies apply or extend traditional motivations or dimensions, such as Yang’s (2000) study of Taiwanese academic gays’ use of Internet for online news reading (and perceptions of its impartiality). The most influential motivations were social interaction and information, though they varied by the nature of Internet use. Other articles extend U&G theory by describing new motivations or analyzing Internet usage as a way to test more integrated models. For example, LaRose and Eastin (2004) integrated U&G with social cognitive theory to develop and test a strongly predictive model of “media attendance,” moderated by Internet self-efficacy.

## Global theme: participation (53)

*Theme: Civic Engagement (19).* Articles in this theme are concerned with democratization, interactions with government, voluntary organizations, non-governmental

organizations, collective action, non-profits, social movements, religious groups, and participative online learning or collaboration. Example primary theories in these articles include civic engagement, collective action theory, democratic theory (deliberative democracy, liberal pluralism, radical participatory democracy), digital divide, participation, political engagement, public sphere, and theory of communicative action.

A central debate is whether the Internet may reinvigorate civic engagement through increased access to information and activities. Internet use directly affects political information, but indirectly affects civic engagement, due to the wider range of needs gratified through the Internet, increasing the contingent and contextual nature of Internet use (Xenos and Moy 2007). Politics is not the only form of civic engagement. Ho et al. (2008) examine factors influencing religious engagement online by Muslim web users in Singapore. Muslim web users tended to partake in online activities more for personal religious reasons than those related to institutional religion. Additionally, Internet self-efficacy, perceived social pressure, and religiosity were positively associated, and age negatively, with online religious activity.

*Theme: Participatory Media/Users (4).* The Internet has vastly increased the possibilities for formerly passive audiences to engage in creating content, "news," and fandom. Example primary theories associated with these studies include critical theory, cultural production, field theory, and participatory fandom.

One crucial issue is the extent to which Internet use can augment or even replace traditional news. For example, the coverage of the 2005 riots in France fostered much discourse about the nature and boundaries of news, journalists, and audience (Russell 2007). The nature and principles of participatory media are themselves up to debate. Indeed, Van Dijck and Nieborg (2009) critique the rhetorical strategies of Web 2.0 manifestos about collaborative culture and co-creation, showing problems with assigning equal creativity and motivations for use among users, capitalizing on relationships and social behavior of people clicking on sites, and the location of public collectivism within commodity culture.

*Theme: Political Participation (8).* Contexts of participation include democratization, voting, political engagement and awareness, and political action, such as online protests. Example primary theories include communicative action, political engagement, and social movement.

This research focuses on the Internet's role in increasing political participation. Some apply a broad, macro approach, such as Calenda and Meijer's (2009) analysis of relationships between Internet use, and offline and online political participation among young people in Spain, The Netherlands, and Italy, which provides evidence for both techno-deterministic versus social deterministic perspectives. Quite different approaches include micro-investigations of online political discussions, such as the influence of language style and source expertise (and other status cues) on perceptions of online discussants and their intentions to participate in political discussion (Tan et al. 2007).

*Theme: Public Sphere (22).* Concerns about the role of Internet in the public sphere—deliberative democracy, online political discussions, differential gains, journalism,

voice, and selective exposure to political discourse—have become frequent topics of Internet Studies. Example primary theories include agonistic public space, civic engagement, deliberative democracy, differential gains, elaboration likelihood model, networked journalism, preferential attachment, and selective exposure.

One position is that Internet activities such as blogging foster a Habermasian public sphere. Opponents of this proposition, such as Cammaerts (2008), note that blogs do not provide a space where all participation is equal, and they politicize the private, due to four factors: colonization by the market; censorship by states, organizations, and industries (structural level); social control by citizens; and antidemocratic voices (individual level). As an empirical example of this critique, one state's e-democracy initiative to develop critical online public discourse used multiple channels, management approaches, and geographically bounded issues to overcome some barriers; however, it still has failed to compete with commercial sites, common-interest online communities, and liberal individualist political practices (Dahlberg 2001).

## Global theme: social relations (89)

*Theme: Community (25).* Contexts of community range from virtual communities to cybercafés where users have Internet access, social movements, and online support. Example primary theories in these articles include collective identity, critical feminist perspective, exchange network theory, communicative action, hyperpersonal perspective, social networks, social support, and symbolic interactionism.

Two central issues in this research are the ways in which physically located communities differ or are similar to online communities, and how new media affect physical communities and shape online ones (Katz et al. 2004). Online spaces can provide virtual communities and even refuge to many groups, such as right-wing extremists bound by social rejection, stigmatization, and fatalism (De Koster and Houtman 2008).

*Theme: Groups (12).* Considerations of the group or team theme range from argument and decision-making to group identification in virtual teams. Example primary theories include adaptive structuration theory, attribution theory, channel use and online relationships in virtual teams, conflict resolution, and normative social influence.

Social identity and deindividuation (SIDE) theory appears in a number of the decade's Internet articles, and is especially salient in the group context. Consistent with SIDE theory, Lee (2004) found that when group identity was salient, uniform visual representation of participants triggered depersonalization and led to conformity, but when personal identity was salient, uniform virtual appearance reduced conformity. However, not all studies support this group identity influence. In a study of groups using Internet Relay Chat (Wang et al. 2009), confederates behaving likably were rated more attractive than those behaving dislikably irrespective of in- or out-group membership, and interpersonal dynamics provided stronger effects than intergroup dynamics.

*Theme: Identity (19).* Creating, testing, and communicating individual and group identity is especially salient because of users' ability to manage text, shift membership,

mask or highlight their name or location, and interact with diverse others. Contexts of identity in these articles range from multimodal interpersonal communication to identity construction on weblogs, focusing on race, ethnicity, gender, sexual orientation, and community. Example primary theories include anonymity, avatars, critical race and culture theory, cultural identity, dialogical self theory, digital divide, discursive psychology, fandom, identity work, online trust, and symbolic interactionism.

Critical technocultural discourse analysis and racial formation theory enabled Brock (2009) to reveal four elements of construction of racial identity—cultural, Internet, ecological, and social—in blogs, websites, and their web-enabled audiences. Using a Foucauldian approach to examine the significance of texts in an electronic discussion group, and also what marginal groups do with the text and the Internet, Hung (2002) concluded that Hong Kong Chinese are not able to evade the power of dominant discourses, but are able to confirm their own specific identity.

