

# 13 Anonymous Communication

## Unmasking Findings Across Fields

*Craig R. Scott*

Rutgers University

*Stephen A. Rains*

University of Arizona

*Muge Haseki*

Rutgers University

Research examining anonymous communication has a rich history spanning several academic fields and numerous decades. Despite this broad and longstanding interest, few attempts have been made to summarize the body of scholarship on anonymous communication. This chapter reviews research on anonymous communication from journalism, organization studies, economics, information systems, psychology, social psychology, computer-mediated communication, and education—tracing the findings related to three process (i.e., participation, influence, and feedback) and outcome (i.e., trust, performance, and identification) variables. The findings reflect the diversity of ways in which anonymity is conceptualized and operationalized across fields. Although the results related to several of the variables are mixed, there is sufficient evidence to suggest that anonymity facilitates participation and undermines trust.

From anonymous Puritan attacks against the Anglican Church in the 1500s to a wide range of unsigned paintings and writings through much of recorded history, and from the pseudonymously published Federalist Papers over two centuries ago to the millions of unidentified online messages today, anonymous communication has occurred, and its merits debated, in numerous countries at numerous times. Despite this history, and a general view that anonymity is a basic right of free speech in most democracies (Bronco, 2004), Crews (2007) suggests the “long tradition of anonymous communications faces an image problem in today’s age of spam, computer viruses, spyware, denial-of-service attacks on websites, and identity theft” (p. 97). Indeed, one of the key reasons anonymous communication is especially relevant today is due to the rise of new information and communication technologies (ICTs)—especially the Internet—which is distinctive in part

because of the anonymity it affords many of its users (Bargh & McKenna, 2004; Turkle, 1995). As Bronco (2004) notes, communication technology makes anonymity more possible on one level, while simultaneously making communication more identifiable through logs, profiles, and other identifying information.

Other forces have led to a renewed sense of interest in anonymous communication. Ongoing debates about anonymous news sources and unidentified leaks have grown with the proliferation of alternative media and a more competitive push toward breaking news quickly. Corporate scandals (e.g., Enron) have led to passage of the Sarbanes-Oxley Act in the United States, which requires provision of anonymous means (e.g., anonymous telephone tiplines) for organizational members to report wrongdoing (Walker, 2004). Another major force stems from heightened concerns about security and calls for accountability following the events of September 11, 2001. Although several scholars have noted that identification technologies have greatly expanded in recent years (cf. Marx, 2001), Bronco (2004) underscores this point, explaining that “judicial and organizational officials are increasingly likely to take actions limiting one’s privacy and to provide identifying information in the name of national security—all of which erodes anonymity” (p. 127). This in turn has led to resistance in the form of new types of technologies designed to protect anonymity (Saco, 2002).

Considered together, these influences make anonymous communication an important topic for scholars across a number of fields. Though the concept is generally understood, it is somewhat complex and often confused with related constructs such as privacy.<sup>1</sup> Anonymous (1998) suggests the following definition for anonymity relevant to communication research: “the degree to which a communicator perceives the message source is unknown and unspecified” (p. 387). Source knowledge refers to issues of familiarity and knowing one by name and/or sight. Specification refers to the range of possible communicators (e.g., member of some small club, anyone online). Anonymous also claims anonymity is usefully considered as both technical and perceptual, and that it is more continuous than absolute. Indeed, confidentiality (when some know one’s identity, but agree not to share with others) and pseudonymity (where one uses a persistent alternate identity that does not necessarily correspond to one’s legal identity) both represent partial anonymity. Marx (1999, 2004) also offers useful sociological work on types of identity knowledge, which speaks directly to what makes individuals more or less anonymous when communicating. In addition to one’s name, these include demographics, location information, networks/relationships, objects owned, what one does, what one believes/feels, photos/images, and other trace information. Even with its obvious relevance to the discipline of communication, anonymity is a cross-disciplinary topic studied in several different fields, including psychology, economics, journalism and education. Anonymity is examined using a variety of methods and range of assumptions. Yet, relatively few works have

attempted to theorize or summarize research in this area. One notable exception is a series of articles emerging from a 1997 conference and published in a special issue of *The Information Society* (Froomkin, 1999; Kling, Lee, Teich, & Frankel, 1999; Marx, 1999; Nissenbaum, 1999; Teich, Frankel, Kling, & Lee, 1999; Wayner, 1999). At about the same time, a theoretical model of anonymous communication was published in the communication literature (Anonymous, 1998). Several years later, Rains and Scott (2007) published a model of receiver responses to anonymous communication and Christopherson (2007) offered a literature review of anonymity in Internet social interactions. Finally, Morio and Buchholz (2009) proposed a hierarchical structure of anonymity conditions specific to online interaction. Despite the value of all this scholarship, none is comprehensive in its efforts to describe, review, and/or theorize anonymous communication.

Our goal is to review major strands of research about anonymous communication in a single chapter, and analyze/synthesize findings across fields and research traditions to offer suggestions for moving forward on this important contemporary topic. Such an effort will ideally reveal a clearer, research-based picture of the processes and outcomes linked to anonymous communication—as well as identify key gaps in our knowledge and potential points of integration. We begin with our literature review in each of eight major disciplinary and interdisciplinary research areas. We conclude by identifying and discussing several areas of overlap in our findings and then suggesting directions for future research. Figure 13.1 illustrates the specific topics and fields examined in this chapter.

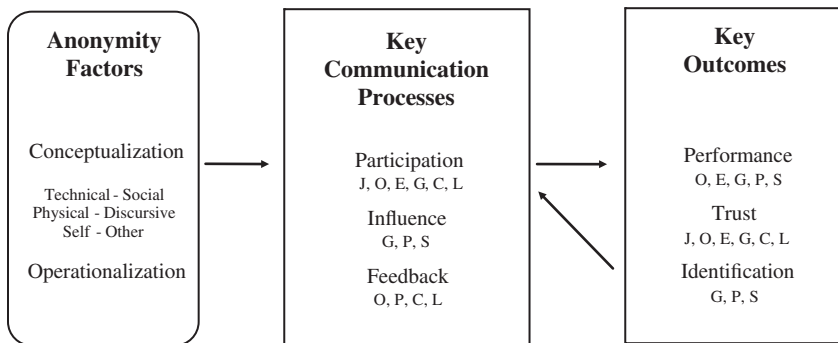


Figure 13.1 Descriptive model of anonymous communication research.

*Note.* Letter codes for each process and outcome refer to the research traditions containing relevant findings: J = Journalism, O = Organization/Management Studies, E = Economics, G = Group Support Systems from Information Systems, P = Psychology, S = SIDE in Social Psychology, C = Computer-Mediated Communication, and L = Education (Learning).

### Anonymous Communication

In order to assess the scope of peer-reviewed research examining anonymous communication, a broad search of EBSCO databases was first conducted.<sup>2</sup> The results of that effort led us to concentrate on original research in eight substantial areas within and across several research traditions: journalism, organization/management studies, economics, information systems (specifically group support systems, or GSSs), psychology, social psychology (especially social identity and deindividuation [SIDE] studies), interdisciplinary work on computer-mediated communication, and education. We have excluded research on technical protocols for designing anonymous computer systems as well as any research about the role of anonymity in the research process itself. We have also excluded research about anonymity from legal and literary studies, which is typically not original social scientific research comparable to that reported here. In an attempt to make sense of a sizable body of research that spans multiple different research traditions across several decades, we organize the review around three topics for each area of literature. These topics emerge primarily from the findings that cut across these areas. However, they are also consistent with other theoretical work, meta-analyses, and overviews of anonymity more generally (e.g., Anonymous, 1998; Bronco, 2004; Marx, 1999, 2004; Pinsonneault & Heppel, 1997; Postmes & Lea, 2000; Rains & Scott, 2007). Figure 13.1 provides a graphic representation of the research examined here and the research traditions relevant to each topic.

First, we begin by looking at the conceptual and operational definitions of anonymity. These include distinctions between key types of anonymity studied in the various fields: technical and social anonymity; physical and discursive anonymity; and self and other anonymity. *Technical anonymity* refers to anonymity (ostensibly) conferred by a feature of a technology, and *social anonymity* is the degree of anonymity that individuals perceive the technology actually offers. *Physical anonymity* occurs when one cannot see or is otherwise unaware that others are physically present, and *discursive anonymity* involves not being able to identify the name of a particular source or attribute a message to a particular source. *Self anonymity* is a sender's perception that he or she is anonymous to others, and *other anonymity* refers to a receiver's perception of a sender's anonymity. Central to these distinctions is the notion that anonymity is sometimes considered to be a discrete construct (i.e., individuals are either fully identified or completely anonymous) and other times considered to be continuous (i.e., individual may be relatively more or less identified). Additionally, this includes an analysis of the various ways in which anonymity is measured, manipulated, and otherwise assessed in this research.

Second, we examine three communication processes that seem relevant to much of this literature. Specifically, we examine three variables—each of which underscores a tension in the literature on anonymous communication; i.e., arguments exist suggesting that anonymity facilitates and or undermines the processes discussed here. *Participation* involves the level of contribution

one perceives can be made as well as the actual quantity of messages communicated. Here we examine the ways in which anonymity supports and/or undermines an environment or situation that fosters individual involvement and contribution. Research on *influence* focuses on factors involving the persuasion of others; thus, we broadly construe it to include research ranging from leaders who shape others' views to processes of choice shift as various group dynamics alter individual decisions. The research reported here involves the ways that anonymity facilitates and/or mitigates ability to impact the perceptions, attitudes, or behaviors of others. Finally, *feedback* processes concern efforts to evaluate another's performance or otherwise communicate information about one's own performance. The research here focuses more specifically on those instances where anonymity encourages and/or diminishes the exchange of evaluative information.

