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Psychology and the Internet: Building an Integrative Social Cognitive Research Agenda

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There are wonderful opportunities for psychological research of social phenomena on the internet. In such research, one challenge would be to study information/communication and individual/group in conjunction with one another. In contrast to the stimulus-response paradigms that have so far dominated much research on internet (including our own), we believe that the particular nature of internet is best captured through research that is multilevel, dynamic and situated. In this paper we review some classic psychological approaches to the internet. Internet continues to challenge received understandings of the social psychological processes that would underpin social behavior ranging from romance to collective action: It is a research field ripe for conceptual and methodological progress.

Sparrow and Chatman's target article for *Psychological Inquiry* examines the question of whether the Internet changes social cognition. It opens with a reflection on the state of psychological research on the Internet, which ends with the conclusion that "no integrated psychological approaches exist that systematically include the internet as a new presence in our informational environment" (p. 274). The stated goal of the authors was to "provide avenues for future investigation" (p. 273). Extending this metaphor of city planning, we wrote this commentary partly because Sparrow and Chatman, perhaps unintentionally, imply that these avenues would be built on remote and uninhabited land. In response we point to possible tribes who might already have built some settlements on this terrain. To facilitate the building of new avenues, we aim to sketch some of the geography and geology of the land. The following comments are thus intended to provide some background to the Sparrow and Chatman article, partly by pointing to psychological research directly relevant to the claims they make, partly by reflecting on their argument. We suggest that their analysis of how the Internet changes social cognition may be strong on the cognition but is short on the social.

Blank Spots on the Map?

How do we evaluate the claim that there is no systematic literature on social cognitive effects of the In-

ternet? Because Sparrow and Chatman define neither social cognition nor the Internet, their claim is hard to verify. What other *programmatic* bodies of research have examined some of the claims made in this article? We actually believe that there are several that would enrich (and sometimes qualify) this overview.

The first part of Sparrow and Chatman's review is concerned with the effects of Internet for how we deal with information. There is a tendency here to equate "Internet" with the search engine Google, a relative newcomer. But there is much research that predates the rise of Google that investigated how people use computers to learn about and to memorize things. The article points out that "future research into online learning [is] particularly crucial for students" (p. 279) but ignores the literature (which has blossomed from the 1980s onward, especially) that has already examined how computers may augment learning, some of which is highly relevant here. Consider for example the following quote from a publication by Lajoie (1993) that asks how computers can support learning:

There are at least 4 kinds of tools ... that can: (a) support cognitive processes, such as, memory and metacognitive processes; (b) share the cognitive load by providing support for lower level cognitive skills so that resources are left over for higher order thinking skills; (c) allow learners to engage in cognitive activities that would be out of their reach otherwise ... ; and (d) allow learners to generate and test hypotheses in the context of problem solving. (p. 261)

Although the terminology is different, some of the processes considered here are complementary: Computer-supported learning means that people rely on memory less, free up cognitive resources, and so on. There is also a literature on computer-assisted learning interventions that is relevant: These provide some indication of the magnitude of the cognitive effects of online information processing via Internet instruction compared to other settings (written instructions, classroom teaching, face-to-face interactive instruction, etc.). Actually, it is quite common for the learning effects of Internet-based instruction to be small and variable (Cook et al., 2008). Knowing this is important: It suggests that despite the hype, people's cognitions

and social behavior are rarely transformed dramatically by the Internet.

When considering “social effects,” too, there are literatures one should consider. Sparrow and Chatman devote some attention to the diminished presence of others on the Internet. Their observation that social presence may be a key phenomenon for understanding effects of the Internet is well taken and has a long history. Presence was considered an important characteristic of communication for decades, but interestingly our understanding of what presence means changes depending on the medium involved (Biocca, Harms, & Burgoon, 2003; Spears & Lea, 1992). There is a large literature about the effects of mediated communication (telephony as well as written forms of communication) on the social presence of actors in various social settings, and on its consequences for subsequent group interaction (Rutter, 1987; Rutter & Stephenson, 1979; Short, 1974; Williams, 1977). Taking on the results of this past research is important. Sparrow and Chatman note that diminished presence of individuating features on the Internet is associated with “less empathy and sense of moral responsibility” (p. 284), and a few pages later they state that (perhaps in other circumstances) “we can take our time online and think about how we want to respond. We may be *more thoughtful and empathic* because we have had the time to perhaps put on the other person’s shoes” (p. 284). The finding of contradictory processes implied here is not atypical for the early literature either (e.g., Spears & Lea, 1992, for a review). Presence effects are anything but straightforward, and a more systematic approach to theory is required to help explain the anecdotal and often contradictory effects.

