TRANSFORMING EVERYTHING?

Evaluating Broadband's Impacts Across Policy Areas



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Broadband Adoption and Ethnographic Approaches

JESSICA CROWELL

INTRODUCTION

In the fall of 2013, I sat in a faded fabric chair in Sammy's small office, which features one glass window overlooking the streets of central Philadelphia. It would be our final meeting; Sammy had taken a job in a new city, and I was approaching the end of my assignment. I had spent over two years in the health advocacy organization in which Sammy worked, conducting ethnographic fieldwork at the center's computer lab—called a "KEYSPOT"—down the hall. These KEYSPOTs were made possible by two federal Broadband Technology Opportunity Program (BTOP) grants, part of a $7 billion federal initiative to develop broadband infrastructure in the US in the wake of the Great Recession of 2008. The KEYSPOT project was a joint venture of the "Freedom Rings Partnership," a collective that included the City of Philadelphia, the Urban Affairs Coalition, universities, and dozens of community-based organizations. The broader aim of the KEYSPOT program was to serve low-income residents of Philadelphia who were without broadband access or computer skills.

As I scribbled notes into a small book, Sammy reflected on his experience coordinating digital work skills training programs throughout Philadelphia's KEYSPOTS over the past several years. He explained that although their site had exceeded their "numbers," connecting hundreds of

patrons to new jobs, he had begun to question the benchmarks that were being used to evaluate programmatic success and participant outcomes. As an illustration of the deeper concerns he had with the process of BTOP evaluation, Sammy brought up a participant, Dinah, who had recently obtained a job through the KEYSPOTs program. Sammy explained that although Dinah would likely be featured as a KEYSPOT "success story" in an upcoming partnership meeting, her story was more complicated.

To expand on Dinah's story, Sammy called Dinah a "regular" because she visited the lab several times a week, typically on a predictable schedule. Like many participants in Broadband Technology Opportunities Program (BTOP)–funded computer centers and digital training programs across the US, Dinah visited KEYSPOTs to build her digital skills in pursuit of a job. After months of searching, Dinah finally achieved her goal and began work as a security guard in a local hospital. However, to Sammy's surprise, Dinah soon reappeared at the KEYSPOT computer lab. Sammy began to tell Dinah's story:

> So, [Dinah] got this job. Success story. Great. And she was working as—and presumably still is working—as a security guard for some kind of hospital or clinic or something that was open all night, and she needed to get a pay stub. And actually I should say she was working through a contracting company . . . all the universities for example, probably several thousands of jobs, and they are all subcontracted and undoubtedly [they are] paid less and have no unions and no benefits and no retirement. So, [Dinah needed the paystub] to apply for food stamps because despite all that, she is still not making enough money.

In his statement, Sammy explains that while on the surface Dinah is a KEYSPOT "success story" as she obtained a job, a deeper look reveals that this outcome does not offer route out of poverty. In addition to highlighting the structural inequalities that frame urban life in low-income communities, Dinah's story also reveals the challenges digital inequality researchers face in evaluating what "successful" broadband outcomes look like. How do we measure successful outcomes in the context of structural

poverty and inequality? Which external factors and what community context should we consider when evaluating program impact?

While measuring outcomes raises important questions about how we conceptualize participant "success" in BTOP programs as outlined in the preceding paragraphs, there are similar complexities in unraveling the factors that shape individual attitudes toward Information Communication Technologies (ICTs). For example, Sammy later admitted that his personal attitudes on the potential of ICTs to change economic conditions in low-income communities had changed over the course of his time working at KEYSPOTs. Using Dinah's story to illustrate these complexities, in his statement Sammy points out the breakdown of durable support structures, like unions, that could have helped bargain and protect workers like Dinah; these structures have been weakened by this new shift to flexible arrangements in the digital information economy. Workers are increasingly isolated from each other. In Dinah's case, she works the night shift alone at a local hospital. As she was not provided Human Resources support from her employer, Dinah came back to the KEYSPOT lab to ask Sammy for help obtaining a paystub online. She needed this paystub so that she could apply—also online—for Supplemental Nutrition Assistance (SNAP).