Third, we examine three key outcomes related to anonymity and anonymous communication. Although research points to several consequences linked to anonymity, we concentrate on a smaller set linked to traditional outcome measures and those more regularly tied to anonymity. *Performance* represents a traditional research outcome assessing quantity or quality of various forms of output. Here we examined the positive and negative implications of anonymity for this key measure of task accomplishment. *Trust* assessments are more specific to anonymous communicators and/or their messages, and pertain to issues of believability, credibility, and/or legitimacy. The research reported here analyzes how anonymity enhances and/or diminishes perceptions of communicators and their messages. Similarly, issues of *identification* as it pertains to a sense of connection and identity are also examined here—even though it is usefully viewed as both an outcome of anonymous interaction and as more of a process factor (see Scott, Corman, & Cheney, 1998).

Before we begin our review, two clarifications are needed. First, the research traditions we review do not necessarily cover all six processes and outcomes examined; however, as Figure 13.1 helps illustrate, each of these literatures addresses at least two key areas. Second, we seek to include both sender- and receiver-focused perspectives on anonymous communication when reviewing this research because that best reflects the variation in this literature as it addresses these key processes and outcomes.

### ***Journalism***

Anonymity has received a considerable amount of attention in journalism research. Source anonymity has been argued to be “an interesting dilemma for journalists ... many look upon the practice as, at best, a ‘necessary evil’” (Wulfemeyer, 1985, p. 81). Much of the research on anonymity in journalism involves conducting content analyses to determine the use and prevalence of anonymous sources in news reporting. A few studies cited below manipulate anonymity as an independent variable to evaluate how news stories that

include an anonymous source are perceived by readers. Throughout this work, anonymity is typically studied in regard to a particular news source cited within a news story. Though anonymity is not frequently defined, it is conceptualized in journalism research as a continuous construct referring to sources who are unnamed or have their identity “veiled” (Culbertson, 1976). Anonymity is operationalized through the use of pseudonyms, non-specific attributions (e.g., “senior officials”), and/or citing a source without including the name of a specific person. In this section, we review literature focusing on the implications of anonymity in journalism for participation and trust.

*Participation.* An avenue to explore the implications of anonymity for participation in the context of journalism is to consider how and when anonymous sources are used in news reporting. Several content analyses have been conducted to address this issue, focusing mostly on the use of anonymous sources in newspapers. In general, the findings from research conducted during the past 35 years suggest that anonymity is a staple of news reporting. Anonymous sources have been used in 54% of analyzed stories from the *New York Times* and the *Washington Post* (Culbertson, 1975) and between 70% and 81% of analyzed stories in *Newsweek* and *Time* (Culbertson, 1976; Wulfemeyer, 1985). Wulfemeyer (1985) analyzed one randomly selected issue per month of *Time* and *Newsweek* during 1982 and reported a mean of approximately 4 anonymous attributions per story. In a more recent study, Martin-Kratzer and Thorson (2007) conducted an analysis of 16 newspapers and 7 television news programs sampled during 2003 and 2004. Forty-one percent of the television network news stories analyzed and 21% of newspaper stories analyzed included at least one anonymous.

Several studies have examined the use of anonymous sources in addressing a general news topic or particular news event. Uses of anonymous sources in stories about international news and war, in particular, have been considered. Blankenburg (1992) examined stories published in the *New York Times*, the *Washington Post*, and the *Los Angeles Times*, reporting that 23%–30% of national and international news stories printed in the main news section included an anonymous source in February, 1990, and 26%–35% did so in February, 1991. Sheehy (2008) found that 70% of all stories about foreign news published on page one of the the *Washington Post* during even-numbered years from 1970 to 2000 included an anonymous source. Moreover, there is some evidence that anonymous sources are more likely to be used in stories about war than in non-war stories (Blankenburg, 1992; Martin-Kratzer & Thorson, 2007).

Research also has examined the use of anonymity in reporting about specific events. Anonymity has been examined in news coverage following the September 11 (Reynolds & Barnett, 2003) and anthrax (Swain, 2007) attacks, celebrity trials (Carpenter, Lacy, & Fico, 2006), the 2004 Democratic primary (Zeldes, Fico, & Lacy, 2008), U.S.-China relations (Chang, 1989), and international incidents (Algraawi & Culbertson, 1987). These studies found greater

uses of anonymous sources in sports-section stories about crime and vice or salaries (Blankenburg, 1992), stories about high-profile crimes (Carpenter et al., 2006), stories with speculation and conflicting reports (Swain, 2007), and depending on the specific news organization reporting (Reynolds & Barnett, 2003) or the nationality and type of sources included in the story (Algraawi & Culbertson, 1987).

In addition to the general use of anonymous sources in news reporting, researchers have examined the various labels applied to anonymous sources and to whom these labels are applied. Culbertson's (1975) analysis of the *New York Times* and the *Washington Post* showed that the most common labels used to describe anonymous sources were: "officials," "spokesman," and "sources." Of note, the word "anonymous" was the least frequently used label. "Official" and "aide" were the most common labels found in two studies of *Time* and *Newsweek* (Culbertson, 1976; Wulfemeyer, 1985). Research has also examined the entities that may serve as anonymous sources. In two studies, Culbertson (1975, 1976) found that persons were the most common anonymous sources followed by organizations, media institutions, and nations. In Chang's (1989) study of front-page articles in the *New York Times* and the *Washington Post* from 1950 to 1984 about U.S. policy regarding China, the most commonly cited sources were from the Executive Branch followed by unnamed sources, China, and Congress. Finally, a few studies have been conducted considering the utility and implications of anonymity for allowing sources and reporters to share confidential or private information. Gassaway (1988) conducted interviews with 15 individuals who had served as a confidential news source. Most of the respondents indicated that one motivation for serving as an anonymous source was to make information available to the public. The respondents also indicated being selective about the specific reporters with whom they shared information. An outcome of such selectivity is that 11 of the 15 respondents had their confidentiality maintained by the reporter.

St. Dizier (1985) surveyed two different groups of newspaper reporters during 1974 and 1984. All of the journalists reported using anonymous sources in 1974 and 97% did so in 1984. However, reporters felt significantly less hampered by not using anonymous sources and were significantly more likely to consult with their editor prior to using an anonymous source in 1984 than in 1974.

*Trust.* Beyond assessing the frequency with which anonymous sources are used in news reporting, several studies have examined the impact of source anonymity on perceptions of the general quality of news stories and sources. One issue of interest in this research has been perceptions of different labels used to refer to an anonymous source (Adams, 1962, 1964; Riffe, 1979). Adams (1962) reported some variation in the acceptability of source labels, with "the U.S. Government" and "the government" as the two most acceptable sources, and "indications," "trustworthy indications," and "political leaders" as the three least acceptable. Riffe (1979) attempted to replicate and extend

Adams' (1962) work. His findings suggest the possibility that perceptions of some anonymous source labels may have changed over time; 7 of the 18 labels originally used by Adams (1962) were perceived to be significantly less acceptable in 1979 than in 1960. Of those seven sources, three referred explicitly to government: "the U.S. government," "the government," and "a high government official." "Indications" was the only label rated significantly more acceptable in 1979.

Story attribution has also been experimentally manipulated and tested in several studies (Adams, 1964; Culbertson & Somerick, 1976; Fedler & Counts, 1981; Hale, 1984; Smith, 2007; Sternadori & Thorson, 2009). Participants read a story in which source attribution is manipulated and then register their perceptions of the story and or source. The results of this research generally suggest that stories with anonymous sources may be perceived no differently than stories with identified sources (Adams, 1964; Culbertson & Somerick, 1976; Hale, 1984; Smith, 2007). Stories with anonymous sources were rarely rated more (Fedler & Counts, 1981) or less (Sternadori & Thorson, 2009) positively than stories with identified sources or no sources at all.

In contrast to the experimental studies examining the influence of source anonymity, the results of Culbertson and Somerick's (1976) cross-sectional survey suggests that perceptions of anonymous sources in news may be more varied. When asked about anonymous news sources in general, more than two-thirds of participants reported them to be less believable than identified sources—though 14% said that they were *more* believable. Further, respondents were presented with a list of pro and con arguments and asked to rate, overall, whether anonymous news sources are good and bad. Almost two-thirds of participants reported that anonymous sources are good.

### ***Organization/Management Studies***

Research addressing anonymity in an organizational context tends to center on two topics primarily: whistleblowing (and other reports of wrongdoing) or various assessment/feedback programs. A smaller set of studies examines ethics or anonymity more generally. This research—which employs survey questionnaires, interviews, field experiments, and other methods—occurs in several developed countries and is most commonly published in business/management journals.

Anonymity in this research tradition is both a predictor and outcome variable as well as a theme emerging in more qualitative studies. Thus, anonymity (and some identified comparison group) is operationalized in a variety of ways: use of real names with details or an assumed name without details (Park, Blenkinsopp, Oktem, & Omurgonulsen, 2008), name or not (Bamberger, Erev, Kimmel, & Oref-Chen, 2005; Roch & McNall, 2007), individualized reports vs. group summaries (Antonioni, 1994), perceived confidence in ability to preserve one's anonymity (Miceli, Roach, & Near, 1988), in-person vs. telephone channels (Ayers & Kaplan, 2005; Kaplan, Pany, Samuels, & Zhang, 2009),



through scenarios where others are described as unidentified or identified (Bloom & Hautaluoma, 2001), etc. The only research to define anonymity, for readers or study participants, uses a more general definition not unique to this research tradition: “Anonymous communication occurs when the identity of the sender of a message is not known or specified for the receiver of that message. It is based on people’s perceptions” (Scott & Rains, 2005, p. 167). In this section we review the role of anonymity in organizations as it pertains to participation, feedback, performance and trust.

