3.7 THE DIGITAL LIVES OF YOUTH WHO ARE HOMELESS: IMPLICATIONS FOR INTERVENTION, POLICY, & SERVICES

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INTRODUCTION

Each year, 1.5 million to 3 million youth in the United States experience homelessness[1] (Toro, Lesperance, & Braciszewski, 2011). They are considered to be one of the most marginalized groups in the country. Among the many challenges they face are acquiring health care, employment, and stable housing. It is becoming increasingly important to consider how to use information and communication technologies (ICT) to increase service engagement and outreach and improve health outcomes and quality of life among youth who are homeless.

ICT encompasses a range of interactive tools and platforms; these include social networking sites such as Facebook and Twitter, where people create profiles and share them with network contacts; content-sharing sites such as YouTube and Flickr, which are used to share, rate, and discuss videos and photographs (Adewuyi & Adefemi, 2016); and mobile phones and mobile phone–based applications, which have become a popular alternative to traditional websites for delivering information.

This chapter discusses recent research on ICT use among youth who are homeless. It also describes interventions in the United States that have used these technologies to engage this population, and explains how what we have learned can be translated into service and policy initiatives that reduce disparities in accessing information and other resources in this vulnerable group.

[1] We use the definition of homelessness developed by Tsemberis, McHugo, Williams, Hanrahan, and Stefancic (2004), which acknowledges that homelessness can involve a broad range of situations. The definition includes not only people who live on the streets (defined as literal homelessness), but also people who have some stable housing (e.g., transitional housing, couch surfing with family/friends) but who still are precariously housed.

YOUTH WHO ARE HOMELESS AS DIGITAL NATIVES

According to the Pew Research Center (2014), 89% of people aged 18–29 report using social networking sites, and 67% access them on their cellphones. In fact, young adults (aged 18–25) spend more time every day with media and technology than on any other activity, earning them the designation "digital natives" (Coyne, Padilla-Walker, & Howard, 2013). Digital natives were born or raised during the age of digital technology and therefore have been familiar with these technologies from an early age (Prensky, 2001).

Since young people who are homeless are resource poor, it is often assumed they are isolated from the digital world. However, recent research shows that up to 90% have a profile on a social networking site and over 50% use social media, either several times a day (19%), once a day (16%), or every couple of days (15%) (Barman-Adhikari et al., 2016). These unstably housed young people access the Internet and social media in various places: 47% through a public library and 40% through a youth service agency (Rice & Barman-Adhikari, 2013).

Research also shows that 40%–60% of youth who are homeless own a cellphone (Harpin, Davis, Low, & Gilroy, 2016; Rice, Lee, & Taitt, 2011). Of those, 17% used their cellphone to call a case manager, 36% to call a potential or current employer, 51% to connect with home-based peers, and 41% to connect with parents. Given this relatively high rate of phone ownership, mobile health applications might be a way to reach and engage this otherwise hard-to-reach population.

UNDERSTANDING YOUTH WHO ARE HOMELESS THROUGH THEIR DIGITAL FOOTPRINT

Youth who are homeless may be similar to housed youth when it comes to using ICT, but access to these technologies may be even more important for youth who are homeless because it can be a significant resource for a population that traditionally lacks resources (Jones & Fox, 2009). For example, research has found that youth who are homeless use the Internet for instrumental purposes—28% to locate housing and 13% to look for jobs (Rice & Barman-Adhikari, 2013). These youth also report relying on the Internet and social networking sites for informational purposes: one study found that 47% sought information about HIV or other sexually transmitted infections online, 40% sought information about sex or sexuality online, and 23% went online to find HIV testing services (Barman-Adhikari & Rice, 2011).

Youth who are homeless also use ICT for socializing and communicating. More importantly, they use them to facilitate inclusion in social worlds beyond their street environments (Barman-Adhikari & Rice, 2011; Rice, 2010; Rice & Barman-Adhikari, 2013; Roberson & Nardi, 2010). Studies have found that these youth use social media and cellphones to connect with family, friends from home, and caseworkers, allowing them to maintain ties not connected with street life (Barman-Adhikari et al., 2016; Rice & Barman-Adhikari, 2013).

