

EDITORIAL

The future is always beginning now. *Mark Strand (1934- 2014)*

Lauri Goldkind and John McNutt

Welcome to the special issue on Technology and Social Work Practice. This issue represents a broad array of thinking and scholarship on Information and Communication Technologies (ICT) for social work education and practice. This thematic issue of *Advances in Social Work* examines how social work and social work education is meeting the challenges of the digital revolution. Our contributors represent an international array of thinkers and scholars on a broad range of issues critical to social work education and practice. The authors we highlight here have focused on areas of traditional interest to social work practitioners including ethics and social justice as well as areas that may be new to social workers and social work educators such as Geographic Information Systems (mapping) and gaming for service delivery. It is undeniable that technology is changing the ways in which we function at all levels of society both professionally and personally. Similarly, it is undeniable that social work has been slower to infuse technology in practice than might be given our sensitivity to environmental forces and contextualized changes. Our initial concerns regarding the possible lack of adequate material to complete an entire special issue on technology and social work practice proved to be unfounded. In total we received over 35 high quality studies, concept papers, and research notes covering topics ranging from Massive Open Online Courses for Social Work Education to a comprehensive model of ICT paradigms for integration into social work practice. One problem editors wish for are too many submissions to choose from. Here we present a range of work that echoes the diversity of social work practice itself. Beginning broadly with the larger themes of technology integration in practice, we move to ethical issues in using social media with vulnerable populations and in classroom settings. We survey some of the evolving technology-enhanced practices in the field being used with familiar populations such as juvenile delinquents and adolescent fathers and move on to papers focusing on the macro and administrative dimensions of social work practice. We close with a look at Massive Open Online Courses and whether they are a direction that social work should pursue.

The first articles in the issue focus on the broad issues in play around technology in social work practice – we start with **Bullock and Colvin's** article “Communication Technology Integration Into Social Work Practice.” They explore the infusion of ICT from the Technology Acceptance Model, a theoretical framework commonly used to explore questions of innovation diffusion. Next follows **Fitch's** article “A Conceptual Framework for Information Technology in Social Work Practice.” He argues that information systems research in the human services can be facilitated with a conceptual framework that addresses the fundamental and interlocking roles of data, information, and knowledge to understanding organizational information systems. Finally, a complementary article,

Lauri A. Goldkind, PhD, LMSW, Associate Professor Graduate School of Social Service at Fordham University. New York, NY . Email: goldkind@fordham.edu Website: www.laurigoldkind.net

John G. McNutt, PhD, MSW, Professor, University of Delaware School of Public Policy & Administration. Email: mcnuttjg@udel.edu Web Site: <http://www.policymagic.org>

“Electronic Information Systems and Social Work: Principles of Participatory Design for Social Workers,” by **Gillingham** reflects on how to support front line social workers to be active participants in the robust design of information management systems at the agency level and how the well-designed data management systems can be key to the efficacy of front line social work.

Another broad thematic dimension attendant to ICT implementation is ethical implications. **Brady, McLeod, and Young** use two theoretical approaches, social constructivist theory and the Competing Values framework, to guide the development of an ethical decision-making framework for social work educators to use in order to create dynamic classroom policies related to social media technology. While Brady, McLeod, and Young focus inward on our work with students, **Dolinsky and Helbig** urge us to consider applying ethical standards to the use of social media with vulnerable populations.

The next five papers in our issue look at Internet-based and mobile applications (Apps), which are used to support and enhance traditional social work practices with a range of populations. **Mackrill, Ebsen, and Antczak** document the development of a youth support mobile app from the client and worker perspective. **Anderson and Cook** describe the implementation of a web-based intervention for traumatized young people. **Evans-Chase** uses a mixed methods approach to investigate the effectiveness of mindfulness training for delinquent youth delivered via the Internet. **Lee and Walsh** present early findings from a smartphone app developed to augment existing social work practices by providing a father-friendly tool to help new fathers learn about and engage with their infants and toddlers. Lastly, **Sorbring, Bolin, and Ryding** describe a game-based intervention to prevent adolescent dating violence. These are the traditional populations and interventions focused on by social workers, yet here technology is being used to enhance traditional practices and possibly create more accessible practices for a greater number of clients and community members than ever before.

