TECHNOLOGY USE AND ORGANIZATIONAL NEWCOMER SOCIALIZATION

Andrew J. Flanagin
Jennifer H. Waldeck
University of California at Santa Barbara

This article develops a framework for the examination of organizational newcomer socialization, in light of recent developments in communication and information technologies. The proposed model specifies how newcomers to organizations select and use advanced technologies to access information and facilitate interpersonal relationships that contribute to successful organizational socialization. In view of technological advances and current trends in organizations, the authors argue that such a model helps to make sense of contemporary socialization processes. The model is based on the premise that accurate, appropriate, and sufficient information is crucial to newcomers' efforts to become successfully socialized and considers how newcomers' selection and use of advanced technologies can aid in information acquisition. The authors propose a number of factors that may predict organizational newcomers' use of technologies toward this end, including features of their socialization experiences, individual attitudes and personality characteristics, and group and organizational norms with regard to technology use. The article concludes by discussing the theoretical and practical implications of this perspective for organizations and their members.

Keywords: *organizational socialization; assimilation; organizational communication; communication and information technologies*

Organizational newcomers typically have high uncertainty regarding how to do their job, how their performance will be evaluated, what types of social behaviors are normative, and what personal relationships within the organization might be beneficial to them (Miller, 1996; Miller & Jablin, 1991). Effective socialization reduces these uncertainties, helps newcomers cultivate productive relationships at work, and ensures that individuals and organizations benefit from their working relationship (N. J. Allen & Meyer, 1990; Fedor, Buckley, & Davis, 1997; Jablin, 1987, 2001; Lee, Ashford, Walsh, & Mowday, 1992; Meyer & Allen, 1988). Conse-

Andrew J. Flanagin (Ph.D., University of Southern California, 1996) is an associate professor in the Department of Communication at the University of California at Santa Barbara. Jennifer H. Waldeck (M.A., 1996, California State University, Long Beach) is a doctoral candidate in the Department of Communication at the University of California at Santa Barbara who is currently working as the director of Curriculum Development for the Scher Group in Cleveland, Ohio. Correspondence concerning this article should be addressed to Dr. Andrew J. Flanagin, Department of Communication, University of California at Santa Barbara, Santa Barbara, CA 93106-4020; e-mail: flanagin@comm.ucsb.edu.

quently, newcomers and experienced organizational members typically engage in formal and informal organizational socialization activities before, during, and after their entry into the organization.

Researchers have thoroughly explored the ways in which newcomers have been traditionally socialized—through formal and informal face-to-face interactions among newcomers and "old-timers" and via traditional paper documents such as memos and training manuals (e.g., Allen & Meyer, 1990; Fedor et al., 1997; Jablin, 1987, 2001; Lee et al., 1992; Meyer & Allen, 1988; Miller, 1996; Miller & Jablin, 1991). However, advanced communication and information technologies have profoundly influenced the means by which organizational members gather and disseminate information, the relations among organizational participants, and organizations' external communication efforts.1 Jablin (2001) underscores the importance of these developments in his recent review of organizational socialization processes by noting that "it seems apparent that changes in communication technology . . . need greater consideration in future research" (p. 745). Moreover, as careers shift to emphasize professional (rather than organizational) identifications (see Cheney, Christensen, Zorn, & Ganesh, 2003; Russo, 1998), the very notion of organizational socialization itself may be in transition. In this article, we argue that in addition to understanding the dynamics of traditional socialization, researchers must examine how advanced technologies alter the nature and content of socialization-related communication. We argue that a framework for examining the predictors of newcomer uses and perceptions of communication technologies during socialization is critical.

The examination of organizational socialization in view of advances in electronic technologies is important for two primary reasons. First, as technology becomes more sophisticated, the processes of socialization are changing. Communication technologies affect information seeking by increasing the range of communication channels available to newcomers. For example, the widespread use of technologies such as electronic bulletin boards, chat groups, organizational web pages, and electronic databases provide individuals with many more ways to seek information and communicate during their transition.

Second, with the advent of new organizational forms, the processes of organizational socialization are more important to understand than they have been in the past. As organizations become more dispersed, decentralized, and virtual, understanding the processes by which organizational members become affiliated with their colleagues is a challenging and central—yet understudied—concern of organizational communication theorists.[2] The use of communication and information technologies in this regard is a way to achieve organizational affiliation and a central focus of organizational members' everyday work and social relationships. Because traditional opportunities for socialization-related communication, such as frequent face-to-face meetings, extended contact, or chance encounters with colleagues, may be less common or even nonexistent in some organizations, an examination of the role of technologies in these capacities is timely and crucial.

In this article, we explicate technology use in the organizational socialization process by constructing a series of propositions that result in the model illustrated in Figure 1. We do so by examining the role of information acquisition in successful socialization, exploring the use of advanced technologies in this pursuit, and considering the crucial and related processes of media selection and use in depth. To understand media selection and use in the organizational socialization process, we consider the role of media characteristics and three broad categories that contribute to our understanding of media choice: socialization factors, individual characteristics, and group and organizational norms. In addition, to expand the scope of organizational socialization research in light of contemporary technologies, we more fully describe the model in Figure 1 by proposing hypotheses concerning specific socialization factors, individual characteristics, and group and organizational norms for technology use. These hypotheses are provided to demonstrate potentially testable relations generated from the main constructs proposed in the model. We conclude by discussing the theoretical and practical implications of our perspective.

SUCCESSFUL ORGANIZATIONAL SOCIALIZATION AND THE ROLE OF INFORMATION ACQUISITION

Organizational socialization has been defined as "the process by which organizational members become a part of, or absorbed into, the culture of an organization" (Jablin, 1982, p. 256), "the process by which a person learns the values, norms, and required behaviors which permit him or her to participate as a member of the organization" (Van Maanen, 1978, p. 67), and "the process of 'learning the ropes,' being indoctrinated and trained, and being taught what is important in the organization" (Schein, 1968, p. 2). Other constructs associated with socialization include "assimilation" (Jablin, 1984), "fitting in" (Black & Ashford, 1995), "sensemaking" (Louis, 1980), and "adaptation and accommodation" (Hall & Schneider, 1972). We use the term *socialization* to refer to the period beginning with the interview process during which new organizational members (a) simultaneously seek and are provided with information regarding technical, referent, and relational norms within the organization; (b) attempt to become proficient in their specified professional role(s) and in balancing their work with personal concerns; and (c) are assimilated into social role(s) within the organization and their work unit.