Youth who are homeless report using social media to discuss a wide range of issues. In their survey of 1,046 youth experiencing homelessness, Barman-Adhikari et al. (2016) found that youth used social media to talk about school or work (26%), family issues (24%), being homeless (24%), safe sex (7%), and goals (5%). It is clear that youth are leveraging the interactive aspects of ICT to discuss sensitive issues and find support in dealing with them, which is important for a population that often has difficulty accessing services or does not trust formal service providers (Hudson et al., 2010; Lindsey, Kurtz, Jarvis, Williams, & Nackerud, 2000). Studies have also found that youth who are homeless who connect with home-based, positive role-modelling peers, family, and case managers through the Internet and social media are more likely to use condoms (Rice, 2010), less likely to use drugs and alcohol (Rice, Milburn, & Monro, 2011), and less likely to experience depression (Rice, Ray, & Kurzban, 2012).

Although using technology has benefits for youth who are homeless, it can also expose them to risky situations. The Internet and social media have made it easier for youth to look for and meet sex partners. For example, Rice, Monro, Barman-Adhikari, and Young (2010) found that about 25% of youth they surveyed reported looking for a sex partner online, a rate similar to that reported by college-going housed youth and young adults (McFarlane, Bull, & Rietmeijer, 2000). What is different, however, is that youth who are homeless who reported meeting a sex partner online were 18 times more likely to engage in exchange sex or survival sex (i.e., trading sex for money, a place to stay, or other material things) (Rice et al., 2010). Across studies, 11%–41% of youth who experience homelessness report engaging in survival sex (Walls & Bell, 2011). Youth who engage in these practices report higher rates of HIV and sexually transmitted infections (McFarlane et al., 2000).

The open forum that social media creates for positive engagement around various topics can also promote engagement in risky behaviours. For example, Barman-Adhikari et al. (2016) found that almost one-third of youth reported talking about drugs on social media and those who talked about drugs were more likely to engage in sex with multiple partners. Therefore, social networking sites may present an important data source for understanding the social context of youth health behaviours, including attitudes and social norms regarding substance use and sexual risk behaviours.

INTERVENTIONS & SERVICES THAT USE INFORMATION & COMMUNICATION TECHNOLOGIES

Youth who are homeless are transient and often difficult to engage in place-based services, making interventions that use social media or other communications technology an innovative and accessible approach to engaging this hard-to-reach population. We know of only three empirically evaluated interventions or methods in the United States (Bender et al., 2015; Rice, Tulbert, Cederbaum, Adhikari, & Milburn, 2012; Sheoran et al., 2016). The following sections summarize the key findings of these studies. We focus on how communication technology was used with this hard-to-reach population, what lessons were learned, and how ICT can be adapted for social service settings.

AN ONLINE SOCIAL NETWORK–BASED HIV PREVENTION PROGRAM

Rice, Tulbert, et al. (2012) developed a youth-led, hybrid face-to-face and online social networking HIV prevention program for youth who are homeless called Have You Heard? The program used Facebook and Myspace. The researchers trained seven peer leaders to engage face to face with 53 youth who were homeless (F2F) in creating digital videos and comic book illustrations (via content-creation and sharing websites such as YouTube) that promoted safe sex or HIV testing. These seven peer leaders and 53 F2Fs then recruited 103 online youth without any face-to-face contact. These youth were part of either the Facebook or Myspace groups. Peer leaders participated in one week of leadership training, one week of website development training, and nine weeks of training in peer engagement and disseminating prevention messages. The peer leaders were trained in the following topics:

- Assertive communication skills;
- HIV prevention;
- crafting persuasive messages;
- Outreach techniques;
- Delivering engaging messages online;
- Brainstorming about online media to engage peers in discussions about HIV prevention and testing; and
- Creating an online presence and potential ramifications of that web presence and online activities (e.g., for employment).

Since this was a feasibility study, it did not report on actual outcomes (i.e., how many youth actually changed their engagement in risk behaviours as a result of participation in the intervention). Instead, the study provided guidance on issues of recruitment, assessment, and participation. It found that recruitment via online social networks is faster and much more efficient than traditional face-to-face methods. Participant retention was also very successful. Youth overall felt they were able to keep their presence in the program and feel connected because they could access the intervention at their own convenience and complete the intervention at their own pace. However, the authors note one caveat: although the intervention demonstrated the capacity of online social network technology to recruit and retain youth in the intervention, it did not succeed in getting youth to complete the post-intervention assessment. Of the online youth, 98% failed to complete the final assessment, and of the F2F youth, 51% failed to do so. The authors suggest that it might be important to compensate youth in order to get more complete data.