*Theme: Media Use and Sociality (9).* The primary focus here is on whether, to what extent, and how, differences in Internet use are related to or affect changes in interaction, sociality, and connectedness (but without applying network analysis). Example primary theories include expectancy violations theory, hyperpersonal perspective, perpetual contact, relational quality, social control, social information processing theory, and social penetration theory.

At the interpersonal level, Birnie and Horvath (2002) apply computer-mediated social communication research, social network theory, social motives, and U&G to assess relationships between offline and Internet social communication, showing that online social communication is an extension of traditional social communication. Because sociality is shaped by, and an expression of, community, cultural, and national differences, such relationships between online and offline communication need to be compared cross-nationally. For example, while Internet use was positively associated with both offline civic engagement and interpersonal involvement, there were differences in strengths and socio-demographic influences across the four European countries/societies studied by Räsänen and Kouvo (2007).

*Theme: Relational Management (4).* The Internet has provided new venues for managing, as well as affecting, personal and family relations, including relational development, conflict and support, quality and outcomes, and self-disclosure.

Because the Internet (and associated devices) represents new household, family, and individual resources, new opportunities for identity management and external communication, and increased opportunities for covert or personal use and relationships, issues of relational management seem ripe for analysis. Applying family development and human ecology theory to investigate family conflicts associated with managing children's Internet use and possible negative consequences, Mesch (2006) found that such conflicts varied by the family development life-cycle. Relational maintenance strategy and equity theory provide frameworks to understand how college students maintain their face-to-face relationships through online communication (Johnson et al. 2008).

*Theme: Social Capital (8).* One argument about online communication is that it increases one's social capital, leading to both individual and collective benefits, by generating and maintaining access to more diverse resources and bridging and bonding relationships to others. Example primary theories include interpersonal trust, political participation, social resource motivation, and time displacement.

During and after Hurricane Katrina, Internet users within geographic locales were able to activate weak ties in their social networks, reduce uncertainty, and, especially for women, share expressive communication (Procopio and Procopio 2007). Some doubts about the advantages of the Internet for developing and applying social capital may be due to confounding informational uses of the Internet (and other media) versus social-recreational uses. The first tends to be positively related to social capital and the second negatively related, and for the youngest adult Americans, Internet use for information exchange had greater positive effects on social capital than did traditional print and broadcast news media (Shah et al. 2001).

*Theme: Social Networks, Network Analysis (13).* Individuals, institutions, and societies are embedded in social networks. The Internet, a network of networks, is one of the bases for the network society (Castells 2009), and thus presents a pervasive context for studying social networks, as a source of network data, and as a networking medium. Example primary theories include channel replacement, glocalized networks, network theory, collective identity and norms, and social support.

Developments include the application of network theory and methods for the study of hyperlink relationships among websites and blogs, and testing theories about online and offline social relationship patterns. For example, Caiani and Wagemann (2009) compare the hyperlink network structures of German and Italian extreme right organizations, complementing those analyses with detailed case studies of the organizations' offline characteristics, based on political opportunity structures and dominant societal discourses. And Haythornthwaite's (2005) synthesis of her research on online academic communities and distance education users combines measures of media use, network ties, and individual characteristics. Communicating pairs with stronger ties used more media to interact with each other, different tiers of media use supported social networks of different ties' strengths, and a new medium can develop latent tie connectivity that provides the means for activating weak ties.

## **Global theme: societal (47)**

*Theme: Boundary Crossing (7).* Resonating with the concept of the Internet as both interconnected networks and foundation to the network society, several articles considered the role of the Internet in fostering or representing shifting and intersecting boundaries, in relation both to fundamental societal forces (economic, historical, political, and religious) as well as conceptual (time, space, and place). Example primary theories in these articles include liminality, metaphor, pragmatism, technological sublime, third place, and time.

Early Internet literature did not take into consideration the historical development of technology, the broader technological context, and the world of politics, economics, religion, and culture, which would reveal that new technology “overcomes many boundaries (of space and time, politics and economics), [but] other social borders may be created at the same time” (Carey 2005: 443). One of the broadest examples of boundary crossing is Gotved’s (2006) visual matrix describing the embeddedness of cyber social reality in technology, time, and space.

*Theme: Cultural Differences (3).* Research in this theme emphasized cultural contexts of Internet use and effects. Example primary theories include apology, collectivism, and individualism.

The content and design of websites reflect, and are interpreted based on, cultural differences. Attitudes of American and Chinese Internet users toward web design reflect cultural backgrounds (Gevorgyan and Manucharova 2009). Thus cultural customization would be effective when users have strong ethnic identities. South Korea and the United States websites contain collectivist and individualist content and features (Kim et al. 2009). For example, South Korean websites were more likely to display polychromic time-management tendencies and preferences for high-context communication.

*Theme: Digital Divide (16).* Differences in access to, use, evaluation of, and benefits from the Internet—based on demographic and related variables—has been a fundamental research, social, and policy issue (Katz and Rice 2002). Contexts of digital divide research range from differential use of the Internet to differential adoption of specific types of websites. Example primary theories include disability divide, internet self-efficacy, network society, and theory of optimal slack.

Influences on such divides are not only individual and infrastructural, but also geographic and social. For example, usage patterns of individuals who live in more ethnically isolated regions more closely resemble usage patterns of their ethnic group (Agarwal et al. 2009). However, in spite of the deep and enduring digital divides within and across societies and nations, the Internet may also serve as a source of empowerment for individuals at the margins of society, including low-income families, sexual minorities, and African-American women (Mehra et al. 2004).

*Theme: Political Economy/Policy (13).* These articles take a more macro look at social and global implications of ICTs, the social shaping of technology, critical analyses of new media industries, public goods, and policy issues. Example primary theories include critical internet theory, digital divide, framing theory, knowledge society, public goods theory, and social shaping of technology.

The history of and influences on the Internet are often underestimated or narrowly defined. Simpson (2004) attempts to overcome this by explaining its evolution from a government research network to an electronic marketplace, applying neo-Gramscian concepts of consensus, hegemony, concessions, and international marketplace. A much more specific context for understanding these forces is early (and ongoing) tensions between blog news and traditional print and television news. McCoy (2001) applies the theory of news repair to explain the tensions, arguing that media “confluence” is a better term than “convergence.”

*Theme: Privacy (8).* Privacy research here consists of concerns about protection of users' personal online data and identity. Contexts of online privacy range from social networks to trust. Example primary theories include communication privacy management, institutional trust, social exchange theory, and sociology of risk.