Successful organizational socialization has substantial benefits. Among the outcomes of successful socialization are newcomer (a) job satisfaction (Jablin, 1982; Morrison, 1993), (b) perceptions of success and commitment to the organization (N. J. Allen & Meyer, 1990; Ashforth & Saks, 1996; Baker, 1995; Buchanan, 1974; Jones, 1986; Laker & Steffy, 1995), (c) longevity in the organization (Katz, 1985; Morrison, 1993), (d) performance proficiency (Chao, O'Leary-Kelly, Wolf, Klein,
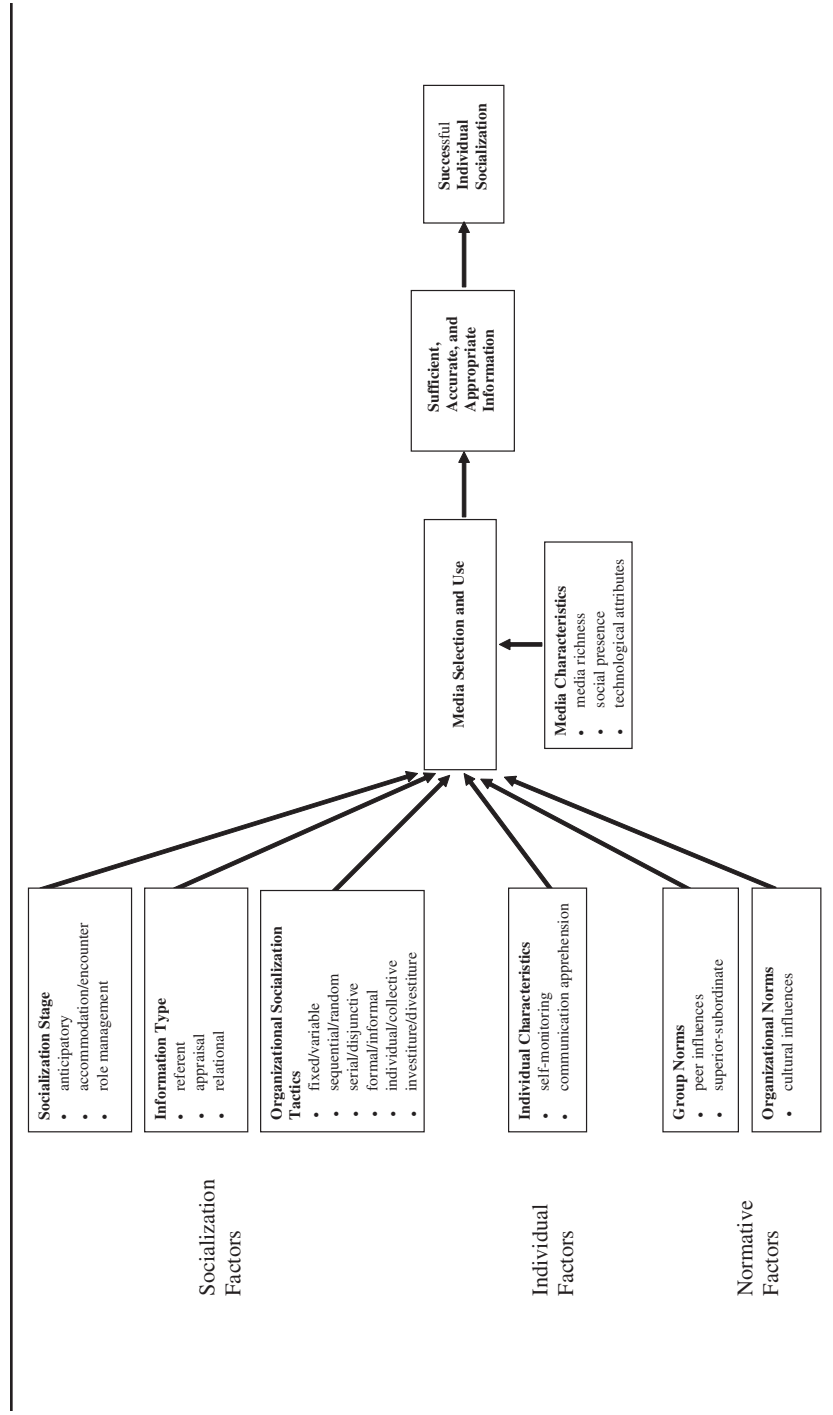
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Figure 1. Socialization and Technology Research Model

Socialization
Factors

Socialization Stage
- anticipatory
- accommodation/encounter
- role management

Information Type
- referent
- appraisal
- relational

Organizational Socialization Tactics
- fixed/variable
- sequential/random
- serial/disjunctive
- formal/informal
- individual/collective
- investiture/divestiture

Individual
Factors

Individual Characteristics
- self-monitoring
- communication apprehension

Normative
Factors

Group Norms
- peer influences
- superior-subordinate

Organizational Norms
- cultural influences

Media Selection and Use

Media Characteristics
- media richness
- social presence
- technological attributes

Sufficient, Accurate, and Appropriate Information

Successful Individual Socialization

& Gardner, 1994; Jablin, 1984; Morrison, 1993; Reichers, 1987; Schein, 1968), and (e) affect for one's department or work unit (George, 1990). In these ways, effective socialization is mutually advantageous for organizations and for individuals.

Successful organizational socialization relies on individuals becoming initiated to their task, understanding their roles, and comprehending the criteria by which they will be evaluated (Feldman, 1976). In addition, high levels of realism (i.e., the extent to which individuals have an accurate notion of what organizational life is like) and congruence (the extent to which a prospective hire perceives that the organization's resources and his or her needs/skills are mutually satisfying) result in positive newcomer perceptions of socialization experiences (Van Maanen, 1978). In spite of these findings, however, perceptions of successful socialization generally are highly contextualized within organizational settings. There is no universally accepted notion of what constitutes successful socialization.

However, Jablin (1987, 2001) suggests that an important feature of a newcomer's socialization is behavioral and attitudinal modification. Modification involves learning the organization's norms for behavior, attitudes, structure, and conflict resolution and aligning one's own norms accordingly. Research indicates that when newcomers take an active role in their socialization experiences by seeking and processing information about the organization and their roles, they report a heightened sense of information adequacy, the concomitant ability to modify their behaviors, and, ultimately, more effective socialization than individuals who take a less proactive approach (Bauer & Green, 1998; Comer, 1991; Jablin, 1984; Morrison, 1993; Reichers, 1987).

To learn organizational norms and subsequently modify their behavior, individuals must receive sufficient, accurate, and appropriate information about their work groups and organization. However, a number of studies reveal that newcomers are dissatisfied with the amount of information they receive during socialization (Comer, 1991; Jablin, 1984; Teboul, 1994). These findings indicate that without appropriate information, effective socialization may be an unrealistic expectation.

> *Proposition 1:* Individual perceptions of successful socialization are a function of obtaining information that is sufficient, accurate, and appropriate.