Later in the same interview, Sammy wondered aloud if new technologies were expanding job prospects for working people in his community, or instead acting as a "tool to help lay off" and suppress wages. Yet, Sammy still emphasized that the programs were necessary and needed. It is important to note the nuance embedded in Sammy's attitudes toward ICTs. His opinions do not fit easily into a single category, and Sammy's attitudes also upend some traditional notions around the economic benefit of ICTs to low-income communities. Sammy likewise remarked that staff often felt pressure to provide straightforward, positive reports, fearing that painting a more complex portrait might starve the center of future funds. Like many other KEYSPOT staff members I interviewed throughout the course of my ethnographic research, Sammy felt pressure to focus

on the economic impacts of digital programs, rather than the social, cultural, or political outcomes.

As background, the ethnographic data presented regarding Sammy and Dinah is taken from a larger three-year ethnographic study of the impact of digital access and training programs—or KEYSPOTs—in urban Philadelphia. These KEYSPOTs were made possible by two federal Broadband Technology Opportunity Program (BTOP) grants, one for public computing centers (PCC) and another for sustainable broadband adoption, namely digital training courses (SBA). Approximately four hundred hours of participant observation were completed between 2010 and 2013 in both the public computer centers and broadband adoption training programs. Additionally, eighteen semi-structured interviews were conducted with KEYSPOT program participants and staff, and 150 documents pertaining to the KEYSPOTs were collected and analyzed.[1] In adherence to Institutional Review Board (IRB) protocols, participant names and identifying details have all been changed to preserve confidentiality.[2]

The ethnographic portraits of Sammy and Dinah reveal the potential challenges facing research evaluation of digital training programs like KEYSPOTs serving low-income communities across urban America. Their stories also highlight the complex economic, social, and cultural factors that can shape participant attitudes, interactions, and outcomes with technology. These accounts are also notable, in that digital inequality scholarship has increasingly moved beyond a broadband access and skills literature toward a study of digital attitudes and the "tangible outcomes" of broadband access. However, much of this emerging research remains quantitative in nature and has not offered an extensive sociocultural explanation of why poor attitudes toward digital technology may endure in many marginalized communities, or why broadband outcomes remain stratified by class and race (Blank and Groselj 2015). Given its special attention to understanding everyday activities and sociocultural meanings, ethnographic research is especially well-suited to fill this research gap.

To provide more background on the methodology, ethnography examines social interactions, cultural practices, and local meanings through observing both actions and behaviors over time. To carefully study social practices and cultures, ethnographers conduct extensive fieldwork, often over many years. In addition to conducting interviews with participants, ethnographers make detailed notes of their observations and social interactions with their participants, or "fieldnotes." In its focus on utilizing semi-structured qualitative interviews—in conjunction with long-term participant observation—ethnographic research can also capture disparities between reported outcomes and actual behaviors. As ethnographic researchers are deeply engaged and trusted in their communities of study, they can also be permitted special insight into behaviors or practices that are ordinarily taboo. As an example, for this reason, urban ethnography has been recognized for its significant contributions to our understanding of unregulated and informal economies in low-income communities. This ability to capture potentially taboo practices or hidden behaviors further underscores ethnography's potential utility to digital inequality research, which is equally invested in the study of practices and behaviors in high-poverty and marginalized communities.

Whereas ethnographic research does not offer "generalizability" or a broad look at how digital inequalities may impact large populations, ethnographic portraits can offer a window into the ways in which policy, poverty, and digital technology intersect on the ground. This chapter first maps out existing research in the areas of digital outcomes and attitudes. Next, we turn to an exploration of ethnographic methodology, including detailing data collection practices and procedures. Finally, this chapter explores the unique contributions ethnographic research has made at the intersection of inequality, sociocultural practices, and ICTs. In offering needed sociocultural context to our understanding of digital attitudes and outcomes, ethnographic research can also help digital inequality researchers further refine research questions, create new categories of mea-

surement, explore new research avenues and directions, and better map complex sociotechnical relationships.

