



Multi- and Mixed-Methods Approaches to Urban Communication Research: A Synthesis and the Road Ahead

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Interest in how the places we inhabit—and especially cities—impact our lives and how, in turn, humans shape the urban environment has intensified in the past 15 years across the social sciences, and in communication more specifically. An urbanization trend forecast to remain strong for at least 50 more years is fueling this interest, as are the growing appeals among policy makers for solutions to cities' problems that are informed by research and for methodological innovations that enable the study of inherently complex urban ecosystems. This context has fostered efforts to develop multimethod and mixed-methods approaches to the study of the city. This article describes the strengths, challenges, and models of such research designs. I review the multimethod and mixed-methods communication research that has focused on the city, identify key themes and problematics that this literature has addressed, discuss theoretical orientations guiding this work, analyze research designs employed, and identify gaps that future communication-centered research on the urban condition should address.

Keywords: urban communities, urban communication, mixed-methods, research design

Interest in how the places we inhabit impact our lives has endured through centuries. In the 17th and 19th centuries, for instance, several studies mapped the prevalence of diseases in different European cities and towns. Edwin Chadwick's (1842) study on the *Sanitary Conditions of the Laboring Poor in Great Britain* showed how where people lived, the quality of their physical environment, and their social class were related to life expectancy. He did this by employing descriptive statistics, cross-tabulations, and basic mapping techniques. This research created the impetus for legislation that led to improvements in people's physical and social environments, such as better sewage systems and housing and access to education for disadvantaged populations. It was not until the early 20th century, though, that groundbreaking work of Chicago School sociologists recognized *communication* as a critical mechanism of the ecological organization of the city (Park & Burgess, 1925). At the time, U.S. cities were undergoing significant changes driven largely by increasing population diversity (the product of strong immigration flows) and technological innovation. As Park and Burgess note:

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Transportation and communication, tramways and telephones, newspapers and advertising, steel construction and elevators—all things, in fact, which tend to bring about at once a greater mobility and a greater concentration of the urban populations—are primary factors in the ecological organization of the city. (p. 2)

The early Chicago School's research is also noteworthy because it embraced the notion that study of the city required blending quantitative and qualitative research methods.

Although the seeds were sowed in the early 1900s, for several decades after that, and especially after World War II, social scientific research on the city (across fields including sociology, anthropology, and geography) and communication research seemingly parted ways. This is especially evident in communication research conducted in North America. A detailed historical account is outside the scope of this article, but suffice it to say, as Pooley and Katz (2008) note, after World War II, communication research distanced itself from those questions around how place shapes individuals' behaviors and vice versa. Instead, communication research focused on psychological factors that influenced individuals' attitudes and behaviors and phenomena such as public opinion. This focus on public opinion among communication scholars with social scientific training encouraged an emphasis on quantitative research methods and especially the use of survey methodology.

In the 1990s, however, a shift occurred. Since then, the interest in place in general and cities more specifically has intensified across the social sciences for three reasons: first, strong urbanization trends worldwide (Grimm et al., 2008); second, innovations that have allowed us to overcome methodological limitations in the study of urban ecosystems (Sampson, 2012); and, third, increased interest by funding agencies, such as the U.S. National Science Foundation, in the study of cities. Sampson, Morenoff, and Gannon-Rowley (2002) observed that, between 1990 and 2000, the number of neighborhood effects studies (i.e., research that examines how places we live in shape our lives and vice versa) doubled, "to the level of about 100 papers per year" (p. 444). In a synthesis of the literature on neighborhood effects on health, Matsaganis (2015) found that this trend continued unabated between 2003 and 2015. Additionally, during this time—and although *communication* has been absent from much of the recent work on urban communities in other social sciences—communication research on the city has grown in volume and in terms of methodological sophistication (Matsaganis, 2015).

These trends offer a warrant for a more systematic analysis of methods that have been applied to the study of communication and the city. One of the sources of innovation that has influenced communication research has been the sustained interest, over the past 20 years and across the social sciences, in developing multimethod and mixed-methods research designs. Therefore in this study, I will focus on multi- and mixed-methods communication research on the city; or, to be more precise, urban *communication research*.

Urban communication is not well defined in the literature, although the term is used frequently. Building on Georgiou (2008), Jeffres (2010), and Matsaganis (2015), I conceive of *communication* as a fundamental social process that takes place at and across multiple levels of analysis within urban commu-

nities. It is initiated and sustained by various city actors—individuals, media, and other community-based organizations and institutions. These actors produce stories about the city and the issues they care about. Through communication, a city's actors cocreate a context, within which they endeavor to address individual and shared concerns. The characteristics of this context (e.g., breadth of issues discussed, how they are discussed) are influenced by structural and cultural dimensions of the city. This interaction between actors' agency and city structure produces an array of effects (related, for example, to civic engagement, the social integration of immigrant populations, and health). All of the above are subjects of *urban communication research*.