Consistent with communication privacy management theory, Metzger's (2007) analysis of privacy in an e-commerce relationship describes how online consumers form rules to decide when to reveal personal information. Extending this concern to a cultural relativism perspective, Cho and colleagues (2009) show that the ways in which individuals perceive and respond to online privacy issues are related to micro- and macro-level variables (i.e. age, gender, education, Internet experience, nationality, and cultural values).

### **Global theme: theory framework (referring to a specific theory) (16)**

*Theme: Critiques (7).* One role of theoretical articles is to critique prior work to clarify differences and similarities among underlying concepts, and identify weaknesses or challenge assumptions, in order to revise and extend theories, and recommend future research agendas. This category included critiques, conceptual distinctions, recommendations, and research agendas. Example primary theories in these articles include disciplinarity, domestication theory, social capital, social identification/deindividuation model, social information processing, and technology clusters. Recommendations for extending the scope of research include more high-quality descriptive research to identify boundary conditions, highlight overlooked phenomena, attend to the global and international, move away from text-based to multimedia conceptualizations of CMC, and foster an ongoing mutual exchange of ideas. A second set emphasizes methodological approaches, such as to understand mixed-, multi-, and switched- modes, and use multiple lenses to guide research (such as use context, technology clusters, insights from prior technologies, multimedia aspects of new media, and boundary conditions to different theories about CMC). A third set centers on use and effects: consider the ongoing adaptation of technologies, pay more attention to public discourse about these new media, and distinguish short-term from long-term effects (Baym 2005; Parks 2009; Sawhney 2007; Scott 2009; Soukup 2000; Walther 2009).

*Theme: Integrated or New Theoretical Models (2).* Given the range of overlapping applicable theories, and new contexts and relationships associated with the Internet, more research should expand, revise, or integrate prior theories, and/or generate new theoretical perspectives. Example primary theories include infrastructure versus media attributes and theory of digital communication. Scolari (2009) developed a wide-ranging and integrative theoretical framework for studying digital media, emphasizing both continuities and discontinuities with prior theories, such as mass communication,

cultural studies, political economy, social construction of technology, cybercultures, CMC, semiotics, hypertext, and others.

*Theme: Reviews (7).* These articles provided reviews, categorizations, and theoretical typologies for coding, to make the wide range of relevant research and theories more accessible, interpretable, and usable. Example primary theories include access and equity, development model of communication research, globalization, media attributes, network theory, privacy, social networks, and technological determinism. For example, Kim and Weaver (2002) group their extensive coding of research focus, developmental phases of research agenda, research method, and theoretical application within four stages of communication research development: 1) issues of the Internet itself, 2) uses and users, 3) effects, and 4) improvements of the Internet. Lievrouw et al. (2001) review ICT research on technology as artifacts/devices, and communication activities/practices, bringing to bear the social arrangements and organizations forming around those artifacts and practices.

## Change in global theme focus

Given the recent rise of Web 2.0 technologies and related studies, possible changes in online social practices facilitated by these new media, the increase in Internet Studies overall, and the ongoing development of theoretical approaches, the focus of the global themes may have shifted from 2000 to 2009. We compared the articles published in the first half of the period (2000–04) to those in the second half period of the sample (2005–09). The total number of articles nearly doubled (from 115 to 200). As a percent of each of those totals, focus on participation themes doubled (from 10.4 percent to 20.5 percent), there was some decline in concern with social relations (32.2 percent to 26.0 percent) and media attributes themes (14.8 percent to 9.0 percent), but the other three themes (media implications/use and understanding, societal, and general theory framework) remained about the same. However, the overall chi-square (two periods, six themes) was not significant (8.0,  $p=.15$ ).

## META-THEORY FRAMEWORKS (49)

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Stepping back from the specific theories and themes, what were the major ways in which the “meta” articles treated these? A second coding included the above Theory Frameworks, which either did not deal with specific theories, or ranged widely over theories and concepts, as well as theory-specific articles that also used a Theory Framework. The same three primary themes and their operationalizations apply: Critiques, Integrated and New Theoretical Models, and Reviews.

## Theme: critiques (20)

Richards (2000) critiques conceptualizations of hypermedia in developing an integrated model of electronic literacy, while Boyd (2003) uses a rhetorical lens to distinguish components of online trust. While many articles analyze influences and consequences of various forms of the digital divide, Gunkel (2003) critiques the terminology of the concept itself, questioning the presumed dichotomy and assumed technological determinism. Zhao and Elesh (2008), applying Goffman's and Giddens's theories of human interaction, tease out the contrasting dimensions and implications of co-presence versus co-location. Baym (2005) and Waskul (2005) argue for an increased focus on the intersection and borders of the Internet with other social, cultural, and social-psychological venues, including power. Mansell (2004) highlights the need to couch Internet theory and research in a political economy perspective of analyzing structural and processual power. Ruggiero (2000) makes a forceful argument for the appropriateness of a U&G approach to studying each new medium, and the need to integrate concepts such as interactivity, demassification, hypertextuality, and asynchronicity. Other primary theories in these articles include democratization, disciplinarity, domestication theory, electronic literacy, global civil society, liminality, possibly harmful Internet use, pragmatism, public sphere, social capital, social identification/deindividuation model, social information processing, technological sublime, technology clusters, trust theory, and ubiquitous connectivity.

## Theme: integrated and new theoretical models (14)

Ramirez et al. (2002) focused on social information seeking in computer-mediated communication, integrating and extending the social identity model of deindividuation effects theory, social information processing theory, and hyperpersonal theory, including factors influencing the selection of particular strategies. Elmer (2003) critiqued recent attempts to outline a panoptic theory of surveillance, and developed one that questions the links among consumer, sales, distribution, and production data. Bimber et al. (2005) reconceptualize collective-action theory, arguing that collective action is a set of communication processes involving the crossing of boundaries between public and private life, both facilitated and challenged by the new media environment. Other primary theories/concepts considered in this category included critical Internet theory, diagrammatic theory of surveillance, discursive space, hyperpersonal perspective, interactional—new literacies, possibly harmful Internet use, social information processing theory, social networks, time, transformative democracy, and voice.

## Theme: reviews (15)

Rice and Hagen (2010) synthesize research on social connectivity and social control of teenagers' and college students' use of the Internet and mobile phones. Laguerre (2004)

proposes ways in which the Internet has changed our notions of time, employing concepts such as virtual time, the cyberweek, temporal boundaries, time fragmentation, and the behavioral decoupling of time zones, while Youngs (2001) reviews how gender and time are associated with ICTs. Other areas included in these reviews are access and equity, democratization, diffusion of innovations, digital divide, effects on language and communication, globalization, group dynamics, media attributes, mediamorphosis, metaphor, network theory, perpetual contact, privacy, public sphere, social context, social control, social structures and norms, social support, and technological determinism.

