

Assessing the Role of Computers, Mobile Phones, and Social Network Sites on Homeless Social Capital and Social Relationships

As a vulnerable population, homeless individuals are surprisingly resourceful in acquiring and using various information and communication technologies (ICTs) to meet their everyday needs. Recent research has demonstrated that homeless individuals use computers (Eyrich-Garg, 2011; Karabanow & Naylor, 2010; Moser 2009; Redpath et al. 2006), mobile phones (Eyrich-Garg, 2010; Rice, Lee, and Taitt, 2011; Stennett et al. 2012; Woelfer et al. 2011) and social media (Guadagno et al. 2013; Koepfler & Fleischmann, 2011; Rice, 2010; Rice, Kurzban & Ray, 2011; Rice, Milburn & Monro, 2011). By and large, younger and better educated homeless individuals are more likely to access and use ICTs. In addition, research has demonstrated that social connectedness is an important factor for why the homeless use ICTs. This is especially true for the use of social network sites such as MySpace or Facebook. Though helpful for establishing that homeless individuals acquire and use ICTs for social purposes, there is a need to examine how these digital technologies “play in the lives of the homeless, and whether the use and ownership of these technologies put homeless at an advantage or disadvantage” (Roberson & Nardi, 2010, para 2). Recent work on the homeless in public health, social work, and Internet studies has shown two important developments. One is that the homeless establish and maintain social networks using networked technologies (i.e., Facebook). This is particularly the case among homeless young adults. Another important development is the social relationships that comprise these social networks. The composition of these intricate social networks makes significant contributions toward either positive social roles and norms or deviant behavior (Rice, 2010).

Our long-term goal is to evaluate how ICTs impact the homeless problem in the state of Hawaii. Towards that goal, the objective of this proposal is to situate the access and use of ICTs within the wider social world of the homeless in Honolulu. By observing how ICTs embed within social networks and help to address everyday life needs, our research approach looks beyond the digital technologies to evaluate the social and technical nature of the problem. *The central hypothesis in our research proposal is that ICTs act as agents of change for homeless individuals to support life transitions out of homelessness.*

There have been a few studies that examined the use of ICTs by the homeless. These studies are primarily in urban locations drawing upon either sheltered or unsheltered individuals. However, further research is “needed on how resource-poor communities are accessing new technologies” (Rice, 2010, p. 594). This is valuable for two reasons. One is that, at the moment, it is difficult to generalize the findings in one urban locale to another without more studies that consistently confirm these findings in the homeless population. Two, it is possible that the unique island context of Hawaii may yield important findings for the homeless population here. According to Yuan and Stern (2012), “Caucasians and Hawaiians/part-Hawaiians represented nearly two-thirds of the client population (32% and 28% respectively)” (p. 5).

Aim 1: To assess the access and use of computer, mobile phones, and social network technologies among the homeless populations. We expect that demographic differences will be significant for how ICTs and social network sites are accessed and used.

Hypothesis: Access and use of ICTs and social network sites will vary by demographics among homeless individuals

It has been shown that computers and social network sites help to establish and maintain social ties for homeless individuals. Recent studies have determined that social network sites allow access to other homeless individuals still living on the street and also access to housed individuals (Eyrich-Garg, 2011; Rice et al., 2010; Rice, 2010). However, the measures used to assess social ties reflect simplistic assessments that have since been eclipsed in communication and Internet studies. For example, Rice (2010) acknowledges the problematic nature of his measures.

[T]hese data are imprecise with respect to the use of social networking technology. Unfortunately, these data do not differentiate among ties maintained through email, social networking websites such as MySpace or Facebook, a cellular telephone, texting, or even a standard phone accessed at a social service agency. (p. 593)

Eyrich-Garg (2011) asked only whether social networking websites were used in the past 30 days. Another measure looked at who the homeless respondent communicated with when using social network sites (Rice et al., 2010). Although these exploratory measures are useful for accessing social network site use among the homeless, we propose using Facebook intensity of use (FBI) and social capital measures proposed by Ellison and colleagues (Ellison, Steinfield, & Lampe, 2011; Ellison et al., 2011) and friendship measures developed by Vitak (2012). Research has shown that higher intensity of use on Facebook leads to both bridging and bonding social capital. Most helpful for our study would be the measures for Facebook intensity of use and social capital on Facebook.