In this context, my major goals in this article are to:

- Discuss the strengths of multi- and mixed-methods research designs and present models of such designs that have been employed in communication and allied sciences.
- Analyze specifically multi- and mixed-methods urban communication research to identify themes and problematics addressed in this growing body of work.
- Identify gaps that future research should address.

From Single-Method to Multimethod and Mixed-Methods Research Designs

Single-method studies continue to be the norm in the communication literature. Still, many communication studies are based on multiple methods. These can be classified into two categories: (a) studies that employ more than one quantitative or qualitative method and (b) studies that rely both on quantitative and qualitative methods. Hereafter, I will refer to the first type as *multimethod* and to the latter as *mixed-methods* studies.

Multimethod Studies

Combining two or more qualitative or quantitative methods has advantages that single-method research designs do not, especially when investigating complex phenomena that unfold at multiple levels of analysis and testing theories that account for such phenomena. Benoit and Holbert (2008) offer several examples of multimethod studies in communication. They describe, for instance, how a combination of quantitative content analysis, survey research, and experiments contributed to the development of *cultivation theory*-based research, which was formulated by Gerbner and colleagues (e.g., Gerbner, Gross, Morgan, & Signorielli, 1982).

The combination of multiple quantitative or qualitative methods alone represents but one approach to investigating multilevel phenomena and testing multilevel, communication-centered theories. Mixed-methods studies offer a second option.

Mixed-Methods Studies

Although the divide between quantitative or postpositivist, on one hand, and qualitative or social constructivist (or interpretive) approaches to research, on the other, has not yet been relegated to the past, a growing number of researchers across the social sciences argue that preserving this divide is unproductive. The evolution of a complementarity argument, based on which quantitative and qualitative methods can be fruitfully combined, is beyond the scope of this article (see Tashakkori & Teddlie, 1998). What is necessary, however, is a formal definition of mixed-methods research, a discussion of why there is interest in mixed-methods research approaches, and a presentation of larger theoretical perspectives that facilitate the integration of methods rooted in very different research paradigms. I conclude this section with a discussion of types of mixed-methods research designs documented in the literature. (I employ this typology in the analysis of urban communication research later in this study.)

What's in a Name?

Since 2010, in response to growing interest in mixed-methods research designs across the sciences, major funding agencies have had to grapple with the nature of mixed-methods scholarship. They have had to articulate best practices for conducting and criteria for evaluating mixed-methods studies. In 2011, for example, the U.S. Office of Behavioral and Social Sciences Research commissioned a report on mixed-methods research in the health sciences. The authors of the report define mixed-methods as an approach that: (a) focuses on research questions that "call for real-life contextual understandings, multilevel perspectives, and cultural influences"; (b) employs "rigorous quantitative research assessing the magnitudes and frequency of constructs" and "rigorous qualitative research that focuses on the meaning and understanding of constructs"; (c) utilizes multiple methods (e.g., intervention trials and in-depth interviews); (d) combines multiple methods building on the strengths of both; and (e) frames the investigation "within philosophical and theoretical positions" (Creswell, Klassen, Plano Clark, & Smith, 2011, p. 4).

Why Employ Mixed-Method Designs

From a practical standpoint, the question is whether the benefits of using mixed-methods research designs outweigh the challenges. Greene (2007) points out that combining quantitative and qualitative methods highlights tensions for researchers trained in different research traditions and who align themselves more closely with postpositivism or social constructivism. Nonetheless, mixed-methods designs offer necessary tools for integrating theories that together can offer a more nuanced understanding of social reality and allow for the application and further development of theories that account for complex phenomena that unfold across multiple levels of analysis (Creswell et al., 2011). Kreps and Maibach (2008) make a similar argument in support of mixed-methods from the nexus of communication and public health research. They argue that cross-pollination of ideas across disciplines can lead to powerful transdisciplinary theoretical frameworks for the study of the role of communication in health, but they emphasize that such an endeavor requires the combination of quantitative and qualitative research methods. The call for mixed-methods research designs from inside the scientific community is

amplified by a push from the outside, from a range of public, private, and nonprofit organizations that are looking for research that can inform policy. These actors' needs are more practical, and this push may further blur the lines between qualitative and quantitative approaches (Brannen, 2005).

Reviews of the larger literature (across the social sciences) provide insight into specific reasons why researchers combine qualitative and quantitative methods. In a review of 232 studies, Bryman (2006) identified more than 16 reasons for employing mixed-methods designs. The top 8 reasons were: (a) *enhancement* (augment qualitative or quantitative findings), (b) *triangulation* (increase validity), (c) *completeness* (provide a more comprehensive account of the phenomenon studied), (d) *illustration* (illustrate with qualitative data findings based on quantitative data), (e) *sampling* (one method used to determine a sample of participants for a different research activity), (f) *diversity of views* (combining top-down and bottom-up approaches and integrating researchers' and participants' perspectives), (g) *explanation* (one approach is used to further explain findings based on another), and (h) *instrument development* (to use qualitative methods, for example, to develop questionnaire items).