UNDERSTANDING THE DIGITAL DIVIDE: SKILLS, ATTITUDES, AND OUTCOMES

Critical ethnographic research can offer an important contribution to emerging digital inequality scholarship, as this methodology provides a nuanced look at how sociocultural factors shape digital attitudes and broadband outcomes. In the first decades of the 21st century, there has been a shift in the digital inequality literature away from an access and skills framework, toward examining attitudes and "tangible outcomes" of ICTs. Because both social and cultural factors play a key role in shaping both Internet attitudes and outcomes, more qualitative research is needed to help us understand: (1) the range of factors that may impact personal attitudes, and (2) why some groups obtain more beneficial Internet outcomes than others. Given its special attention to detailing everyday activities, local cultures, and social meanings, critical ethnographic research is especially well-suited to fill this research gap. To build the foundation for this argument, this chapter first reviews previous digital divide research, tracing its origin from a focus on digital access to then examining digital skills and digital literacies. Second, the chapter summarizes current research that has revealed the role that individual attitudes play in shaping digital engagement, even as broadband rates have increased. Finally, we turn to scholarship that has focused on digital outcomes; notably, this research has painted a mixed picture of the impact of expanded broadband access and programs in marginalized communities.

Early literature in the digital divide field mapped critical arguments that serve as the basis for later "attitudes" and "outcomes" scholarship. As a frame of reference, the metaphor of the "digital divide" is meant to describe differences in information access, specifically in terms of access to Information Communication Technologies (ICTs). Whereas early

digital divide research was primarily concerned with how economic, educational, and geographic factors shape broadband adoption (McConnaughey, Nila, Sloan, Baxter, Alvarez, and Francesconi 1995), research soon turned to an examination of digital skills, digital literacies, and what Jung, Qiu, and Kim (2001) broadly termed "post-adoption" issues (Bertot 2003; Hargittai 2008; Mossberger, Tolbert, and Stansbury 2003; Sevron 2002). Scholars began to advocate for a broader research framework that would situate digital practices within a critique of poverty and inequality (Kvasny 2006; Light 2001; Strover 2003; Warschauer 2003) and would explore how digital access practically impacts individuals in their political, economic, and social lives (Mossberger, Tolbert, and Stansbury 2003; Selwyn 2004). Given this shift in research focus, digital divide scholars critiqued the metaphor of the "divide" as too limited, and some pushed for the term "digital divide" to be replaced with "digital inequality" (DiMaggio and Hargittai 2001; Eubanks 2011; Kvasny and Keil 2006; Warschauer 2003).

Now that broadband adoption rates have continued to rise—aided in part by the global expansion of mobile technology (Napoli and Obar 2014; Perrin 2017)—research has increasingly shifted away from issues of access. For instance, digital inequality scholarship has begun to explore: (1) attitudes toward digital technology, and (2) what Scheerder et al. (2017) have termed the "tangible outcomes" of Internet use. Regarding attitudes research, studies have examined the role that attitudes might play in shaping Internet behaviors along continuums of use (Reisdorf 2012; Reisdorf and Groselj 2017) and how motivations may interact with skills, usage, and materials to influence digital engagement patterns (Ghobadi and Ghobadi 2015). Gonzales (2016) has suggested that the high cost of *maintaining* digital access could play a role in biasing low-income communities toward digital tools (Gonzales 2016). Qualitative studies have offered some potential solutions to these challenges, suggesting that attitudes surrounding digital technologies could be improved if public and private technology programs involve marginalized communities

more substantially into program design (Fuentes-Bautista 2014), or if programs clearly articulate the potential political and organizing applications of digital tools for working-class communities (Wolfson et al. 2017). Ultimately, these researchers assert that a deeper understanding of the role attitudes surrounding digital technology may play in adoption is crucial to improving broadband engagement in marginalized communities.