The third section of this issue focuses on macro and administrative social work practice. **Felke’s** case study on the use of geographic information systems (GIS) to assess community needs is an overview of both the tools of GIS and the process for using this innovation for a traditional social work practice. **Saxton, Niyirora, Guo, and Waters** explore the use of hashtags for policy advocacy and remind us of this important community organizing tool. **Bosco-Ruggiero, Kollar, Strand, and Leake** focus on technology for training and staff development in the child welfare setting.

We close this issue with a look by **Gates and Walters** at the future of social work education, the efficacy of Massive Open Online Courses (MOOCs) for social work, and the opportunities and challenges such courses might present. We hope you find this collection of scholarship as compelling as we do and extend you good wishes for a great and productive summer.

We would also like to take this opportunity to thank the new editor Margaret Adamek for her incredible patience and support in the assistance and production of this issue. She inherited our idea and production schedule and has served as a graceful leader on the project. Valerie Decker, the tremendous copy editor and behind-the-scenes glue of *Advances in Social Work*, has also been a great supporter of this enterprise along with

assistance from Christina Schneider. However, a mountain of gratitude must be extended to William Barton, the editor emeritus of *Advances in Social Work*. In the winter of 2013, Dr. Barton approved the Spring issue, but how little we understood the herculean role of editor. Since that time we have come to appreciate his and Dr. Adamek's work and input on shaping an issue of *Advances in Social Work*. We will not soon forget the editorial impression left by Dr. Barton.

Communication Technology Integration into Social Work Practice

Angela N. Bullock
Alex D. Colvin

Abstract: *The uses for communication technology continue to grow in the United States. Communication technology is being incorporated into traditional social work practice for administrative and therapeutic purposes. This article provides an overview on how the use of technology has evolved in social work practice. The Technology Acceptance Model is used to address the challenges that communication technology poses for social work practice. This article also examines a theory-based direction for the future creation of technologically driven interventions in social work practice.*

Keywords: *Communication technology, technology acceptance model, social work*

Overview of Communication Technology Integration into Social Work Practice

There has been a rapid increase in the adoption of communication technology in everyday life over the last five years. Both youth and adults rely on communication technologies for entertainment, information, and social connections (Mishna, Bogo, Root, Sawyer, & Khoury-Kassabri, 2012). Communication technologies are tools that support the production of knowledge and the development of skills; thus, there are significant value implications for social work practice (Cwikel & Cnaan, 1991; Kreuger & Stretch, 2000).

Social media sites, including Facebook, Instagram, Pinterest, Twitter, and LinkedIn, are common networking platforms used by approximately 73% of online adults (Duggan & Smith, 2013). Furthermore, 91% of American adults own a cell phone and use it for services other than phone calls, such as text messaging, accessing the Internet, downloading online applications, and participating in video chats (Duggan, 2013). Technology is not only transforming how people collect and share information but also altering how people interact with one another. The speed of technology has created the lure of immediate gratification and the pressure to communicate more quickly and often with larger numbers of individuals (Csiernik, Furze, Dromgole, & Rishchynski, 2006).

Technology has also evolved in social work practice over the past decades, playing a part in giving practitioners easy access to colleagues and to their clients through fax, e-mail, cell phones, chat rooms, and online messaging (Csiernik et al., 2006). In the 1980s, clinical practice involved one-way mirrors with clients to allow for interdisciplinary and team participations in assessment and training (Csiernik et al., 2006). As early as 1982, social work services emerged on the Internet in the form of online self-help support groups (Kanani & Regehr, 2003). By the late 1990s, groups of clinicians offered online counseling services to the public using secure web sites (Grant & Grobman, 1998; Martinez & Clark, 2000; Reamer, 2012; 2013; Schoech, 1999). Today, social work services include a much wider range of digital and electronic options. These options allow social workers to engage

