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Homeless Adults, Technology and Literacy Practices

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Abstract

Some research has explored perspectives held by the homeless on technology use (Borchard, 2010; Eyrich-Garg, 2010, 2011; Harpin, Davis, Low, & Gilroy, 2016; Hersberger, 2002/2003; Pollio, Batey, Bender, Ferguson, & Thompson, 2013). Few studies have however focused on understanding this population's use of technology for literacy purposes (Hendry, 2011; Muggleton & Ruthven, 2012), as distinct from their more general technology use, such as acquiring the skills to improve their station in life or to enhance their health, or utilize social services. Employing symbolic interactionism (Blumer, 1969) as a conceptual framework and using semi-structured interviews, this qualitative study examines technology use for literacy purposes by the homeless. It also investigates the meanings that these participants direct toward technology. The findings suggest diverse technology uses that enhance the participants' access to social services. Other responses indicate differences in the conceptions and uses of technology for literacy purposes. The participants also made recommendations to us for the state and the nearby state university to support their literacy practices and access to technology. The insights from this study should be of value to educators, policy makers, city governments, and social and community personnel in improving adult literacy and social services programs.

Keywords: Homeless adults, technology, literacy, symbolic interactionism

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INTRODUCTION

Technology, whether informational or communicative, has been a ubiquitous facet of life in modern society for some time now (Harrington, 2009; Smith & Marx, 1998; Volti, 2014). This understanding continues to be true today, since social media and other information and communication technologies seem to permeate many aspects of public human endeavor. The report from the Pew Research Center (2014) captures the extent of such influence in the following statement:

The Pew Research Center has documented this explosive adoption of the Internet and its wide-ranging impacts on everything from: the way people get, share, and create news; the way they take care of their health; the way they perform their jobs; the way they learn; the nature of their political activity; their interactions with government; the style and scope of their communications with friends and family; and the way they organize in communities. (p. 4)

Within such a sociocultural context, having access to the latest technological developments and the affordances they present to their end users can be seen as a form of “economic capital” (Hersberger, 2002/2003, p.45) or property (Muggleton & Ruthven, 2012, p.220). Those who lack such access personally experience the chasm of the digital divide, that between technology haves and have-nots. One demographic group that is most likely to experience the digital divide is the homeless, who by definition are persons who “lack economic capital” (Hersberger, 2002/2003, p.45) and whom Moser (2009) described as “socially ‘at risk’ people” (p. 705).

Some research has explored the perspectives of the homeless on technology use (Borchard, 2010; Eyrich-Garg, 2010, 2011; Hersberger, 2002/2003; Pollio, Batey, Bender, Ferguson, & Thompson, 2013). Few studies have however focused on understanding this population’s technology uses for literacy purposes (Hendry, 2011; Muggleton & Ruthven, 2012), in distinction with more general technology uses that might enhance their access to public health facilities or social services (Freedman, Lester,

McNamara, Milby, & Schumacher, 2006; Rice, Milburn, & Monro 2011; Harpin, Davis, Low, & Gilroy, 2016). Further, much of this research was conducted among adolescent and homeless young adults, who have problems distinct from the homeless in other age groups, such as beyond-quarterlife adults (Eyrich-Garg, 2010, 2011).

This study explores the literacy practices that technology affords homeless adults and the literacy practices which they choose to employ with it. We are also interested in the meanings the homeless make regarding technology and how they engage these meanings to negotiate the social identities they desire for themselves as technology users and as literate individuals and citizens. However, we understand that technology and technological innovations do not influence literacy practices alone, but are also influenced by the social and cultural environments in which end users reside (Kern, 2015). In this work, the social environments were the State and the nearby state university and hence we asked our participants for recommendations for these institutions to support their literacy practices and access to technology. The following questions reflect these research interests:

- 1) What technologies and media do participants have access to?
- 2) What literacy practices do participants engage with these technologies and media?
- 3) What attitudes and meanings do participants have for the technologies and media to which they have access?
- 4) What recommendations do participants have for the State and university to support their literacy practices and access to technology?

The Definition of Homelessness

Before embarking on the literature review, it is necessary to define homelessness and how it is conceptualized in this study. In the 2016 Annual Homeless Assessment Report (AHAR) to Congress (Henry, Watt, Rosenthal, & Shivji, 2016), a homeless person is defined as “a person who lacks a fixed,

regular, and adequate nighttime residence” (p.2). A person “who is a resident in transitional housing” is also considered to be a homeless individual, according to the U.S. Code § 254b - Health centers, Title 42 of Public Health and Welfare (section 5A) and federal programs include “those living with others because of economic hardship” (Cackley, 2010, p. 85). More recently, the US law has extended the definition to embrace “those who will imminently lose housing” (Carter, 2015, p. 1).

In conjunction with the above, our definition of a homeless person was provided solely by the self-declaration of our participants, in response to the question, “Where do you live?” As such, the definition reflects our participants’ interpretation of their lived experiences and daily reality.

At the same time, we recognize that the structural factors cited above, such as “lack of affordable housing and employment opportunities” (Cronley, 2010, p. 319) are certainly contributing influences to homelessness in our population. We view these factors therefore as the larger social and cultural context that defined and delineated the boundaries of homelessness for our participants, who declared that they had been staying in shelters in the nighttime, sleeping on the street, or living in transitional accommodations with friends or relatives.

The Homeless and Access to Technology

It appears that as time has progressed, technology access and use among the homeless has improved and become more varied, even though it still lags behind the levels of access among the US general population (McInnes, Li & Hogan, 2013). In one early survey study among homeless drug users in Long Beach California, Redpath et al. (2006) found computers to be accessed and more often used (55 %) than the Internet itself (19%). Twenty-five percent among these computer users had owned a computer at some point in their lifetime. In Las Vegas, Borchard (2010), who studied homeless young adults, visited a homeless shelter where residents brought all kinds of technology with them, including portable DVD players, laptops, mp3 players, and smartphones.

Eyrich-Garg (2010) found that a sizable portion of the homeless she studied in Philadelphia had a mobile phone (44 % of the sample) in the month prior to her survey. Access to and computer use among the unsheltered homeless men and women in Philadelphia was on the rise too (Eyrich-Garg, 2011), with almost half (47 %) of the sample reporting that they had access to computers and the Internet through public or university libraries.

More recent studies confirm that there is a great deal of technology use among the homeless. For example, Reitzes et al. (2017), who studied homeless people in downtown Atlanta, found that more than half of the surveyed homeless (60 %) “owned a cell phone, used the Internet, or had email access” (p.145). Guadagno, Muscanell, and Pollio (2013) too found that the use of social media among homeless young adults in two different cities, New York and Los Angeles, was ever-present and roughly the same as among those who were not homeless.

Technology Use Among the Homeless

There is a great deal of research on technology use among the homeless for public health purposes in the U. S. Freedman et al. (2006) recorded the use of mobile phones with homeless people in treatment for drug addiction as a means of keeping in touch and preventing relapses. Redpath et al. (2006) found that the Internet can be a valuable resource for homeless populations with HIV—provided they have access. Rice et al. (2011) have also found that social networking through cell phones and the Internet can help increase condom use and decrease substance use among young homeless adolescents. According to Rice, Kurzban, and Ray (2012), social networking may even benefit the mental health of homeless youth.