In the second category of outcomes-focused research, this group of scholars expands on digital skills to insist that the goal of broadband interventions should be to promote "meaningful use" of ICTs (Mossberger et al. 2003). While scholars have advocated for broadband programs that can enhance cultural, economic, and social capital for participants (Bach, Shaffer, and Wolfson 2013; Schejter and Nonnecke 2012; Straubhaar 2012), recent quantitative scholarship has painted a mixed picture of digital outcomes among marginalized groups. For example, research has indicated that populations with higher social status use ICTs in more "beneficial ways" (van Deursen and van Dijk 2014; Zillien and Hargittai 2009) and that users with high levels of education or socioeconomic status may continue to reap the greatest rewards from Internet use (Blank and Groselj 2015; van Deursen and Helsper 2015). In short, this scholarship has illustrated that even after access is achieved, online activities and outcomes remain "stratified by both status and class" (Blank and Groselj 2015, 2770). These mixed findings are troubling and underscore the urgency of developing new critical research frameworks to unravel such complexities, helping us understand *how* and *why* digital tools are being used.

In their meta-analysis of quantitative research examining this "third-level" divide, Scheerder et al. (2017) underscore this point. To be more specific, they suggest that because social and cultural factors likely play a role in shaping both Internet attitudes and outcomes, more qualitative research is needed to help us understand "why some Internet users obtain more beneficial Internet outcomes than others" (Scheerder et al. 2017, 1615). Building on those insights, critical ethnographic research

is well-tailored toward this line of investigation. Accordingly, to make this case, we will now turn to an introduction to ethnographic research methodology, briefly describing the origins of the methodology. Next, this chapter reviews data collection practices and the role of the ethnographic researcher in their community of study. Finally, we will address the applicability of critical ethnography in the study of social and cultural life in low-income communities, and the ways in which the approach can also provide a nuanced look at the role digital technology plays in everyday life.

METHODOLOGY: THE ETHNOGRAPHIC RESEARCH PROCESS

As previously discussed, the shift in the digital inequality literature toward examining attitudes and "tangible outcomes" of ICT use is an important one, as it marks a turn away from an access and skills framework to a new emphasis on individual Internet use and utility. Yet, these studies have not been able to offer a social or cultural explanation of why poor attitudes surrounding digital technology may endure, or why broadband outcomes remain so stratified. Ethnography examines social interactions, cultural practices, and local meanings through observing both actions and behaviors over time. Thus, critical ethnography offers a useful analytical toolbox for digital inequality scholars, as it also provides a particularized, detailed portrait of social life and firmly roots analysis within a social justice perspective. Further, the methodology emphasizes developing "rapport" and trust with participants, allowing ethnographers insight into social practices that may be ordinarily hidden or taboo (Blumer 1969). This is particularly important in the study of digital inequality, as members of marginalized communities could be hesitant to report honestly on certain behaviors—for example, using digital tools in the unregulated economy—if researchers have not earned their trust. In these ways, ethnography can offer time and space for researchers to map complex behaviors and practices.

Ethnographic research has already made important contributions to our understanding of the digital divide, particularly around public discourse and policy dialogues around digital issues. For example, Clark, Demont-Heinrich, and Webber's (2004) ethnographic research highlights how narratives of individualism and economic self-reliance shape public discussion of digital divide solutions, whereas Kvasny (2006) demonstrates how the same tendencies may shape participants' own understandings of the benefits of ICTs. As a possible solution to these tendencies, ethnographic studies of the digital divide have also argued for more holistic broadband programs that would: (a) include digitally excluded communities in the program design process (Mitchell 2002), and (b) demonstrate how ICTs can be used to build political power (Wolfson and Crowell 2013). In its focus on utilizing qualitative interviews in conjunction with long-term participant observation, ethnographic research captures disparities between what is *said* and what is *done*, or any inconsistences between reported outcomes and actual behaviors. To showcase the "toolset" ethnographic methodology offers, the next section will explore: (1) the previous contributions of ethnographies to the study of the digital divide; (2) the origins of ethnographic methodology and its data collection procedures; (3) critical ethnographic approaches, including research that examines poverty and inequality in low-income US communities; and finally, (4) the contributions of ethnography to our understanding digital life.