We also agree with Sparrow and Chatman that “important questions for future research refer to what the relevant in-groups are online and how they are perceived in the “thin cues” environment” (p. 286). But we disagree with their conclusions on this point. Among others, they state that if we do not hear people’s voice, we perceive them as having “less of a mind” (p. 286); we feel less empathy and less moral responsibility. They also claim that the *amount* of social cues determines the degree of social influence and compliance. The line of argument adopted here appears to be based to large extent on the “first wave” of research on computer-mediated communication (CMC), and specifically the reduced social cues model and meta-theory of Kiesler and colleagues (cited in the text). The early claims and assumptions from this literature were that CMC is more antinormative and antisocial because it weakens social cues and constraints, leading to more uninhibited behavior (e.g., “flaming”), more extreme decision making (e.g., group polarization), invoking processes such as “deindividuation” to explain the deregulation and breakdown of normative

behavior, while suggesting it is a medium of democracy and equalization. Both general claims are repeated here and appear to stem from Kiesler’s “reduced social cues” metatheory.

However, a whole generation of subsequent research, including our research on the social identity model of deindividuation effects (SIDE model), roundly disputed these claims, contesting them empirically and theoretically, specifically arguing that the computer-mediated environments like the Internet (but also social media) are actually more socially regulated by norms and the social identities associated with group memberships, and are often (consequently) associated with accentuating power differences between groups (the “digital divide”; Postmes, Spears, & Lea, 1998; Spears & Lea, 1994; Spears & Postmes, in press). This second wave of research has been out there in both the social psychology and communication studies literatures for 23 years but is more or less completely ignored in the present account. This kind of social psychological analysis aimed to develop theory to account for both the positive and negative effects of CMC and the internet, which simply remain a bundle of contradictions to be explained without such integrative theoretical efforts. Even though most of this prior research was not targeted at the Internet (which did not exist when we started!), we have been interested in this very question of social influence processes within groups and of group perception throughout a lot of our research (see, a.o., Lea & Spears, 1992; Postmes, 1997; Postmes, Spears, & Lea, 1998; Reicher, Spears, & Postmes, 1995; Spears & Lea, 1994; Spears, Lea, & Lee, 1990; Spears, Lea, & Postmes, 2007; Tanis & Postmes, 2007). Although this research is quite old by “Internet age” standards, there continue to be applications of these ideas on the Internet today that highlight their relevance for social behavior and knowledge sharing (Spears & Postmes, in press).

Ignoring these older literatures creates an unfortunate perception that whenever new communications technologies are adopted we have to start from scratch to understand them, with no institutional memory to prevent us reinventing the wheel. A somewhat broader review with a somewhat longer or less selective memory would have helped to identify some clear themes: a conceptual continuity that emerges across different social media and over time. What is clear from this continuity is that although technologies might change very fast, human psychology most likely does not change nearly as fast or nearly as much. Indeed, if we accept that the “Internet” itself is shaped by social practice, we may begin to realize that the idea that the technology determines human functioning has its limits. Rather, there is likely to be a very prominent reverse influence of human desires and needs on the technology. One classic example of this can be found in the success

of Minitel in France, which was partially due to the system being used in unforeseen ways (or in today's terms, hacked) by users for the sending of "romantic" messages referred to as *messengeries roses*—a good example of usage shaping technology in other words (Feenberg, 1992). Rather than making the central question one of how technology shapes psychology, we might justifiably ask the question of how psychology and social practices shape the Internet.