Although studies indicate that information is difficult for some newcomers to access, the increased use of communication and information technologies in organizations may expand opportunities for individuals to obtain information that will contribute to successful socialization. As interactive and information-disseminating technologies proliferate, organizational newcomers have greater opportunity to communicate with their colleagues and learn about their workplace. Consequently, to assess organizational newcomers' socialization experiences, researchers must address what influence technology has on newcomer modification behaviors and socialization effectiveness.

THE USE OF ADVANCED TECHNOLOGIES FOR GATHERING ORGANIZATIONAL INFORMATION

Technological advances have changed the availability of information and the nature of communication within contemporary organizations. Compared to more traditional means, electronic communication and information technologies can carry more information faster, at a lower cost, and to more people while also offering increased data communality, processing, and powerful recombinant capabilities (Beniger, 1996; Fulk & DeSanctis, 1995). Advanced communication and information technologies extend the number and variety of people involved in organizational decisions (Huber, 1990; Sproull & Kiesler, 1991), diminish temporal and physical interaction constraints (Eveland & Bikson, 1988; Kaye & Byrne, 1986), and increase horizontal and vertical communication (Hinds & Kiesler, 1995).

> Successful organizational socialization relies on individuals becoming initiated to their task, understanding their roles, and comprehending the criteria by which they will be evaluated.

Moreover, the use of advanced communication and information technologies in organizations is widespread and commonplace. Decreasing technology costs and, often, a critical mass of users (Gurbaxani, 1990; Markus, 1990) have facilitated substantial use of electronic mail (Fulk, 1993; Markus, 1994; Rice, 1992; Schmitz & Fulk, 1991), corporate Intranets (Hills, 1997), Web pages (Flanagin, 2000), videoconferencing (K. E. Finn, Sellen, & Wilbur, 1997), and group support systems (Benbasat & Lim, 1993; Dennis & Gallupe, 1993; Kraemer & Pinsonneault, 1990; Seibold, Heller, & Contractor, 1994). In light of research indicating that individuals often perceive that information is difficult to access during periods of organizational socialization (Comer, 1991; Jablin, 1984; Teboul, 1994), the benefits of communication technologies relative to information dissemination have important implications for socialization.

For instance, organizational Web sites may be a source of considerable information for individuals prior to personal contact with organizational members. During the interview (anticipatory socialization) phase, online information provides the prospective hire the convenience of avoiding long-distance telephone calls and needless travel for an interview if it appears that the organization is not compatible

with his or her needs and skills. This technology provides time and cost savings for the organization as well.

Upon entering an organization, new members may consult internal databases (such as Intranets) for policies, information about how to use equipment and obtain supplies, and notices about meetings and other organizational events. Use of databases rather than face-to-face contact may save time and be potentially face-saving for newcomers (e.g., by sparing them the embarrassment of posing inappropriate questions or ones with obvious answers).[3] Similarly, e-mail can facilitate information exchange about organizational practices and policies and provide an efficient means of communication. In general, communication technologies affect the potential for and the dynamics of information exchange as well as interpersonal relationships. Consequently, with the aid of these technologies, newcomers can learn organizational lessons critical to their ability to appropriately modify their behaviors and evaluate their socialization experiences.

Technology use, then, seems to promise benefits to organizational newcomers seeking to reduce their uncertainty about the organization, develop positive connections with others, and fit in among experienced organizational members. Technology use can alter the process of organizational socialization, possibly making it more efficient, less stressful, and less ambiguous. Moreover, technologies can enable information to be more widely distributed and readily available to a broad range of organizational members than with more traditional forms of face-to-face socialization and tools for information dissemination.

> *Proposition 2:* Obtaining information critical to successful organizational socialization is a function of technology selection and use.

MEDIA SELECTION AND USE

A medium's attributes or characteristics contribute to newcomers' selection and use of electronic technologies. Social presence theory (Short, Williams, & Christie, 1976, p. 62) proposes that when information is complex, technology users will assess the "degree to which a medium is perceived as conveying the presence of communicating participants" (Rice, 1993, p. 452) and select the medium that they believe has the highest social presence. Like the social presence model, media richness theory (Daft & Lengel, 1984) proposes that people select communication technologies based in part on the attributes of the medium. The theory posits that media can be arranged on a continuum from lean to rich, based on their speed of feedback, variety of channels, personalness of source, and richness of language used. Based on these attributes, media richness theory proposes that effective communication occurs when there is a match between the richness of a medium and the complexity of the communication task for which it is selected.[4]

T. A. Finn and Lane (1998) propose a number of technical attributes of communication technologies, including directionality, number of access points, user

interface, and the degree of nonsimultaneity, to name only a few. They suggest that these attributes influence the selection of a particular communication technology over others, depending on the task at hand. For instance, highly socially present or rich media, with a complex user interface, may be best at supporting socialization activities such as the discussion of subtle, informal organizational norms. Simple information tasks, such as responses to questions about straightforward organizational procedures that are not time sensitive, could be facilitated by less socially present or rich media whose nonsimultaneity is not problematic (e.g., e-mail or the corporate Intranet). Specific predictions regarding media choice are made later in this article, but Proposition 3 outlines the general relation between media characteristics and their use by organizational newcomers:

> *Proposition 3:* Newcomer selection and use of advanced communication and information technologies are a function of media characteristics.

Beyond these technical considerations, however, technology choice and use are inherently social phenomena (Winner, 1986) guided by individuals and their contexts. Thus, media selection and use also depend on specific organizational socialization factors, the characteristics of the individuals who might use them, and the norms of the groups and organizations involved in the socialization processes. More specifically, individual characteristics constitute sources of variation within the boundaries set by normative factors that dictate the likely range of organizational media choices and behaviors. In the current context, however, organizational socialization factors are the central predictors of media selection and use, given the specific socialization stages, the types of information appropriate for each stage, and the socialization tactics employed by organizations, all of which serve to heavily influence individuals' specific media choices. To assess the role of these contextual factors on media selection and use, we next examine socialization factors, individual characteristics, and normative factors in the organizational newcomer socialization process.

SOCIALIZATION FACTORS

Three features of organizational socialization are likely to influence newcomers' selection and use of particular media (see Figure 1). These include (a) the stage of socialization, (b) the type of information they seek, and (c) the dominant socialization tactics employed by the organization.

Stages of Socialization

Although socialization can begin early in childhood, as individuals learn about their parents' work and develop a general sense of what it means to work (through family, peers and friends, the media, part-time work, and educational institutions)

(Jablin, 2001), most studies of socialization within organizations identify anticipatory socialization as the first phase. During this period, a prospective employee and an interviewer/recruiter, other members of the organization (e.g., high-profile organizational members, potential colleagues), or sources outside the organization (e.g., friends, family, teachers) exchange information. Prospective newcomers form expectations about the job, transmit information (in an effort to obtain the job), process information (in an effort to determine if the job is appropriate for him or her), and make decisions regarding employment.