Conceptual Frameworks for Mixed-Methods Designs

Postpositivist and social constructivist perspectives undergird studies that employ solely quantitative or qualitative methods, respectively. These perspectives reflect particular ontological and epistemological assumptions that are frequently considered incompatible. Proponents of mixed methods argue, though, that there are enough similarities in fundamental beliefs of both approaches to form what Reichardt and Rallis (1994) call "an enduring partnership" (p. 85). These include the beliefs that (a) research is value laden, (b) observations are shaped by the theoretical framework employed, (c) reality is socially constructed, (d) theories cannot be proven beyond any doubt, and (e) multiple theories can contribute to our understanding of the same phenomenon (Reichardt & Rallis, 1994). On the basis of these commonalities, two perspectives have emerged to support mixed-methods research designs: the *pragmatist* approach and the *transformative* approach.

The pragmatists focus on how quantitative and qualitative methods can be combined to answer particular research questions. From a pragmatist perspective, we understand social phenomena through *abductive* reasoning (Morgan, 2007), which moves back and forth between induction and deduction (typically associated with constructivist/qualitative and postpositivist/quantitative approaches, respectively). This is the case when, for example, through inductive reasoning, observations lead to theory elaboration, which subsequently leads to the formulation of new theory-driven research questions.

The transformative approach to mixing methods shares with the pragmatist perspective the notion that reality is socially constructed. It takes a step further, though, to say that "all knowledge reflects the power and social relationships within society, and that an important purpose of knowledge construction is to help people improve society" (Mertens, 2003, p. 139). A transformative approach is open to the use of any method—qualitative or quantitative—as long as the methods chosen help investigators achieve change that will benefit populations disproportionately affected by disparities (e.g., social, health, digital). Under the umbrella of this larger transformative perspective we find specific

approaches that have gained traction in communication research, including a *community-based participatory research* approach (Minkler & Wallerstein, 2008) and the *engaged scholarship* perspective (Napoli & Aslama, 2011). The former is frequently employed in health communication research, and the latter is used in several subfields of communication, including organizational and political communication.

Typologies for Mixed-Methods Research Designs

Creswell, Plano Clark, Gutmann, and Hanson (2003) describe six types of mixed-methods designs based on four criteria: the sequence in which data are collected, whether priority is given to quantitative or qualitative research, the phase at which the "mixing" takes place (e.g., in the analysis and/or interpretation stages), and whether the research is driven by a transformative theoretical perspective. The six mixed-methods designs they identify are:

1. *Sequential explanatory*. In this design, priority is given to quantitative methods. The findings from the application of both methods are combined in the phase of interpretation.
2. *Sequential exploratory*. This design is, in a sense, the opposite of the previous one, as the sequence of qualitative and quantitative methods is reversed.
3. *Sequential transformative*. Both types of methods are combined in this design, but the research is also explicitly driven by a transformative theoretical perspective.
4. *Concurrent triangulation*. In this and the following two designs, researchers collect quantitative and qualitative data at about the same time. In this design specifically, however, the two methods are combined in both the data analysis phase and the interpretation.
5. *Concurrent nested*. In this case, both types of data are collected simultaneously, but one of the two methods is embedded in the other in a way that allows the researcher to address a question that is different from the one answered by the dominant method. The integration of data occurs in the analysis.
6. *Concurrent transformative*. In this design, finally, investigators collect data simultaneously through both types of methods, but they are also guided by a theoretical perspective of change.

Multimethod and Mixed-Method Approaches in Urban Communication Research

Multi- and mixed-methods research is not foreign to scholars interested in urban communication. In fact, several studies published between 2000 and 2015 have employed such designs. I will review these studies next to highlight trends and identify directions for further development.

The collection of studies examined was compiled by: (a) exploring the literature using search engines such as EBSCO: Academic Search Complete, Google Scholar, JSTOR, and Science Direct; (b) searching the contents of 12 journals published by the International Communication Association and the National Communication Association (in the United States); and (c) consulting colleagues regarding top

journals in their fields of specialization (e.g., political or health communication, communication technology). Search terms included "urban," "residential," "place-based," and "geographically defined" "communities," "cities," and "neighborhood(s)." To be considered further, studies were read to ascertain that they employed a multimethod or a mixed-methods research design. This selection process led to 22 studies that were reviewed in detail. Among these, 10 employed a mixed-methods research design, and in 12 cases authors described a multimethod design. Additionally, five studies were explicitly guided by a community-based participatory or community-engaged research approaches.