*Participation.* Some of the strongest evidence that anonymity facilitates participation comes from the research on whistleblowing and reporting of wrongdoing. In a large study of federal agency employees, Miceli et al. (1988) found that respondents who are more aware of complaint channels and more confident identity would not be revealed were more likely to blow the whistle. This was especially true for anonymous whistleblowing via internal channels, and somewhat less so for confidence in identity not being revealed when whistleblowing anonymously via external channels. Kaplan et al.’s (2009) experiment with MBA students reporting fraud found that participants were more likely to report wrongdoing to an anonymous telephone hotline than to a nonanonymous internal audit department—and reporting intentions to the hotline grew stronger as personal costs of anonymous reporting declined. Shawver and Clements (2008), in a study of accounting professionals, reported, “if guaranteed their anonymity, accounting professionals are more likely to blow the whistle internally for being asked to approve the performance report with the highest dollar value,” which led them to conclude “employees may not be comfortable disclosing their identities when reporting unethical actions of higher dollar amounts” (p. 35). In a similar study with graduate business professionals, Ayers and Kaplan (2005) found no difference in intentions to use a nonanonymous or anonymous reporting channel; however, the study did find that anonymous reporting intentions are primarily based on cost-benefit analysis (and such costs are lower with anonymous reporting mechanisms).

Anonymity may promote participation beyond whistleblowing also. Schwartz’s (2004) interview study of employees, managers, and ethics officers at several large Canadian organizations suggested that having an anonymous phone line serves a purpose, especially when one is uncomfortable talking to his/her manager. Scott and Rains (2005) reported two studies that explore anonymous organizational communication more broadly and more directly. Their research documented at least some use of a wide range of anonymous forms ranging from suggestion boxes, anonymous calls, and anonymous feedback to unsigned messages, anonymous computer-mediated communication (CMC), and whistleblowing.

There is some evidence in the organization/management literature that anonymity may be particularly valuable for encouraging participation among certain marginalized groups. Kaplan et al.’s (2009) finding that participants were more likely to report wrongdoing to an anonymous telephone hotline

than to a nonanonymous internal audit department was stronger for women than men. Although there were some gender differences (e.g., males were more likely than females to use remailers) and variations in organizational type (e.g., public sector employees more likely than others to be regular users of various forms of anonymous organizational communication) in Scott and Rains's (2005) study, the quality of one's relationships with others was most consistently linked to use of anonymity in the workplace. Scott and Rains reported that quality of relations with one's supervisor were lower for users than nonusers of four anonymous forms: whistleblowing, electronic group meeting systems, unidentified comments in suggestion boxes, and anonymous emails/remailers.

*Feedback.* Several studies have examined the tension between anonymity and accountability during upward appraisals (e.g., conducting a performance review of one's supervisor). Antonioni's (1994) experimental field study of 38 managers and 183 subordinates in an insurance company examined anonymous feedback (included summary reports with no individual information) and what he called accountable feedback (provided the individually completed assessments to the managers). As predicted, managers in the accountability condition evaluated the feedback process more favorably than did managers in the anonymity group; conversely (but as predicted), subordinates in the anonymity condition rated the feedback process more favorably than did their counterparts in the accountability group. Post-study debriefing comments suggested that fear of reprisal was the primary reason subordinates preferred anonymous feedback. Although the study had no independent measure of accuracy, subordinates in the accountability group rated their managers' leadership more positively than did subordinates using anonymous appraisal. Roch and McNall (2007) also examined this issue, but with 315 industrial and organizational psychology students evaluating their professor—and with rather different results. Although half the students wrote their names on evaluations and half did not, a perceptual measure of how anonymous students felt was used in the analysis (as expected, students in a no name condition felt more anonymous than did those in a named condition). Contrary to predictions, perceptions of anonymity were (a) uncorrelated with feelings of accountability and (b) linked to slightly higher performance ratings.

Other research has examined peer feedback and assessment, with somewhat mixed findings. Arnold, Shue, Kritt, Ginsburg, and Stern (2005) conducted focus groups with medical school students about peer assessment, and anonymity emerged as a key theme strongly linked to willingness to participate in peer assessment. On the positive side, students believed anonymity protects the student evaluator and the peer being evaluated, minimizes discomfort of facing one's peer directly, reduces accusations of tattling, and may reduce disruptions to relationships as well as encourage more candid and honest appraisal. However, anonymous assessment also created concerns about

disclosing identity, retaliation, verification of information, accountability and responsibility, allowing venting and vendettas, not taking evaluations seriously, and not forcing people to confront others. Focus group participants suggested a confidential system may be a reasonable compromise that “offers the prospect of verification and thus accountability but retains the anonymity of the student evaluator” (p. 822). In a different study, Bloom and Hautaluoma’s (2001) experiment with college students reacting to workplace scenarios failed to find any interaction between anonymity and feedback valence in terms of influence on either affective reactions or intentions to improve. Garbett, Hardy, Manley, Titchen, and McCormack’s (2007) qualitative case study of a clinical nursing term refining a 360-degree feedback process suggested that anonymity is not essential to providing supportive and critical feedback (though candor and detailed feedback may take additional time to develop without it); overall, both anonymous and more identified forms of feedback were found to be useful.

One of the more interesting examinations of anonymity and peer assessment comes from workers employed in a kibbutz-owned manufacturing firm in Israel (Bamberger et al., 2005). The study examined anonymous (no name) and nonanonymous (confidential, but included name of evaluator) assessment of others over time and related those to supervisory ratings. Bamberger et al. found “following the implementation of peer assessment, the mean composite peer ratings received by those assigned to the nonanonymous condition were significantly higher than those assigned to the anonymous condition in both Time 2 and Time 3” (p. 363); furthermore, this effect of anonymity on peer assessments increased over time. More interesting, and consistent with their prediction, “supervisory assessments of those employed in departments in which peer assessment was conducted on a nonanonymous basis were significantly higher ( $p < .05$ ) than those employed in departments in which the assessment was conducted anonymously” (p. 365). This was true for three of four group process criteria at T2 (initiative, motivation, teamwork) and all four at T3 (including mentoring). Similarly, supervisory-rated productivity behaviors increased in both the anonymous and nonanonymous conditions from T2 to T3, but were significantly stronger in the nonanonymous condition at both times. These findings led the authors to conclude that “our results suggest that whereas anonymous peer appraisal procedures may be well institutionalized in organizations and in fact preferred by raters, their utility should not be taken as a given” (p. 372). Consequently they call for the “the elimination of rater anonymity” as a way to improve peer assessment (p. 373).

Scott and Rains (2005) coded open-ended questionnaire responses from organizational members related to when use of anonymity was seen as appropriate, and clearly several of these link to assessment/feedback: complaints/suggestions about organization/management, complaints/criticisms about coworkers, organizational surveys, performance feedback (for peers or supervisors), and general suggestions. The second study Scott and Rains (2005)

report focused on appropriateness issues surfacing in the first study. Based on 98 working adult respondents to an online questionnaire, six appropriateness situations emerged (from most to least appropriate): organizational assessment, formal evaluations, technology use, informal evaluations, general use, and firing. Older respondents viewed anonymity for formal and informal evaluations as less appropriate, and quality of relations with coworkers was negatively correlated with appropriateness of anonymous informal evaluations.

*Performance.* The organization/management research related to anonymous communication also has implications for performance outcomes. There is some evidence that whistleblowing and fraud reporting are less effective when done anonymously. Price's (1998) research about anonymous and pseudonymous reports of scientific wrongdoing suggested that the portion of anonymous complaints is small (8%)—perhaps because few of these are judged as adequately substantiated. In this research, only 1 of 13 anonymously reported cases with substantive concerns actually resulted in a finding of scientific misconduct. Related to this, Miceli et al. (1988) found that seriousness of wrongdoing was somewhat more linked to identified whistleblowing (though overall, seriousness is more tied to use of external channels than identification/anonymity choices). Additionally, they found no support for their prediction that anonymous whistleblowers expect greater responsiveness to their complaints.

*Trust.* Finally, two studies have considered the relationship between anonymity and trust in management/organizational research. Callison (2001) noted that anonymous generic sources were actually rated as more trustworthy than a source identified as a public relations spokesperson. Additionally, trust in others not to reveal identity and organizational climate were both factors influencing decisions to anonymously blow the whistle in a survey of federal agency employees (Miceli et al., 1988).

### *Economics*

Anonymity has also been of interest in the economics literature as a factor influencing group coordination, bargaining/negotiation, and/or collaboration. It is often studied in the context of group games, including auctions, prisoner's dilemma, dictator games, power-to-take games, the Groves' mechanism, one-shot trust games, and coin toss games. Almost all of these studies consist of experiments. In some cases, an anonymous treatment is compared with identification and no-identification at all. In some cases, though, treatment is one-way identification where only one participant can identify the other, or with two-way identification where both participants visually identify one another. We review research examining anonymous communication in economics, focusing particularly on the implications of anonymity for participation, performance, and trust.

*Participation.* Research related to anonymity and participation suggests that the implications of anonymous communication are linked to specific features of the experimental games used in economics studies. In auctions, for example, anonymous bidding might encourage bidders to participate by making collusion more difficult. Bajari and Yeo (2009) examined the relationship between anonymous bidding and the frequency of anti-competitive bidding strategies in the Federal Communication Commission (FCC) spectrum auctions. During anonymous bidding the identity of the bidder, the bid amounts other than the standing high bid, the initial level, and changes of each bidder's eligibility, were not revealed until the auction ended. Their findings suggest that anonymous bidding makes collusion considerably more difficult because it disguises bidder identity—limiting enforcement of collusive agreements by cartels. In dictator games, there is evidence that information about the identity of the recipient can increase donations (Bohnet & Frey, 1999; Eckel & Grossman, 1996). Bohnet and Frey (1999) compared an anonymous treatment, a one-way identifiability treatment in which dictators could identify their respective recipients, and a two-way identifiability treatment where both dictators and recipients could visually identify each other. Dictators retained more of the money when there was total or partial anonymity than the two-way identifiability condition. The authors concluded that one-way identifiability “transforms anonymous, faceless entities into visible, specified human beings, i.e., identifiable victims” (p. 339). Along these lines, Eckel and Grossman (1996) reported similar findings. Dictators offered more money to an established charity than an anonymous student.