Advanced communication and information technologies offer great promise during anticipatory socialization. For instance, many organizational Web sites offer extensive information about their products and services, career opportunities, and contact information regarding employment. Some organizations even offer "Resume Builder" technology that allows prospective hires to transmit their personal information directly to the organization.[5] E-mail, often available directly through hyperlinks on the organization's Web site, enables prospective organizational members to communicate with current ones. In these ways, technology can facilitate anticipatory socialization by offering increased opportunities for communication and greater accessibility to organizational information. Consequently, socialization experiences can be enhanced by technology use that heightens prospective hires' sense of realism, an important indicator of socialization effectiveness (Feldman, 1976).

During the second phase of organizational socialization, accommodation/ encounter (Feldman, 1976), an individual is new to the job, observes what the organization is really like (vs. his or her expectations based on information received during anticipatory socialization), and begins to participate in the organization's activities. New members become initiated to their task (measured by the extent to which they feel competent and accepted as a full working partner within the organization/ group), define roles (measured by the degree of explicitness with which the new employee has agreed with the work group on what tasks are to be performed, deadlines, and priority of work assignments), and learn from their supervisor the criteria for evaluating their progress in the organization (Feldman, 1976).

Compared to the information that is exchanged during anticipatory socialization, communication during accommodation may be more ambiguous, complex, and nuanced. Although there is ample evidence that newer media such as e-mail and other forms of computer-mediated communication are used effectively for socioemotional tasks (Danowski, 1993; Markus, 1994; Parks & Floyd, 1996; Rheingold, 1993; Rice & Love, 1987; Walther, 1992, 1996), interpersonal relationships that result in collegial acceptance at work may be more difficult to initiate and sustain via mediated communication. For instance, some aspects of a newcomer's role may be difficult to understand without some face-to-face interaction and traditional training.

The third stage of organizational socialization, role management or metamorphosis, is characterized by conflicts within the work group, their resolution, and efforts to mediate others' conflicts (Feldman, 1976; Kram, 1983). During this

period, Kram (1983) notes that informal, personal communication typically facilitates a newcomer's development and that learning implicit norms and balancing professional and personal concerns usually results from the development of interpersonal relationships. Compared to the anticipatory and accommodation phases, role management requires complex negotiation of interpersonal relations.

> The use of technologies can affect the role that organizational newcomers take in their own information procurement and, consequently, their sense of information adequacy and satisfaction with the socialization process.

Flanagin and Metzger (2001) combined models of organizational media choice with uses and gratifications perspectives to assess individuals' motivations for using a variety of traditional and newer media. They found that the main motivations for media use included information seeking, learning, play, leisure, persuasion, social bonding, relationship maintenance, problem solving, status, and insight. To assess media use in the contemporary media environment, they examined these motivations in conjunction with traditional and newer media. Results of their study showed that Internet-based information retrieval technologies were heavily used for information seeking, that unmediated interpersonal channels such as the telephone, e-mail, and Internet-based conversation tools were used heavily for social bonding, and that face-to-face communication stood out as the channel most heavily used for persuasion and problem solving. These results help to inform research that takes account of the stages of socialization in view of media usage.

Thus, in organizations where there is the opportunity to communicate via a variety of mediated and nonmediated communication channels, we propose the following:

Proposition 4: The use of advanced communication and information technologies by newcomers is a function of socialization stage.

Hypothesis 4a: Individuals will use communication technologies that are low in richness more during anticipatory socialization, relative to other stages, to communicate with organizational members.

Hypothesis 4b: Newcomer use of communication technologies that are low in richness will be less frequent during accommodation than during anticipatory socialization.

Hypothesis 4c: Newcomers will utilize communication technologies that they perceive to be richer during the role management stage of socialization.

Hypothesis 4d: Technologies most appropriate for information seeking will be used most heavily during anticipatory socialization.

Hypothesis 4e: Technologies most appropriate for social bonding will be used most heavily during the accommodation stage of socialization.

Hypothesis 4f: Face-to-face communication, most appropriate for persuasion and problem solving, will be used most heavily during the role management stage of socialization.

Information Type

Miller and Jablin (1991) contend that newcomers seek three primary types of information during socialization. These include referent information, which "tells the worker what is required of him or her to function successfully on the job" (p. 98); appraisal information, which "tells the worker if he or she is functioning successfully on the job" (p. 98); and relational information, which "tells the worker about the nature of his or her relationships with others in the organization" (p. 98). A number of studies point to newcomers' dissatisfaction with the amount of all three types of information they receive during socialization (Comer, 1991; Jablin, 1984; Teboul, 1994). Other research, however, indicates that when newcomers take an active role in their own socialization experiences (seeking and processing information about the organization and their roles), they report a heightened sense of information adequacy and consequently more productive socialization than individuals who take a less proactive approach (Bauer & Green, 1998; Comer, 1991; Jablin, 1984; Morrison, 1993; Reichers, 1987).

The use of technologies can affect the role that organizational newcomers take in their own information procurement and, consequently, their sense of information adequacy and satisfaction with the socialization process. For example, Badaracco (1991) identifies migratory and embedded organizational knowledge. Migratory knowledge includes policies, written procedures, blueprints, formulae, and engineering plans, for example, whereas embedded knowledge consists of social and normative procedures for interaction. Although migratory knowledge is easily and accurately transmitted via lean, electronic communication technologies (Monge & Fulk, 1999; Nonaka, 1994; Raghuram, 1996), embedded knowledge may require richer communication to effectively relay the information as intended (Daft & Lengel, 1984).[6] Consequently, whereas referent information may be readily available via mediated communication, embedded information may be available only by firsthand experience and ongoing, direct, interpersonal interaction.

Proposition 5: The use of advanced communication and information technologies by newcomers for socialization-relevant information gathering is a function of the type of information sought.

Hypothesis 5a: Newcomers will be more likely to use advanced communication and information technologies to gather referent information than they will to gather appraisal and relational information.

And if we assume that technologies used to locate referent information are relatively efficient, we can propose the following:

> *Hypothesis 5b:* The extent of newcomer use of advanced communication and information technologies for gathering referent information is positively related to satisfaction with the socialization process.

Organizational Socialization Tactics

Van Maanen and Schein (1979) argued that organizations use six tactics to socialize newcomers. Each tactic exists on a bipolar continuum. First, fixed tactics provide the new member with precise knowledge of the time it will take to complete a given step of socialization or the entire socialization process. Conversely, variable tactics do not provide newcomers with any advance notice of their expected transition timetable. Second, sequential tactics provide a fixed sequence of steps that leads to role competence, compared to random tactics that keep the sequence ambiguous or frequently changing. Third, serial tactics are utilized when experienced members, either individually or in groups, mentor newcomers about to assume similar roles in the organization, and disjunctive tactics do not employ explicit role models for newcomers. Rather, newcomers are left alone to determine how the socialization process will proceed and how they will learn.