A few studies have explored educational technology uses. For example, Woelfer and Hendry (2009) reported on the efforts by nine service agencies in Seattle to provide young homeless adults with access to information on topics such as employment, housing, homeless advocacy, or food, using

traditional technology and resources such as brochures, pamphlets, wall displays as well as newer technologies such as computer kiosks with printers, cell phones, and the Internet. In a later study, Hendry et al. (2011) investigated an initiative, also in Seattle, that brought a curriculum to a homeless shelter that taught technology use to homeless young adults for the purpose of acquiring skills to improve their station in life.

In another study, homeless adults were found to have used email, the Internet and Myspace primarily for connecting “with family (55%) and friends (71%)” (Pollio, Batey, Bender, Ferguson, & Thompson, 2013). Eyrich-Garg’s (2010) earlier research on mobile phone technology shows the importance of this technology use in the daily lives of the homeless, including communicative functions such as contacting employers, talking with landlords, or making a call in an emergency. More recently, Buccieri and Molleson (2015) reported on homeless youth developing a mobile app to provide their peers with “improved access to supports and services” (p. 232). The researchers viewed the program as an example of homeless youth empowerment.

Variables that Influence Technology Use Among the Homeless

Reitzes et al (2017) found that for the homeless age was a factor associated with “computer knowledge, Internet frequency, and having email accounts” but not with “cell phone ownership or frequency of use or infrequency of email use” (p. 155). That is, the younger homeless (18-44 years old) tended to know more about computers, own more email accounts and use computers more often than the older homeless, suggesting that generation and computer literacy divides are due to “younger people’s greater exposure in school to computers and their greater cohort interest in Internet and email” (p. 155). The researchers also noticed that the concept of ownership and nature of homelessness (e.g., how long, how often and how recently they had become homeless) moderated “the availability and use of cell phones, computers, and emails” (p 145). Specifically, the researchers found that the longer and the more

often the individuals were homeless, the less likely they were to own and use a cell phone, computer or email.

Other research has shown access to be less of an issue within close age groups. For example, Guadagno, Muscanell, and Pollio (2013) have shown that homeless youth in two different cities, New York and Los Angeles, are as technologically savvy as their non-homeless counterparts (college students). Both college students and the homeless youth in this study used the Internet for recreational purposes (e.g., playing games) or for communication such as “private messaging or blogging” (p.88). The homeless youth in this study participated in a program run by multi-service shelter organizations.

Taken together, research has shown that access to technology has improved among homeless adults in U.S., but the purposes to which it has been employed have concerned primarily public health and business-related functions (e.g., communication with social services and agencies) and social networking, with only few studies reporting educational uses and literacy practices, especially among the homeless adults. We thus explore technology-based literacy practices, in the particular social and cultural context of homeless adults. This is because we regard technology and literacy to be in an interconnected relationship, with one influencing and affecting the other. In today’s world, this relationship is stronger than ever, as “material **technologies** (emphasis in original) shape how we read and write, how we construe and share knowledge, and ultimately how we understand ourselves in relation to the world” (Kern, 2015, p. 2).

Theoretical Frameworks

We define technology very broadly, including print-based technologies such as books, magazines, hardware (e.g., computer, mobile phone) and software, both newer and older iterations of these and of similar kind.

We view technology as an “object” in the sense employed in symbolic interactionism (Blumer, 1969, p.10), where an object is any and every object “that can be indicated and referred to” and that “consists of the meaning that it has for the person for whom it is an object” (Blumer, 1969, p. 11). Hence the meaning the person associates with a given object defines its use, as it is believed to control the person’s attitude about, action toward, and discourse about that object. Accordingly, technology in our study is any and every sort of technology that is referenced by our participants, irrespective of whether or not they avail themselves of this technology. Any technology our participants name also encompasses their attitudes and the meanings that they hold for it. These perceptions in turn shape the use of it by these participants.

It is worth noting, however, that the objects with which individuals deal are not only “physical objects” or technology objects as they are in our study, but may also be “social objects” (e.g., a friend) as well as “abstract objects, such as moral principles, philosophical doctrines, or ideas such as justice, exploitation, or compassion” (Blumer, 1969, pp. 10-11). In our study, it is therefore important to situate the world of technology objects (physical objects) that the homeless adults list in relation to other objects in their immediate environment. These latter objects would include social objects (e.g., the city’s and the university’s infrastructures and policies that enable homeless adults access to technology, as well as their peers, families and friends) and abstract objects, which are the moral, social and cultural messages that these policies or individuals communicate to the homeless and to outside observers as well.

Access has been defined as a “fit between the individual’s needs and preferences and the characteristics of the service system” (Ha, Narendorf, Santa Maria, & Bezette-Flores, 2015, p. 27). In this study, it is a fit between the homeless person’s technology needs and preferences and the ability to

obtain and make use of it either independently or through relevant social service providers and libraries, local and university-based.

The uses of technology that are of interest to this study are broadly conceived as literacy practices, which include reading, writing, viewing and listening and other literacies and that involve traditional texts and media as well as multimodal texts and multimedia. As such, our view of literacy practices reflects the New London Group's (Cope & Kalantzis, 2000) notion of "multiliteracies" that relates literacy to "the increasing multiplicity and integration of significant modes of meaning-making, where the textual is also related to the visual, the audio, the spatial, the behavior, and so on" (p.5). We also share with the New London Group the view of literacy practices as the means for participating in "public, community, and economic life" (Cope & Kalantzis, 2000, p.9), and as a result, we explore which literacy practices with technology the homeless adults engage in and towards what aspects of life.

METHODOLOGY

The Research Context and Participants

The purpose of this qualitative analysis (Creswell, 2007; Stake, 2000) was to examine the technology use for literacy purposes among homeless adults. As part of a larger case study, this research explores the literacy practices of people who live, work, study, or play in the parks near a university and the state capital in the southeastern United States. We chose to work in an urban city in this region because it has a large population of the homeless in the downtown area and near the state capital, where our university is located. As an urban institution, the university is committed to supporting "the work of faculty tackling the challenges of an urbanizing nation and world" (University Mission Statement).

The particular sites for our research are three downtown parks where homeless adults socialized and met their fellow homeless friends. In passing through these parks, we noticed that many played chess and some were reading or talking on the phone. Since our background and research interests are in

literacy, we naturally became interested in their literacy practices and their perspectives on these experiences. More significantly, we hoped that this research would shed light on the ways in which the University and the State could support and extend those practices for this population (Tinker Sachs, McGrail, Lewis Ellison, Dukes, & Zackery, 2018).

A selection criterion was then that the participants had to be in the parks at the time of study and be 18 years or older. Tourists were excluded. Using these purposeful sampling criteria (Stake, 2000), we were able to recruit 22 participants, with the majority being homeless or in transition out of it. For this analysis, we included the data that concern technology access and literacy use by the homeless and from those individuals who appeared to be transitioning out of it.

As evident in Table 1: Participant Characteristics, our sample had a mix of male and female participants, with African-American, Black and older participants (older than 41 years) in the majority. The second largest group were middle aged (26-40 years old), followed by just two participants in the 18-25 years old age group. Most participants reported that they had either a high school or a vocational degree or certification and had been residing in the parks for more than 5 years. The length of time our participants spent in the parks, which may or may not be related to their homelessness, ranged from 6 months to 6 or more years. Overall, our population sample is similar in composition by age, gender and ethnicity to the one in a large scale study on homeless in downtown Atlanta (Reitzes et al., 2017).