The challenge for a coherent and systematic scientific approach to understanding how social cognition and social practices are being changed by features of the Internet therefore lies not just with identifying important avenues for future research, as with preserving and integrating the knowledge we have built up over years of painstaking research. In the following we provide an alternative road map.

Understanding the Internet

When asking the question "How does Internet change social cognition?" it is helpful to define the concepts used, even if no simple definition can be provided. Indeed, the purpose of defining concepts can be to *get away from* a singular definition. When an object is intrinsically complex, it becomes helpful to appreciate and study this complexity in its own right (Kroeber & Kluckhohn, 1952, listed more than 200 pages of definitions of "culture," which all illuminate relevant aspects). Understanding of the Internet can be seriously hindered if we ignore its multifaceted and complex nature. Attempting to define the Internet should therefore help us understand the scope of the question being asked.

Internet has a material manifestation (computing devices, wires and wireless connections, communication protocols) and consists of data. But because the computer is programmable, the Internet can perform an immense range of functions (Postmes et al., 1998). Thus, the technology imposes very few limits on its usage. If the Internet influences social cognition and behavior, in other words, it is because of the way in which people decide to program and use it. This property introduces some circularity, which we may recognize in Sparrow and Chatman's target article, too: If search engine algorithms are programmed to mimic the search heuristics of users, then is the user influencing the medium or the other way around? In such cases, it is important not to fall into the trap of technological determinism: The Internet is shaped by the cooperative actions of people who use it, pay for infrastructure, engineers who build it, programmers and users who fill it with functions and content. It is therefore as much a product of social cognition as an influence on it.

A more concrete approach that sidesteps this complexity is to look at what the Internet is *used* for. Al-

though on the surface this is a workable and sensible strategy, we should accept from the outset that because the Internet can be programmed to do just about anything it is likely to be used for just about anything. Moreover, specific usages are interpretable in more than one way. Sparrow and Chatman propose that the Internet can be used in one of two ways: as a tool for storing and retrieving knowledge through search engines in a "relatively non-personal way" and as a tool for interacting with other people through social media and e-mail (p. 273). This is the familiar distinction of information versus communication (Kraut, Mukhopadhyay, Szczypula, Kiesler, & Scherlis, 1999) as it was customarily made in studies of "web 1.0" in which there was limited attention for user-generated content on the Internet. But are these two forms of use the only ones, and is this a meaningful distinction to make if we seek to understand the Internet? Studies of social behavior on the Internet have moved beyond this dichotomy in the past decade, for a number of good reasons (Feenberg, 1992).

One risk of any dichotomy is that things are ignored. Indeed one important category of use that eludes this dichotomy is *play*. When people are searching for porn, images, or music on the Internet (Hochstotter & Koch, 2009; Tjondronegoro, Spink, & Jansen, 2009), this seems a very different social activity to the ones discussed in this article, even if they use search engines to look for this.

As just alluded to, over time researchers have become more aware that a lot of content on Internet is user generated (although this has probably always been the case, this is sometimes referred to as "web 2.0"). But when talking about "social networking activities" on the Internet, Sparrow and Chatman appear to equate the generation of content with *communication* via e-mail or social media. This may not be the best way to understand such usage, however. A lot of user content is generated as users present themselves and their thoughts to the outside world (e.g., through blogs, homepages, Facebook, or LinkedIn). To understand a broader range of usages we need to look also at forms of communication online in which the primary purposes appears to be self-expression (e.g., establishing personal and social identities), satisfaction of personal needs (e.g., gambling), or economic activity (trading, shopping).