Fourth, socialization strategies may be either formal or informal. Formal socialization experiences are segregated from the ongoing work context in settings such as corporate universities or classroom training sessions. Less formal programs may involve the newcomer shadowing an experienced member for a period of time. Fifth, individual socialization encompasses one-on-one newcomer-senior partnering, and self- or organization-imposed newcomer isolation. Conversely, collective tactics involve placing an individual newcomer in a cohort of those who are provided with an identical set of experiences, resulting in relatively similar outcomes for each member. Finally, investiture tactics validate the "viability and usefulness" of the professional identity a newcomer already possesses (Van Maanen, 1978, p. 34), as opposed to divestiture strategies that "deny and strip away certain entering characteristics of a recruit" (Van Maanen, 1978, p. 34).

Researchers also have advanced our understanding of Van Maanen and Schein's (1979) perspective by demonstrating a number of outcomes of socialization tactics. For instance, individual (variable, random, disjunctive, informal, individual, and investiture) tactics are positively related to role innovation because newcomers tend to question and/or alter the status quo, thereby influencing the organization (N. J. Allen & Meyer, 1990). By contrast, institutional tactics (fixed, sequential, serial, formal, collective, and divestiture) are associated with custodial outcomes because newcomers tend to sustain the status quo and are heavily influenced by the organization. In addition, institutional tactics allow for newcomer interaction with peers and organizational members and result in more rapid socialization than do individual tactics (N. J. Allen & Meyer, 1990; Baker, 1995; Reichers, 1987).

Similarly, Hart, Miller, Johnson, and Johnson (1998) found that institutional tactics are related to superior-subordinate openness. Thus, the socialization tactics employed are clearly related to newcomers' perceptions of the frequency and quality of communication exchange. In turn, we reason that when communication is frequent, open, and facilitates rapid socialization, newcomers will rely more frequently on face-to-face communication (when it is available) and/or interactive forms of mediated communication (e.g., e-mail vs. a database). Conversely, when socialization tactics promote isolation and infrequent interaction, newcomers are likely to rely less on face-to-face communication and more on one-way forms of mediated communication.

> *Proposition 6:* Advanced communication and information technology use by newcomers during socialization is a function of the predominant organizational socialization tactics employed.
> *Hypothesis 6:* When an organization employs institutional (vs. individual) socialization tactics, newcomers will rely more heavily on communication channels that promote direct interaction among participants.

INDIVIDUAL FACTORS

In addition to socialization factors, individual characteristics also affect an individual's media selection and use during organizational socialization. Organizational technology researchers advocate multiple influences on users' decisions to implement technology (e.g., Barley, 1986; Fulk, Schmitz, & Steinfield, 1990; Markus & Robey, 1988; Short et al., 1976), and social scientists have long known that individual-level variables cannot be discounted in explaining behavior (for an overview of personality constructs that influence communication behaviors, see Steinfatt, 1987). Consequently, the following proposition:

> *Proposition 7:* The use of advanced communication and information technologies during socialization is a function of newcomers' individual characteristics.

Newcomer self-monitoring and communication apprehension are particularly relevant individual-level variables to consider in this context. Past research has shown each of these factors to be important in the socialization process, by virtue of their focus on self-presentation (Morrison, 1993; Sypher & Sypher, 1983; Teboul, 1994) and interpersonal communication competence (Richmond, 1997), which are crucial to successful socialization. Moreover, because communication and information technologies provide strategies whereby the impact of these individual traits is potentially modified, these factors are important to consider in the context of new technology use in organizational socialization.

In addition, self-monitoring and communication apprehension can be viewed as core constructs related to Uncertainty Reduction Theory (URT) (Berger, 1979; Berger & Calabrese, 1975), which can be applied to explain individuals'

technology selection and use in the socialization process. URT explains the manner in which individuals reduce the uncertainty inherent in new relationships by specifying the interaction rituals that people develop to cope with this recurring situation. Specifically, people invoke several means to reduce uncertainty, including passive, active, and interactive strategies. Passive strategies reduce uncertainty through the unobtrusive observation of others, active methods take advantage of information gleaned from third parties, and interactive strategies rely on direct communication with others to obtain relevant information. In many respects, similar processes of uncertainty reduction occur in organizational socialization: Organizational newcomers seek to reduce uncertainty about the potential position, about coworkers, and about the organization. The particular strategies that newcomers select to achieve this reduction in uncertainty are a function of individual characteristics such as self-monitoring and communication apprehension.

Self-Monitoring

Self-monitoring is a personality construct, highly related to one's view of his or her self-efficacy, that refers to pragmatic self-presentation that assists an individual in defining himself or herself in terms of specific social situations and roles (Snyder, 1987). High self-monitors pay close attention to their behavior and search constantly for cues regarding situationally appropriate behavior. Within the organization, high self-monitors place great emphasis on understanding the dynamics of the environment and strive to behave consistently with what is expected of them while causing minimal disruption to others (Snyder & Coupland, 1989).

One outcome of high self-monitoring might be to obtain information via advanced communication and information technologies rather than via more traditional means. For instance, a newcomer may perceive that an organizational database (such as Lotus Notes or a corporate Intranet) is a useful tool that will protect the newcomer's ego and others' perceptions of his or her knowledge and ability. When information can be gleaned from electronic sources, high self-monitors may achieve their goal of appearing as knowledgeable as experienced individuals around them—without having to ask a number of questions. Similarly, high self-monitoring newcomers may regard e-mail as a way of obtaining information from trusted others in an unobtrusive manner that allows the other to respond at his or her convenience. Web sites permit the newcomer to learn about organizational competitors, the community in which the organization is located, and the public image of the organization (e.g., by examining its Web page). Such passive strategies are effective and safe means by which to reduce the uncertainty in the novel situation of being an organizational outsider (Berger, 1979). When newcomers rely on these technologies for information during socialization, they subsequently appear knowledgeable and experienced—attractive attributes for the high self-monitor.

By contrast, those individuals who are low in self-monitoring behavior may be less apt to use these types of technology during socialization than those who are high self-monitors. Low self-monitors tend to rely on formal, traditional channels

for acquiring organizational information (Latham, 1985); thus, these individuals may regard asking questions, attending classes, and obtaining information through social interaction as preferred information-seeking tactics over technology use. Such interactive strategies might serve low self-monitors better in their pursuit of uncertainty reduction (Berger, 1979). Sypher and Sypher (1983) concluded that high self-monitors were more successful in organizations than low self-monitors because they were more selective in choosing when, how, and why to interact with others. Morrison (1993) and Teboul (1994) found that newcomers who asked fewer questions and who were perceived as having high levels of organizational awareness were viewed as more competent and credible than those who seemed unaware and asked numerous questions. Thus, whereas high self-monitors may be anxious about interacting with experienced organizational members for information that is available via technology, low self-monitors will be less afraid of revealing their uncertainty.