In the next section, I discuss the findings of the review, organized around the major themes and problematics that the authors of these studies address. Doing so highlights the range of issues that have preoccupied researchers who have adopted social scientific and multi- or mixed-methods approaches to urban communication over the past 15 years. I also emphasize research design details in each case, employing Creswell et al.'s (2003) typology, and discuss its benefits.

Table 1 summarizes findings of this review and includes additional data about each study, including information about the theoretical framework guiding it and the explicit and inferred goals (and benefits) that the research design serves in each case, based on Bryman's (2006) typology.

Themes, Problematics, and Methods in Urban Communication Research

Four major themes emerge from the studies reviewed: (a) communication ecologies and urban communities; (b) communication and civic engagement; (c) communication, urban communities, and health; and (d) communication and public space. Apart from these four major themes, two problematics emerged from the review. These cut across all four areas of urban communication research: (1) the problematic of technology (how technological innovation is incorporated in urban communities and how it shapes communication in the city) and (2) the problematic of change (how do cities change, when, and by whom).

Communication Ecologies and Urban Communities

Eight studies contribute to this stream of research, which focuses on the webs of communication resources—including media, organizational, and interpersonal resources—that urban community residents rely on to achieve various goals (e.g., staying on top of community affairs, seeking health information) and how they are shaped by the places in which people live. I refer to these webs of resources as *communication ecologies* (Wilkin, Ball-Rokeach, Matsaganis, & Cheong, 2007). Wilkin et al. demonstrate how the configuration of individuals' communication ecologies depends on the goals they seek to achieve, but also on other factors such as their ethnicity, the geographic community they live in, and their access to communication technologies. In one study, Lin, Song, and Ball-Rokeach (2010)—through a quantitative, multimethod research design that included a random-digit-dial telephone survey of more than 1,000 residents across four different immigrant communities in Los Angeles and content analysis of more than 8,000 stories published in 51 ethnic newspapers—describe differences in the communication practices of these communities (e.g., communication with family and friends, media consumption),

thereby providing insight into how they experience transnationalism—living, that is, both “here,” in their country of settlement, and “there,” in their country of origin.

Katz (2014) also focuses on an immigrant community, but her focus is on the role of immigrant Latino children as communication brokers between their families and local social institutions. Katz employs a sequential exploratory mixed-methods design in which quantitative data from a random-digit-dial survey aided creating a suitable sample of families recruited for the main part of the study. Based on survey results, the author recruited Spanish-speaking residents who indicated that their children frequently brokered English-language phone calls, mail, media, and interactions with local service providers (including teachers and health providers). Subsequently, Katz interviewed children, their parents, and local health and social service providers. These qualitative data were complemented by field observations collected at the locations of several local organizations.

A subset of studies that speaks to the larger theme of communication ecologies and urban communities is rooted in the theoretical tradition of *structural* or *community pluralism* (Tichenor, Donohue, & Olien, 1980) and addresses how the characteristics of the community (e.g., size, heterogeneity) shape the local media landscape and the roles that media play in the community. Jeffres, Cutietta, Sekerka, and Lee (2000), for instance, combined U.S. Census Bureau data with data from a survey of 141 newspaper editors from 25 cities to determine whether measures of community structure based on objective census data correlated with newspaper editors’ subjective evaluations of the communities they served (e.g., how ethnically diverse they were), and how community structure related to newspapers’ goals as these emerged from content analysis (e.g., whether stories focus on conflict for problems to eventually be solved or on the common interests of community members to preserve consensus). Jeffres et al. (2000) integrated quantitative data, collected via two different methods, in the analysis and interpretation phases of their study.

Two more studies contribute to the work on the communication ecologies or urban communities, but because their main focus is on other themes, they are discussed later (see Jeffres et al., 2011; Matsaganis & Golden, 2015).

In a third subset of studies, the focus is on media organizations in urban communities. In one project, Hardyk, Loges, and Ball-Rokeach (2005) investigate the practices of two local radio stations in Los Angeles to find out how these media forge relationships to other media, local organizations, and community residents, thereby contributing to community integration. The authors offer insight into how community residents responded to these practices, and how the media producers’ strategies contributed to organizational success (higher ratings, revenues). Hardyk et al. applied *communication infrastructure theory* (see Ball-Rokeach, Kim, & Matei, 2001) and employed a qualitative multimethod research design, which included (a) interviews with radio station producers, (b) media content analysis, and (c) direct field observations of daily operations at the radio stations. Data in this case were integrated in the analysis and interpretation phases of the study.