We should also consider the utility of the information/communication distinction in the first place. Sparrow and Chatman note that social and cognitive processes occur concurrently and that the distinction is a simplistic one. Indeed, despite its long history in social psychology (e.g., in distinctions such as informational vs. normative influence, task-oriented vs. social activity; Bales, 1950; Deutsch & Gerard, 1955) it is problematic and hard to sustain (Turner, 1991). The authors provide an apt example of how the two are integrated on the Internet: When one of the authors learned about

the death of Osama Bin Laden, it was through Facebook. Although the strong influence of informal social networks in the provision of such information is not a new trend (cf. Greenberg, 1964), what is interesting and new is that the social networks that now disseminate such information can be organized in quite different ways due to the increasing irrelevance of boundaries of space and time. This makes different forms of collective action possible (Spears & Postmes, in press). We would advocate studying such instances of “information processing” with explicit reference to the social context in which it occurs. On the Internet, information can only be accessed because someone else has provided for it: Information, therefore, is a two-way exchange (and users tend to be aware of this). On the Internet, therefore, all information is “communicated.”

In our view there are important reasons to study information processing and social relations together. The Internet, like society at large, is a populated space where meaning is created (Mead, 1934) and one can best understand individuals and society (information and communication) in conjunction (Postmes, Baray, Haslam, Morton, & Swaab, 2006). To do justice to the metaphor of the “hive mind,” psychologists may benefit from abandoning the methodological and conceptual individualism that is inherent in a stimulus-response approach to human psychology. This approach was adopted at least in part out of discontent with the “group mind” (see Allport, 1927; and criticisms from perspectives of personality and social influence, Cattell, 1948; Sherif, 1936). But there is a social path between both extremes: One can study the interaction between social processes and individual cognition without falling into the trap of social determinism or reification (Asch, 1952; Postmes, Spears, Lee, & Novak, 2005; Turner, 1991; Weick & Roberts, 1993). Doing so is important because the study of information in absence of its social dimension misses much of the picture: The creation of meaning is a cultural process (Bruner, 1990; Sherif, 1936), like the acquisition of language itself.

Defining Social Cognition

As the previous discussion implies, the “social” in social cognition is worth expanding on. In contrast to what one might think, the term social cognition refers not just to specific subject areas but also to a specific methodological and meta-theoretical approach. Traditionally, social cognition research tends to concern itself with the study of mental representations and processes that underlie social judgments and behavior in the controlled environment of the laboratory, where they are assumed to be independent of the communicative context. But in more recent years, cognitions have become increasingly situated, meaning they interact with the physical and social context within which they

occur (Clark, 1998). For social cognition, therefore, the communicative context is all-important (Smith & Semin, 2004).

We may illustrate the distinction between a traditional social cognitive approach and a socially situated approach with reference to the notion of transactive memory, central to the current article. A transactive memory system is one in which a community collaborates in the retention of important information: It is a modern, nonmetaphysical take on the “group mind” (e.g., Wegner, 1987). But there are actually multiple ways of approaching this concept. In one, other people function merely as containers of information who use “the group” (or the “Internet,” as the case may be) as no more than a tool that provides them with access to useful information. In such an approach to transactive memories, knowledge is accessed mechanically by an autonomous individual who accesses group knowledge in a manner not dissimilar to how we access information in an encyclopaedia: Individual and group are separate entities. But there is also a more organic approach to collective minds, which emphasizes the workings of the group as a social system of the interrelated activities of interrelated actors (Weick & Roberts, 1993), an approach treating groups as a gestalt (Asch, 1952) in which individual minds and collective mind emerge as a consequence of the socially situated actions of individuals in relation to one another (see also Postmes et al., 2005). It should be noted that in the second approach, it becomes hard to differentiate social cognition from the communication through which it emerges (Smith & Semin, 2004).

Understanding Change

The third element in the sentence “How does Internet change social cognition?” is the verb “change.” Sparrow and Chatman repeat often how new the Internet is: It changes us (our lifestyle, our social cognitions, relationships) in dramatic ways. But when considering these supposed changes more closely, one notices that these are not qualitative changes: The effects of the Internet that are considered are neither new nor particularly specific to the Internet. They are not new in the sense that most of them have been described in literatures that originate a long time ago, to well before the development of the Internet itself. They are not specific in the sense that these effects can be found (or are likely to be) in areas of life that have nothing to do with the Internet, too. In other words, the extent that these changes would occur depends very much on what it is that the Internet is being compared with. The supposed effects of the “Internet” could equally stem from the control condition. This is actually a familiar problem—mediated communication was initially considered “cold” and asocial in part because face-to-face contact was romanticized (Lea & Spears, 1995).