> *Hypothesis 7a:* Newcomers' self-monitoring will be positively related to their use of technologies that allow more passive—as opposed to active or interactive—uncertainty reduction strategies.

Moreover, because high self-monitors continually strive to behave in a fashion that is situationally appropriate, they should exhibit normative usage habits, that is, they should align their own use of technology with organizational norms in terms of frequency, the type of task for which the technology is used, and so forth.

> *Hypothesis 7b:* The effects of newcomers' self-monitoring on their use of advanced communication and information technology during socialization will be moderated by organizational norms for technology use.

Communication Apprehension

Communication apprehension (CA) is "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1997, p. 82). CA exists on a continuum ranging from high to low and may be persistent across communication contexts or only in specific situations. High CAs respond to their anxiety by avoiding or withdrawing from communication or, in some cases, by engaging in excessive amounts of illogical communication. Individuals with a high degree of communication apprehension are typically at a disadvantage in terms of organizational socialization in that "organizations tend to reward highly verbal individuals and either ignore quiet people or dismiss them" (Richmond, 1997, p. 259).

High CAs have traditionally suffered beginning with the anticipatory socialization period. Richmond (1997) notes that they are perceived as less competent and less task attractive, and are projected to be less successful on the job, to require

more training, to be less satisfied on the job, and to have more difficulty establishing good relationships with coworkers than their more verbal counterparts. This often results in a lower likelihood of being hired or even being offered an interview. High communication apprehension has important implications for individuals who are hired as well. High CAs report lower job satisfaction, are less productive, less likely to advance to supervisory positions, and more likely to be dismissed than low CAs (Richmond, 1997).

> Recent accounts suggest that newer media such as e-mail and other forms of computer-mediated communication are used effectively for socioemotional tasks.

Computer-mediated communication such as e-mail, electronic bulletin boards or work groups, or online forums may offer important benefits to the high CA who, without alternatives to face-to-face communication, would experience the debilitating effects summarized by Richmond (1997). Although the most extreme cases of communication anxiety will still affect newcomers in extreme ways, high CAs should appreciate the low intensity of interaction offered by some communication technologies. Moreover, the anonymity of certain media should be attractive to high CAs. Interactive forums for communication that do not involve face-to-face contact (such as e-mail) and information sources that do not require communication (such as the Web) allow high CA newcomers to learn and interact in ways that do not promote high levels of anxiety. Indeed, passive means of uncertainty reduction should be particularly appealing to high CAs due to the opportunity to gather information through nonthreatening, unobtrusive observation (Berger, 1979). Active strategies might also be attractive to the high CA even though some level of facilitation is required, but interactive strategies will likely be too daunting. Overall, we expect that high CAs, when given a choice, will rely on mediated technology over face-to-face communication for information seeking and interaction during organizational socialization more frequently than individuals who have less anxiety about face-to-face verbal encounters.

Hypothesis 7c: High communication apprehension is positively related to newcomers' decisions to use advanced technologies that allow more passive—as opposed to active or interactive—uncertainty reduction strategies.

Hypothesis 7d: Organizational newcomers with high levels of communication apprehension will report more effective socialization experiences when advanced com-

munication and information technologies are used for information seeking and inter-action than when traditional, face-to-face socialization tactics are employed.

NORMATIVE FACTORS

In addition to the importance of media attributes for individual media selection and use, there exist compelling social influences on organizational media-related attitudes and behaviors. For instance, the use of technology by one's work group is positively related to individual technology use, especially when group attraction is high (Fulk, 1993; Orlikowski, Yates, Okamura, & Fujimoto, 1995). Managerial technology use is also an effective predictor of individual technology use (Markus, 1994). Schmitz and Fulk (1991) found that workers' perceptions of e-mail useful-ness varied with perceptions of colleagues and supervisors, and Fulk et al. (1990) assert that media usage patterns are the result of "attitudes, statements, and behav-ior of co-workers" (p. 121). Thus, with regard to organizational socialization and technology use, organizational members send clear messages to newcomers regarding what types of behaviors (e.g., information seeking and interaction) and sense making via mediated communication channels are acceptable in a work group or organization. Specifically, group and organizational norms for technology use influence newcomers' attitudes toward and frequency of use of communication technology at work.

Rice (1993) reported that newer media were rated by users as more appropriate for information exchange tasks requiring low social presence. Similarly, Perse and Courtright (1993) found new media to be better for task performance and the com-puter to be rated low in social presence. However, recent accounts suggest that newer media such as e-mail and other forms of computer-mediated communication are used effectively for socioemotional tasks (Danowski, 1993; Markus, 1994; Parks & Floyd, 1996; Rheingold, 1993; Rice & Love, 1987; Walther, 1992, 1996). The use of lean media for rich tasks calls into question media choice models based primarily on users' rational assessments of media attributes.

Current evidence suggests that this discrepancy may be due to shifting norms and understanding of new media. Danowski (1993) proposed that media such as e-mail are actually rich media, not lean, because they stimulate discussion and interpreta-tion of meanings more than do other media. Fulk and Boyd (1991) note that research on media richness is more supportive of the media continuum as applied to traditional rather than new media. Markus (1994) echoes this position in her finding that media richness theory is fairly well able to predict perceptions and use of older communication technologies but that newer media behave less reliably. She attrib-utes this to the "shared cultural norms" surrounding these well-established tradi-tional technologies that are absent in the use of newer ones (p. 523).

These views suggest that examination of media characteristics independent of the broader communication contexts in which they are used is not an effective

strategy. Thus, although social presence and media richness models emphasize users' consideration of media attributes, recent evidence suggests that shared perceptions and collective experiences with technologies are important in the assessment and selection of media as well.

> *Proposition 8:* Organizational and group norms regarding communication technology use will influence newcomers' use of technologies during socialization.

In general, norms have a strong influence on beliefs, attitudes, and behavioral responses to situations. Importantly, norms provide cues regarding the appropriateness of behavior in a particular context (Jackson, 1965). Appropriate technology use involves mastering subtle but important dimensions such as the organization's usage norms (Markus, 1994) and technologies' symbolic nuances (Sitkin, Sutcliffe, & Barrios-Choplin, 1992; Trevino, Lengel, & Daft, 1987). In fact, Markus (1994) suggests that a key dimension of technology use in organizations is to "behave appropriately," implying that using technology consistently with one's colleagues is crucial for achieving socialization-related goals. Given that work group norms may differ from organizational norms, and social influence is heavily dependent on the salience and immediacy of the source, we expect that group norms will also have a great influence on individuals' technology use, in addition to those of the organization more broadly.