Table 1. Participant Characteristics

Park	# of Participants
Park A	7
Park B	9
Park C	6
Gender	
Males	15
Females	7
Participant Status	
Homeless	12

In Transition	3
Have a Home	5
Not Indicated	2
Ethnic Background	
African American	11
White	3
Asian	1
Latino	0
Black	5
Multiracial	1
Other	1
Does Not Identify	0
Age	
Young- 18-25 years	2
Middle Age 26-40 years	5
Older Than 41 years	15
Highest Level of Schooling Completed	
Elementary School	1
Middle School	1
High School	7
GED	2
Vocational	6
Community College	1
Some Community/Some College	3
Associates Degree	0
BA	1
MA	0
Other	0
How long in the Parks	
Passing through	2
Participating in Activity	1
Few Weeks	0
1-6 Months	3
6-11 Months	1
1-5 Years	5
6 or More Years	8
Not Indicated	2

Data Collection

The primary data used for our analysis included transcriptions from 40-minute interviews with these homeless collected over a six-month period. The interviews were semi-structured and inquired into

the participants' literacy practices in general (i.e., reading, writing) and with technology (e.g., social media use). Our participants were asked to reflect on access to and literacy practices with media of various kind (e.g., TV, magazines). A few prompts asked for recommendations for the State and the University concerning access to technology and supports for literacy practices for this population. Two researchers were involved in interviewing a participant, one researcher conducted the interview and another took field notes and helped with follow-up questions, where applicable.

Following the principles of symbolic interactionism (Blumer, 1969), observational data (field notes taken during the interview) captured the ways in which our participants interacted with physical, social and cultural objects, including other people such as other homeless individuals within a particular park. As such, these data helped to interpret our participants' lived societal experiences. These two excerpts from the field notes in one park illustrate the interaction of these homeless with physical objects that were in their immediate environments as well as social objects such as persons and institutions (i.e., charity organizations).

Most homeless people are gathered around the benches located at the top level of the park. They are gathered in small and large groups. They huddle together and seem to be engaged in conversation. In contrast, the homeless who are found in the lower level of the park are more spread around the park. They also tend to be clustered in smaller groups or to keep to themselves, sitting alone on the benches in the park or on grass...

A few cars pulled over to the curb with a group of people who brought a lot of food. They were the members of Little Friendship Baptist Church. They had hot soup and small bags with sweet rolls. Another church group brought sandwiches and fruit. One of the homeless seemed to be particularly pleased with having been given fruit. I heard him say to a fellow homeless person,

“I’ve got some fruit. I don’t want to eat junk food the whole day.¹” Another homeless person asked me if I had a job for him. When I told him that unfortunately I did not have any jobs to offer, he then asked me to pray for him. I promised that I would do that.

Geographic and historical information on the parks was used as additional sources to provide a larger context for the study. We also gathered information on the university and public libraries as well as their regulations and policies concerning access to their facilities and resources by visitors. (Our participants were frequent visitors to these places and they used the technology and other resources available to them as visitors in these institutions.) These additional data sources were used to help strengthen the external credibility of our study, as recommended by case study methodologists (Creswell, 2007; Stake, 2000).

Data Analysis

Constant comparison methods (Corbin & Strauss, 2008) were employed to identify and analyze patterns across the data and to collapse them into associated clusters of codes and then into themes (Bogdan & Biklen, 2006). Specifically, we identified codes that referenced various types of reading materials such as books, magazines, legal briefs, online databases, websites, television shows, radio programming, and videos. We collapsed these into related groups of technologies which we referred to as the following: traditional technology tools and resources; communication information technology tools and resources; and mass media and popular culture media and technology tools. Next, we mapped out the literacy practices associated with these technologies (See Appendix A: Technology Access and Use by Homeless Adults).

¹ The participants’ idiosyncratic language has been preserved in all quoted material to honor their voice and speech preferences.

We categorized the experiences with and attitudes toward technology and their accompanying literacy practices along the continuum, from positive to negative and we also included in between and mixed perspectives. The recommendation codes for the State and the University included institutions such as public libraries, the Capitol, or local businesses and the university library for the University, all of which were collapsed thematically based on technology use or literacy practice.

During open coding, multiple researchers independently coded data and then met together to come to agreement on the emerging categories of codes. Coding collectively served as peer examination and helped in reaching intercoder agreement among the researchers (Stake, 2000). During this process, the researchers discussed their individual analysis, negotiated differences, addressed questions and comments from each other, and recoded the data based on shared understandings. They also modified coding categories and their descriptors, where necessary.

Symbolic interactionism (Blumer, 1969), guided the exploration of the meanings our participants assigned to various technologies (i.e. physical objects) and the accompanying literacy practices, which included reading, writing, viewing and listening to traditional texts and media as well as multimodal texts and multimedia, as our view of literacy reflects a multiliteracies perspective (Cope & Kalantzis, 2000).

Symbolic interactionism informed our analysis of how the influences that social objects, such as the city's infrastructures and library regulations, and other individuals' technology uses affected our participants' access and use of technology. These factors also affected their attendant literacy practices, as well as their underlying nascent ideologies regarding these resources.

The coding assignment for this latter group of influences included the codes for access to technology, thoughts on technology and technology preferences, and literacy practices with technology, which were later collapsed into a larger theme of "differing experiences, attitudes, and understandings

about technology and literacy” among our participants, the homeless adults. This theme also referred to the ways in which these participants used these experiences, positions, and understandings to negotiate the “public, community, and economic life” (Cope & Kalantzis, 2000, p.9) as well as personal life for themselves and in conjunction with those around them, which we illustrate in the Findings.

Limitations and Overview of Key Findings

One limitation of this study is that the data are from one region and it is likely that some of the experiences of our participants might be characteristic primarily of this particular region, and not others, especially concerning the public facilities with technology and services available and the policies regulating access to these resources. Studying the homeless in other regions would allow researchers to explore the degree of variance in experiences with technology and literacy practices among this population in other areas of U.S. Additionally, a larger number of participants from different adult groups, would be helpful for exploring age-related subgroup analyses. The majority of our participants were in the older age group (40+ years old) with two in the age group of 18-25 year old. Studies have shown age-related differences in technology use among homeless (Guadagno, Muscanell, & Pollio, 2013; Reitzes et al., 2017) but less is known about literacy practices of homeless adults from different age groups. These are the areas that need further research.

Nevertheless the findings from this study indicate a range of experiences with technology and literacy practices among older adults within a specific context, revealing trends in literacy practices and technology access-related issues. The findings also reveal the powerful role of the city’s and the university’s infrastructures and policies (i.e., social objects as per symbolic interactionism) in mediating access to technology and literacy practices they afforded the homeless in our study. At the same time, the findings highlight individual differences, suggesting that not all homeless are the same even within

the same age group because they face different problems and they might show varied literacy and technology use preferences, based on their interest, pleasure and expectations from these engagements.