## RELATIONS AMONG THE PRIMARY AND GLOBAL THEMES

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Because of the interrelatedness of many theories, the applicability of multiple theories to any particular Internet issue, and the inherent interpretative nature of the coding process, articles in many of these formally mutually exclusive categories could overlap with other categories and their theories/constructs. So we identified the overall relationships among the 27 themes, based on the extent to which themes shared global themes, primary theories, and secondary theories (though only one entry for any particular secondary theory within a theme)—a total of 1,484 separate entries, representing 573 unique terms with multiple entries, from the 315 articles. The 573x27 term-by-theme matrix was converted to a 27x27 theme-by-theme correlation matrix, which was entered into UCINET multidimensional scaling (MDS) and optimization clustering analyses (Borgatti et al. 2002).

As Figure 17.1 shows, the MDS locates each theme in a two-dimensional space, which, because it is not a perfect representation (stress = .23), shows only one particular rotation, and takes into account cross-theme terms, but does not completely separate all themes exclusively into their global themes. The best clustering solution did produce the six global theme clusters ( $R^2 = .94$ , fit = .03) as expected, as each theme has its global theme term entry for all its articles. The five-cluster solution ( $R^2 = .84$ , fit = .08) included Interactivity and Media Attributes within the Integrated Theory and New Model cluster.

The theory frameworks of Reviews and Critiques are central to the entire theme network, and primarily associated with global themes of Social Relations and Participation, again emphasizing the core focus on interaction and involvement, two of the three main topics of Katz and Rice's (2002) multi-year study of the Internet. Integrated and New Models do relate to the Social Relations themes of Community, Social Capital, and Social Networks, but also to Boundary-Crossing and Political Economy (Societal), Participatory Media, Civic Engagement and Public Sphere (Participation), and Diffusion of Innovations and Media Use/Adaptation (Media Implications/Use and Understanding). As the second-level clustering showed, Interactivity and Media Attributes are related to Reviews

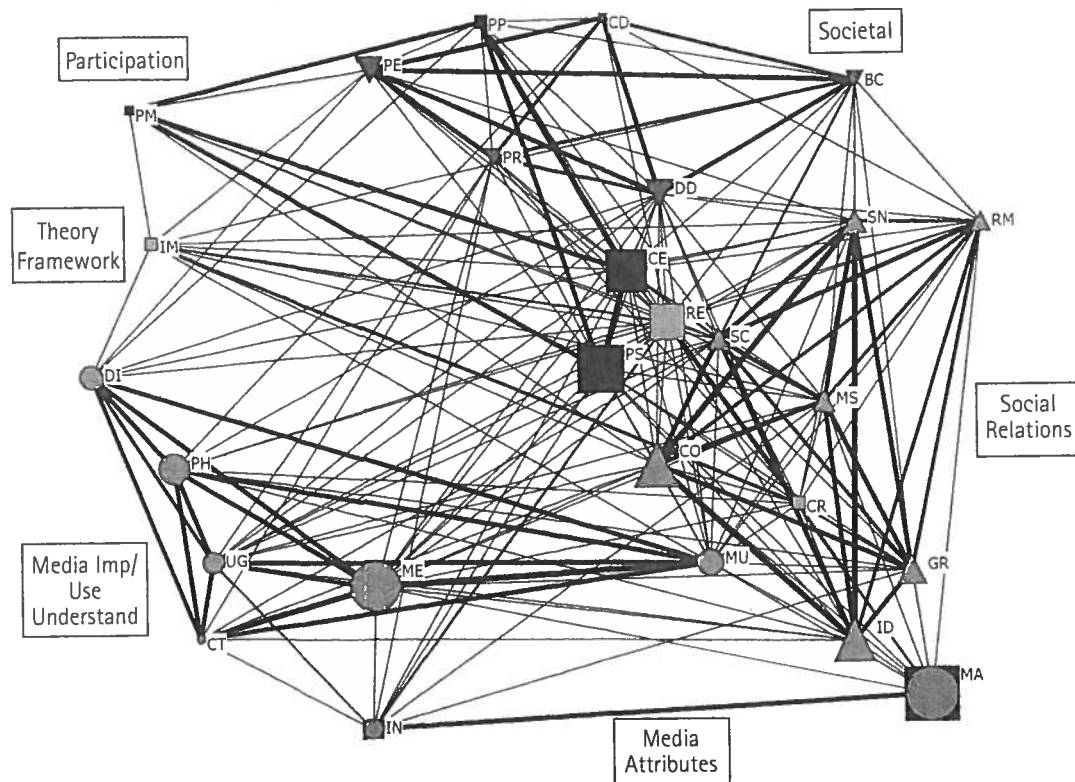


FIGURE 17.1: MDS and cluster analysis of inter-relations among the 27 themes.

Note: Themes with same shapes are in same cluster, and size of Themes is proportional to the number of articles coded for that theme. Links are proportional to strength of correlations between Themes; thus, thin links are low correlations across global themes.

Note: BC: Boundary Crossing; CD: Cultural Differences; CE: Civic Engagement; CO: Community; CR: Critiques; CT: Credibility/Trust; DD: Digital Divide; DI: Diffusion Innovations; GR: Groups; ID: Identity; IM: Integrated and New Models; IN: Interactivity; MA: Media Attributes; ME: Media Effects; MS: Media Use/Sociality; MU: Media Use/Adaptation; PE: Political Economy/Policy; PH: Possibly Harmful Internet Use; PM: Participatory Media Users; PP: Political Participation; PR: Privacy; PS: Public Sphere; RE: Reviews; RM: Relational Management; SC: Social Capital; SN: Social Networks; UG: Uses and Gratifications

and Critiques, but also somewhat strongly to U&G, and then weakly (but usually jointly) to a variety of themes, such as Media Effects, Groups, and Relational Management. Themes in the Societal and Participation global themes are somewhat interrelated, primarily through Political Economy/Policy, Political Participation, and Cultural Differences. The Societal topic of Digital Divide, and the Media Implications/Use and Understanding topic of Media Use/Adaptation, are sort of ambassadors, or liaisons, to the Participation and Social Relations global themes.