Aim 2: To evaluate the effectiveness of Facebook intensity of use and social capital on the use of social network sites by the homeless

Hypothesis: Facebook intensity of use will be positively related to both bonding and bridging social capital among the homeless

As a vulnerable population, homeless individuals are at higher risk for substance abuse among other health problems (Rice et al., 2011; Ramin & Svoboda, 2009). Networks comprised of drug and alcohol users are more likely to lead to substance use either by directly providing the drugs or alcohol or by encouraging deviant social behavior (Arbour-Nicitopoulos et al., 2010; Rice et al. 2010). Vitak (2012) created a measure that determined both the type and diversity friends on their social network site. We believe this measure would be particularly helpful for examining the impact of pro-social peers (i.e. housed friends) on homeless individuals through social network sites. For example, pro-social peers may differentiate by type of social tie (bonding or bridging). If so, this would strongly relate to how social network sites help or hinder homeless individuals. To date, no study has applied these measures on the homeless use of social network technologies.

Aim 3: To assess the type and diversity of friends who visit their profile and who they communicate with on social network sites

Hypothesis: Homeless individuals with diverse friend networks comprising pro-social peers will be negatively correlated with evidence of substance abuse

Research Method

Over the last few months, we have developed a relationship with the Institute for Human Services, Inc (IHS) in Honolulu. We have received approval to conduct a research study regarding the use of ICTs by the homeless guests at their two locations on Oahu. IHS has been very helpful for developing our study and we are very grateful for their support. As a supplement to our proposed study, IHS has additional interest in learning about the role of the Internet as an information source to bring the guest to Hawaii and/or IHS shelter services. We will plan to include questions related to these issues as part of our research study.

We will construct a survey that will examine the following measures. Table 1 summarizes our variables of interest and the measure chosen. Whenever possible, we have chosen measures that have been referenced in the literature. Quantitative data will be analyzed using either linear, logistic, or ordinal regression. This technique has been used before by the research team (Buente & Robbin, 2008; Robbin & Buente, 2008).

Table 1 Survey Measures

Variable	Survey Measure
Demographic variables	Age, gender, ethnicity, etc.
Computer Use	
Location where participants used computers	Eyrich-Garg, 2011
Time spent on the computer	Eyrich-Garg, 2011
Web-use skills	Hargittai & Hsieh, 2012
Mobile Phone Use	
Own Mobile Phone	Eyrich-Garg, 2010
Communication Patterns	Eyrich-Garg, 2010
Purpose of Communication	Eyrich-Garg, 2010
Social Network Sites	
Facebook Intensity of Use	Ellison et al., 2011b
Social Capital Measures	Ellison et al., 2011a
Number of Total Friends	Vitak, 2012
Number of Actual Friends	Vitak, 2012
Type and Diversity of Friends (ex. Parents, Case Workers, Home-based and Homeless non-substance-using ties, Home-based and Homeless substance-using ties)	Vitak, 2012, Rice et al. 2011
Substance Abuse	Rhoades et al., 2011

Stennett et al. (2012) documents helpful techniques for maximizing the amount of participation when administering a survey to homeless populations. The authors discuss their experience recruiting participants in a homeless shelter. They recommend to make a verbal announcement at meal time rather than posting a notice in the shelter. This is the best way to reach the largest amount of homeless people since many shelter participants attend facilities during dinner time. In addition, at least 60% of the homeless participants in their study sometimes or never checked

the bulletin boards for new information. As a result, we believe the best time to recruit participants for our survey will be during free meal times at the IHS shelter.

As noted by Eyrich-Garg (2011), one of the primary purposes for using computers by homeless individuals is to maintain and increase social connectedness. In her study, she determined that participants used social network sites, dating sites, chat rooms, and email to fulfill social connections. These connections provide important benefits for homeless individuals by bolstering physical and mental health (Hwang et al., 2009). Based on her findings, she suggests that social network sites "could potentially be one venue to help people experiencing homelessness meet some of their social needs, providing them with a stable space in their ever-changing lives" (p. 301).