Table 1. Themes and Problematics in Multi-and Mixed-Methods Urban Communication Research

| Themes | Specific Problematics | Theoretical Orientation | Research Design ⁽¹⁾ | Rationale for Mixing Methods ⁽²⁾ |
|--|-----------------------------------|--|--|---|
| I. Communication Ecologies & Urban Communities | | | ⁽¹⁾ Descriptions based on Benoit & Holbert (2008) and Cresswell et al. (2003) | ⁽²⁾ Based on Bryman (2006) (If stated = <i>explicit goal</i> ; if not = <i>inferred goal</i>) |
| Broad, Ball-Rokeach, Ognyanova, Stokes, Picasso, & Villanueva (2013) | Change/Transformation | Communication ecologies perspective, communication infrastructure theory | Multimethod: Qualitative | |
| Chen, Dong, Ball-Rokeach, Parks, & Huang (2012) | Technology, Change/Transformation | Communication infrastructure theory | Mixed-methods: Sequential exploratory and transformative | Completeness (<i>inferred</i>) |
| Hardyk, Loges, & Ball-Rokeach (2005) | | Communication infrastructure theory | Multimethod: Qualitative | |
| Jeffres, Cutietta, Sekerka, & Lee (2000) | | Structural pluralism | Multimethod: Quantitative | |
| Jeffres, Horowitz, Bracken, Jian, Neuendorf, & Yoon (2011) | | Structural pluralism | Multimethod: Quantitative | |
| Katz (2014) | | Theories of international migration and child brokering | Mixed-methods: Sequential exploratory | Sampling (<i>explicit</i>), Explanation (<i>inferred</i>) |
| Lin, Song, & Ball-Rokeach (2010) | | Theories of international migration and transnationalism | Multimethod: Quantitative | |
| Matsaganis & Golden (2015) | Change/Transformation | Communication infrastructure theory | Mixed-methods: Concurrent nested and transformative | Completeness (<i>explicit</i>), Enhancement (<i>explicit</i>) |
| II. Communication & Civic Engagement | | | | |
| Chen, Dong, Ball-Rokeach, Parks, & Huang (2012) | Technology, Change/Transformation | Communication infrastructure theory | Mixed-methods: Sequential exploratory and transformative | |
| Félix, González, & Ramírez (2008) | | (No specific theoretical orientation) | Multimethod: Quantitative | |
| Gordon & Baldwin-Philippi (2014) | Technology, Change/Transformation | Civic learning perspective | Multimethod: Qualitative | |
| Gordon & Manosevitch (2010) | Technology, Change/Transformation | Theories of deliberation | Multimethod: Qualitative | |

Table 1. (Continued) Themes and Problematics in Multi-and Mixed-Methods Urban Communication Research.

| | | | | |
|---|-----------------------------------|---|---|---|
| Hampton (2010) | Technology | Collective efficacy theory | Mixed-methods: Concurrent nested | Explanation (<i>inferred</i>), Completeness (<i>inferred</i>) |
| Jeffres, Horowitz, Bracklen, Jian, Neuendorf, & Yoon (2011) | | Structural pluralism | Multimethod: Quantitative | |
| Matei & Ball-Rokeach (2001) | Technology | Social shaping of technology perspective | Mixed-methods: Sequential explanatory | Explanation (<i>inferred</i>) |
| III. Communication, Urban Communities, & Health | | | | |
| Dutta, Anaele, & Jones (2013) | Change/Transformation | Culture-centered approach | Multimethod: Qualitative | |
| Matsaganis & Golden (2015) | Change/Transformation | Communication infrastructure theory | Mixed-methods: Concurrent nested & transformative | Completeness (<i>explicit</i>), Enhancement (<i>explicit</i>) |
| Matsaganis, Golden, & Scott (2014) | Change/Transformation | Communication infrastructure theory, socio-ecological perspective to health | Mixed-methods: Concurrent nested & transformative | Completeness (<i>explicit</i>), Enhancement (<i>explicit</i>), Diversity of views (<i>explicit</i>) |
| Slater, Hayes, Reineke, Long, & Bettinghaus (2009) | | Knowledge gap hypothesis | Multimethod: Quantitative | |
| Viswanath, Steele, & Finnegan (2006) | | Structural pluralism, social capital theory | Multimethod: Quantitative | |
| Wilkin, Cohen, & Tannebaum (2012) | Change/Transformation | Knowledge, attitudes, practices (KAP) framework | Mixed-methods: Concurrent nested & transformative | Explanation (<i>explicit</i>) |
| Wilkin, Stringer, O'Quin, Montgomery, & Hunt (2011) | Change/Transformation | Communication infrastructure theory | Mixed-methods: Concurrent nested & transformative | Explanation (<i>explicit</i>), Diversity of views (<i>inferred</i>) |
| IV. Communication & Public Space | | | | |
| Hampton, Livio, & Sessions (2010) | Technology | (No specific theoretical orientation) | Mixed-methods: Sequential exploratory | Explanation (<i>explicit</i>), Triangulation (<i>inferred</i>) |
| Matei & Ball-Rokeach (2005) | | Media system dependency theory, cultivation theory | Mixed-methods: Concurrent nested | Explanation (<i>explicit</i>) |
| Stokes, Bar, Kaumann, & Caldwell (2014) | Technology, Change/Transformation | (No specific theoretical orientation) | Multimethod: Qualitative | |

Finally, one study speaks to the communication ecologies and the city theme, but also takes on the problematic of change through the lens of communication infrastructure theory and from an engaged scholarship perspective. Through a qualitative, multimethod study that involves in-person interviews and focus groups, Broad et al. (2013) examine the communication ecologies of more than 150 practitioners working in community-based, social change-oriented organizations and explore how an academic research team can use this information to design engaged scholarship projects that will strengthen the communicative ties that bind communities together.