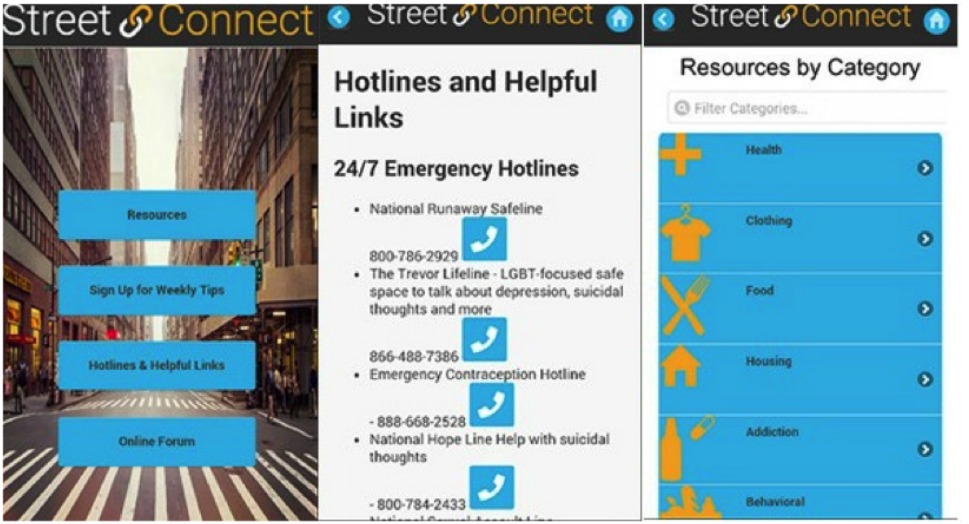
SOCIAL SERVICE APPS

In the past few years, several communities have designed smartphone apps specifically for youth who are homeless. One example is YTH StreetConnect, the only app to have been featured in the academic literature (Sheoran et al., 2016). This app connects youth who are homeless with social service and health providers and other critical resources in Santa Clara County, California. The app has one interface for youth and another, StreetConnect PRO, for service providers. The apps works via Android and IOS operating systems, as well as Wi-Fi.

The app developers (Sheoran et al., 2016) initially conducted a literature review to understand patterns of Internet and cellphone use among youth who are homeless. They then conducted interviews with service providers who worked with this population about how the app should be designed and what information it should provide. Once the prototype was developed, the researchers conducted usability testing via the live app. Two key considerations were addressed during this testing: the user experience and feasibility. Several focus groups were held to get more in-depth feedback from youth about their experience using the app.

Significant changes were made to the app based on the youth and provider feedback. The final youth version of the app (see Figure 3.7-1) has an easy-to-use interface that allows youth to search for services by zip code, current location, and all resources, or by type of service. It also provides information on the eligibility requirements of the agency, and youth can leave their own reviews and ratings of the agency. Youth said the app was intuitive and fun, and allowed them to easily connect with services by being able to call and locate them with the map provided. Youth also reported that the functionality of the app made it seem like "Google and Yelp combined." They enjoyed the accessibility it provided, as well as being able to decide which service agency to visit based on other user ratings.

FIGURE 3.7-1: STREETCONNECT APP FOR YOUTH WHO ARE HOMELESS



From "YTH StreetConnect: Development and usability of a mobile app for homeless and unstably housed youth," by B. Sheoran, C. L. Silva, J. E. Lykens, L. Gamedze, S. Williams, J. V. Ford, & M. A. Habel, 2016, JMIR mHealth and uHealth, 4(3), e82. Reproduced with permission.

StreetConnect (youth version) has the following features:

- Location-based database of services;
- Interactive mapping;
- User-submitted ratings and comments;
- Emergency hotlines;
- Access to sexual health information;
- Weekly text message health tips; and
- Accessibility via Wi-Fi.

StreetConnect PRO, the tablet app for healthcare providers, has the following features:

- Location-based database of services;
- Interactive mapping;
- Referral function;
- Emergency hotlines;
- Access to best practices;
- Medical questionnaire for clients (assesses homelessness vulnerability and sexual risk);
- Accessibility via Wi-Fi.

Although they have not been empirically reviewed, two other excellent examples of social service apps are Los Angeles' WIN app (www.ourchildrenla.org/win-app/) and Pittsburgh's Big Burgh app (www.bigburgh.com).