Angela N. Bullock, PhD, LMSW, Assistant Professor, Social Work Program University of the District of Columbia, Washington, DC. Email: angela.bullock@udc.edu. Alex D. Colvin, PhD, MSW, Assistant Professor of Social Work, Division of Social Work, Behavioral and Political Sciences, Prairie View A&M University, College Station, TX. Email: adcolvin@pvamu.edu

clients through email exchange and text messaging using their smartphones or through video teleconferencing using tools such as web cameras, Skype, FaceTime, and Second Life (Chester & Glass, 2006; Kanani & Regehr, 2003; Lamendola, 2010; Menon & Miller-Cribbs, 2002). Through these forums, social workers can offer services such as online and video counseling (Csiernik et al., 2006; Reamer, 2014). Access and equity, greater flexibility, and economic or geographic restraint have driven the deployment of these technological tools in social work (Jones, 2010). The move toward a technologically driven practice has been so important that in 2005 the National Association of Social Workers (NASW) and the Association of Social Work Boards (ASWB) collaborated to develop standards for ethically integrating technology into social worker practice (NASW & ASWB, 2005). These standards addressed ethical issues such as technical competence, client privacy and confidentiality, documentation, and research evidence concerning the effectiveness and impact of distance services (Reamer, 2014).

Presently, there is increasing pressure on social service agencies to produce “results,” and often agency computer information systems are associated with efforts to do so as practitioners try to provide effective services to clients (Carrilio, 2007). Despite the ever-increasing user-friendliness of the systems’ availability to capture program and service data, some social workers have been reluctant to embrace them (Barrett, 1999; Carrilio, 2005; Carrilio, Packard, & Clapp, 2003). Social workers who refuse to acknowledge this technology trend risk falling out of step with the profession (Reardon, 2010).

The role of the social worker is evolving, and social workers need to adjust to the changes in social work practice in the technology age (Social Work and Technology, 2013). The integration of technology into practice presents challenges and opportunities for the field of social work. Although much research effort has been directed to understanding user acceptance of new technologies, it is important to understand some of the factors that go into acceptance and utilization of information systems (Carrilio, 2007). For this reason, this paper will explore a theoretically based direction for the future creation of a technologically supported social work practice through an examination of the Technology Acceptance Model (TAM). Additionally, this article will address both the challenges and opportunities communication technology poses for social work practice, placing emphasis on the social workers’ response to the adoption of communication technology.

Description of the Technology Acceptance Model (TAM)

The TAM, developed by Davis (1985), is derived from Fishbein and Ajzen’s (1975) theory of reasoned action (TRA). TRA was designed to apply to any specific domain of human-computer interactions (Davis, Bagozzi, & Warshaw, 1989), and the TAM expounds on this theory by providing a theoretical linkage among users’ internal beliefs, attitudes, intentions, and usage behavior to determine an individual’s acceptance or rejection of a new technology (Davis, 1989). The TAM postulates that technology adoption behavior is an outcome of an individual’s emotional response toward a technological innovation.

The TAM examines user acceptance of technology and shows the relationship between perceived usefulness (U), perceived ease of use (EOU), behavioral intentions to use (BI), and the actual system use. The TAM predicts further that user acceptance behaviors of

technology are based on the influences of two key determinants: U and perceived EOU. The first belief, U, is the degree to which an individual believes that a particular system will enhance their job performance within an organizational context (Davis et al., 1989). EOU is the degree to which an individual believes that the use of a particular system will be free of mental effort (Davis et al., 1989). U and EOU are distinct but related concepts: U focuses on the impact of technology use on overall organizational processes and outcomes, whereas EOU is concerned primarily with the level of complexity required in the use of the technology (Teo, 2012). The TAM posits that EOU has a direct impact on U: the easier the system is to use, the more likely the user will accept it (Venkatesh & Davis, 2000).

Additionally, U and EOU are key antecedents that determine one's behavioral intentions (BI) to use technological systems (Kowitlawakul, 2008). BI are the degree to which a person formulates a plan to perform or not perform some specified future behavior (Davis et al., 1989). The TAM proposes further that a user's BI are determined by their perception of the level of difficulty and practicality of the technological system (Venkatesh, 2000). Accordingly, BI are the strongest predictor of actual use (Davis et al., 1989; Taylor & Todd, 1995). Thus, the TAM can predict the intent to use technology, which is derived from the user's attitude, and actual use of technology, which is derived from the user's actions (Willis, 2008).

Accordingly, the TAM provides the framework for exploring the key determinants associated with the communication technology adoption behaviors of social workers (Davis et al., 1989). The origins and basis of technology acceptance and resistance in an organization become complex when examined in the light of how technology has been used in the past, how it may be seen as a tool of oppression, and how these experiences affect employees' emotions and attitudes about the proposed new technology in the workplace (Stam, Stanton, & Guzman, 2004). The following sections will examine both the challenges and benefits of integrating technology into social work practice.