The Role of Communication in Civic Engagement

Seven of the studies reviewed speak to this theme. In this work, there is clear interest in the role of communication as a process through which individuals engage with and in their residential communities. Collective efficacy, social capital, civic participation, social cohesion are all outcomes of interest in this literature.

A subset of studies focuses on the role of media in producing and maintaining civic engagement in urban communities. Félix, González, and Ramírez (2008), for instance, examined the role of ethnic media and especially Spanish-language media in the immigrant rights protests that took place in 2006 in Los Angeles (and in other cities across the United States). Félix et al. do not rely on a specific theoretical framework; they do, however, use a quantitative, multimethod research design. They use data from citizenship application workshops sponsored by a national Latino civic organization to ascertain the profile of participants in these workshops. Subsequently, they administer a pilot survey to a sample of workshop attendees to determine participation in the protests and to investigate what communication resources these individuals used to obtain information about the demonstrations and the workshops.

In another multimethod study, Jeffres et al. (2011) examine how community structure—operationalized as population size and diversity—influences the relationship between individuals' use of mediated and interpersonal communication resources available in their communities and their level of civic engagement. Following the example of many studies in the structural and community pluralism literature, Jeffres et al. integrate in their analyses U.S. census data with quantitative data collected through a survey of 477 individuals.

Chen, Dong, Ball-Rokeach, Parks, and Huang (2012) are also interested in the role of media in residential communities and civic engagement, but they take a mixed-methods approach. In this study based on communication infrastructure theory, the authors also engage the problematic of change. Their goal is to describe existing patterns, but also to report on an ongoing "research-driven communication intervention" (p. 931) to develop a hyperlocal news website to promote civic engagement in an ethnically diverse urban neighborhood. The authors draw on survey data, semistructured interviews with community organizations and local government representatives, focus groups, and field observations. In this study, with features of a sequential exploratory and transformative design, the data collected through both quantitative and qualitative methods are integrated in the interpretation phase.

A second subset of studies under this theme speaks to the problematic of technology and civic engagement in urban communities. Studies with different conceptual frameworks and employing various methods contribute to this scholarly discussion. In one study, Matei and Ball-Rokeach (2001) found that individuals who exhibit higher levels of belonging to their residential community are more likely to make friends online and interact with them, thereby questioning research conducted around the same time according to which the forging of stronger online social ties comes at the expense of interpersonal communication off-line. This study employs a sequential explanatory design (involving a telephone survey plus focus groups) and is informed by a *social shaping of technology* theoretical perspective. Hampton (2010) also contributes to this line of inquiry by illustrating how the Internet encourages and supports the maintenance of civic engagement not only in communities where it is already high but in extremely poor communities. This is part of a series of related studies that Hampton has coauthored. They are based on, as Hampton describes it, a three-year naturalistic experiment intended to better understand the role of the Internet as a communication resource in place-based communities. This particular study by Hampton (2010) relied on the sociological *theory of collective efficacy* (Sampson, 2012). Quantitative U.S. census data helped determine the poverty rate of 50 neighborhoods, a key differentiating factor in later analyses. Subsequently, automated, computer-aided content analysis was employed to analyze more than 25,000 e-mail messages exchanged between neighbors on an online discussion forum. The results of the analysis pointed to key topics discussed among neighbors as well as the emotional, cognitive, and structural components of messages exchanged. Although not defined as such by Hampton explicitly, this study's design has characteristics of a concurrent nested design.

In a very different project, Gordon and Manosevitch (2011) and Gordon and Baldwin-Philippi (2014) take on both the technology and change problematics. They investigated whether and how a digital intervention that involves Internet-based media and games can encourage civic deliberation in urban communities. In these research-driven interventions, the authors relied on a qualitative multimethod research design that included unstructured and semistructured interviews, focus groups, and participant observations.

Communication, Urban Communities, and Health

Considerable research in recent years has examined health and place, mostly outside, but increasingly also inside, the field of communication (see Matsaganis, 2015). Several of these communication studies are based on *socioecological perspectives*, or theories that "incorporate two or more analytic levels (e.g., personal, organizational, community)" (Stokols, 1996, p. 287). Many of these studies also employ multi- or mixed-methods designs. Additionally, because of close ties between health communication and public health research, in which interventions are frequently the focus, several studies that speak to the theme of communication, community, and health also address the change problematic.