ELECTRONIC CASE MANAGEMENT

Bender et al. (2015) assessed the feasibility and acceptability of electronic case management (ECM) with youth who are homeless, using cellphones, texts, email, and Facebook. For this study, 48 youth aged 18–21 were recruited from a shelter in Denver, Colorado, and assigned to electronic case management services. Youth in the ECM group received pre-paid cellphones with unlimited talk and text for three months, and their email and Facebook information was collected.

Youth were offered four ECM sessions, which were provided every two to three weeks over a three-month period. A graduate student was trained to be the electronic case manager. Sessions focused on four aspects: check-in, assessment, goal identification, and problem solving. The study used a multi-modal way of using technology to contact

participants. Youth were contacted by case managers and could contact them in a variety of ways, but contact always followed a particular sequence. Case managers first contacted youth by calling their cellphones. If youth did not respond to this initial contact, they were then contacted by both a call and a text message. If there was no response to this second contact, the case managers would call, text and email or contact participants via Facebook. The study found that almost 90% of youth participated in at least one ECM session. Youth also preferred cellphones (especially texting) over email and Facebook for responding to their case manager. Moreover, 70% reported that they preferred texting over any other method because it enabled them to communicate even when school and work obligations prevented them from speaking to the case manager (Bender et al., 2015). The study revealed that ECM was highly acceptable to this group of youth: 80% indicated that connecting with their case manager electronically was a positive experience and that it was convenient and accessible.

IMPLEMENTATION CONSIDERATIONS

Our review of the literature revealed that ICT use among youth who are homeless is pervasive and has both positive and negative consequences. We found that existing technology-based interventions for these youth have taken three approaches to date: using existing platforms such as Facebook or Myspace to disseminate interventions; developing standalone apps that connect youth to services; and using email, online social networks, or texting (via cellphones) to provide case management services for youth. All of the reviewed interventions were part of feasibility studies, which do not provide robust evidence that these interventions have actually been able to change behaviours. However, the studies do provide preliminary evidence that youth who are homeless are active users of these digital technologies, that youth find it easy to connect via these new technologies, and that these technologies can expand reach, foster engagement, and increase access to services for this otherwise hard-to-reach population.

Organizations and service providers thinking about adopting ICT-based tools and interventions should consider the issues discussed in the following sections.

RECOGNIZING THE COST, TIME, EXPERTISE, & EFFORT NEEDED

A range of tools, such as social media and mobile apps, can be used as part of an ICT-based platform to engage youth. It is important for organizations and service providers to assess the amount of time, effort, and expertise needed to design and implement ICT-based programs. It is generally recommended that organizations with no experience using ICT-based techniques for engagement or service provision start with low-resource tools and then progress to tools that require more resources and support (Centers for Disease Control and Prevention, 2011). For example, existing online social networks such as Facebook require no technological expertise beyond knowing how to set up an organizational page and organize content. Moreover, commercial social network platforms are free and can reach many participants simultaneously without any geographic barriers, making them cost-effective and potentially increasing scalability in the future. However, a standalone mobile app such as YTP StreetConnect that is designed to deliver unique and tailored content requires significant technological and domain-related expertise, costs thousands of dollars, and needs to be maintained and updated on a regular basis. Additionally, it is easier to create content for existing online social network platforms. For example, downloading videos and podcasts from partner websites and posting them on the organization's online social network platform is straightforward. On the other hand, an app like YTP StreetConnect, which has a database of organizations, will need frequent updates because of the fluid nature of service systems.

Regardless of the preferred platform, developing and implementing the ICT-based intervention requires some amount of time, effort, and money. For example, the Have You Heard? campaign had to train and compensate peer leaders to deliver the intervention and recruit participants. In their electronic case management initiative, Bender et al. (2015) trained and retained a graduate student to conduct the ICT-based outreach, and gave participants prepaid cellphones. Organizations that operate on skeletal budgets may not be able to afford these costs.

ADDRESSING LIABILITY ISSUES

Many service providers have told us they are concerned about liability and confidentiality issues around using ICT-based interventions. Some tell us they would not know how to handle disclosure of suicidal or homicidal ideation on online social network platforms or even via phone calls or text messages. We recommend that if someone expresses

suicidal or homicidal ideation online, the service provider should first contact that person through the online site or another form of contact. As a first step, service providers who think there is a risk should give the person information about crisis hotlines and local sources of support. They should advise those in imminent or severe crisis to go to their nearest emergency room for a psychiatric evaluation. If the person provides consent, service providers themselves can request a welfare check for these youth (if their contact information is available). Information about crisis hotlines and local supports can also be posted online or through a mobile app so youth can access it even if service providers cannot reach them.