Anonymity has also been shown to influence participation in intergroup competitions. In these types of games, the benefits associated with winning the competition are often shared jointly by the members—regardless of the level of their contribution to the group's success. Bornstein and Rapoport (1988) tested the effects of group discussion prior to playing the game on contribution towards the provision public goods during the game. They found evidence that, when the decision is anonymous, discussion prior to the game enhanced contributions made during the game.

*Performance.* Anonymous preplay communication moderated the coordination and collusion strategies in budgeting mechanisms. Arnold, Ponick, and Schenk-Mathes (2008) explored the effects of anonymous communication on the Groves mechanism and a profit sharing scheme in a corporate budgeting context. Under the Groves mechanism, a manager's compensation is determined by “his own division's actual profit as well as by the expected profits that all other divisions report to headquarters *ex ante*” (p. 38), whereas under a profit sharing scheme it is determined by overall firm profit. Within this framework, the role of anonymous communication in overcoming coordination failures and improving resource allocation was tested experimentally. Under the profit sharing scheme, anonymous preplay communication improved coordination

and reduced inefficient resource allocation. Under the Groves mechanism, however, anonymous preplay communication led to stable collusion strategies of the participants.

*Trust.* Economics literature suggests that anonymous group games can make trustworthiness difficult among group members. Some studies focused on the role of institutions in anonymous games, examining how institutions can induce a reporter to tell the truth, and thus, affect his/her trustworthiness in anonymous group games. Bohnet and Baytelman (2007) suggested that when institutions make betrayal more costly, trustors' beliefs about trustees' trustworthiness increase. That is, trustors are willing to send more and trustees to return more in conditions other than an anonymous one-shot environment. Similarly, Boudreau, McCubbins, and Coulson (2009) studied choices made by individuals after receiving information from an anonymous individual in the coin toss game. The results of this study showed that participants tend to trust an anonymous reporter who shares common interests or who was made trustworthy by an institution, but not anonymous sources that have conflicting interests.

### ***Information Systems: GSSs***

Anonymous communication has received a fair amount of attention in the Information Systems literature and, in particular, scholarship focusing on group support systems (GSSs). GSSs are technologies that facilitate group work (for a review, see Scott, 1999). Anonymity is a key feature of many GSSs. Anonymity is conceptualized and operationalized in different ways throughout GSS research. The most common way of conceptualizing anonymity is in the form of technical anonymity provided by a GSS; technical anonymity is operationalized by removing group members' names from their contributions (i.e., discursive anonymity) and/or physically separating group members from one another (i.e., physical anonymity). Social anonymity is relatively infrequently studied in GSS research. In the following sections, the role of anonymity in GSS research is considered focusing on the implications of anonymity for participation, influence, performance, trust, and identification.

*Participation.* There is evidence to suggest that anonymity has both positive and negative consequences for participation in GSS groups. Several studies have reported findings consistent with the claim that anonymity facilitates participation in GSS groups relative to GSS groups without anonymity or groups meeting face-to-face. In terms of gross or overall discussion participation, Postmes and Lea (2000) reported in their meta-analysis that anonymous GSS groups generated a greater total number of statements than identified GSS groups. Additionally, Scott (1999) reported participants in a discursive anonymity condition made more contributions than discursively

identified members. There is also some evidence of differences in regard to specific forms of participation. Anonymous groups have been found to ask a greater number of solution-related questions (Jessup, Connolly, & Galegher, 1990; Jessup & Tansik, 1991), make a greater number of solution clarifications (Jessup et al., 1990; Jessup & Tansik, 1991), generate a greater number of controversial ideas (Cooper, Gallupe, Pollard, & Cadsby, 1998), and, among minority opinion members, discuss greater amounts of previously unshared information (McLeod, Baron, Marti, & Yoon, 1997) than identified GSS groups or groups meeting face-to-face (FtF).

Two specific forms of participation have received a fair amount of attention in prior research. First, anonymity has been argued to facilitate idea generation through removing group members' fear of evaluation and encouraging participation (Connolly, Jessup, & Valacich, 1990; Cooper et al., 1998). Although a few experimental studies have found evidence that anonymous groups generate a greater number of unique (i.e., non-redundant) ideas or solutions in brainstorming tasks than identified groups (Connolly et al., 1990; Cooper et al., 1998), others have reported no differences between anonymous and identified groups (Jessup et al., 1990; Jessup & Tansik, 1991; Pissarra & Jesuno, 2005; Sosik, 1997; Valacich, Dennis, & Nunamaker, 1992). Evidence from case studies is no more consistent. Anonymity has been reported to be effective (de Vreede & Mgya, 2006; Trauth & Jessup, 2000) and ineffective (Trauth & Jessup, 2000) in facilitating idea generation. Perhaps the most consistent findings regarding the impact of anonymity on idea generation comes from meta-analytic studies. Postmes and Lea (2000) found no difference between identified and GSS groups in regard to the number of original solutions generated. Moreover, anonymity did not significantly moderate the relationship between idea generation and GSS use in two other meta-analyses (Lim, Yang, & Zhong, 2007; Rains, 2005).

Second, an ostensibly more consistent finding regarding participation in GSS research is that anonymous group members are more inclined to share critical comments than identified members. In their meta-analysis, Postmes and Lea (2000) found that anonymous groups generated a greater number of critical comments than identified groups. This finding, however, requires a qualification. That is, critical comments are assumed to be both destructive and constructive in the body of GSS research. In a few studies (e.g., Connolly et al., 1990), both of these perspectives are combined into a category representing "expression[s] of opposition to a proposal with, or without, evidence or arguments (e.g., 'That's a terrible idea' or 'That will never work because...')" (Valacich et al., 1992, p. 59). The key difference between the two types of criticisms is that one is unsubstantiated and might be considered a personal attack, whereas the other offers supporting evidence and, thus, has the potential to advance the group's discussion. There is some evidence that, in comparison with identified groups, anonymous groups make more negative and destructive critical comments (Jessup et al., 1990; Sosik, 1997), more constructive

critical comments (Reinig & Mejias, 2004), and an amalgamation of both (Connolly et al., 1990; Valacich et al., 1992). Other studies have found no differences between anonymous and identified groups in constructive (Jessup et al., 1990; Jessup & Tansik, 1991) or destructive (Reinig & Mejias, 2004) critical comments.

*Influence.* Several studies have been conducted examining influence behaviors and processes in GSS groups. Although Rains's (2005) meta-analysis showed that anonymity did not moderate the relationship between GSS use and influence equality, normative influence, nor decision shifts, other research suggests that anonymity might be important for decision shifts, individuals holding minority opinions, and leadership. In regard to decision shifts, at least two studies have reported differences between anonymous GSS groups and identified GSS groups or groups meeting FtF. The anonymous GSS group made more conservative decisions in Hiltz, Turoff, and Johnson's (1989) study, whereas Karan, Kerr, Murphy, and Vinze (1996) found evidence of a "cautious shift" (p. 189) only in groups meeting FtF. A more recent study conducted by Sia, Tan, and Wei (2002, study 2) suggests that the type of anonymity offered by a GSS is important to consider. They reported significant interaction effects for discursive and physical anonymity on choice shift and preference change (both of which assess decision shifts). Greater choice and preference shift occurred in the conditions with discursive but without physical anonymity and with physical but without discursive anonymity than in the condition without physical or discursive anonymity (i.e., the FtF/identified GSS condition).

Anonymity has also been examined as a factor that might impact the expression and influence of minority opinions. There is some evidence that anonymity facilitates (Lim & Guo, 2008; McLeod et al., 1997) and mitigates (Kahai, 2009) the expression of members holding a minority opinion. Compared to minority opinion holders in identified GSS groups or groups meeting FtF, those using an anonymous GSS have been found to present more unshared information and repeat unshared information more frequently (McLeod et al., 1997) and report lower uncertainty, greater satisfaction, higher decision quality, and conform less (Lim & Guo, 2008). Yet, there is also evidence that anonymity may have limitations for members holding minority opinions. McLeod et al. (1997) reported that perceptions of unshared information were most negative in the anonymity condition. Moreover, Kahai (2009) found that, when initial opinions differed in a group, participants who were introduced prior to the study and had discursive anonymity during the decision-making task generated significantly fewer counter-normative arguments and greater agreement than in identified GSS groups and GSS groups where members had discursive anonymity but were not introduced prior to the study.

A final dimension of influence that has been examined in research on anonymity and GSSs is group leadership. In studies testing interactions between assigned leadership (George, Easton, Nunamaker, & Northcraft, 1990) or transformational leadership (Sosik, 1997; Sosik, Kahai, & Avolio, 1998) and



anonymity on group processes and outcomes, there are relatively few significant findings. George et al. (1990) found that groups were more satisfied when both anonymity and designated leadership were either present or absent than when anonymity was present but a designated leader was absent or when anonymity was absent but a designated leader was present. Sosik et al. (1998) found that, in the low transformational leadership condition, members of the anonymous groups demonstrated more flexibility than participants in identified groups. Flexibility was defined in their study as the number of different approaches used to generate the group's solution. Sosik (1997) reported no significant interactions between transformational leadership and anonymity for any of the outcome variables he tested. Related to group influence, Rains (2007) conducted an experiment examining perceptions of the credibility and influence of anonymous group members. He reported that, controlling for social (i.e., perceived) anonymity, participants viewed a technically anonymous confederate to be significantly less persuasive than an identified confederate.