Viswanath, Steele, and Finnegan (2006), for instance, apply the structural pluralism theoretical model and *social capital theory* (Putnam, 2000) to the Minnesota Heart Health Program, a 13-year-long project designed to reduce cardiovascular disease incidence in three matched pairs of urban communities in the Midwestern United States. The authors investigate whether residents' ties to community groups

(i.e., civic engagement) are associated with health message recall and whether these correlations differ depending on the community's size (a proxy measure of community pluralism), distance to metropolitan areas, percentage of people employed in agriculture and manufacturing, and number of available media outlets. Analyses of quantitative data collected via successive cross-sectional surveys to measure community-level changes of cardiovascular disease risk factors over time, combined with cohort surveys to measure change over time in cardiovascular disease risk factors among community residents, revealed that, even after controlling for gender, education, and other variables, ties to community groups accounted for recall of cardiovascular disease-related messages, yet community pluralism did not moderate the relationship of civic engagement on message recall.

In a multilevel study, Slater, Hayes, Reineke, Long, and Bettinghaus (2009), employed the *knowledge gap hypothesis* and a multimethod research design to examine whether the relationship between individuals' education and cancer prevention knowledge is moderated by local differences in cancer-prevention news coverage. Their research design involved content analysis of newspapers to assess local differences in cancer-prevention coverage and a survey of a nationally representative sample of community residents to assess individuals' education and cancer prevention-related knowledge. The data were integrated in the analysis phase.

Another subset of studies based on *communication infrastructure theory* and focused on the relationship of communication and health in urban communities also take on the change problematic. Studies from two research-driven intervention projects—one based in Atlanta, Georgia, and one in a small city in New York State—have investigated how the material environment of communities and the social construction of this environment through communication (interpersonal and mediated) creates and reifies health disparities. Moreover, though, both projects, informed by community-based participatory research principles (Minkler & Wallerstein, 2008), have sought ways to intervene to reduce such disparities. The project in Atlanta employed a concurrent nested and transformative mixed-methods design that included surveys; community forum discussions; semistructured interviews with health care workers at local health care organizations; and PhotoVoice, a method that uses photos taken by members of disadvantaged communities to enable them to tell their stories and influence policy change (Wilkin, Cohen, & Tannebaum, 2012; Wilkin, Stringer, O'Quin, Montgomery, & Hunt, 2011). The second intervention project in a small urban community in New York relied on a similar mixed-methods design and involved surveys, semistructured interviews with residents and local health and human services organizations, and collection of field observations (Matsaganis & Golden, 2015; Matsaganis, Golden, & Scott, 2014).

Finally, in another stream of research that has led to the development of the *culture-centered approach* to communication and health, the change problematic is also clearly addressed, and this is done through intervention research employing multiple qualitative methods. Dutta, Anaele, and Jones (2013) report on the Voices of Hunger project, designed to address food insecurity in two communities—one in West Bengal, India, and one in Indiana, United States. The study relies on data collected through semistructured interviews, focus groups, communitywide discussions, and photo exhibit events cocreated by researchers and community members through the PhotoVoice method.

Communication and Public Space in the City

The fourth area of research focuses on the interplay between community communication dynamics and urban space. In one study that contributes to this line of work, Matei and Ball-Rokeach (2005) employed *media system dependency theory* (Ball-Rokeach, 1998) and *cultivation theory* (Gerbner et al., 1982) to examine the role of television and newspapers in the social construction of "spatial fear" among Los Angeles residents of specific areas of the city. Their analysis revealed how fear is mostly associated with the 1965 Watts riots and the critical role of television in constructing spatial fear that is perpetuated through collective memory. Matei and Ball-Rokeach pursue their questions through a concurrent nested mixed-methods design. Survey data collected through telephone interviews with a random-digit-dial sample of residents are combined with mental maps drawn by subsamples of these residents in the context of focus groups and through a mail-out survey as well as crime data obtained from law enforcement agencies.

Several studies on communication and public space address the problematic of technology. In one mixed-methods study, Hampton, Livio, and Sessions (2010) examine changes that have occurred in the social life of urban public spaces over the course of 30 years and how wireless technology is shaping how we use public spaces in cities. This project has involved qualitative and quantitative methods, including systematic social observations in public spaces across four cities and surveys of residents.

Finally, in the fourth study under this theme, the problematics of technology and change are intertwined. Stokes, Bar, Kaumann, and Caldwell (2014) sought to develop theory about the social conditions that sustain participation in urban planning, particularly in communities characterized by digital inequalities. The authors report on a multimonth process that involved repurposing pay phones in the historically Black neighborhoods of Leimert Park in Los Angeles. Their research design was participatory in nature and involved multiple, qualitative methods. Data were collected through interviews and hundreds of hours of participant observation.