The insights from this study should be valuable to educators and universities, city governments, and community social services such as libraries and homeless shelter administrators for improving adult literacy and community literacy programs. Thus enriched programs could enable these institutions to provide this group of citizens with better and more individualized opportunities for future employment. They might also provide avenues for the development of both the literary and the whole person—character, mind, and soul, resulting in more fulfilling social interaction and personal lives.

FINDINGS

Our research questions serve as an organizational framework for presenting the findings and even though they are discussed separately, they are interrelated and inform one another.

What Technologies and Media do Participants Have Access to?

The majority of our participants owned a mobile phone. However, they often were unable to make use of this device all the time because they lacked the funds to purchase a service plan with unlimited minutes and for a longer period of time (See Appendix A: Technology Access and Use by Homeless Adults). One participant accessed a stationary phone through the local library.

The most available technology to our participants was the computer, followed by television; however, only two participants owned a computer. Most participants had access to computers through local or university libraries, and a few participants used computers that were available in shelters. Another participant was able to get access to a computer in a wellness center but only one participant had a tablet device, in this case an iPad.

The participants were very creative in securing access to television, which may also be indicative of the importance of this technology in their daily life. For example, some visited friends to be able to

watch it at their homes. Others accessed it at sports bars (e.g., Hooters), as one participant explained, “You stand outside and watch a football game,” or at the CNN cable network café. To be able to watch television at the CNN café required making a purchase such as a drink or a sandwich, but only one participant mentioned visiting the CNN café for this purpose.

The participants had limited access to the Internet, social media, and online resources. The participants could access the Internet either in public or university libraries, but access to the Internet in these places was restricted to short periods of time only; “The maximum time in most places is about an hour,” reported one participant, and another participant noted that he “would definitely like to see that increase.”

The public downtown libraries allowed the participants to use the computer room twice for one hour but the sessions could not be immediately successive. The homeless individuals were required to bring confirmation letters from shelters (they used the shelter address as a substitute for their residency address) in order to be issued courtesy ID cards (Personal Interview with the Librarian, March 2015). This was problematic, because many of our participants “did not do shelters”, as one participant remarked.

Two participants accessed Internet on their own computers and one could get it on a phone. Another participant accessed social media in other public places such as chain restaurants and cafés, but she was concerned that access to Wi-Fi in these places was not for all, perceiving it perhaps as a social justice and equality in accessibility issue: “I go to Starbucks, McDonalds, I think most places have Wi-Fi, but not in a sense where you have random people together.”

Few participants owned accounts for social media platforms such as Facebook (3 participants) or email (2 participants) and only one participant owned a personal blog, and these were most often the participants who owned a mobile phone and had an active service plan. However, as mentioned earlier,

only a small group of the participants were able to afford a phone service plan for an extended period of time.

More than half of participants had access to radio through their friends and the same number of participants had access to books through the public and university libraries and through the city which provided a portable open-door library in one of the downtown parks. Our homeless participants helped themselves to the newspapers and magazines lying around in various businesses and parks. Neither downtown businesses nor park authorities intentionally provided these reading materials to our participants.

What Literacy Practices do Participants Engage with Technologies and Media?

General Technology Uses

The most frequent communication technology use was a mobile phone even though the participants could not use it all the time because they could not afford long term unlimited service plans. In general, mobile phone use included business communication (e.g., making calls to debt collection agencies) and personal communication. A male participant elaborated on his phone use for business purposes in these words: “My phone usage is probably going to be 911 and maybe check, like I said maybe checking on an apartment and stuff.” He avoided using it for personal communication because he felt he had nobody he liked to call to: “But, just to be hanging around just calling, ‘Hey, man, where you at and.’ Don’t know nobody I like that much that, that we need to do that, you know what I mean.” Another female participant too “talk[ed] to ‘em on the telephone” utilizing the social networking service on her phone but she had a small group of people she could contact. She explained: “Basically, that’s it, you know, listen on Facebook, talkin’ to uh, like family, I don’t have a lot a people that I communicate with on a daily base.”

More typically though, personal calls were made to family members and friends, to “stay in touch,” or, as another participant put it, for “just talking.” Some participants used other features on the phone such as texting, GPS, email, or the Internet. One participant, whose phone had been deactivated because of lack of funds, used his phone for a clock, repurposing this physical object for this sole function. Examples of entertainment television use were watching a football game or a cooking show and an example of viewing for information was watching television to “help me learn what’s happening.”

The use of radio was next, and the prime purpose of listening to the radio was either “get the news,” stay informed,” or relaxation. For relaxation, for example, one participant loved listening to R & B stations and another favored jazz.

Less than one third of our participants mentioned the use of Internet. One participant explained: “But, then the purpose of this is for me to be able to email, jobs, information about housing, you know, um, I do more research in areas like that than I do anything.”

The uses of online sources such as a Nexus Lexus database or YouTube video database and social media were limited too. Those who availed themselves of these newer technologies, used them for social networking and chatting with friends, to satisfy higher order needs such as social interaction and communication, as it is illustrated in this excerpt:

P: I write pretty much, (laugh) all the time some, type of notes or somethin’.

I: Uh, huh. What kinds of writing?

P: Well, I do bl- blojins ((*blogging))

I: Uh, huh.

P: About my life with medical experiences.

Other uses of the Internet included “looking up local restaurants,” study[ing] number theory,” finding information on “home remodeling,” or emailing.

Literacy Practices with the Traditional Technology

Traditional technologies such as books or magazines meant a great deal to the participants and about half of them accessed them on a regular basis. Some participants were voracious readers, exhibiting sophisticated taste and having preferred authors. For example, one participant called himself a “conscientious reader” and he admitted that he loved reading “legal dramas, um, like John Grisham, uh, I like John Sanford. Um, there are different types” while another participant leaned toward autobiographies and he provided a number of reasons to account for his taste:

I like reading about Thurgood Marshall. I like reading about Sandra Day O’Connor. I like reading about, uh, Justice Rehnquist, the early pioneers, um, especially, uh, Thurgood Marshall because of where he, where he grew up, he had nothing. He was one of your better civil rights, uh, leaders, and the reason they made him a solicitor in the United States Supreme Court justice is because he used to fight for civil rights and the government was having a, having a hard time back in that time suppressing people of color. They would try to keep them illiterate.

Another participant despised fiction, “I just hate fairy-tales,” but he enjoyed reading “medical books,” because as he explained: “I’m just fascinated by microbes and parasites, and st- ((+stuff)) you know, stuff that keeps the body healthy, all that stuff (quiet laugh).” He also favored reading the money and political sections in the daily paper as he was interested in “anything that deals with, um, the situation with the dollar bill and the world economy.” A female participant offered that she “read the newspaper, or either some type of magazine that you know might be my interest, *Housekeeping* or I might do a book on, uh, what’s her name, Katherine, Katherine Higgins?” She had not finished reading her latest book,

Price of a Child, but she found the story, which is about “how people stealin’ people children,” captivating her interest.

In addition, the *Bible* served as the main text for some participants. For example, this male participant read it daily as he considered it a reliable source of knowledge and also a source for strengthening his spiritual growth. He explained,

When I lay down at night, I read my Bible cause I want somethin’ good to be, see you have to, ((not alone)) we have to feed your body physically, but we have to feed our body spiritually...And that’s takin’ in accurate knowledge.