The decade's communication articles on the Internet can be summarily described as consisting of two dimensions (with the most distinct example primary theories): *interpersonal* (right side: equity theory, family development theory and human ecology

theory, relational dialectics) *versus media effects* (left side: actor-network theory, cultural production, participatory fandom, peer influence, technology acceptance model, vernacular web), and *societal* (top: apology, collectivism and individualism, communicative action, democratization, political participation and engagement, social movement) *versus media attributes* (bottom: media richness, schema theory, social construction of technology, structural isomorphism, tailoring). More parsimoniously, the bottom left diagonal of the space emphasizes *media* (use and attributes) while the top right diagonal emphasizes *people* (individual and societal relationships).

## LIMITATIONS

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Clearly, even the range of communication-related journals used here will not include examples of some kinds of communication-related theories and approaches about the Internet that are emphasized in other Communication journals (e.g. see the list by Levine 2010; Tomasello et al. 2010; the ISI Journal Citation Reports; or the Web of Social Science). Other journals, such as *Cyberpsychology, Behavior, and Social Networking*, are prominent sources of Internet articles, but were not included here because of their inaccessibility via library databases, and infrequent appearance in the general online search.

To provide some way to bound the extensive range of possible materials, this study does not consider books or book chapters. This, of course, also overlooks much central communication theory-related work, and both more specialist and more cultural and sociological topics; for book reviews on new media, see issues of *Information, Communication & Society* and *New Media & Society*, and the Resource Center for Cyberculture Studies (<http://rccs.usfca.edu>).

Nonetheless, we find some of the same major themes as other studies. As Lievrouw et al. (2001) concluded from their review, even a decade ago “network formations” was one of the three primary dimensions of communication and technology research. Also, Kim and Weaver (2002) noted that U&G, democratic theory, diffusion/adoption, and interactivity were among the most common theoretical perspectives in Communication journals from 1996 through 2000, similar to some of the most frequent theory themes in our analyses (they used the same search terms of “internet” and “World Wide Web” in the Communication Abstracts database). Peng et al. (2012) used text-mining tools to analyze 27,000 articles in Social Sciences Citation Index (SSCI) and arts and humanities citation index (A&HCI) journals from 2000 to 2009, finding four primary (global) themes, each with subthemes: e-healthcare (generic applications, specific behaviors), e-business (acceptance studies, management, marketing), social issues (social interactions, law/policy, communication), and human-technology interactions (psychological processing, information retrieval/knowledge, and learning). They also find emphases in the literature on the relationships between use and behaviors/attitudes/effects, social interaction, and network approaches.

Communication journals were in the top five most frequent subject categories for e-healthcare specific behaviors, ebusiness acceptance studies, and all three of the social science subthemes. Within the social science articles, example “hot topics” included some of the main themes identified in our study: online/virtual community, social capital, social community, social identity, political participation, digital divide, privacy, and communication use/behaviors.

Of course, the nature of the search terms (“Internet,” “World Wide Web”) and filtering via reading the abstracts and articles both focus and constrain the particular sample of articles. For example, Boler (2007) critically analyzed studies of text-based CMC (esp. MUDs and MOOs) to assess the hypes and hopes of mediated disembodiment. She did not use terms such as “Internet” or “World Wide Web” to search for candidate articles to review (personal communication), and her article itself did not meet the search criteria for this study. Her study generated several primary themes of our study, such as Identity or Accessibility, but also different ones, such as Space or Transcendence.

## CONCLUSION

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In the first decade of the twenty-first century, areas in communication-related social science articles distinct and frequent enough to represent their own theme included interactivity, media attributes, credibility, diffusion of innovations, media effects, media use, possibly harmful Internet use, uses and gratifications, civic engagement, participatory media/users, political participation, public sphere, channel use and sociality, community, groups, identity, relational management, social capital, social networks, cultural differences, digital divide, political economy/policy, and privacy. Some theoretical areas seem to be receiving more attention in this past decade, such as possibly harmful Internet use, civic engagement, public sphere, community, identity, social capital, political economy/policy, and privacy.

In sorting out approaches to applying theory to Internet phenomena, we can see areas that have received considerable attention, as well as those that warrant additional attention. Our review suggests that media attributes, public sphere, and community were the most popular theory themes. However, we do not suggest that these theory themes are oversaturated, because there is considerable theoretical breadth within each theme. Rather, we advocate that scholars balance breadth and depth, as they address topics in these themes. Based on the theory themes with the fewest instances, our review suggests opportunities for further theoretical development in the areas of credibility/trust, participatory media/users, relational management, and cultural differences. The phenomena in these themes complicate traditional notions of information, audience activity, relational strategies, and intercultural relations, and further development in these areas can revise scope conditions of theories, or bring about new theoretical approaches altogether. The general theme of participation received substantially increased coverage over the years, implying both an increased concern with and understanding of the

active, more public role of Internet communication, and the increased presence of Web 2.0 interaction and activities.

The global theme typology/clusters, and the visual associations among themes based on shared terms, provide scholars with a useful tool to identify explicit and latent relationships among communication-oriented theories and concepts in the study of the Internet. For any particular study, these relationships can be used to broaden the context (such as in the literature review, or in model development), help focus the boundaries or provide the basis for conceptual differentiation, identify possibilities for further integration and boundary-crossing, locate areas of unexplored conceptual linkages, and provide guidance for area studies, meta-analyses, and literature reviews.

Perhaps the simplest, but most encouraging, conclusion is that while the early phase of CMC and Internet research was often criticized as being a-theoretical, an exceptionally wide range of primary and secondary theories, within more inclusive global themes, are being applied to understand social and communicative aspects of the Internet. More centrally, a large set of articles included theory frameworks, whether critiques, theoretical models, or reviews. As noted in the introduction, there has been much communication-related theory and many concepts about the Internet to read, review, critique, distinguish, integrate, and propose in the past decade. There will be more to come in the next.

## NOTES

Articles with the listed words in title or in abstract of peer-reviewed journals in English, retrieved April 18, 2010 (and, for the 2010 entries, April 25, 2011) from relevant databases in CSA online Social Sciences collection (Communication Abstracts/CA, International Bibliography of the Social Sciences, PAIS (public affairs, international relations), PAIS International, PSYCArticles, PSYCInfo, Sociological Abstracts, Worldwide Political Science Abstracts). There are some duplicates within or across a search result (for example, an abstract may include both “facebook” and “instant messaging”), and even some quite specific terms such as “twitter” may have other references (such as the marmoset’s or blackbird’s twitter calls), though those were removed. Figures for 2010 are underestimates, as different journals take different numbers of months to be indexed and retrievable. Additionally, values in each cell may change in later searches, due to journals, volumes, or issues being added or deleted from the database. For example, CA was no longer included in the CAS collection by April 2011, so figures will be lower. We did run separate searches of the terms using the separate CA database in 2010 (for example, finding 119 entries for the title search). However, some journals are likely to be included in both CA and CAS, and we do not know when CA was dropped from CSA. So the numbers are not comparable.