*Performance.* Although group performance is frequently measured in GSS research, the effects related to anonymity are unclear. The findings from three meta-analyses underscore the inconsistent findings in research examining the impact of anonymity. Postmes and Lea (2000) reported no differences between anonymous and identified GSS groups in regard to decision quality or perceived effectiveness. Additionally, Lim et al. (2007) reported that anonymity was not a significant moderator of decision quality or time to reach decisions. In contrast, Baltes, Dickson, Sherman, Bauer, and LaGanke (2002) found that anonymity moderated the relationship between GSS use and group effectiveness, and between GSS use and time to reach a decision. Anonymous groups were less ineffective and took longer to reach a decision than identified groups.

*Trust.* GSS research related to trust takes a message-receiver perspective and examines perceptions of anonymous group members. Evidence from quantitative (Hayne, Pollard, & Rice, 2003; Hayne & Rice, 1997) and qualitative (Dennis, 1994; Scott, Quinn, Timmerman, & Garrett, 1998) studies suggests that, despite the discursive anonymity provided by GSS technologies, members make attributions about the identity of others in their group. Hayne and Rice (1997) found that, although attributions about a comment author's identity were made frequently, the accuracy of such attributions was low. Attribution accuracy ranged from 39%–83% among the anonymous groups in Hayne et al.'s (2003) study, and total prior communication with one's group was positively associated with attribution accuracy. Beyond making inaccurate attributions, Scott et al. (1998) reported that members of the groups they analyzed actively tried to circumvent the technical anonymity provided by the GSS. Participants identified themselves by signing their comments, including specific or unique information that would help others identify them, and

asking for responses from specific members of the group. Finally, Rains (2007) found, controlling for social (i.e., perceived) anonymity, participants viewed a technically anonymous confederate to be significantly less trustworthy and to have less goodwill toward the group than an identified confederate.

*Identification.* The impact of anonymity on group member identification has been investigated in a few studies. Bhappu, Griffith, and Northcraft (1997) examined identification with one's ingroup and outgroup, but found no differences between the FtF, anonymous GSS, or identified GSS conditions. Scott (1999) tested the influence of physical and discursive anonymity on perceptions and expressions of identification. There was a significant interaction for the two types of anonymity on perceptions of group identification. Participants reported the greatest identification in the groups that were physically hidden but were discursively identified and the least identification when groups were physically hidden and had discursive anonymity. There were three differences in expressions of identification. Participants in physically visible groups made more expressions of group identification than in groups with hidden participants. Discursively anonymous members made more expression of disidentification or no identification and fewer statements of multiple identifications than participants in groups whose names were used.

### *Psychology*

Anonymous communication research in psychological literature focuses on issues such as anti-social behavior, social identity, attributions, choice shift, and commitments. Most of the studies consist of experiments. Anonymity was tested in a variety of ways; however, many of the studies operationalized anonymity by not allowing participants to see one another's behavior. Although there are a number of studies spanning decades examining anonymity and various behaviors (e.g., shocking/punishing others, altruism/helping), we focus on research examining more communicative behaviors and processes. Specifically, we examine how anonymity relates to influence, feedback, performance and identification.

*Influence.* One body of psychology research examined choice shift in anonymous and nonanonymous conditions. Bell and Jamieson (1970) found a choice shift in a public discussion condition, but no shift occurred in an anonymous condition. In this study, anonymity is manipulated by the social comparison information—either subjects did not sign their names to forms or they didn't know each others' pretest scores and no one endorsed a specific preference during discussion. Cotton and Baron (1980) reported mixed findings when they manipulated anonymity while holding social comparison information constant. That is, sometimes there was no statistical difference

between anonymous and public conditions on risky shift, but in one study the anonymous ballot condition suggested the largest risky shift.

*Feedback.* Research suggested that anonymity affects the extent the subjects are critical with their feedback. Lindsfold and Finch (1982) examined to what extent participants complied with a demand to critically evaluate group members when there is a counterpressure from the group and they are anonymous or identified. The results showed that, with high group counterpressure and without the protection of anonymity, subjects who were demanded to critically evaluate group members were no more critical than the subjects in the low demand condition. Also, the results suggested that, in the low demand condition, anonymous subjects were less critical than identified participants.

*Performance.* Some research has examined the role of anonymity in predicted and actual task performance. Pezzo, Pezzo, and Stone (2006) explored the impact of making predictions either orally to a familiar experimenter or anonymously (nothing was said and the decision was written down) and how that might relate to the planning fallacy (where people expect to finish a task more quickly than they actually do). The discrepancy between the predicted and actual completion of a take-home portion of the task was significantly smaller in the anonymous condition. Predicted and actual completion times for participants making anonymous predictions were significantly correlated, but these variables were not correlated for those in the identified condition.

*Identification.* A few studies have examined anonymity using social identity theory and/or self-categorization theory. This work is related to research on the SIDE model, but does not involve CMC. Barreto, Spears, Ellemers, and Shahinper (2003) conducted an experiment with Portuguese immigrants living in the Netherlands examining identification with native and host countries as a function of audience (native or host) and anonymity (respondents provided name and address to be identifiable or provided no personal information to be anonymous). As predicted, the Portuguese respondents reported stronger identification with their native national group when anonymous to that audience than when identifiable to it. Similarly, identification with the host Dutch national group was stronger when participants' responses were anonymous to that audience than when identifiable to it. Smith, Terry, and Hogg (2007) report two studies examining group identification and norms under conditions of anonymity and identifiability. In the first, they found that, "High identifiers reported stronger intentions to engage in attitude-consistent behavior in anonymous response conditions ... than in [identified] response conditions... This pattern was reversed for the low identifiers..." (p. 245). In the second study, identity salience was added to the experiment. The results show that, for low-salience participants, the effects of norms were greater when participants

were identified; however, for high-salience participants, the effects of norms were greater for anonymous participants.

### ***Social Psychology: SIDE Studies***

An important extension of the work done in psychology can be found in the mostly social psychological research related to the SIDE model. Anonymity is important because it provides one of the key ways to create deindividuation—a condition in which individuals are not viewed or recognized as individuals. In examining the role of identity salience as it interacts with anonymity, the SIDE model has produced counter-intuitive, yet compelling, explanations for the effects of anonymity. In short, when a social identity is salient, anonymity can actually enhance that identity (because individuating features are obscured), which leads to behavior in line with group norms (rather than antinormative, uninhibited behavior; Postmes, Spears, Sakhel, & de Groot, 2001). Because anonymity can be created via CMC, work using the SIDE model has regularly mixed anonymity and CMC.

These studies differ from others reviewed in this chapter in at least three key ways. First, these studies are non-U.S. focused (with multiple studies from Netherlands, Australia, Great Britain, and Germany) and conducted by a smaller set of influential scholars. More specifically, this area is heavily influenced by the work of Douglas and McGarty (2001, 2002), who published two sets of studies with language abstraction as the outcome variable, and research more relevant to our review here by Postmes, Spears, and Lea (2002; Spears, Lea, Corneliussen, Postmes, & Haar, 2002). Second, the work in this area is overwhelmingly experimental in nature and predominantly uses undergraduate subjects. Consequently, anonymity in these studies is almost always a manipulated independent variable. Third, even though anonymity itself is not explicitly defined as a variable or construct in these studies, it is operationalized in ways that place primary emphasis on physical (i.e., *visual*) communication. Indeed, the use of simple pictures or not is the most common way of creating anonymous and identified conditions; however, studies have also used two-way synchronous video vs. CMC text only (Lea, Spears, & de Groot, 2001) and even manipulated anonymity with photos taken from videotapes of students (see Walther, Slovacek, & Tidwell, 2001; yet this is not framed as a SIDE study, per se). Although a number of studies use SIDE, the research relevant here has implications for influence, performance, and identification.

*Influence.* Sassenberg and Postmes (2002) explored differences between anonymity of a group (showing or not showing pictures of group) and anonymity of the self (showing or not showing picture of self to others) in online discussions. Neither anonymity type influenced choice shift or agreement independently; however, there were interaction effects. When the self was anonymous, social influence was stronger in anonymous group conditions than identified ones; this pattern was reversed when the self was identifiable to others in the group.

A follow-up study with actual group communication among students again suggested interaction effects: when the self was anonymous, group anonymity led to greater choice shift in the direction of the group norm compared with identifiable groups; conversely, when the self was identifiable, the choice shift was greater when the group was identifiable than when it was anonymous. As predicted, more violations of local coherence occurred in the identifiable self condition than in the anonymous self condition.

Postmes et al. (2001) tested the SIDE model and concluded that anonymity obscures individual inputs, thus enhancing the salience of group norms. Again manipulating anonymity by presenting pictures of group members or withholding them, anonymous groups favored prosocial solutions when they were primed prosocially and favored efficiency-oriented solutions when primed accordingly; however, this was not true for the identified groups. Their second study measured group norms and atmosphere directly and focused on an efficiency vs. neutral prime for these norms. As expected, anonymous groups perceived a more efficiency oriented group norm than did identifiable groups; similarly, anonymous groups had more efficiency-oriented solutions and used more efficiency-oriented words than did identifiable groups. As the authors conclude, “visually anonymous groups appear to be more conducive to social influence in line with a primed group norm than identifiable groups... Results show that the effect of visual anonymity on normative behavior is mediated by identification with the group” (p. 1252).

Sassenberg and Boos (2003) examined groups communicating FtF (visually identified) and through CMC (visually anonymous) to test the basic predictions of SIDE in interacting groups. Counter to their prediction, when social identity was salient FtF groups showed greater attitude change than did the more anonymous CMC groups. In a second study, all groups interacted via CMC but some could see one another (nonanonymous) and some could not (anonymous). When participants received a reference norm for their larger category, nonanonymous groups showed greater attitude change away from the group norm than did those in the anonymous condition; findings were reversed for those who did not receive a reference norm for their larger superordinate category.