Alternatively, this participant used the Bible as inspiration for his writing:

Uh, most, most of the things would be, uh, spiritual things. Oh, gosh, uh, I wrote something several years ago called “Am I My Brother’s Keeper?” and it dealt with how we treat our brothers, you know. Uh, I’m not the most spiritual person, but I, I believe in Jesus. I believe He is my Savior, Lord and Savior. Uh, I think the example that I, that I gave is, you know, we can be obedient, and if a man needs a, a shirt or comes to you and he’s cold, and you have ac- ((+access), access, you know, if I just give him my shirt, my jacket, then I, I’m being obedient. But if I give him my jacket and my shirt, I’m showing Jesus. I’m showing God love. You know, it’s kinda stuff like that. You know (()).

What Attitudes and Meanings do Participants Have for the Technologies and Media to Which They Have Access?

Access - Related Attitudes

When asked about access to technology and the meaning it had for them, the homeless adults in our study communicated differing attitudes and understandings. For example, two of our participants responded in a dismissive tone, perhaps even in a voice of self-doubt and insecurity, with simply “Naw” or “No.” One of these participants also expressed a preference for traditional technologies and literacy practices: “... mainly just reading?,” perhaps trying to sound more positive or feeling less guilty that she could not offer more information in response to this question.

Another female participant was not sure what kinds of technology to include in her response and she asked the researcher for clarification, “When you [are] saying technology, you mean computer?” When the researcher began to supply prompts “computers, cell phones, Kindles, Smartphones, etc.,” she immediately stated her preference for traditional technologies, “I’m not much of a phone person... I am a radio person. I do like the radio, I use the computer somewhat but I’m more of a book person.” Another participant had given up technology, especially email, as she feared she was too old: “I’m fifty-seven. No, I don’t know how to work all that stuff.” She described herself as “computer illiterate” and when asked if she would want to be computer “literate,” she explained that she was not planning to change her technology usage: “I’m at the stage where I really don’t care. It’s, I’m fifty-seven.” However, other participants were interested in acquiring technology knowledge, which would have enabled some participants, for example, to obtain and benefit from the information about disability assistance programs, and one participant referred to it as “a hand up and not a handout”:

What I’d like for them to offer is a few skills, computer access, uhhhh. I know for other people clothes, food. And I’m trying to get on my file for disability and because of the work I’ve done and the money I’ve made I’m eligible for 17,000 something dollars a month.

Alternatively, one male participant was purposefully vague in his response as he referred to technology as “stuff” and he could not provide any particular technology examples. Based on his

responses about technology, it appeared that discussing technology was a sensitive topic to him as if it might have reminded him of being the homeless or of his lack of access to technology resources. The same attitude was also evident in these two sample statements from other participants: “I have very little access to that stuff.” (slight laugh). “But, uh, for someone who doesn’t do shelters, uh, you’re really, really limited.”

The participants’ use of vague language, as in “that stuff”, combined with pauses and vocalic and prevocalic communication signals (e.g., uh) and laugh, may also imply hidden feelings of discomfort and hesitance when speaking about the technology they do use, potentially reflecting low self-esteem or self-respect for themselves as technology users in their current life situation (i.e., being homeless).

Many participants stated that they did not appreciate the existing access-related measures and policies at public libraries, especially the treatment by the guards there of homeless people, which they perceived as a form of discriminatory behavior. One participant captured this sentiment in these words:

It’s like a giant hemorrhoid to go in there, and you just want to sit down, no disrespect intended, to do your reading or if you’ve got some legal work to do, then do it, like cause who wants people looking in their stuff and, uh, ((or else)) they got metal detectors in there and they got stuff in there sensitive to protect their books, which I understand they got to do that and for the safety of the library. But, again, they’re not police officers, or they don’t have that right.

The participant explained further his objections to having his personal belongings inspected by the guards:

You have wanna be, poli- ((+police)), uh guards in there, that’s wanna-be police officers, who under Titles 3 and 4 of the uh, (()) search and seizure rule, that, uh, try to stick their hand in your stuff or try to, um, search your stuff and they don’t have police officer status.

This participant considered legal consequences for the university policy:

P: Uh, the police are overaggressive.

R: Overaggressive.

P: Yea.

R: Alright.

P: Uh, I mean, little, small, minor things, ten or fifteen officers come out prepared. I'm, uh, I'm, uh, gonna ((*going to)) say this. In the near future, I expect a lawsuit to be filed against the, uh, [university] police department.

One of the public downtown libraries that our participants frequented had, however, a more flexible policy that allowed a wider range of computer and Internet uses, including “the educational, informational, cultural and recreational needs of the Library System’s diverse community” (City Public Library System Internet and Computer Use Policy, 2006, p. 1).

Attitudes toward Mass Media Communication

While most television viewers in our study saw the benefits of television such as “keep[ing] you abreast of what’s going on” or “see [ing] visually,” some participants were concerned about the negative effects of television as well. For example, this participant argued that the only program worth watching was the news and those other programs, which he identified as “anything else,” “would be contaminatin’.” Another participant echoed this sentiment yet for another reason. She declared, “I hate T.V. because all the bad messages in it,” and then elaborated further on the grounds for her objection to it, which concerned its potential for racial bias and stereotyping. She stated: “Too many bad things going on in television, especially the commercials are ugly, especially against black people.” One other participant was not interested in television because he found it extraneous: “So, if, if you’re not really geared towards entertainment, then television is irrelevant.”

The participant who disliked television for showing programming with racial and stereotypical messages found radio programming problematic for yet another reason: “Uh, (exasperated sound), that’s nasty music, but I do listen to the jazz sometimes, but that, the lyrics in most of the music is too nasty for my ears,” implying potentially offensive language or content.

This participant disapproved strongly of the Internet use for entertainment purposes in public libraries. He stated:

Um ... I noticed that, and like I say, I don’t know. It’s, it’s just in general observation that a lot of times there are people who are just sitting there instead of reading, or the news, you know, or looking at things like check [checking] things outside of their emails, it’s, who are watching videos. You know, all this crap all day long, bobbing their head.

Interestingly, this participant’s observation aligns with the university library policy for computer use by visitors, which states that “All computers in the library are intended for research purposes” (IS&T Computer Ethics Policy 3.0) (Policy-Visitors-Computer Use and Policy & Procedures, 2008, p. 2).

Alternatively, another participant refused to use the Internet because he believed that “it’s too much ... greed on the Internet and there’s also too much false, falsified stuff. It’s, it’s easy to be manipulated by usin’ the Internet.” This participant’s criticism of the content being published on the Internet adds to the earlier discussed critique of the programming delivered through other mass media communication channels such as television and radio.

Context-Related Attitudes

Yet another participant commented how context determines what and how much he reads, explaining how his current social status prevented him from reading avidly from the genres he favored. He stated:

Uh, when I’m in a structured environment, uh, per se, off the streets, uh, I probably read

maybe three or four novels, um, usually mystery or, or espionage, or something... But while I'm out here, uh, in the streets, I, I probably don't read at all. ... Ooh, boy, uh ... I, I guess the newspaper, uh, uh. That would be about it, really, uh.

This response implies that for some homeless adults there is a relationship between the technology and the context, with some contexts and conditions (not being homeless) facilitating the technology use and others (being homeless) thwarting it. The same was true for several participants who engaged in writing practices in the past but not now. One participant stated:

P: I considered myself years ago to be a, a writer.