The methods for our research, especially important in providing transparency in qualitative coding, can only be briefly summarized in this chapter. An extended account

which includes lists of source journals, coded articles, primary theories, and secondary theories, is available online: <<http://www.comm.ucsb.edu/faculty/rrice/RiceFullerOxfordHandbookInternetTheory2012Appendix.pdf>>.

## ACKNOWLEDGMENTS

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An earlier version of this chapter was presented at the conference, *The Internet Turning 40: Never-Ending Novelty of New Media Research?*, The Chinese University of Hong Kong, June 2010. We thank Madison Crowley for her thoughtful help in initial coding. We thank InformaWorld for providing us a free full-text e-journal subscription to *Information, Communication & Society*. We thank Katy Pearce for the grounded theory advice, Megan Bolen for comments on a draft, and William Dutton for his encouragement and suggestions.

## REFERENCES

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- Agarwal, R., Animesh, A., and Prasad, K. (2009). "Social Interactions and the 'Digital Divide': Explaining Variation in Internet Use," *Information Systems Research*, 20(2): 277-94.
- Armstrong, C. and McAdams, M. (2009). "Blogs of Information: How Gender Cues and Individual Motivations Influence Perceptions of Credibility," *Journal of Computer-Mediated Communication*, 14(3): 435-56.
- Baym, N. (2005). "Introduction: Internet Research as It Isn't, Is, Could Be, and Should Be," *The Information Society*, 21: 229-32.
- Billon, M., Marco, R., and Lera-Lopez, F. (2009). "Disparities in ICT Adoption: A Multi dimensional Approach to Study the Cross-Country Digital Divide," *Telecommunications Policy*, 33(10-11): 596-610.
- Bimber, B., Flanagin, A. J., and Stohl, C. (2005). "Reconceptualizing Collective Action in the Contemporary Media Environment," *Communication Theory*, 15(4): 365-88.
- Birnie, S. and Horvath, P. (2002). "Psychological Predictors of Internet Social Communication," *Journal of Computer-Mediated Communication*, 7(4). Available at <<http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2002.tb00154.x/full>>. Accessed October 12, 2011.
- Boler, M. (2007). "Hypes, Hopes and Actualities: New Digital Cartesianism and Bodies in Cyberspace," *New Media & Society*, 9(1): 139-68.
- Borgatti, S. P., Everett, M. G., and Freeman, L. C. (2002). *Ucinet for Windows: Software for Social Network Analysis*, Harvard, MA: Analytic Technologies.
- Boyd, J. (2003). "The Rhetorical Construction of Trust Online," *Communication Theory*, 13(4): 392-410.
- Brock, A. (2009). "Life on the Wire: Deconstructing Race on the Internet," *Information, Communication & Society*, 12(3): 344-63.
- Caiani, M. and Wagemann, C. (2009). "Online Networks of the Italian and German Extreme Right," *Information, Communication & Society*, 12(1): 66-109.

- Calenda, D. and Meijer, A. (2009). "Young People, the Internet and Political Participation," *Information, Communication & Society*, 12(6): 879-98.
- Cammaerts, B. (2008). "Critiques on the Participatory Potentials of Web 2.0," *Communication, Culture & Critique*, 1(4): 359-77.
- Carey, J. W. (2005). "Historical Pragmatism and the Internet," *New Media & Society*, 7(4): 443-55.
- Castells, M. (2009). *The Rise of the Network Society: The Informage Age: Economy, Society, and Culture*, vol. 1, 2nd edn., Hoboken, NJ: Wiley-Blackwell.
- Catlett, C. E. (1989). "The NFSNET: Beginnings of a National Research Internet," *Academic Computing*, 3(5): 19-21, 59-64.
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, London: Sage.
- Cheung, W., Change, M. K., and Lai, V. S. (2000). "Prediction of Internet and World Wide Web Usage at Work: A Test of an Extended Triandis Model," *Decision Support Systems*, 30(1): 83-100.
- Cho, H., Rivera-Sanchez, M., and Lim, S. S. (2009). "A Multinational Study on Online Privacy: Global Concerns and Local Responses," *New Media & Society*, 11(3): 395-416.
- Crowston, K. and Williams, M. (2000). "Reproduced and Emergent Genres of Communication on the World Wide Web," *The Information Society*, 16(3): 201-15.
- Dahlberg, L. (2001). "The Internet and Democratic Discourse: Exploring the Prospects of Online Deliberative Forums Extending the Public Sphere," *Information, Communication & Society*, 4(4): 615-33.
- David, C., Cappella, J. N., and Fishbein, M. (2006). "The Social Diffusion of Influence among Adolescents: Group Interaction in a Chat Room Environment about Antidrug Advertisements," *Communication Theory*, 16(1): 118-40.
- De Koster, W. and Houtman, D. (2008). "Stormfront is Like a Second Home to Me: On Virtual Community Formation by Right-Wing Extremists," *Information, Communication & Society*, 11(8): 1155-76.
- Deibert, R. J. (2000). "International Plug'n' Play Citizen Activism, the Internet, and Global Public Policy," *International Studies Perspectives*, 1(3): 255-72.
- Downes, E. J. and McMillan, S. J. (2000). "Defining Interactivity: A Qualitative Identification of Key Dimensions," *New Media & Society*, 2(2): 157-79.
- Eastin, M. S., Greenberg, B. S., and Hofschire, L. (2006). "Parenting the Internet," *Journal of Communication*, 56(3): 486-504.
- Elias, N. and Lemish, D. (2009). "Spinning the Web of Identity: The Roles of the Internet in the Lives of Immigrant Adolescents," *New Media & Society*, 11(4): 533-51.
- Elmer, G. (2003). "A Diagram of Panoptic Surveillance," *New Media & Society*, 5(2): 231-47.
- Flanagin, A. J. and Metzger, M. J. (2007). "The Role of Site Features, User Attributes, and Information Verification Behaviors on the Perceived Credibility of Web-Based Information," *New Media & Society*, 9(2): 319-42.
- Franzen, A. (2000). "Does the Internet Make us Lonely," *European Sociological Review*, 16(4): 427-38.
- Gevorgyan, G. and Manucharova, N. (2009). "Does Culturally Adapted Online Communication Work? A Study of American and Chinese Internet Users' Attitudes and Preferences toward Culturally Customized Web Design Elements," *Journal of Computer-Mediated Communication*, 14(2): 393-413.
- Glaser, B. G. (2004). "Remodeling Grounded Theory," *Qualitative Social Research*, 5, art. 4.