What Is Ethnographic Research?

What is ethnographic research? Ethnographic research seeks to study people within their everyday environments (Burawoy 2003). As briefly discussed in this chapter's introduction, the goal of ethnography is to examine cultural practices, social interactions, and local meanings through observing both behaviors and actions. This methodology is unique in that ethnographers conduct extensive fieldwork in their field sites, often

over many years, in order to closely study social practices and cultures. As ethnographers observe and interact with their participants over time, researchers catalogue these encounters in extreme detail, utilizing what Geertz (1963) termed a process of "thick description" (Atkinson and Hammersely 2013). These detailed notes or "fieldnotes" form the foundation of an ethnographic study. Ethnographers also utilize semi-structured interviews with participants, allowing the ethnographer the flexibility to probe new areas of relevant interest that arise in the course of conversation. Accordingly, the method does not encourage researcher detachment, but rather the goal is to achieve deeper immersion and social engagement (Emerson, Fretz, and Shaw 2011). Additionally, ethnographers may collect relevant material documents or artifacts they encounter in the course of their research. In this way, the ethnographer creates a rich, detailed, individualized portrait of everyday life, cataloguing both actions and behaviors.

Although ethnographic research seeks to study people within their environments, it is important to flag here that, "immersion is not merging" (Emerson, Fretz, and Shaw 2011, 43). Researchers unavoidably bring their own life experience or "stance" into the social process, and thus, the research process. Thus, ethnographers must be cognizant of their own position in the social world and use this position as a tool for developing complex reflections and understandings (Wolfinger 2002). This is especially important for digital inequality ethnographers studying marginalized communities, as researchers may share very different economic, educational, or racial privileges from their participants (Liebow 1967). Developing a good "rapport" with participants is therefore critical, as participants are understandably more guarded with outsiders that have not earned their trust (Blumer 1969). Through building rapport, researchers are permitted more nuanced insights into participants' everyday lives. In a similar vein, without this rich on-the-ground knowledge of the communities they study, ethnographers could easily misinterpret messages (Geertz 1973). As referenced earlier, this is particularly im-

portant in the study of digital inequality, as members of marginalized communities could be hesitant to report taboo behaviors or practices to researchers who have not earned their trust. In these ways, ethnography can offer time and space for researchers to map complex behaviors and practices.

CRITICAL ETHNOGRAPHY: A HISTORICAL PERSPECTIVE

Whereas ethnography can make important contributions to the study of the digital inequality—especially regarding ICT attitudes and outcomes—it is important to flag possible "pitfalls" and stress the importance of utilizing a *critical* ethnographic approach. Regarding "pitfalls," to offer some historical background, early anthropologists like Malinowski (1979) and Mead (1928) first used ethnographic methods to document social life, systems of economic exchange, and cultural practices among native peoples in South Asia. Given that these early ethnographic studies of native peoples were largely conducted by white Westerners from outside the native cultures, postcolonial scholars have rightly critiqued these works as shaped in part by the racist attitudes and the colonial politics of the period (Clair 2003). It is in the tradition of critical scholars like Antonio Gramsci that ethnographers advocated for a "critical ethnography" that is better suited to the type of critical questions of power digital inequality scholars are likewise invested in. In contrast to early ethnographies, critical ethnography is centered in social justice and thus more attentive to the role that ideologies and socioeconomic structures play in shaping attitudes, cultures, and behaviors (Clark 1977). Accordingly, critical ethnographers actively advocate for the emancipation of oppressed communities in their work and do not strive for values of "objectivity" that may inform other research approaches. As mentioned earlier, ethnographers acknowledge that their research is rooted in a particular set of social relations and values and thus instead strive for self-reflexivity, rather than researcher detachment (Clifford and Marcus 1986). Given that digital inequality

scholars are invested in bringing attention to the needs of low-income and minority communities, it is crucial to be mindful of these historical critiques of the methodology when applying it to the study of the digital divide.