I: Uh, huh.

P: I like putting my thoughts on wor- ((+words)) on paper.

I: Do you still write?

P: ... Oh, it's probably been, uh, a couple of years since I've written anything.

This participant also admitted that he did not do writing any more even though he used to do a lot of technical writing:

P: Um, not really, but I have in the past had to, I've assisted people with, uh, writing a résumé, um,

I: Um, hum.

P: I've even done ... for the lack of a better term, uh, what they would call paralegal work (laughs).

I: Uh, huh.

P: When I write, um, I can write a legal motion text, from the top of my head. If you told me what it was about, about what you needed, um, preferably not criminal, but like especially, with

civil work. Um, a lot of the statutes, or just, even if I don't know the statutes and codes, I have the, I know the language of proper format for legal motions, and so, I'll write stuff like that out. These experiences are in opposition to the experiences of the homeless who reported being prolific readers despite their being on the streets, indicating differences among these homeless adults in relating to the print-based technology such as books or magazines and the context where they get access to it. The same held true for one participant who continued to be a prolific writer even when she became a homeless person.

I: Umm, You said you write poetry so how long have you been doing that.

P: I been doing that for years. I just write what's on my mind. That's what poetry is all about.

Writing on how you feel so people can understand. You know what I'm saying, how you feel...

Unfortunately, this participant did not get to share her poetry with the audience even though she believed that she had been writing not only for herself but for others as well.

I: Do you ever get a chance to share your writing?

P: No, I never get a chance to do that because sometimes I be afraid that people won't listen because they so into they self and not into...being into life. That's what writing is all about. It's about helping somebody else out and not just helping yourself. And that's what writing is all about.

It's about helping somebody else.

What Recommendations do Participants Have for the State and the University to Support Their Literacy Practices and Technology Access?

When asked about recommendations for the city, state, and university, the participants shared specific ideas for providing access to technology and media and other resources. For example, one participant clarified a preferable length of time at the computer station, "I would need at least 6-7 hours." The "Policy-Visitors-Computer Use and Policy & Procedures" (2008) in the university library

confirms the usage time restrictions the participants referenced and it also requires that “Visitors must present a photo ID in order to create a personal ID within the Library’s PC Reservation System to reserve time at a community access workstation” (p.1). Many of the participants did not have photo IDs.

The participants had a similar suggestion for the university library whose policies and procedures they perceived as denying the homeless access to technology and resources of the library. One participant communicated:

I’d like to have more access to library. I’d be able in turn to help other folks. Open a little earlier, keep, keep the doors open. Let folks come in there and read.

This same participant continued with recommendations, as stated:

Don’t stop them from, uh, coming in the library. Letting them, you know, trying (NS- siren) keeping their bags and stuff like that. Have uh, more book stands out here.

Additional recommendations from these participants were that the library should connect the Internet use with “a literacy program that will help people get better at reading” and that “they was helping people with resumes. And they have a job training program that you go in there for two weeks and get on the computer.”

A few participants had the same recommendation for the city: “You know, the government need to have some kind of place for the homeless to come, learn how to read and write, learn you know, math and so forth like that.” Another participant elaborated,

I think maybe they should hold more computer classes to make people more computer literate so that people, you know, who didn’t finish school or, need to be able to get basic computer skills. This is 2013, so you need to have some type of skills with computers. So, maybe if they could, um, open up some of their facilities, maybe to like a small group of people. Because some people just don’t know

how to work a computer. Not that they don't want to learn. It's there's nobody in place to teach them who wants to do that.

Alternatively, the participants offered recommendations for businesses concerning phone use because they were not sure if the city could help them with access to the phone. Specifically, they proposed that businesses "activate accounts without a two-year contract requirement, because of limited funds." Another recommendation that the participants had for the city was to "put a TV here" (in the park), with news or weather channels."

A few of recommendations for the city and state were less of a technological answer but a relational nature of:

Try to help them out, you know. Take them where they need to, to be, to lead them the right way, you know, instead of let them hanging out here. You know, find them a job, or some- -Create something. Something has to be done, you know.

...help us get a job. That's the main, main object ((*objective)), you know, you know, so we can feed ourselves, you know, and you know, get a, get a, get us off the street because there's a bunch of homeless people hanging out in State or, uh, uh, X Park and (uh, where) this park, you know (is for), uh, uh, city of X, you know, they, that's where they hang out, they ain't got nowhere to go.

These two quotes reflect Janks (2013) observation that access to dominant forms of literacy, digital or technological literacies, is not enough, instead it is vital to connect with individuals like these homeless participants to enact culturally specific forms of literacy and agency.

DISCUSSION AND IMPLICATIONS

Technology Access

Access to technology appeared to be a complex and a multifaceted issue for the homeless adults in this study. Most participants admitted that they lacked funds to own a phone or a service plan for an

extended period of time, or a computer, which limited their ability to obtain other technologies on their own. *Affordability* is a term that Penchansky and Thomas (1981) use for this dimension of access. It was understandably a factor for these participants.

According to Penchansky and Thomas's (1981) behavioral model for health service access analysis and that is also salient to this study, affordability falls under the availability and accommodation dimensions of access. In our context, *availability* refers to the supply of technology-sponsoring services in relation to the needs of the homeless, while *accommodation* denotes the rules and structures for technology use and access established by the technology-providing services and the homeless person's ability to meet them. As indicated above, the participants found these areas of library service not satisfactory.

As a result, many of our participants resolved to get access to technology through service-oriented organizations such as public or university libraries. Although these service providers had visitor policies in place which allowed our participants some access to computers and the Internet as well as books, papers, and other reading materials, there were some areas of service that did not necessarily work for our participants, and they made specific recommendations to us as to how to address them. Particularly, they wished that libraries would provide more computer workstations and extend the length of time for use of the computer and the Internet.

Accommodation issues were also evident in the ways in which the library security guards or police officers treated the homeless adults who visited the libraries to get access to computers, the Internet, and other services. Our participants characterized the way they were treated in these spaces as disrespectful and discriminatory. Recall the participants' strong reaction to the use of metal detectors, the searching of their bags and not allowing them to keep their belongings to themselves while on the premises.

Alternatively, some participants wished to use the computer and Internet for entertainment purposes, for example, as in watching YouTube video. Such uses, however, violated the university library computer use policy and regulations that permitted only research activities on the machines supplied by these institutions. This situation embodies yet another dimension of access and that is that of *acceptability* (Penchansky & Thomas, 1981), which refers to the fit between the characteristics of services available and the preferences of individuals availing themselves of these services. As our participants indicated, the computer and Internet use services available to them as visitors to these institutions did not necessarily align with their individual preferences for these services.

Despite this array of challenges with getting access to certain technologies and certain services, overall the homeless in this study had access to older technologies such as books and magazines and related resources, a trend that has been observed in previous research (Borchard, 2010; Eyrich-Garg, 2010, 2011; Reitzes et al., 2017). The participants only infrequently utilized the Internet and web-based tools and social networking sites (email, blog, Facebook), because of limited access to these technologies. Instead, they used offline media and technologies such as television and radio, phone and books and newspapers. Additionally, unlike the homeless in other studies who utilized the technology resources provided in shelters (Borchard, 2010; Hersberger, 2002/2003; Moser, 2009), our participants accessed technology more usually in the public or university libraries and through other sources, such as friends or businesses (e.g., restaurants, cafés, fast food providers, wellness centers).