In addition, research indicates that social influences regarding technology use may moderate the effects of the individual-level variables discussed so far. For example, under conditions where social influences to use a technology are strong, high self-monitors may be even more likely to use the technology than under conditions where technology use is not as widespread. Under such conditions, high self-monitors might scan the environment, recognize that technology use is normative, and use the technology as others do to fit in. Conversely, low self-monitors may be at a great disadvantage in organizations where heavy technology use is normative; when others use media on a frequent basis, low self-monitors who choose face-to-face interaction for certain information-seeking purposes over technology may be censured more strongly than in an organization where technology use is incidental. Thus, when newcomers are exposed to work groups, superiors, mentors, and peers—especially ones to whom they are attracted—they will be compelled to incorporate appropriate technology use into their work repertoires also.

> *Hypothesis 8a:* Group norms regarding the use of communication and information technologies will moderate the effects of organizational norms on newcomers' use of technology during socialization.
> *Hypothesis 8b:* Social influences regarding technology use will moderate the effects of individual factors on newcomers' use of technology during socialization.

As depicted in Figure 1, group and organizational norms for technology use should have a direct influence on newcomer technology selection and use. As a

result of their decisions regarding usage, newcomers will receive feedback regarding the appropriateness of (a) their technology use and (b) the information they obtained as a result of relying on technologies for socialization-related information. Based on such feedback, newcomers will form perceptions of socialization effectiveness (or ineffectiveness) and subsequently either engage in the same technology usage patterns or modify their behaviors.

DISCUSSION AND IMPLICATIONS

The model presented here expands the scope of organizational socialization theory in view of an evolution in organizational practice and form. Recent technical developments have prompted changes in the means of organizational communication, which, in turn, have contributed to the rise of the global or virtual organization. As these changes have occurred, organizational members increasingly rely on electronic technologies for communicating with one another and for retrieving relevant information (Poole, 1999). Consequently, this model makes a necessary move beyond traditional socialization research in its consideration of the socialization process as it is affected by the use of advanced communication and information technologies. The value of this framework is in its emphasis on the ways that communication can be sustained with means other than face-to-face contact, its identification of antecedents predicting newcomer selection and use of technologies, and its recognition of the potential outcomes of technology use for successful individual socialization.

Recent technological, economic, social, and organizational changes suggest extensions to socialization perspectives, additional issues worth consideration, and factors to be addressed in future research. Taken to the extreme, for example, virtual and other dispersed forms of organization, coupled with shifting organizational identifications, could possibly undermine the nature of the stages on which the traditional socialization literature is constructed: Employment decisions are fundamentally different for those who know they are short-term or contractual employees only; opportunities to observe roles and to become initiated to the organization are inherently altered when collaboration takes place remotely; and the complex communication required for effective role management can be altered if conducted exclusively over computer-mediated channels. In cases where the features of virtual organizations are especially pronounced, the destabilization of the assumptions that undergird the state of knowledge on organizational socialization must be taken seriously. The extent to which existing models are appropriate conceptions of contemporary organizational socialization depends on the degree to which the bases of these models are undermined by recent changes.

For example, changes in the nature of the workforce may impact organizational socialization processes. Increasingly, nonstandard employment arrangements have augmented or replaced more traditional, long-term employment expectations

(Befort, 2003), accounting now for up to 10% of the workforce (Singerman, 2000). Nonstandard employment arrangements include contingent employment, independent contracting relationships, temporary help agency employment, and organizational contract work (Befort, 2003; Bendapudi, Mangum, Tansky, & Fisher, 2003; Kalleberg, 2003), resulting in the rise of blended workforces composed of standard and nonstandard employees (Davis-Blake, Broschak, & George, 2003). Nonstandard work arrangements imply changes for employee recruitment and selection, integration and identification, employee commitment, and human resources administration and training (Connell & Burgess, 2002). Accordingly, some suggest that the assumption underlying current models of socialization that organizational members are long-term employees may need to be altered (Cardon, 2002).

> Nonstandard workers may simply lack the motivation to engage sufficiently in anticipatory, accommodation, or role management stages of socialization beyond required minimum levels.

Indeed, indications are that these shifts are potentially detrimental to promoting effective employee relations. Davis-Blake et al. (2003) found that workforce blending worsened relations between managers and employees, decreased standard employees' loyalty, and increased their interest in leaving the organization. Kalleberg (2003) found similar divisions between organizational insiders and outsiders, as distinguished by those with and without standard employment relations, respectively. Finally, Connell and Burgess (2002) found that commitment for temporary workers was initially to themselves rather than to the temporary agency or the user firm, although the longer the duration of the contract, the more workers were integrated into and identified with the contracting firm. Overall, these findings suggest challenges for organizational socialization due to differences in baseline levels of commitment, perceptions of long-term tenure, and intergroup divisions prompted by blended workforces. In effect, effective socialization efforts appear to be disadvantaged in such bifurcated workforces.

Virtual workforces, however, do not suffer in the same manner from their nontraditional work relationships. In spite of decreased face-to-face interaction and heavy reliance on mediated communication and information sharing, moderately virtual workers actually identify more with their work team, organization, and occupation than those who work virtually for either small or large portions of their work week (Scott & Timmerman, 1999). Moreover, work-based social support can

mitigate potentially divisive effects of working in virtual teams (Wiesenfeld, Raghuram, & Garud, 2000), and electronic communication technologies have been shown to increase virtual workers' strength of identification with the organization (Wiesenfeld, Raghuram, & Garud, 1999). Taken together, findings on nonstandard and virtual workers suggest that commitment is a function of identification more than proximity.

For socialization research, this implies that nonstandard workers may simply lack the motivation to engage sufficiently in anticipatory, accommodation, or role management stages of socialization beyond required minimum levels. On the other hand, as more permanent organizational members become increasingly geographically dispersed, the very technologies prompting this dispersion also have the potential to unify organizational members and aid in their socialization. Overall, these distinctions parallel theories of social capital, which posit that the ability to form and sustain human relationships through organizational affiliations is fundamental to positive individual and social outcomes (see Putnam, 2000, 2002). As with social capital perspectives, organizational socialization may be facilitated (but not determined) by technological support.

Thus, although it is tempting to dismiss the stage model of socialization research, current evidence suggests that even highly dispersed organizational members become socialized to organizational and group norms; undergo anticipatory, accommodation, and role management socialization; and benefit from effective organizational assimilation. What may differ, however, is the duration of these stages, the technical means by which they occur, and the structure and forms of interaction within each, as already discussed. Although the stages may be less rigid, due to more fluid communication networks and highly efficient information sharing tools, they appear still to be intact. Consequently, we have adhered in large part to a vision of the organization as relatively bounded, in spite of recognition that technologies are prompting changes in organizational structure and form (for a discussion of the "container" view of organizations and its implications for organizational communication research, see Taylor, Flanagin, Cheney, & Seibold, 2000). In addition, limitations to the "virtuality" of organizations that functionally limit their capacities to outstrip the "containers" in which they operate suggest that although the nature of socialization may be shifting, its core features remain intact (Krackhardt, 1994; Miles & Snow, 1992; Schwarz & Brock, 1998; Victor & Stephens, 1999).