*Performance.* The third study reported by Douglas and McGarty (2002) asked participants to respond (identified or anonymous) to a message from someone at the university about student attitudes toward work/leisure. Identified respondents reported they were better able to show opposition to university staff views than were anonymous respondents. Tanis and Postmes (2007) looked at cues to identity (through presence or absence of portrait pictures and a name) as students interacted in simulated dyads online. They found, in a study using actual group interaction via online chat and assessed performance, that those in the cues condition were less satisfied with their performance than those in the no-cues situation. The authors explain “it is not so much the identifiability of the other that produced these effects found, but

the identifiability to the other” (p. 966). Tanis and Postmes (2008) continued this work using the same cues manipulation and online dyadic chat from their previous work. Results suggested participants with cues were less satisfied with performance as compared to those interacting without cues.

*Identification.* In SIDE research identification is sometimes an outcome factor. For example, Sassenberg and Postmes’s (2002) exploration of differences between anonymity of a group (showing or not showing pictures) and anonymity of the self (showing or not showing picture of self to others) in online discussions revealed respondents reported greater group unity when the group was anonymous than when group members were identifiable; however, anonymity of the self did not influence this measure. Also, group identification was stronger in the anonymous groups in a study by Postmes et al. (2001). Tanis and Postmes (2008) found that in the condition with cues participants perceived less shared identity compared to conditions lacking cues.

However, SIDE research more commonly treats identification as more of a mediating or moderating variable or as part of what is manipulated in the efforts to make social identities more salient. As Postmes et al. (2001) conclude, “Results show that the effect of visual anonymity on normative behavior is mediated by identification with the group” (p. 1252). Tanis and Postmes (2008) report a second study where they sought to further examine conditions where the inability to form personalized impressions were beneficial. Using a manipulation designed to heighten identification with one’s university, Tanis and Postmes found that presence of cues was linked to less ambiguous impressions and somewhat more positive impressions of the other. More interesting is the finding that when no cues were present, social identification with the larger university group was strongly associated with the emergence of a dyadic shared identity (yet this does not happen in the condition with cues present). Their summary explanation helps capture a key contribution of SIDE research as it relates to anonymity:

Study 2 confirmed our prediction that the effects of cues to personal identity depend on identification with the overarching group. When cues to personal identity are absent, identification with the superordinate group positively affects feelings of shared identity and performance. When cues to personal identity are present, identification has no effect. (p. 106)

### ***Computer-Mediated Communication***

Beyond the GSS studies from the Information Systems tradition and the SIDE studies from Social Psychology, there is a more diffuse body of interdisciplinary research examining anonymity in various forms of computer-mediated communication (CMC). Even after excluding numerous studies that hold anonymity constant and/or treat anonymity as a defining feature of CMC without ever measuring or examining anonymity itself (see, for example, a series of

related studies by Lee, 2004, 2005, 2006, 2007a, 2007b, 2007c), this remains a sizable and diverse literature. These general CMC studies were published in a range of journals, used several different methods, and were conducted in several different countries even though the majority were still U.S.-based (which is potentially of concern given findings that U.S. users indicate a greater preference for identifiability in online posts than is found in some other cultures; see Morio & Buchholz, 2009). The nature of this research was diverse in two other important ways. First, it covered a sizable array of communication technologies (including email, online discussion forums, online ads and dating sites, games, chat, instant messaging, phone services, blogs, texts, and social network sites) that do not all share the same underlying characteristics (e.g., synchronicity, interactivity, capacity; see Lievrouw & Finn, 1996).

Second, anonymity was not explicitly defined as a construct in this research. However, it was operationalized in markedly different ways across this research—revealing multiple forms of anonymity and raising concerns about comparisons across those different studies. For example, these operationalizations included real name CMC vs. anonymous CMC (Adrianson, 2001; Westerman, 2008); no information vs. real name and additional information (Qian & Scott, 2007); no photo vs. revealing actual photo (Qian & Scott, 2007); anonymous CMC technologies vs. identifiable CMC technologies; pseudonym vs. real name (Jaffe, Lee, Huang, & Oshagan, 1999); anonymous vs. nickname (Morio & Buchholz, 2009); anonymous chat vs. identified instant messaging (Kang & Yang, 2006); visible vs. invisible (Joinson, 2001); online vs. public (Coffey & Woolworth, 2004); and even large city anonymous vs. small-town identifiable (Gudelunas, 2005). CMC research is considered focusing on the implications of anonymity for participation, feedback, and trust.

*Participation.* Several CMC studies examine some form of participation. For example, Qian and Scott (2007) surveyed bloggers about their use of both visual and discursive anonymity as they related to self-disclosure. Bloggers posted under all six different discursive anonymity options (ranging from no identifying information to using a real name plus other identifying information) and all but one of the six visually anonymous options (ranging from no photo to revealing actual photos). Visual anonymity was not statistically linked to amount of self-disclosure, but discursive anonymity was. With the exception of the one extreme group that revealed even more than their real name, the authors report “generally the more identification information given on one’s blog, the less self-disclosive people seem to be” (p. 1436). Joinson (2001) reported a pair of relevant studies experimentally manipulating visual anonymity where it did influence self-disclosure. In the study comparing FtF interactants with visually isolated CMC users, CMC dyads engaged in significantly more self-disclosure than participants in the FtF condition. In a second study manipulating visual anonymity entirely within CMC interaction, the presence of a picture of one’s interaction partner led to significantly less self-disclosure than in the condition

where visual anonymity was maintained—a finding they link to heightened private self-awareness in that condition. Waskul and Douglass (1997) used content analysis, surveys, interviews and participant observation to analyze a large commercial online chat service—with several themes in the research pointing to potentially greater participation: freedom to be oneself; openly expressing oneself; identity experimentation and construction of multiple selves; and no barriers to communication because people are not blinded by age, sex, nationality, or race.

Other studies suggest greater participation is linked to anonymous CMC, for at least certain types of users. Colvin, Chenoweth, Bold, and Harding's (2004) survey of adult caregivers and online social support pointed to two relevant findings: easier to relate to anonymous others online, and ability to express oneself in a nonjudgmental atmosphere. An analysis of email messages from young people with learning disabilities revealed these individuals "were more comfortable talking about their disabilities anonymously than they were in real-life situations" (Raskind, Margalit, & Higgins, cited in Samuels, 2007, p. 12). Morahan-Martin and Schumacher (2003), in a survey of undergraduates in courses requiring Internet use, found that lonely users found online anonymity to be liberating. Other studies of both children and adults have noted that shier individuals value online anonymity (Livingstone & Helsper, 2007; Scharlott & Christ, 1995); indeed, Scharlott and Christ's online survey of users on the marriage market intermediary Matchmaker concluded "the ability to communicate with others without revealing details about oneself enables the shier user to interact without fear of rejection;" this tool thus allows "users to communicate in ways that in other contexts they might feel too socially inhibited to do" (p. 199). Peter and Valkenburg (2007) used a survey of adults in the Netherlands to confirm that individuals with high dating anxiety and low physical self-esteem value the anonymity of online communication more than do individuals low in dating anxiety and high in physical self-esteem. In addition to the previous studies, several others examined gender differences related to anonymity in CMC. Kang and Yang (2006) compared instant messaging (IM) avatars (where users go by real name typically) and Internet Relay Chat (IRC) avatars (where users are generally anonymous) through user surveys. They found that females express imaginary identity on anonymous IRC avatars more than do males (but gender does not affect realism of identity of more identified IM avatars). Thus, anonymity enhances participation generally—especially for certain (sometimes marginalized) groups.

In some instances, the type of participation facilitated by anonymity may be seen as less socially desirable. Livingstone and Helsper (2007), in a nationwide survey and interviews with children and youth in the U.K., found that valuing anonymity online was positively correlated with sensation-seeking, lower life satisfaction, more frequent Internet communication, and risky behaviors such as meeting online friends offline. In their study of cyberbullying (Mishna, Saini, & Solomon, 2009), middle school (grades 5–8) students participated in focus groups and claimed anonymity facilitated bullying and



allowed the aggressor to hide behind the keyboard. The students suggested “anonymity lets individuals behave in ways they might not otherwise and that would not otherwise be tolerated” (p. 1224). However, we note that much of the cyberbullying that actually occurred involved others the student could identify. As Mishna et al. note, “the cyber bullying often occurred in the context of their social groups and relationships, for example boyfriend/ girlfriend, ‘best’ friend, and other friends and classmates. Analysis of the participants’ comments revealed that the students often discover the identity of the individual who bullies them online...” (p. 1226).

*Feedback.* Feedback has been much less examined in this research. However, Adrianson’s (2001) experimental study with student groups using email found FtF communication included more feedback than in an anonymous CMC condition (but not greater than the CMC with real names condition).

*Trust.* The only outcome among those we examined that is regularly considered here are issues related to trust. In Henderson and Gilding’s (2004) interviews with chatroom users about online friendships, respondents pointed to limited cues producing lack of accountability, widespread deceit and betrayal, and inability to establish reputation (but note that pseudonyms could allow for that). A minority of respondents (5%) reported drawbacks to anonymity in a survey study of Internet-based social support for adult caregivers that centered on questions of sincerity, truthfulness and ability to verify one’s claims (Colvin et al., 2004). Waskul and Douglass (1997) used content analysis, surveys, interviews and participant observation to analyze a large commercial online chat service—concluding that anonymity was an important element in this online tool. However, frustration and concern also emerged about those very benefits, especially when they resulted in misrepresentation, deceit, game playing, etc. We see each of these findings as suggesting anonymity reduced trust online.

### ***Education***

Anonymous communication has been studied in the education literature, with much of this work focusing on the implications of anonymity for computer-mediated collaboration and learning. Education studies involving anonymity use a wide range of research methods, including: content analysis, survey questionnaires, interviews, focus groups, participant observation, and experiments. Anonymity is most often operationalized as a technical feature of communication technologies such as synchronous chat systems, email, and electronic bulletin boards. In most of the cases, anonymity is conceptualized as a continuous construct and manipulated with the use of no-identity (anonymous) or a created-identity (nickname). We review research examining anonymous communication in education in the following paragraphs, focusing particularly on the implications of anonymity for participation, feedback, and trust.