Taking into account the investment in social justice and inequality discussed earlier, ethnographers have already made important contributions to our understanding of urban life in high-poverty communities. For instance, due to its ability to uncover hidden practices through rapport and social immersion, urban ethnography has been recognized for its significant contributions to our understanding of economic exchange in low-income communities. This ability to capture potentially taboo practices or hidden behaviors further underscores ethnography's potential applicability to digital inequality research, which is equally invested in the study of practices and behaviors in high-poverty and marginalized communities. To offer some example of the contributions of ethnographies to our understanding of urban life, works by Dow (1977), Lowenthal (1975), and Stack (1974) all highlight the precarious economic lives of the urban poor in the US. More recent scholarship has explored the intersection of domestic life, violence, and policing in low-income urban communities from various perspectives (Anderson 1999; Goffman 2015; Lane 2018). Fairbanks (2009) examines informal drug-recovery houses in Philadelphia, arguing that their emergence is a symptom of a broader urban economic crisis. Edin and Lein (1997) focus on the economic survival strategies of welfare mothers in US cities, whereas Duneier (1999) reveals the informal economic practices of sidewalk book dealers in New York. These ethnographies all paint a vivid picture of the social and cultural attitudes in urban American, in addition to mapping economic lives and outcomes.

While ethnographies like those outlined have contributed nuanced portraits of contemporary urban life, critical ethnographers must take special care to avoid certain "pitfalls" in their research. For instance, Wacquant (2002) has cautioned against glamourizing or sensationaliz-

ing urban life at the expense of sincere economic, social, and political critique. To address these challenges, critical ethnographers have argued that researchers could more substantially involve participants in the process of research design, data collection, and analysis (Blomberg and Karasti 2012; Duneier 1999; Spinuzzi 2005). Notably, this could be a promising suggestion for digital inequality scholarship, which has been critiqued by some researchers as too disconnected from community needs (Mitchell 2002). But while ethnographers have long made significant academic contributions to our knowledge of everyday urban life, exploration of digital life is a more recent trend and has become an area of great interest for ethnographic study since the 2010s. We now turn to more recent research that specifically addresses the intersection of culture, social life, and digital technology in everyday life. This research outlines some of the ways that research is already engaging with important questions around digital attitudes, behaviors, and outcomes.

DIGITAL ETHNOGRAPHY

Whereas researchers in fields ranging from information studies, public policy, and education to psychology began to turn their attention to issues surrounding the digital divide in the 1990s, at the same time, few ethnographic studies were specifically engaging with the sociocultural impact of digital technologies (exceptions include Baym 2000; Clark et al. 2004; Danet 2001; Kendall 2002; Kvasny 2005; Mitchell 2002). Given that ethnographic methodology relies on direct, in-person participant observation, ethnographers may have initially been reluctant to see online spaces as a site for potential ethnographic study (Hine 2008; Murthy 2008). However, in the influential article "Ethnographic Approaches to Digital Media" Coleman (2010) helpfully reviews the important contributions that ethnographers have made to the study of digital cultures within the past decade. In this article, Coleman establishes that ethnographers have substantially enriched our understanding of: (1) digital media,

politics, and representation (Boyd 2009; Srinivasan 2006); (2) digital cultures and subcultures (Costanza-Shock 2008; Kelty 2008); and (3) digital technology and social practices (Boczkowski 2004; Boellstorff 2015). As ethnographers observe participants within their own environments over long time periods (Moran 2015), they are uniquely positioned to capture overlapping social and online spaces (Hallett and Barber 2014), or the intersections between the digital and the material worlds (Horst and Miller 2013). Dovetailing with this chapter's seminal thesis, Coleman (2010) concludes that ethnography has given greater dimension and nuance to the study of digital technology, as it is grounded within the framework of everyday social and cultural life.