Challenges with Communication Technology Acceptance and Integration into Social Work Practice

Although the concept of adapting communication technologies into social work practice can present some advantages, such as increased productivity and reduced paperwork, it can also present unique complexities and ethical challenges for social work practitioners, as the incorporation of technology into practice can be met with some resistance from social workers. This resistance may manifest through BI, perceived U, and EOU.

Behavioral Intentions (BI)

Oftentimes, social workers consider technology to be complex systems that contribute to diminishing the client-worker relationship (Reardon, 2010). Some practitioners argue that the type of rapport developed through face-to-face interactions cannot be duplicated through online interactions (Hill & Ferguson, 2014). For seasoned practitioners, the practice

of social work is about the interface of people, their families, and their communities. The *NASW Code of Ethics* places human relationships at the center of ethical social work practice (NASW, 2008). Social workers in the profession are viewed as agents of social control who also promote social welfare and social change to empower the individual, the group, and the community (Csiernik et al., 2006). For these reasons, some social work practitioners question whether real, long-term relationships can be created when people do not meet face-to-face (Costello, Brecher, & Smith, 2009; Csiernik et al., 2006). Because of this, many seasoned social workers may perceive the adoptions of new technologies as cumbersome, making them feel more like bureaucrats than helpers (Reardon, 2010).

Ease of Use (EOU)

A challenge exists in the profession's generation gap between new practitioners, who are most likely to have experience with technology and feel comfortable using it, and more experienced social workers who used typewriters, not computers, during their education (Csiernik et al., 2006). Early research noted that the lack of technological literacy on behalf of the social worker was exacerbated by characteristics such as worker sex, age, and prior experience with information systems (Monnickendam & Eaglestein, 1993). For example, recent statistics report that between 2008 and 2010, approximately 66% of social workers in the United States workforce were 35 and older (U.S. Department of Health and Human Services, 2013). Csiernik et al. (2006) explained that beginning practitioners are considered digital natives because they grew up immersed in digital technology. According to Palfrey and Gasser (2008), digital natives are individuals who were born after 1980 and possess the skills to use digital technology. Established practitioners are considered digital immigrants because they were born before the introduction of digital technology. In some regard, digital natives may have an advantage over digital immigrants because they use technology from an early age (Gillingham, 2014). Saleem et al. (2009) discovered that many seasoned workers (digital immigrants) still chose to rely on paper to complete certain tasks rather than embracing new technological tools; these seasoned workers turned to paper for various reasons, including the perception that it was efficient in certain cases, easier to use, and more useful in helping them remember important information. In a study of 245 community social workers, Carrilio (2007) reported that social workers' skill and experience with computers and perceptions about the user-friendliness of the systems and usefulness of data affected utilization of technology and software applications. However, research has reported very compelling reasons for social workers to document relevant client information electronically as, in principle, properly encrypted electronic records are more secure than traditional paper records (Reamer, 2013).

Poor implementation and lack of training of technological tools has also been cited as an explanation for social workers' resistance to technology (Baker, Warburton, Hodgkin & Pascal, 2014). Drumm, McCoy, and Lemon (2003) point out that although the use of technology in social service is increasing, social workers still lack technological skills. Social workers have a duty to meet minimum standards of competence when providing services to clients, particularly with the use of novel and emerging interventions (Reamer, 2013). According to the *NASW Code of Ethics* (2008):

Social workers should provide services in substantive areas or use intervention techniques or approaches that are new to them only after engaging in appropriate study, training, consultation, and supervision from people who are competent in those interventions or techniques. (p. 8, standard, 1.04[b])

Social workers should therefore exercise careful judgment and take responsible steps (including appropriate education, research, training, consultation, and supervision) to ensure that competence of their work. (p. 9, standard 1.04[c])

The NASW and ASWB (2005) standards for practitioners' use of technology state, "[s]ocial workers shall be responsible for becoming proficient in the technological skills and tools required for competent and ethical practice and for seeking appropriate training and consultation to stay current with emerging technologies" (p. 7).