*Participation.* Several scholars have found evidence that anonymity makes individuals more comfortable and, thus, may facilitate participation in computer-mediated learning environments (Ahern & Durrington, 1995; Gallagher-Lepak, Reilly, & Killion, 2009; Roselli & Brophy, 2006; Yu, 2009; Yu & Liu, 2009). Yu and Liu (2009), for example, they had participants use their real name, be anonymous (no name), or use a created identity (nickname) during an online question construction and peer assessment task. Most students preferred either being anonymous or using a pseudonym in completing the task. A preference for or comfort with anonymity in the context of participation was also reported in studies of nursing students (Gallagher-Lepak et al., 2009), English as a second-language (ESL) writing classes (DiGiovanni & Nagaswami, 2001; Sullivan & Pratt, 1996), and among undergraduate engineering students (Roselli & Brophy, 2006).

*Feedback.* In addition to allowing individuals to feel more comfortable participating, there is some evidence that anonymity may be particularly important for sharing and receiving feedback. Tuzi (2004) reported that students made more macro level revisions following anonymous feedback adding new information and revising structures at clause, sentence, and paragraph levels. Similarly, Guardado and Shi (2007) examined students' experiences of online peer feedback in an ESL class. The essays were posted with the authors' names, but the feedback was anonymous (no name). The findings suggest that sharing feedback anonymously online allowed students to write more constructive responses. The outcomes of anonymity associated with feedback are not all positive. Guardado and Shi also found that some students perceived the anonymous online feedback to be confusing and suspected they had misunderstood the comments.

*Trust.* Research addressing the implications of anonymous communication for various outcomes related to trust is mixed. One of the studies showed that feedback from students and faculty promoted trust, confidence, and learning (Gallagher-Lepak et al., 2009). Rovai (2002) argued that candor comes with trust as anonymous participants feel safe and subsequently expose gaps in their learning. However, other research showed that some anonymous interactions were superficial and excessive, and that the practice of over-posting in anonymous discussions is not always a means of connection but for reassurance or to gain approval (Beuchot & Bullen, 2005).

### **Conclusions and Future Directions**

Even with our focus on research topics where there was at least some overlap in what was being examined, these eight research traditions often approach the study of anonymous communication with unique assumptions, methods, and goals. In many cases, this has resulted in findings that are difficult to compare across area. In other cases, this produces mixed or inconclusive findings.

Despite these challenges, our review does allow us to draw several conclusions about anonymous communication across these areas. We utilize Figure 13.1 to again organize these observations.

### ***Anonymity Factors***

One of the more consistent findings is that anonymity or anonymous communication is almost never conceptually defined in any of this research literature. It is treated as though familiar enough not to need defining. However, the different types of anonymity and the various operationalizations would suggest this is a problematic assumption.

There are several types and forms of anonymity found across this literature. Several research traditions focus on physical forms of anonymity (e.g., social psychology work on SIDE, psychology) while others emphasize discursive forms (e.g., GSS studies, organization/ management studies). Yet, both types are often referenced simply as anonymity. Similar differences exist for those studies that look at technical anonymity provided by a communication channel relative to more social/perceived forms of anonymity. Self and other anonymity also emerge across these areas. Additionally, we have research about confidentiality and pseudonymity, lumping it all under the heading of anonymity. In some instances, focusing on more precise forms can help reconcile seemingly inconsistent findings and clearly identify trends in the research. In the SIDE research, for example, it appears that visual anonymity<sup>3</sup> makes it more likely group members will follow salient group norms; however, discursive anonymity has more mixed and indirect results. For other types of anonymity and in different contexts, few comparisons have been made. It is rare, for instance, to see findings comparing technical anonymity (provided by the technology as a feature or characteristic that often treats anonymity as “on” or “off”) with perceptual forms (which is more likely to represent a subjective assessment of the degree of anonymity), though manipulation checks in experimental studies would generally suggest substantial overlap with the two. Scholars conducting research in these various domains would be well served to evaluate the specific form of anonymity they are studying in the broader context of the various types of anonymity available. The typology of anonymity forms discussed in this chapter might be useful starting point for such an endeavor.

Even more important are the various operationalizations of anonymity. Beyond the fact that anonymity may emerge as a theme or finding in qualitative research, the manipulations and treatment of anonymity in experimental and certain other forms of research highlight the multi-faceted nature of this construct. Technical anonymity is quite common in the general CMC, GSS, SIDE, and education areas where technology is used to create anonymity; yet, a vast range of technologies are used to provide that anonymity (and they do not all provide the same level of protection). More interesting are the operationalizations of physical and discursive anonymity. Across these areas, pseudonyms or nicknames emerge most frequently as a way to achieve anonymity

(though a few studies actually use this as a “named” online condition that is then compared to more anonymous conditions that include no name). It is worth remembering that pseudonyms provide only partial anonymity—and yet our conclusions about anonymity are based heavily on studies providing only some anonymity. Other studies across areas operationalized anonymity as a condition in which one has no name at all—but then compare that to named strangers who may be functionally anonymous to most others. In short, these various operationalizations are likely not equivalent, which may help account for some of the mixed findings across the areas examined here.

Despite the various forms and operationalizations of anonymity, a final noteworthy issue that appears to transcend scholarship on anonymous communication is the relatively limited ways in which anonymity is studied. Marx (1999, 2004) convincingly argues that anonymity should be thought of as a continuum ranging from completely anonymous to fully identified. Moreover, he identifies various types of identity information that may make one more or less anonymous. Much of the research we review focused one or two distinct types of identity information—one’s name and or physical appearance. Other, more nuanced, types of identity information such as information about networks and relationships or information about beliefs and attitudes are worth considering. Examining other types of identity information that might make one more or less anonymous is critical to advance research and theorizing regarding anonymous communication.

### ***Communication Processes***

*Participation.* In general, the literature would suggest that anonymity facilitates participation. It encourages sources to reveal news information, it provides a form of voice for organizational members, online it may facilitate more contributions generally, and discursive anonymity may allow for more self-disclosure in CMC. Some of the strongest evidence that anonymity facilitates participation comes from the education literature; here, anonymity creates a more equitable and safe environments to present one’s opinions, which allows individuals to feel less inhibited and more comfortable sharing ideas. This participation is limited in some key ways, however. Anonymity encourages participation more for controversial or major issues (e.g., whistleblowing); that participation may only occur if communicators are reasonably confident their identity will be protected, and the participation that results from anonymity may not always be socially valued (especially in CMC).

What also seems clear across this literature is that anonymity fosters participation by more marginalized groups. The general CMC literature suggests that online anonymity enables greater involvement for groups such as the learning disabled, shier/lonely users, and high anxiety individuals. At work, members who do not have strong relations with others in their organization also tend to use and value anonymity more. The journalism findings suggest that anonymous sources are more common in stories that are critical in

nature—which may also link to this finding. Furthermore, some studies show that anonymity in GSSs may facilitate arguments from members holding a minority opinion (though other research suggests that anonymity makes group norms salient and mitigates minority opinions). Although relatively few studies have been conducted, there is some evidence in the GSS, general CMC, and organization/management literature that anonymity may be particularly valuable to women—who may also be marginalized in some online and workplace settings. Thus, anonymity enhances participation generally—and especially for marginalized groups.

*Influence.* The anonymity-related research on influence examining decision shifts, risky shifts, and attitude change can also only be described as mixed across these different bodies of research. In the psychology literature, studies have reported no statistical difference between anonymous and public conditions on risky shift; however, at least one study has reported that the largest risky shift occurred in the anonymity condition. Research examining the effects of anonymity on decision shifts in GSS groups is even more decidedly mixed: some studies show anonymity may facilitate decision shifts, other research suggests anonymity makes group norms salient and mitigates decision shifts. In the SIDE research examining this dynamic, the findings depend largely on the anonymity of those involved. In general, when the self was anonymous, group anonymity led to greater choice shift in the direction of the group norm compared with identifiable groups; when the self was identifiable, the choice shift was greater when the group was identifiable than when anonymous. Distinguishing between self and group anonymity, which was not found in the research in other areas, suggests one explanatory factor amid otherwise inconclusive findings. SIDE research also illustrates that the influence of anonymity depends on what identity may be salient for group members; thus, mixed findings may be better accounted for through efforts to understand identity salience in among anonymous interactants.

*Feedback.* Again, across several different literatures that examine feedback, the findings are somewhat mixed. In organization/management studies, the effects of anonymity on performance ratings are unclear. A couple of studies suggest that anonymous assessments result in lower ratings—which are not received well by those being evaluated and may ultimately be linked to lower evaluations of anonymous raters by their supervisors. Anonymity is clearly used in formal and informal feedback and seen as appropriate, but clearly with some consequences. In the education research, anonymity allows group members to share less positive, unpleasant, and/or more open feedback with each other. At least one study suggested that even though most students liked the direct and honest comments from anonymous reviewers, some found online feedback confusing and unclear. In the journalism research, stories containing an anonymous source were much more likely to include criticism than stories that did not contain an anonymous source. Conversely, at least one

experimental study with student groups using email found FtF communication included more feedback than in an anonymous CMC condition (but not greater than the CMC with real names condition). Some evidence from psychology also suggests that the nonanonymous condition may produce greater punishments in evaluations of others' ideas relative to anonymous conditions. Thus, it is difficult to conclude anything definitive across these studies.