To illustrate the problem, consider the first part of the review. This focuses on cognitive consequences of having access to information. Most of the effects reviewed here occur when people rely on their own memory versus when they rely on some external record or a memory source. Accordingly, these effects are not specific to the Internet: They can also be found if people are given access to telephone hotlines with an expert, or a telephone directory or encyclopaedia. Indeed, Sparrow and Chatman argue that what is special about the Internet is that this would happen “more so” (p. 276). But this prediction is not examined and remains speculative.

Further distortions of the Internet are supposed to be caused by selection of the information that is presented to us (e.g., because of biases in search engines). Again we fail to see how different this is to selections made by other information sources or indeed the selections that the individual themselves is prone to make for cognitive or practical reasons. Of course there are some very real distortions on the Internet (e.g., caused by digital divides, an overrepresentation of American English content, or a marginalization of particular practices), but it strikes us that this kind of bias and censorship is not specific to this medium alone. Indeed, one could argue that because the Internet’s access barriers are lower than those of other mass communication media and because it is more difficult to regulate, there is a greater *potential* for diversity.

A similar observation can be made about the second part of the review. How could the Internet change the way we perceive others, form perceptions of social reality, influence others, and polarize? The review focuses on effects of mediated communication for perceived social presence, on the effects of the mere presence on performance and (in the review on social reality) on effects of communication per se. But these effects apply not just to the Internet but to *any* form of mediated communication including telephony and letter writing. It would be impossible therefore to consider the social effects of the Internet without studying more systematically what the Internet replaces as well as what possible forms of “Internet” consists of exactly.

A final observation is that any change would be hard to assess among populations that have been using this medium intensively for a long time. After all, over time the Internet may have changed people’s habitual behavior and cognitions in the “control” condition, as much as it has changed their actions online. Thus, to genuinely understand how users change as a result of Information Communications Technology (ICT) usage, one would need to study the consequences of its use over time among novice users (Hansen et al., 2012; Hansen & Postmes, in press; Kraut et al., 1999; Postmes, Spears, & Lea, 2000).

Conclusion: The Need for an Integrative Approach

In this commentary on Sparrow and Chatman’s target article, we made the case that it would be beneficial for future psychological research of social phenomena on the Internet to explore new directions: one in which information/communication and individual/group are studied in conjunction with each other. Such research would be multilevel, dynamic, and situated, in contrast to the stimulus-response paradigms that have so far dominated much research (including our own). As we pointed out, we disagree with Sparrow and Chatman’s suggestion that there would be no integrated psychological approaches to the Internet. Indeed, many of the themes that Sparrow and Chatman raise in their overview have been the subject of quite a lot of previous psychological research. Nevertheless, it is clear that today only a very small fraction of social psychological research publications explicitly consider the Internet as a subject worthy of investigation. This is unfortunate, because the Internet offers the scope for conceptual advancement of social psychological theories: It challenges classic understanding of social psychological processes involved in a range of social behaviors ranging from romance to collective action. The very possibility of sustaining a rich social life through this medium continues to present us with thorny questions for established theory: It would be good to pick up the challenge.

The relatively minimal interest has one positive consequence: It creates excellent opportunities for a new generation of researchers. Judging by citation rates, early psychological approaches of computer-mediated communication are still inspiring research today, even though contemporary Internet research struggles to keep up with the rapid social and technological transformation of the Internet (Karpf, 2012). One reason why some of the early research is nevertheless still relevant is that it did not get caught in studying specific behaviors on the Internet (as one might have from an ethnographic background) or specific technologies (as one might have from a computer science or communication background). Instead it focused on the abstract *concepts* that were seen as essential to explaining some aspect of online behavior, such as physical copresence or its absence, the identifiability or anonymity of individuals. Today, it is clear that the research agenda could be broadened to answering some of the more exciting questions that face us, including the social cognitive processes that make this “hive mind” possible in the first place. The lab and the methodological toolkit that are key strengths of social cognition have much to add to this research program.

Note

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