Work by Rice and colleagues have begun to address the impact of social network sites on homeless individuals specifically among emerging adults. One of the most important findings is that social networking technologies (Internet, mobile phones, texting) help homeless young adults connect to their home-based peers and positive social networks (Rice, 2010; Rice, Kurzban & Ray, 2011; Rice, Milburn & Monro, 2011). By connecting to home-based ties, Rice and colleagues consistently found that ICTs played a significant factor in reducing risky sexual behavior, substance abuse, and depression.

Statement for Research Support

As a junior faculty member, I have a strong desire to acquire the ability to write successful grants to fund my research goals. Last May, I attended the Grant Writing and Scientific Writing Workshop sponsored by The Center for Native and Pacific Health Disparities Research and the RCMI Multidisciplinary and Translational Research Infrastructure eXpansion of the John A. Burns School of Medicine. The workshop featured Wendy Sanders who is the Assistant Dean for Research Career Development at the University of Maryland. Wendy's presentation on grant writing was tremendously helpful at demystifying the grant writing process. I acquired a significant amount of helpful advice on a variety of topics, from writing specific aims to developing a fundable research question. Wendy recommended perusing successful grant applications and I have carefully looked over Professor Rice's NIH grant application on studying the homeless and social network technology. In addition, Wendy provided helpful "behind the scene" insights on how grant applications are evaluated by the review committee. The workshop inspired me to explore my own potential to write grant proposals that will be funded by national funding agencies such as the National Science Foundation, the National Institutes of Health, and the National Endowment for the Humanities.

Last summer, I won a National Science Foundation travel grant to attend the 2012 Summer Research Institute for the Science of Socio-Technical Systems. The summer workshop provided excellent mentoring from senior faculty on my research and career goals. In addition, the workshop inspired me to pursue grant opportunities because I met several junior faculty participants at comparable institutions who were successful at acquiring funding for their own research projects. As a result, I am very eager to experience the opportunity to develop and write grant proposals that will be competitive at the national level. This application for CSS research support is my first step on what I hope will be a challenging but rewarding journey toward acquiring nationally competitive research grants.

Our preliminary research on homelessness and ICTs has been received favorably. Professor Quiroga and I wrote a research proposal exploring the homeless in Oahu entitled “Transforming Homelessness among Young Adults: Digital Technology as an Empowerment Resource.” We were recently notified that this proposal has been accepted at the World Social Science Forum 2013: *Social Transformations and the Digital Age* to be held on October 13-15 2013 in Montréal, Canada. In addition, I submitted a paper that reviews the literature on homelessness and ICTs from a socio-technical perspective to the 19th *Americas Conference on Information Systems*. This paper is still in review. Based on our preliminary research, we are confident that the outcomes of our research project will be of interest to the academic and nonprofit community.

Plan and Timeline

We have identified the major goals to develop the grant during the award period. Table 2 lists the timeline for achieving the necessary goals.

Table 2 Grant Submission Timeline

Implementation Activities	Year 1				Personnel/Agency Responsible
	1 st Qtr.	2 nd Qtr.	3 rd Qtr.	4 th Qtr.	
Apply for PTC Project Award	x				Wayne Bunte (request \$10,000)
Construct survey instrument	x				Wayne and Luz
Hire two research assistants	x				Wayne and Luz
Apply for IRB approval of study	x				Wayne
Test survey instrument with preliminary data	x				Luz
Begin data collection		x			Wayne and research assistants
Develop application for R21 award, HIV/AIDS, Drug Use, and Vulnerable Populations in the US		x			Wayne
Complete data collection			x		Wayne and research assistants
Apply for R21 award			x		Wayne (request \$50,000)
Present paper at World Social Science Forum conference			x		Wayne and Luz
Apply for McCarthy Family Foundation Award			x		Wayne and Luz (request \$10,000)
Data analysis of survey results				x	Wayne, Luz, and research assistants
Submit for publication to a journal				x	Wayne and Luz
Assess outcomes and evaluate impact of research on the homeless problem				x	Wayne and Luz

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