Age was another factor that appeared to explain why so many participants preferred and were more comfortable with television, radio, phones, books, and other older technologies but not the Internet, social media, and newer technologies. These participants' technology preferences stand in stark contrast to the tendencies by the homeless youth who are often comfortable with using social media (90% of sample) and mobile technology (Harpin, Davis, Low, & Gilroy, 2016; Reitzes et al., 2017). Our

study extends these findings by adding the age differentiation in literacy practices as well, with older homeless veering toward the literacy practices associated with older technologies and traditional texts, many of which were social literacy practices, rather than the literacy practices seen with newer technologies and newer text formats.

These findings suggest then the relative importance of the specific preferences and meanings the homeless people assign to various technologies as well as the expectations they may have from the services that provide access to these technologies and resources. Accordingly, public and university libraries, along with city and community technology providers need to attend not merely to affordability and availability issues concerning technology access for homeless adults, but also to the accommodative and acceptability dimensions of access. In other words, these providers, institutions, and policymakers should be aiming to secure not just the *presence* of technology in communities where the homeless reside but more importantly, the technologies to which these individuals *wish to have access*. They also need to align use policies and regulations more thoughtfully with use preferences by those who arguably are in need of these services the most, homeless persons. So how might one do that?

First, there is a need for removing stubborn attitudinal barriers. This necessitates coaching and empowering staff, security guards and police to becoming welcoming to homeless visitors, respecting and valuing them as users seeking services and as individuals as well. These patrons have “the right to information” and “public libraries have an obligation to serve everyone in their community” (Bardoff, 2015, p. 358). With that accomplished, they can build supportive relationships with these persons and diverse members of the community at large.

Second, there is a need to do more to facilitate access to and to enhance the use of technology and resources by these institutions and service providers. This can be done by modifying restrictive rules and regulations, extending the time length of computer use, and providing access to additional computer

workstations and television viewing areas as well as providing connections to Internet service providers in the area, as is now common in cafés and certain restaurants. Modifying restrictive definitions of acceptable computer use to include other than research activities such as film or video viewing is another form of support for homeless individuals. More importantly, inviting the homeless to serve on the library boards and committees would ensure their technology use needs are met and it will also indicate that their input and voices matter.

Third, for those homeless individuals who do not visit libraries or shelters, city and state authorities should offer alternative access initiatives. For example, one of our participants suggested that the city place a large television screen in the middle of the park. Perhaps the city, with or without help from business sponsors, could also make available portable computer stations or laptop carts with free access to Wi-Fi connectivity and free web-based calling services such *Skype* or *What's App*. We know from our participants that a mobile library in one of the downtown parks to which they had access had been well received and frequently used by them.

Literacy Practices with Technology

On the whole, the literacy practices with technology in which the homeless engaged in this study involved reading and writing texts and media (e.g., television, YouTube videos, magazines and newspapers). As such, these literacy practices are aligned with the theory of multiliteracies as they integrated a multiplicity of meaning-making forms, formats, modality and communication channels (Cope & Kalantzis, 2000).

With the exception of a few younger homeless participants who used technology for school literacies (e.g., doing homework, typing), the majority of participants employed technology mostly for social literacy practices (Lankshear & Knobel, 2003). These are the literacies that enabled them to participate in various aspects of “public, community and economic life” (Cope & Kalantzis, 2000, p. 9).

Locating job openings or housing information on the Internet, calling landlords or businesses on the phone, and inquiring about employment opportunities and their finances are good examples of the social literacies that these homeless adults took up. They used these technologies in an effort to be able to participate yet again in the economy and become contributing members of the communities in which they lived, played and worked.

Several of the social literacy practices of the homeless adults in this study were also embedded in broader social interaction goals and relationship-based practices, such as staying in touch with friends and family via social media tools (e.g., Facebook, email or mobile technology), and, as a result being able to maintain membership in the communities that matter to them and that they wish still to be a part of. Alternatively, some participants' writing practices such as writing legal memos or resume served a primarily social function (Feldman, 2008), which as one participant put it, might entail "helping somebody else out and not just helping yourself."

Still other social literacy practices, especially those that our participants employed to read and view mass media and popular culture on television, radio, and the Internet, reflected a critical stance towards the messages that these communication channels conveyed to the public about the communities in which they live and about the people with whom they share an ethnic background. To use Blumer's (1969) symbolic interactionism terminology, these homeless adults were critiquing the "abstract objects" (p.10), that is, the ideologies and the cultural philosophies delivered in the programming on television and radio, and by extension, the social reality that these programs chose to communicate about the lives of Black people or the trends in the contemporary music scene. Such reading of both the *word* and the *world* by these participants reflects what Freire (2001) would have considered as using these literacies for the purposes of empowerment. We also see the enactment of these literacy practices by our participants as a form of civic engagement in "public, community, and economic life" (Cope &

Kalantzis, 2000, p. 9) as well as participation in literate and cultural events and social practices within the public and community spaces they occupied.

Many homeless participants were reading for pleasure. They were voracious readers and they had developed sophisticated skills and expertise as a result of frequent exposure to certain kinds of texts and media (e.g., some knew a lot about literary genres such as mysteries or legal drama and were otherwise media savvy). Some enjoyed creative writing such as fiction or poetry although one participant found it difficult to engage in fiction writing in the current circumstances (i.e., being homeless). Creative writing allowed these homeless to describe their feelings and emotions, helping themselves and fellow homeless to cope with their current life situation.

Alternatively, they used expressive writing to help others understand homelessness. Research confirms these and other benefits of expressive writing in helping to deal with difficult personal experiences or situations, leading to better mental and physical health (Pennebaker & Smith, 2016). For our participants, expressive writing had a great deal of relational and social value though, in that, it allowed these individuals to help others, in addition to helping themselves through self-disclosure of their own feelings and emotions. One participant used writing for spiritual growth and strength while other participants read the Bible daily and referred to it for spiritual guidance as they considered it as ultimate truth and authority.

There are several implications from analyzing the literacy practices with technology of the homeless adults in this study. First, since the majority of the participants' activities with technology were social literacy practices, providing the tools and resources for supporting and expanding these literacy practices is important. The social literacy practices that our participants would benefit from are, for example, crafting resumes, job search skills, and finding housing information. These were the areas that they attempted to address on their own but in which they faced obstacles or were unsuccessful. They

would also need help obtaining information about financial or disability public assistance programs and homeless programs available to them in their communities. Some of our participants were in the process of finding this information and we believe that they would appreciate support for these searches.

Second, computers, mobile technology, and the Internet, - the newer types of technologies - can better enable access to information about these valuable resources. For example, a simple Google search for job and homeless assistance programs yields pages and pages of results. From examining some of these programs, we found that many have online application forms available and require creating an account or registration in addition to the options to file an application at their offices. However, as we noted above, many of our participants were uncomfortable with or lacked access to the Internet and computer technologies. Importantly, they would need help understanding public assistance programs, since there is a wide of variety of them. Knowing what particular programs offer, who may qualify, and how to fill out a form and application will enable them to choose the programs most relevant to them and that are most impactful in providing support for their individual needs.