Perceived Usefulness (U)

Reardon (2010) stated that although many industries embrace communication technology, a switch to advanced technology may not be easy in social work. Previous research has indicated that social workers resist using technology that is primarily focused on collecting data because they perceive this technology as neither enhancing quality of life for clients nor producing more effective and efficient services (Watling & Rogers, 2012).

The challenges with embracing new communication technology may involve the traditional tensions between management and frontline workers (Reardon, 2010). In their research, Stillman and McGrath (2008) highlighted some challenges in integrating technological advances, including client management and reporting systems, into contemporary practice. For example, managers are often in charge of technology initiatives and therefore gravitate toward systems that reflect their needs. This is evidenced in a study by Stam et al. (2004), who reported that agency management mandated that employees take portable laptop computers into the field for collecting data during client visits. In this study, the agency decided that laptops were the direction in which to move to reduce duplication and increase efficiency. Stam et al. (2004) further reported that the agency's management had not discussed the planned changes with the caseworkers. Because of this lack of control and input, it is perhaps understandable that many social workers view information and communications technology (ICT) as dehumanizing and taking them away from their core practice tasks (Hill & Shaw, 2011; Rafferty, 1997). Schoech stated, "It should be no surprise that frontline workers often find these systems to be of limited value" (as cited in Reardon, 2010, p. 1). This helps to explain why social workers tend to view ICTs as a management tool rather than a practice one (Hill & Shaw, 2011; Parrott & Madoc-Jones, 2008). Moreover, social workers, in a study by Burton and van den Broek (2009), perceived that the administration did not appreciate the amount of time it took to produce reports using the new communication technology.

Communication technology also gives rise to potential ethical issues related to professional boundaries. Mishna et al. (2012) examined how online communication, such as email, text messages, and social networking sites, are being integrated into face-to-face

social work practice and found that when communication technologies were used for administrative purposes, such as scheduling appointments or sharing supplemental resources, professional boundaries were not challenged. However, when communication technologies were used for non-administrative purposes, social workers believed that professional boundaries could potentially become blurred because no clear standards related to communication technology had been established (Mishna et al., 2012). With the growth in the use of social networks such as Facebook, social workers have an ethical obligation to address boundary issues in relation to their clients' online lives (Baker et al., 2014). For example, because of the perceived usefulness of new technologies, many social workers may receive requests from current or former clients asking to be social networking "friends" or contacts. Clients who have access to social workers' networking sites may learn a great deal of personal information about their social worker that may introduce complex transference and countertransference issues in the professional-client relationship (Reamer, 2014).

Moreover, one of the greatest challenges toward integrating communication technology into social work practice is the emergence of e-counseling and e-therapy (Csiernik et al., 2006). Extensive concerns about both ethical and legal components have been raised regarding conducting counseling via the Internet, e-mail, or through chat rooms. Examples of areas of concern include practitioner competence as well as privacy and confidentiality issues. The NASW (2008) states that, "social workers should take precautions to ensure and maintain the confidentiality of information transmitted to other parties through the use of computers, electronic mail, facsimile machines, telephones and telephone answering machines, and other electronic or computer technology" (p. 12, standard 1.07[m]). Additional noted concerns included: the level of expertise and skill in the medium as compared to traditional social work skills; the ability to establish an electronic therapeutic relationship; increasing time spent documenting contact with clients; using streamlined interviews with clients rather than spending time with them face-to-face; and the privacy and confidentiality, anonymity, and security of the electronic relationship and conflicts of interest (Ames, 1999; Gelman, Pollack, & Weiner, 1999; Kamani & Regehr, 2003; Rock & Congress, 1999). For instance, social workers who deliver services using email, avatars, live chat, and video counseling must be sure to use sophisticated encryption technology to prevent confidentiality breaches (hacking) by unauthorized parties and must comply with relevant privacy laws and regulations (Morgan & Polowy, 2011). This may be a major challenge for seasoned (digital immigrant) social workers.