UNDERSTANDING YOUTH PREFERENCES

We cannot stress enough how important it is to gauge youth preferences when deciding what platform to use and what the content of the messages should look like. The research (Barman-Adhikari et al., 2016) discussed earlier found Facebook to be the most popular online social network platform among youth who are homeless, but it might eventually lose popularity because technology changes very fast. For example, when Have You Heard? was developed (Rice et al., 2012), Myspace was very popular with youth, but it has since fallen out of use. The constantly evolving technological environment means that organizations must keep up with youth preferences. Additionally, ICT-based interventions can be delivered through multiple message modalities (i.e., using audio, video, images, badges, GIFs, and maps) and tailored and interactive in nature. The use of these different message modalities is appealing to youth because it aligns well with broader youth culture and is critical to getting and sustaining their attention. Understanding which formats are most engaging for this population is important in designing an effective ICT-based intervention.

DEFINING PRECISE GOALS & OBJECTIVES

Another important decision for agencies to make early on is what the objective of the campaign is. Very often, different objectives require different communication channels (Centers for Disease Control and Prevention, 2011). For example, Bender et al. (2015) found that youth preferred cellphones as a mode of contact around case management, but that texting and online social networks were more effective when the objective of the agency was to reach a wider audience to disseminate information.

Gonzales, Douglas Anglin, & Glik (2014) explored youth opinions about using text messages to support substance use recovery after initial treatment. The study found that 70% of youth endorsed texting as a feasible medium for maintaining recovery. In terms of the types of messages they preferred to help them prevent relapse, most youth were looking for emotional support; this included positive appraisal (90%), lifestyle change tips (85%), motivational reinforcement (80%), and coping advice (75%). Youth also sought instrumental support, with 50% wanting access to information resources and appointment reminders. Youth also gave feedback about logistical features of text messaging. Most preferred to receive one message a day, sent during the day (preferably afternoons). They indicated that the relevance they attach to the message depends on who sent it: peer leaders were considered to be most credible and influential in increasing the salience of the message.

ENGAGING NATURALLY OCCURRING NETWORKS

Our review of the literature reveals an important finding about the role of ICT in the lives of youth who are homeless: these young people often use ICT to connect to people outside of their street environment. Yet none of the interventions we reviewed has used ICT tools such as social media or Facebook to connect youth to sources of support outside of their street networks. This potential function of ICT needs some attention. Agencies serving youth who are homeless could begin to explore this possibility. For example, caseworkers could ask youth to create ecomaps (diagrams that visualize the social relationships of people) of non-street relationships they consider supportive, and then brainstorm with them how they could remain in touch with these supports, focusing on how youth could use ICT to maintain contact. For this sort of approach to be effective, however, broader structural policy–related changes might need to occur. Internet and cellphones would need to be more widely accessible to these youth. This is more important for youth who live on the streets and have to rely on public places such as libraries and youth-service agencies for Internet access. More government resources to agencies that serve youth who are homeless would increase access among this population to the Internet and cellphones.

BUILDING DIGITAL LITERACY & SAFETY PROGRAMS

Our literature review suggests that youth who are homeless are increasingly using ICT tools for instrumental purposes, such as finding jobs, or health information. Agencies can support youth in these efforts by providing resources for developing computer and digital literacy skills. Caseworkers could help youth locate job opportunities, create resumes, and develop job etiquette skills, such as crafting an email inquiring about a job opportunity.

One area of concern that our review reveals involves digital safety for these youth. Research suggests that youth are increasingly using social media to meet sex partners or to exchange sex. Therefore, it is a good idea for service providers to educate youth who are homeless about the risks of meeting sex partners on the Internet and about navigating risky topics online.

CONCLUSION

ICT will not solve the problems of youth homelessness, but thoughtful engagement with youth through ICT can help these young people live healthier, more productive, and stable lives. These digital natives are already using ICT to access information, jobs, and social services. Service providers can build upon these ongoing activities. Social media platforms such as Facebook and Twitter could be useful tools for agencies doing outreach or conducting intervention programs with youth who are homeless. New smartphone apps may be a critical part of a successful engagement strategy for many communities, although such strategies require a greater commitment to creating and maintaining the technologies. Finally, ICT, especially smartphones, can be used to enhance traditional social work case management.

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