Third, social literacy and technology programs should be more informal and more user-customized, taking into account age, technology expertise and personal preferences. They should be offered for free in public places such as libraries and social services and community resource centers. Local universities also have an opportunity to provide free of charge additional social literacy and technology programs to the homeless adults who live around their campuses. Teacher education students and faculty should be encouraged and supported financially by their institutions to develop and deliver community-based social literacy programs and technology instruction. This may require developing interdisciplinary partnerships with colleagues whose expertise is in social work, economics, and technology.

Such partnerships give the opportunity for graduate and undergraduate students to get involved early on in community-related service, research, education, licensure and entrepreneurship. For example, at our institution, the Community Psychology program and Adult Literacy Research Center, which provide training in various forms of community service, policy and action, are great candidates for forming such interdisciplinary partnerships. Perhaps most importantly, it would mean reaching out to social workers, financial and job trainers in the communities that serve homeless adults.

We have recently learned of such an interdisciplinary partnership between a charitable religious organization and a downtown public library in our city. The library made available one of their rooms for the members from the charitable organization to meet with homeless persons weekly and offer assistance with finding housing and employment and to run health assessments in order to provide medical assistance or refer them to available resources. Such programs and partnerships are even more worthwhile when created with a university's involvement, which can bring on board experts in public assistance government programs, health and wellness, or finance management. As a result, such symbiotic relationships can significantly contribute to the quality of life and future employability for this group of citizenry.

Importantly, literacy support for our homeless participants should go beyond satisfying their basic information needs (Hersberger, 2002/2003) and social literacy needs (Lankshear & Knobel, 2003). It might include searching for employment opportunities or filing an application for disability support. It should also address higher-order needs such as reading and writing for pleasure and self-improvement, in which many of our participants engaged and which they enjoyed. Here again, the state services, including libraries, community centers, and the university might organize and support community reading and writing clubs or reading and creative writing groups, where readers, novelists and poets, and

artists who are homeless might meet and connect to other individuals with whom they share appreciation of certain literary genres and who might be a receptive audience to their creative writing.

The local university writing studios or centers and adult literacy centers might develop community writing support projects that would offer workshops and writer tutoring opportunities for the homeless interested in creative writing in the downtown area. They might also engage their students in helping the homeless writers to locate places to publish and present their creative writing, an area about which our homeless writers had little knowledge.

“Meet the author” (or novelist, in-residence poet or artist) series at a community or university library that is free and open to the general public is another type of event that could be organized and sponsored by the state, with support from the public libraries, local book fairs and festivals, businesses or the university near downtown. For example, at the time of the writing of this article, we identified five such events downtown at no cost and open to the public; one was in the School of Art and Design at the university and four were at one of the county public libraries downtown.

Information about such events needs to get out to the homeless community though. It took us some time and effort to locate it using multiple search engines and accessing the university, library and special events websites from various local organizations. Since the majority of the homeless in the parks in our study had limited Internet access and also preferred print-based technology tools, flyers, posters, and postcards might be a better channel for sharing information about these free and open to literacy programs and events with members of the homeless community. Students from the local university and other volunteers interested in literacy outreach services could also help distribute and publicize these and other literacy support opportunities for homeless adults in the city. Figuring out how to make these members genuinely welcome, engaged, and supported in these free open spaces must then become a

common practice rather than the exception. We owe that to these fellow human beings and members of our metropolitan communities.

Conclusion

In this study, we engaged in exploring perspectives held by the homeless on technology use and literacy practices in the parks located near the State Capitol and the State University. There is however a need for more research in this area. For example, one issue that emerged from our work with the homeless is the question of societal (and social) responsibility concerning literacy support for those adults who are “socially ‘at risk’ people” (Moser, 2009, p. 705). What role can and should educators, the city and the university, and their respective institutions such as libraries, literacy centers and other community services, have in supporting the literacy practices with traditional and new technologies for the homeless in the city’s downtown area? We asked our participants for recommendations but we did not have the opportunity to ask this question of educators and university administrators and city policy makers.

Another question of interest to this research is the origin of what our participants perceived as disrespectful attitudes and unwelcoming behaviors towards the homeless by security guards, police and library staff (social objects), and the underlying systems of beliefs and ideology contributing to these beliefs (abstract objects). According to a US edition of the Guardian (Gee, Feb 24, 2017), defensive attitudes, including even defensive architecture and landscaping, at the public library, and in other public places where the homeless seek shelter, indicate the worsening of the attitudinal barriers toward the homeless across US. Uncovering these attitudes and their origin is critical to understanding social construction of homelessness and moving toward to greater compassion and future solutions.

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Appendix A: Technology Access and Use by Homeless Adults

Technology	No. of Participants	Access Source	Use	Literacy Practice
Traditional Technologies/Tools				
Computer	9	Library Self (2) Wellness Center (Shelter)	Internet access Schoolwork Text input (Word) Paralegal work	Reading, writing, viewing Academic study Entering info, recording Technical writing
Magazines	1	Local Businesses	Pleasure, self- Improvement	Reading; determining facts vs. opinion
Books	4	Library, Parks	Pleasure, self- Improvement	Reading; literary interpretation
Paper and Pen	1	Personal supplies	Personal journaling, creative writing	Reflective, expressive writing
Communication and Information Technologies/Tools				
Internet	7	Public library (limited) University library (limited) Owner of computer with Internet access (2) On the phone (1)	Email Research on jobs Information about housing Posting resume Studying number theory Looking up information on books or home remodeling Looking up local restaurants Getting most out of information	Social networking & relationships management Locating information Technical writing Locating information
Online data base	1	University library	For study	Reading, locating

(e.g. Nexus Lexus)				information
Blog	1	Owner (1)	Social networking	Social networking & relationships management
Facebook account	3	On the phone (1)	Keeping in touch with friends	Social networking & relationships management
Email account	2	On the phone (1)		Social networking & relationships management
Mobile/Cell Phone	12	Owner (11) Library (1)	Business communication (e.g., calls to debt collection agencies) Staying in touch with family Just talking Texting Internet access Email access GPS access As a clock	Reading numerical information, management of finances, Negotiation and conflict resolution Social networking & relationships management Information technology competence (ITC)
I-pad	1	Family and friends	Internet access	Writing, social networking & relationships management
I-pod	1		Music listening	Appreciating

				music processing sound and audio content; musical aesthetics
Mass Media and Media Technologies/Tools				
Newspaper	3	Local businesses, parks	To get news	Reading, civic engagement; determining facts vs. opinion
TV	9	Home of a friend Hooters (sports bar)- stand outside & watch At the CNN Café	To get news	Viewing, civic engagement; determining facts vs. opinion
			To watch cooking shows	Viewing, Do-It-Yourself (DIY) expertise
			For Entertainment To watch a football game	Viewing, interpreting and processing audiovisual content; media analysis
Radio	8	Friend's home	To get news To stay informed	Listening, civic engagement; determining facts vs. opinion
			To listen to music (R &B or jazz) To relax	Listening, processing sound and audio content; musical aesthetics
YouTube	1	Library (Internet)	To get information on	Viewing, Do-It-Yourself (DIY)

			home remodeling	expertise
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