Nevertheless, the notion of the organization as relatively bounded is an assumption that may focus attention on organizational insiders to the exclusion of a consideration of other groups and other standpoints (Bullis & Stout, 2000). In essence, traditional views of the socialization process provide an "abstracted understanding of 'the' newcomer being socialized into 'the' organization" (Bullis & Stout, 2000, p. 69). Such traditional views may neglect consideration of the ways in which outsiders are excluded, for example, by limited access to formal and informal communication networks, exclusion from opportunities that arise from such access, and

exclusion by lack of access to the tools of the trade, including new technologies (e.g., see Bridges.org, 2003). Accordingly, consideration of cultural diversity remains an important ongoing concern in socialization research (Bauer, Morrison, & Callister, 1998).

To reach beyond the traditional view of organizational socialization, researchers may invoke a variety of strategies. For instance, some scholars (B. J. Allen, 2000; Bullis & Stout, 2000) make use of standpoint theory as a means to broaden the locus of socialization theory. Based on the "idea that the world looks different depending on one's social location" (B. J. Allen, 2000, p. 178), standpoint theory can expand the somewhat universal socialization experience often portrayed in the literature. In this manner, the socialization process can be viewed as part of a larger network of social relations. From our perspective, such a vision might also benefit from considering the role of technological developments. For example, traditional socialization models tend to imply that "all newcomers have access to similar information sources. On the contrary, women and other marginalized persons often are excluded from formal and informal networks that comprise important, powerful socialization resources" (Allen, 2000, pp. 181-182). Examining the use of technologies across various groups thus has important implications. The use of technologies to gather, disseminate, and share information may be important means by which to extend, guard, or expand these crucial information networks.

The propositions presented here also have important practical implications. First, the model should make apparent to newcomers the range of options for information seeking and communicating in organizations. Electronic technologies may be more effective socialization-related communication channels for some newcomers than traditional means—especially for those who suffer from high communication apprehension, or high self-monitors who prefer an anonymous or noninteractive way to acquire important information about their organizations.

Second, newcomers should also recognize the importance of group and organizational norms for technology use in their decisions to use media during socialization. Research clearly demonstrates that even if technology may yield valuable information, individuals should consider group and organizational use patterns to assimilate effectively. Tests of this model should indicate to newcomers which media are most useful according to the stage of socialization, the type of information the newcomer seeks, and the dominant socialization tactics employed by the organization.

The advances we suggest update and strengthen the current conceptualization of organizational socialization in meaningful ways. Because the effective use of communication and information technologies is a growing concern for organizations and individuals, an understanding of how and why people become socialized to use technology competently and consistently with their colleagues is essential. Research undertaken in the areas discussed here (potentially using as a springboard the hypotheses herein) will help predict who will assimilate successfully into contemporary organizations, how organizations might ease workers' transition to their new environment, and how to effectively use the technologies that constitute the

backbone of the organizational communication infrastructure. Importantly, research based on the proposed model will also serve to assist people in their efforts to become successfully socialized so that they may become productive and satisfied organizational members.

NOTES

1. Advanced communication and information technologies refer to devices (a) that transmit, manipulate, analyze, or exploit information; (b) in which a computer processes information integral to the user's communication or decision task; and (c) that have either made their appearance since 1970 or exist in a form that aids in communication or decision tasks to a significantly greater degree than did pre-1971 forms (Huber, 1990, p. 238). Examples relevant to the current model include Internet Web pages, e-mail, Intranets, and Internet-based chat facilities.

2. Recent scholarship has focused on the related, but distinct, issue of organizational identification in virtual organizations. For example, Wiesenfeld, Raghuram, and Garud have examined structural and relational factors associated with employee adjustment to virtual work (Raghuram, Garud, & Wiesenfeld, 2001), virtual workers' need for affiliation and the work-based social support they experience (Wiesenfeld, Raghurum, & Garud, 2001), and the role of technology in the creation and maintenance of identity among members of virtual organizations (Wiesenfeld, Raghuram, & Garud, 1999).

3. Of course, technology usage can also come at a cost. For example, relying on databases over face-to-face interaction may result in outdated information, a lack of personal connection, and misunderstandings of nuanced information. Throughout this article, such potential costs to technology usage should be considered in conjunction with the enormous potential of these tools to aid in effective organizational socialization.

4. Empirical support for the media richness model has been mixed, and research following Daft and Lengel's (1984) initial statement of the media richness model of media choice has provided several refinements, restatements, and additions. Although support has been found for the matching hypothesis (Russ, Daft, & Lengel, 1990; Trevino, Lengel, & Daft, 1987), findings have also contradicted the theory, implying that match may be subject to social processes surrounding media use and not simply based on rational choice (Markus, 1994). In addition, new communication media have been assimilated into the original media richness continuum (Trevino, Lengel, Bodensteiner, Gerloff, & Muir, 1990), and some studies have found media to be ranked lower than predicted in richness (Schmitz & Fulk, 1991; for an overview of continuum ranking research see Rice, 1992; Rice et al., 1992). Also, symbolic cues and situational determinants such as the desire to convey urgency, indicate importance, or support concurrent tasks have been found to influence the choice of medium (Sitkin, Sutcliffe, & Barrios-Choplin, 1992; Trevino et al., 1987; Valacich, Paranka, George, & Nunamaker, 1993). Thus, in many instances individuals' media choices are not determined by purely rational decisions based on a match of task equivocality and medium richness. The influence of these social or normative factors is covered in detail later in this essay.

5. For instance, Microsoft encourages prospective employees to transmit their resumes via www.microsoft.com/jobs or to mail them to resume@microsoft.com. Microsoft reports that 70% of the resumes they receive daily arrive electronically via e-mail or the Web (Gates, 1996).

6. Related concepts include explicit and tacit knowledge (partially analogous to migratory and embedded knowledge, respectively; Nonaka, 1994) and social capital (Putnam, 2000, 2002). These related concepts differ, however, from the emphasis on knowledge transfer that can occur via technologies, intended here. Specifically, tacit knowledge may be so deeply embedded as to be difficult to transfer with the aid of even highly advanced technologies (Flanagin, 2002), and social capital formulations emphasize the structure of human relations to a degree that seems to extend beyond the technological transfer to which we wish to draw attention with regard to socialization processes.

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