- Gotved, S. (2006). "Time and Space in Cyber Social Reality," *New Media & Society*, 8(3): 467-86.
- Gunkel, D. J. (2003). "Second Thoughts: Toward a Critique of the Digital Divide," *New Media & Society*, 5(4): 499-522.
- Haythornthwaite, C. (2005). "Social Networks and Internet Connectivity Effects," *Information, Communication and Society*, 8(2): 125-47.
- Hiltz, S. R. and Turoff, M. (1978). *The Network Nation*, Menlo Park, CA: Addison-Wesley.
- Ho, S. S., Waipeng, L., and Hameed, S. S. (2008). "Muslim Surfers on the Internet: Using the Theory of Planned Behaviour to Examine the Factors Influencing Engagement in Online Religious Activities," *New Media & Society*, 10(1): 93-113.
- Holmes, J. (2009). "Myths and Missed Opportunities: Young People's Not So Risky Use of Online Communication," *Information, Communication & Society*, 12(8): 1174-96.
- Hung, A. Y. H. (2002). "Identity Politics, Resistance and New Media Technologies: A Foucauldian Approach to the Study of the Hknet," *New Media & Society*, 4(2): 185-204.
- Johansen, R., Miller, R. H., and Vallee, J. (1974). "Group Communication through Electronic Media: Fundamental Choices and Social Effects," *Educational Technology*, 14(8): 7-20.
- Johnson, A. J., Haigh, M. M., Becker, J. A. H., Craig, E. A., and Wigley, S. (2008). "College Students' Use of Relational Management Strategies in Email in Long-Distance and Geographically Close Relationships," *Journal of Computer-Mediated Communication*, 13: 381-404.
- Katz, J. E. and Rice, R. E. (2002). *Social Consequences of Internet Use: Access, Involvement and Interaction*, Cambridge, MA: The MIT Press.
- , Rice, R. E., Acord, S., Dasgupta, K., and David, K. (2004). "Personal Mediated Communication and the Concept of Community in Theory and Practice," in P. Kalbfleisch (ed.), *Communication Yearbook 28*, London: Routledge, pp. 315-70.
- Kim, H., Coyle, J. R., and Gould, S. J. (2009). "Collectivist and Individualist Influences on Website Design in South Korea and the U.S.: A Cross-Cultural Content Analysis," *Journal of Computer-Mediated Communication*, 14(3): 581-601.
- Kim, S. T. and Weaver, D. (2002). "Communication Research about the Internet: A Thematic Meta-Analysis," *New Media & Society*, 4(4): 518-38.
- Laguerre, M. (2004). "Virtual Time: The Processuality of the Cyberweek," *Information, Communication & Society*, 7(2): 223-47.
- LaRose, R. and Eastin, M. (2004). "A Social Cognitive Theory of Internet Uses and Gratifications: Toward a New Model of Media Attendance," *Journal of Broadcasting & Electronic Media*, 48(3): 358-77.
- Ledbetter, A. M. (2008). "Media Use and Relational Closeness in Long-Term Friendships: Interpreting Patterns of Multimodality," *New Media & Society*, 10(4): 547-64.
- Lee, B. and Tamborini, R. (2005). "Third-Person Effect and Internet Pornography: The Influence of Collectivism and Internet Self-Efficacy," *Journal of Communication*, 55(2): 292-310.
- Lee, E.-J. (2004). "Effects of Visual Representation on Social Influence in Computer-Mediated Communication: Experimental Tests of the Social Identity Model of Deindividuation Effects," *Human Communication Research*, 30(2): 234-59.
- Levine, T. R. (2010). "Rankings and Trends in Citation Patterns of Communication Journals," *Communication Education*, 59(1): 41-51.
- Lievrouw, L. A., Bucy, E. P., Finn, T. A., Frindte, W., Gershon, R. A., Haythornthwaite, C., Kohler, T., Metz, J. M., and Sunder, S. Shyam (2001). "Bridging the Subdisciplines: An

- Overview of Communication Technology and Research," *Communication Yearbook*, 24: Thousand Oaks, CA: Sage, pp. 271-95.
- Lynch, C. A. (1989). "Linking Library Automation Systems in the Internet: Functional Requirements, Planning, and Policy Issues," *Library Hi Tech*, 7(4): 7-18.
- Mansell, R. (2004). "Political Economy, Power and New Media," *New Media & Society*, 6(1): 96-105.
- McCain, K. W. (2000). "Sharing Digitized Research-Related Information on the World Wide Web," *Journal of the American Society for Information Science*, 51(14): 1321-7.
- McCoy, M. E. (2001). "Dark Alliance: News Repair and Institutional Authority in the Age of the Internet," *Journal of Communication*, 51(1): 164-93.
- Mehra, B., Merkel, C., and Bishop, A. P. (2004). "The Internet for Empowerment of Minority and Marginalized Users," *New Media & Society*, 6(6): 781-802.
- Mesch, G. S. (2006). "Family Characteristics and Intergenerational Conflicts over the Internet," *Information, Communication & Society*, 9(4): 473-95.
- Metzger, M. J. (2007). "Communication Privacy Management in Electronic Commerce," *Journal of Computer-Mediated Communication*, 12(2). Available at <<http://jcmc.indiana.edu/vol12/issue2/metzger.html>>. Accessed June 20, 2012.
- Miller, S. and Weckert, J. (2000). "Privacy, the Workplace and the Internet," *Journal of Business Ethics*, 28(3): 255-65.
- Parks, M. (2009). "What will we Study when the Internet Disappears?," *Journal of Computer-Mediated Communication*, 14: 724-9.
- Peng, T-Q, Zhu, J. J. H., Zhang, L., and Zhong, Z. (2012). "Mapping the Theme Structure of Internet Research: Text Mining of Social Science Journal Articles 2000-2009," *New Media & Society*.(forthcoming).
- Perry, D. G. et al. (1988). "The ARPANET and DARPA Internet," *Library Hi Tech*, 6(2): 51-62.
- Procopio, C. and Procopio, S. (2007). "Do You Know What It Means To Miss New Orleans? Internet Communication, Geographic Community, and Social Capital in Crisis," *Journal of Applied Communication Research*, 35(1): 67-87.
- Ramirez, A., Walther, J. B., Burgoon, J. K., and Sunnafrank, M. (2002). "Information-Seeking Strategies, Uncertainty, and Computer-Mediated Communication: Toward a Conceptual Model," *Human Communication Research*, 28(2): 213-28.
- Räsänen, P. and Kouvo, A. (2007). "Linked or Divided by the Web?: Internet Use and Sociability in Four European Countries," *Information, Communication & Society*, 10(2): 219-41.
- Rice, R. E. (1980a). "The Impacts of Computer-Mediated Organizational and Interpersonal Communication," in M. Williams (ed.) *Annual Review of Information Science and Technology*, 15, White Plains, NY: Knowledge Industry Publications, pp. 221-49.
- (1980b). "Computer Conferencing," in B. Dervin and M. Voigt (eds). *Progress in Communication Sciences*, 2, New York: Ablex, pp. 215-40
- (1984). "New Media Technology: Growth and Integration," in R. E. Rice (ed.). *The New Media: Communication, Research and Technology*, Beverly Hills, CA: Sage, pp. 33-54.
- (1992). "Contexts of Research on Organizational Computer-Mediated Communication," in M. Lea (ed.). *Contexts of Computer Mediated Communication*, Hemel Hempstead: Harvester Wheatsheaf, pp. 113-44.
- (2009). "Diffusion of Innovations: Theoretical Extensions," in R. Nabi and M. B. Oliver (eds). *Handbook of Media Effects*, Thousand Oaks, CA: Sage, pp. 489-503