However, the feedback literature does raise a related issue cutting across this research. Consideration of to whom one is anonymous is an important, but still understudied, research area in anonymous communication. Perceptions about and use of anonymity may vary depending on whether one is the initiator or recipient of such messages—and even vary based on the type of feedback recipient (e.g., teacher vs. managers/supervisor). All this is consistent with our prior calls to more closely consider the receiver in anonymous research (see Rains & Scott, 2007). We see some of these issues illustrated in this literature when those evaluating and those being evaluated express different views of anonymity, or when peers favor anonymous peer assessment but supervisors end up rating subordinates providing anonymous peer feedback less favorably. Related to this, several different areas we reviewed have examined audience at least implicitly—and in several cases the audience has an important influence on anonymous communication or other variables. In SIDE research and some psychology research, for example, one of the key considerations examined in several studies is the different groups to whom one's identifiability or anonymity matters—especially related to one's in-group or out-group. Other literature has pointed to third parties, which could serve as an intermediary audience; for example, in situations involving confidentiality one's identity may not be known to most, but would be known to some. Each of these findings points to a similar conclusion: greater attention to the relevant audience(s) matters and may account for some of the mixed findings related to feedback (and other topics).

### *Outcomes of Anonymous Communication*

*Performance.* The findings regarding the relationship between anonymity and performance are mixed (e.g., anonymous GSS groups are both more and less effective), but several pieces of evidence suggests anonymity may enhance certain measures of performance (with less evidence suggesting it diminishes performance). Findings from economics suggest improved coordination, reduced collusion and increased giving in non-strategic situations. Psychology findings point to a better match between predicated and actual performance when anonymous. The SIDE research does generally find that anonymity is linked to greater satisfaction with performance. Part of the concern here is the sizable number of ways in which a task outcome such as performance is assessed. However, it may be harder to be effective when anonymous. At least one SIDE study suggests anonymity might be less effective for

showing opposition. The organization/management research also finds that whistleblowing and fraud reporting are less effective when done anonymously. Overall, there are relatively few findings that even examine this traditional outcome—and even fewer conclusive findings when they do.

*Trust assessments.* Based on findings across several literatures, we suggest that anonymity generally leads sources to be perceived as less credible. Economics findings suggest anonymity can make trust more difficult. The GSS research points to anonymous confederates and other anonymous online users as being less trustworthy. Even the efforts to identify anonymous individuals in that work suggests people do not trust others who are anonymous. However, it is worth noting that several journalism studies found no differences in ratings of news stories with anonymous and identified sources—and in certain specific situations anonymous sources may be more trusted than they would be in general. Similarly the economics research would suggest that third party institutions or other ways of showing common interests can enhance the trust of anonymous others.

As a related finding, we note there is some evidence to suggest that credibility perceptions of specific labels used to denote an anonymous source (e.g., “official” vs. “analyst”) in journalism may vary. In related organizational work, Callison (2001) noted that anonymous generic sources were actually rated as more trustworthy than a source identified as a public relations spokesperson. This links back to issues of how anonymity is operationalized and the heavy use of pseudonyms across much of the research reviewed here.

*Identification.* This construct has been examined across these literatures as both an outcome of anonymous interaction and as more of a moderating factor. In the SIDE research and related psychology research, one of the more consistent findings is that identification with one’s overarching group, and sometimes with one’s more local group, matters substantially when cues to personal identity are not present. Thus, the influence of anonymity may depend heavily on existing identifications and salient identities for group members (and anonymity could have almost opposite influences depending on whether a more personal or social identity is salient). As an outcome variable, there are some consistent findings tied to identification, especially as related to visual anonymity. Psychology research found that participants reported stronger identification with their native nationality group when anonymous to that audience than when identifiable to them. Similarly, identification with the host nation was also stronger when responses were anonymous than when identifiable. In the GSS literature, one of the only studies to examine this found that participants reported the greatest group identification when members were physically hidden but were discursively identified. In general, physical anonymity is the type most linked to greater identification with one’s group.

### Summary and Future Directions

Overall, the findings paint a picture of anonymity as a construct that is both poorly defined and thus operationalized in numerous different ways. Its utility is that it fosters participation—and this is especially true for more marginalized groups who might feel too threatened or uncomfortable interacting without anonymity. But, the relationship to various influence and feedback processes is unclear, the effect on performance is at best mixed (with some evidence suggesting less effectiveness), and trust is generally diminished when communicating anonymously. Yet, identification can result from anonymity and even shape how anonymity influences other constructs. This creates in some ways a concerning contradiction in that a key way of enhancing participation (in the media, in the workplace, in the economic system, online, in groups, etc.) may not produce intended results and even contribute to diminished trust among communicators. Addressing this sort of contradiction and understanding how people manage these situations is vital for moving research forward.

Figure 13.1 not only provides one potentially useful way to organize the relevant findings across these literatures, but it also suggests several directions for future research. The heuristic value of the model helps focus attention on questions about anonymous communication *to whom*, *by what means*, and *through what processes*. Gaps in the current research also suggest the need to consider questions about *from whom* and *for what purpose*.

Anonymity factors include those that assess types of anonymity such as physical vs. discursive anonymity (and the many potential ways to achieve that anonymity), technical vs. social anonymity (and the recognition that anonymity is often a matter of degree rather than an absolute), and even the communication technology used (some of which afford much greater opportunity for anonymity than others). These factors also consider conceptual and operational definitions for anonymity. Together, these factors address important questions about anonymity *by what means*. Greater attention to these variables as they influence anonymity processes and ultimately outcomes is needed—but has yet to receive much attention across these research areas. Operationalizations of any online tool as anonymous would seem to overlook sizable variations between tools in norms for use and technological affordances (some tools are much more anonymous than others). Conversely, assumptions that any FtF setting or use of names makes one identified may need to be challenged—especially when zero-history strangers are interacting. Beyond the channels that provide some degree of technical anonymity, perceptual views of anonymity should continue to be examined. Anonymous's (1998) model of anonymous communication provides several useful ideas for a more social view of anonymity.

A related concern less obvious from the model addresses questions about anonymity *to whom*. Several findings suggested audience/receiver considerations guide communication efforts. Relevant issues here include whether we



are anonymous to all or only some; use of confidentiality and intermediaries; and considerations about the receiver's acceptance of, expectations for, and/or reaction to (e.g., desire to identify) anonymity (see Rains & Scott, 2007). We suspect this is important at several levels. In some cases, certain institutions may know our identity, but keep it confidential so that we are effectively anonymous to others. This is comparable to the role that Internet Service Providers may play in some instances. For some, that level of partial anonymity is acceptable because it provides a user anonymity for the audience where it is most needed. In a similar vein, we want anonymity from coworkers or teachers or others to save face, but we may care less if technical experts (e.g., IT personnel) could identify us. In other cases, audience anonymity matters because we wish to be anonymous to one group but potentially identifiable to another. The work on ingroups/outgroups and internal/external others provides a useful reminder that we are not simply anonymous or not (but must consider to whom we are or wish to be anonymous). Consideration of audience and receiver preferences is vital for future research as well.

The middle part of the model focuses on communication processes that appear especially relevant to anonymous communication. We already have evidence that anonymity seems to often enhance participation—but for which audiences and under what types of anonymity? One of the clearer findings across these research areas is that more marginalized groups have the most to benefit from anonymous participation—which not only speaks to the interaction process, but anonymous sources. The findings are much more mixed about processes related to influence such as decision making and attitude change, as well as feedback. More specific consideration of anonymity types and audiences may help sort out when anonymous communication leads to certain types of decision shifts or facilitates more/less feedback. Variables such as participation, influence, and feedback help address questions about anonymous communication *through what processes* and to a lesser extent *from whom* (though past research has not heavily examined source issues, future research should do more to describe and profile communicators who choose anonymity). In addition, future research may benefit from exploring other processes closely linked to anonymous forms of interaction (e.g., uncertainty reduction efforts, attributions).

Finally, the model notes a focus on outcomes. The findings related to standard outcomes such as performance are mixed. Trust and credibility are often diminished in anonymous exchanges. However, greater connection of these outcomes to specific communication processes as well as anonymity factors (e.g., type of anonymity) may help address these concerns. The findings for identification are more consistent, but need to be examined with a wider range of relevant targets and anonymity types. Outcomes questions should help us answer questions about *for what purpose*. Answering such a question, though, should go beyond efforts to be effective or create identification and must lead anonymity scholars to begin more widely addressing other related issues such as situational appropriateness, topic suitability, and practical applications.

In conclusion, we see anonymous communication as a topic of growing importance in the world and one that continues to receive attention from somewhat scattered fields of study. As legal examinations grow, as the Internet matures, and as public opinion about accountability shifts, this topic will likely become even more important and more examined in these various fields. However, the lack of prior efforts to look across these areas leaves us with an inadequate picture of the current state-of-the-art in this area and without direction for future research on the topic. It is our hope this chapter provides both a useful summary of the existing literature on this topic and some sensemaking that inspires the next generation of scholars to build on prior efforts.

## Notes

1. However, anonymity is distinct from privacy. Anonymous communication may be public or private, and it is only the identity of one or more communicators that is kept hidden.
2. An initial search of EBSCO databases using the search term “anonymity” produced well over 20,000 results—but many were an artifact of using anonymity as part of the data-collection procedure for a study (e.g., anonymous survey responses). Accordingly, we took several steps to focus the search process. We limited our searches to article abstracts, added the term “communicat\*” to all queries, and searched for variations of the words “anonymity,” “pseudonym,” and “unidentified.” The search for “anonym\*,” “unident\*,” and “pseudonym\*” each with “communicat\*” produced exactly 1,600 records, which were then reviewed by one of the chapter authors to identify original research studies, eliminate nonpublished work, and begin classifying research by disciplinary areas and interdisciplinary topics. In a few instances, the articles we retrieved cited additional studies relevant to anonymous communication; we attempted to retrieve the additional studies to ensure reasonable comprehensiveness.
3. As Walther (2010) notes, studies manipulating visual anonymity may provide even more anonymity through impersonal experiences, abstract identifiers, and relatively limited interaction periods. Thus, even with relatively consistent findings, it is not always possible to know exactly how much of that is due to the visual anonymity.

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