Discussion and Conclusions

The renewed interest in place-based communities among communication scholars is evident in research published since 2000. Here, the focus has been on urban communication studies informed by social scientific perspectives that have employed multimethod and mixed-methods research designs. This review is revealing in several ways.

Although the list of multi- and mixed-method studies that met the criteria set at the beginning of this project was not enormous ($N = 22$), there was considerable variety across them with respect to research design. About half of these studies relied on multimethod designs (i.e., involving only quantitative or qualitative methods), which possibly reflects how persistent the divide is between communication scholars who gravitate toward postpositivist perspectives to research and those who subscribe to interpretive perspectives. On the flip side, though, with just under half of the studies employing mixed-methods designs, pragmatist and transformative approaches to communication research

seem to have gained traction. The actual number of mixed-methods urban communication studies may be larger than this review suggests, because journal articles frequently report on smaller parts of larger projects and are based on data collected through a single method that is a component of a more complex research design. Additionally and even though studies published in journals produced by some of the field's major professional associations, such as the International Communication Association, were included here, a de facto segregation of research by geographical region and language may have resulted in overlooking relevant studies published in several European and Asian countries as well as Central and South America, Australia, and New Zealand.

This presentation of studies reviewed describes the reasons that researchers have employed mixed-methods designs based on Bryman's (2006) typology. *Explanation*, or the need to use one method to better understand findings based on analysis of data collected through another method, emerges as the most common reason (explicitly stated or inferred). The need to offer a more comprehensive account of a phenomenon is the second most common reason (or the need for *completeness*, according to Bryman). In most cases, explanation and completeness are dictated by a study's theoretical underpinnings. Three of the mixed-methods studies under the "communication, urban communities, and health" theme, for example, were informed by communication infrastructure theory (a multilevel, socioecological theory) and sought to achieve change at the community level (see Matsaganis & Golden, 2015; Wilkin et al., 2011, 2012). In these studies, mixed methods allowed the researchers to (a) capture patterns of use of local health communication and health care resources (via quantitative methods) and then (b) explain how the material environment of the communities studied led to the emergence of these patterns (via qualitative methods that provided insight into the discursive processes through which residents made sense of their environment).

All but one of the models of mixed-methods research (i.e., concurrent triangulation) described by Creswell et al. (2003) were represented in the studies reviewed. Concurrent nested and transformative designs were more common overall, and especially in projects informed by community-based participatory research principles and designed to address local health or civic engagement concerns (that is, projects designed to effect change in urban communities). These designs enabled a nuanced understanding of communication dynamics in urban communities and involvement of local actors in the development of sustainable solutions to community problems. Of course, such designs may not be well suited for all research endeavors (e.g., more descriptive studies).

Despite the variety evident in the literature reviewed, it is apparent that urban communication scholars do not always systematically describe their research designs. Doing so in the future (informed, for example, by Creswell et al., 2003) may facilitate appreciation of the repertoire of design options available among researchers, identification of suitable models for addressing particular questions, and it may even lead to more positive evaluations by reviewers of grant applications at major funding agencies, some of which now have established criteria for evaluating mixed-methods research.

Looking forward, there are gaps in urban communication research that can be addressed through multi- and mixed-methods designs. We still lack, for instance, a clear understanding of *how* individuals

attach meaning and create a sense of belonging to different types of place-based communities (e.g., neighborhood versus the city). We also do not know enough about the role of institutional resources, including media, in cities. Research suggests that they have a dual role, as features of cities' built environment and as actors (Matsaganis, 2015), but this role is not adequately understood. We know that density of organizational resources (e.g., schools, community technology centers) in a community matters, but how about density of media? We also know that what media content residents can access matters. But what are the combined effects of media organization density and media content? Through what processes do these effects manifest?

To address these and other lacunae in the literature, as well as the larger question of how communication is implicated in the relationship between physical and social environments, on one hand, and the lives of city residents, on the other, enriching the repertoire of methods used in urban communication research is necessary. Work outside communication suggests several possibilities. Townley, Kloos, and Wright (2009), for instance, discuss the value of combining participatory mapping and geographic information systems mapping, because these techniques enable the integration of qualitative data (e.g., photographs and narratives by residents) with quantitative data (e.g., survey, demographic data) to better understand what types of resources and activities are most important to individuals' daily functioning and well-being. Their focus is on the community integration of individuals with serious mental illnesses. This combination of methods (a mixed-methods approach), though, could be adapted to address a number of issues grouped under the themes here of "communication, urban communities, and health" or "communication and civic engagement." In the future, broadening the array of methods used in urban communication research and carefully articulating multi- and mixed-methods designs, informed by socioecological theories, will be key for advancing our understanding of the urban condition.

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