- and Hagen, I. (2010). "Young Adults' Perpetual Contact, Social Connection, and Social Control through the Internet and Mobile Phones," in C. Salmon (ed.). *Communication Yearbook*, 34, London: Routledge, pp. 2–39.
- Richards, C. (2000). "Hypermedia, Internet Communication, and the Challenge of Redefining Literacy in the Electronic Age," *Language Learning & Technology*, 4(2): 59–77.
- Robinson, J. P. and Martin, S. P. (2009). "Social Attitude Differences between Internet Users and Non-Users: Evidence from the General Social Survey," *Information, Communication & Society*, 12(4): 508–24.
- Ruggiero, T. E. (2000). "Uses and Gratifications Theory in the 21st Century," *Mass Communication & Society*, 3(1): 3–37.
- Russell, A. (2007). "Digital Communication Networks and the Journalistic Field: The 2005 French Riots," *Critical Studies in Media Communication*, 24(4): 285–302.
- Ryland, J. (1989). "Security: A Sleeper Issue Comes into its Own," *CAUSE/EFFECT*, 12(4): 8–13.
- Sawhney, H. (2007). "Strategies for Increasing the Conceptual Yield of New Technologies Research," *Communication Monographs*, 74(3): 395–401.
- Scolari, C. A. (2009). "Mapping Conversations about New Media: The Theoretical Field of Digital Communication," *New Media & Society*, 11(6): 943–64.
- Scott, C. R. (2009). "A Whole-Hearted Effort to Get it Half Right: Predicting the Future of Communication Technology Scholarship," *Journal of Computer-Mediated Communication*, 14(3): 753–7.
- Shah, D. V., McLeod, J. M., and Yoon, S.-H. (2001). "Communication, Context, and Community: An Exploration of Print, Broadcast, and Internet Influences," *Communication Research*, 28(4): 464–506.
- Simpson, S. (2004). "Explaining the Commercialization of the Internet: A neo-Gramscian Contribution," *Information, Communication & Society*, 7(1): 50–68.
- Soukup, C. (2000). "Building a Theory of Multi-Media CMC: An Analysis, Critique and Integration of Computer-Mediated Communication Theory and Research," *New Media & Society*, 2(4): 407–25.
- Strauss, A. and Corbin, J. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, 2nd edn., Thousand Oaks, CA: Sage.
- Tan, K. W. P., Swee, D., Lim, C., Detenber, B. H., and Alsagoff, L. (2007). "The Impact of Language Variety and Expertise on Perceptions of Online Political Discussions," *Journal of Computer Mediated Communication*, 13(1): 76–99.
- Tomasello, T. K., Lee, Y., and Baer, A. P. (2010). "New Media' Research Publication Trends and Outlets in Communication, 1990–2006," *New Media & Society*, 12(4): 531–48.
- Tyner, J. A. and Kuhlke, O. (2000). "Pan-National Identities: Representations of the Philippine Diaspora on the World Wide Web," *Asia Pacific Viewpoint*, 41(3): 231–52.
- Van Dijck, J. and Nieborg, D. (2009). "Wikinomics and its Discontents: A Critical Analysis of Web 2.0 Business Manifestos," *New Media & Society*, 11(5): 855–74.
- Walther, J. B. (2009). "Theories, Boundaries, and All of the Above," *Journal of Computer-Mediated Communication*, 14(3): 748–52.
- Wang, Z., Walther, J. B., and Hancock, J. T. (2009). "Social Identification and Interpersonal Communication in Computer-Mediated Communication: What You Do Versus Who You Are in Virtual Groups," *Human Communication Research*, 35(1): 59–85.
- Waskul, D. D. (2005). "Ekstasis and the Internet: Liminality and Computer-Mediated Communication," *New Media & Society*, 7(1): 47–63.

- White, C. and Scheb, J. M. (2000). "Impact of Media Messages about the Internet: Internet Anxiety as a Factor in the Adoption Process in the USA," *New Media & Society*, 2(2): 181-94.
- Wilson, T. and Tan, H. P. (2005). "Less Tangible Ways of Reading: A Ludic Surfing of Online Western News Sites," *Information, Communication & Society*, 8(3): 394-416.
- Xenos, M., and Moy, P. (2007). "Direct and Differential Effects of the Internet on Political and Civic Engagement," *Journal of Communication*, 57(4): 704-18.
- Yang, C.-C. (2000). "The Use of the Internet among Academic Gay Communities in Taiwan: An Exploratory Study," *Information, Communication & Society*, 3(2): 153-72.
- Youngs, G. (2001). "The Political Economy of Time in the Internet Era: Feminist Perspectives and Challenges," *Information, Communication & Society*, 4(1): 14-33.
- Zhao, S. and Elesh, D. (2008). "Copresence as 'Being With': Social Contact in Online Public Domains," *Information, Communication & Society*, 11(4): 565-83.