Given these particular methodological strengths and contributions presented in this chapter, ethnographic research on digital inequalities can: (1) enrich our understanding of social attitudes around digital technology, and (2) expand our understanding of the "tangible outcomes" of broadband adoption (Scheerder et al. 2017). In providing sociocultural context to our knowledge of digital attitudes and outcomes, ethnographic research can similarly help digital inequality researchers refine research questions, expose behaviors hidden from other research approaches, create new categories of measurement, explore new research avenues and directions, and map complex sociotechnical relationships. Having addressed how this argument fits within existing digital inequality literature, defined the methodology, and mapped out the contributions of ethnography to our understanding of technology and urban communities, we turn to some concluding thoughts and future research directions.

CONCLUSION

Using Sammy and Dinah's story as a starting point, this chapter demonstrated how ethnographic research can help us better understand complex economic, social, and cultural factors. What is an "effective outcome" of ICT access? What questions do we ask to evaluate effectiveness?

Is obtaining employment through ICT access an effective outcome? If yes, does the quality of the job obtained matter? What if, for example, the job obtained will not provide a living wage? How then do we evaluate effectiveness? These questions and more were raised through the ethnographic portrait of two participants in a Philadelphia BTOP-funded broadband training program. Although Dinah obtained a job through a BTOP broadband training program, the job did not offer Dinah a route out of poverty. Sammy, a digital trainer who had worked with Dinah, noted that while ICTs were giving participants like Dinah new job opportunities, ICTs were also enabling greater outsourcing and loosening some worker protections. Remarking that Dinah's "success story" was more complicated than it might initially appear, Sammy felt increasingly conflicted about ICTs. This ethnographic portrait of Sammy and Dinah underscores the challenges facing research evaluation of broadband programs serving low-income communities across urban America. Their stories highlight the complex economic, social, and cultural factors that can shape participant attitudes, interactions, and outcomes with technology.

To establish the relevance of ethnography to digital inequality research, this chapter first reviewed extant scholarship in the field, outlining how digital inequality research has moved toward an investigation of digital attitudes and the "tangible outcomes" of broadband access. Nevertheless, much of this research remains quantitative and has not yet provided a sociocultural explanation of why poor attitudes toward digital technology endure in oppressed communities, or why outcomes remain striated by race and class (Blank and Groselj 2015). Second, we addressed data collection procedures, including how ethnographers take detailed notes —or "fieldnotes"—of their observations and interactions to properly map social behavior and cultural meanings. Third, this chapter advocated for critical ethnographic approaches that center the study of digital inequality in social justice. This chapter illustrated how the methodology can uncover hidden or taboo practices through surveying previous urban ethnographies and then turned to contemporary ethnographies to show

how the methodology has already broadened our knowledge of digital cultures and social practices.

As digital inequality research is deeply invested in the issues facing low-income and marginalized communities, engaging those communities in sustained and long-term dialogue about their informational and technological needs will be of vital importance for the field moving forward. In its emphasis on rapport and building networks of trust, ethnographic methodology has a unique role to play in this process. Without methodological approaches like ethnography that center cultural and social life, researchers risk building their proposed solutions to the problems of digital inequality in a techno-deterministic framework. Said differently, if our focus is tilted toward technology rather than culture and community, the answers to the problems of digital inequality will always be technological (Light 2001). However, if the goal of digital inequality research is to develop social justice solutions, a critical ethnographic approach can offer a granular look at how digital tools are being incorporated into the everyday lives of the digitally excluded. A broader methodological framework can only further support the production of quantitative research as well, opening up new lines of inquiry to better capture the shifting features of digital inequality. In short, we propose a methodological intervention in the digital inequality field in order to help us chart new research directions in an ever-shifting digital landscape.

NOTES

1. Following data collection, the fieldnotes from participant observation, transcribed semi-structured interviews, and scanned documents were entered into NVivo qualitative and "coded" through NVivo for themes or categories.
2. Some participants received a $25 gift card for their interview participation.

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