Opportunities Created by Information Technology Acceptance and Integration into Social Work Practice

Integrating communication technology can revolutionize social work practice (Csiernik et al., 2006; Hill & Ferguson, 2014; Mishna, Bogo, Root, & Fantus, 2014). The integration of technology into practice creates the capacity for social workers to become more efficient through reduction of paperwork and expansion of time with clients (Reardon, 2010). Moore, a chief information officer at Araohohoe Douglas Mental Health Network in Colorado, stated:

Electronic systems allow workers to be more mobile in the services they provide because they can access client records using an Internet connection rather than carrying around paper files. This means workers can spend less time searching for records and more time working with clients. (as cited in Reardon, 2010, p. 1)

Work in the field has examined the potential uses of communication technologies to enhance the implementation of evidence-based practice in social service programs (Schoech, Basham, & Fluke, 2006). Because rural areas frequently experience a scarcity of specialized professionals, resources, and clinical services, researchers have acknowledged that e-mail, instant messaging, and video conferencing can create opportunities for people in remote areas and for populations with limited mobility due to a disability to receive assessment and counseling services (Csiernik et al., 2006; Ginsberg, 2011; Kowalenko, Bartik, Whitefield, & Wignall, 2003).

Brownlee, Graham, Doucette, Hotson, and Halverson (2009) reported that access to communication technology has a positive impact on social work practice in rural areas. For example, through teleconferencing, rural social work practitioners are able to address problems such as professional isolation, lack of ongoing training, limited availability of supervision, and reduced access to professional development. Furthermore, social workers identified the Internet as a useful tool for researching additional client resources, communicating with service providers, generating online recording, and assessing online client databases. Researchers have suggested that the extended access to services for people with disabilities and individuals living in rural areas can be effective in establishing strong client-worker relationships and successful client outcomes that are similar to face-to-face practice (Mishna et al., 2014).

Communication technology also offers benefits to social workers in macro practice as these new and innovative technological tools can make it easier for practitioners to establish connections with stakeholders and seek support for their organizations (Hill & Ferguson, 2014). This includes creating a pathway to engage in collaborative endeavors such as coordinating on service delivery, soliciting external funding opportunities, and developing strategic plans. All these efforts can be accomplished as stakeholders connect, communicate, and coordinate from remote locations, thus making planning more efficient and timely.

Social workers are beginning to engage in electronic advocacy, which is the use of technology to influence policy decision making (Dunlop & Fawcett, 2008). Hill and Ferguson (2014) outlined the key functions of electronic advocacy: conducting policy research and information gathering, creating public awareness and education, building cyber communities and activism, organizing communities online and offline, raising funds, and placing pressure and influence on policy makers. Electronic advocacy is conducted through avenues such as blog sites, e-mail, electronic mailing lists, online news groups, photojournalism, and social networking sites. Through the utilization of such electronic advocacy, social work practitioners can assist nonprofit agencies in promoting social justice and equality for marginalized populations (Dunlop & Fawcett, 2008). Advocacy can also be conducted at the micro level in which practitioners advocate for improved ICT access for their clients (Baker et al., 2014). Agencies could facilitate free wireless access

for clients in waiting areas. In circumstances where social workers visit clients in their homes, they could be provided with smartphones that allow those nearby to share the phones' data. These strategies have the potential to help empower clients and build independence via access to online support (Baker et al., 2014). Additionally, this usage of technology is both effective and efficient because communication technology requires minimal resources and has the capability of reaching a global audience (Hill & Ferguson, 2014).

Implications for Social Work Practice

The digital divide is becoming ever increasing in social work populations, as increased advocacy for digital literacy, technology inclusion, and access is an immediate need (Belluomini, 2013). For these reasons, technology communication acceptance in the workplace may involve a complex mix of how easy the system is to use, the organization's readiness for infusion, and enhancing staff skills, attitudes, and experience with data (Carrilio, 2007). To accomplish this, user characteristics (skill and experience), system attributes (EOU), and the importance of the data (U) are important elements that must be present in system utilization (Carrilio, 2007).

Further, Reardon (2010) reported that the tensions between social work and technology might ease as younger and more computer-savvy practitioners enter the profession. As stated by Fitch, assistant professor at the University of Missouri's School of Social Work, "We need a cadre of talented students and young researchers interested in designing information systems that reflect the values of social work" (as cited in Reardon, 2010, p. 3). Until social work education is updated with current technological training, social workers with technological literacy should educate others on the integrations of technology into practice (Belluomini, 2013).

There is limited research addressing technology and social work practice. Therefore, further research is needed to fully understand the impact of technology as a tool in social work practice (Hill & Ferguson, 2014). Although studies have identified that newer social workers who are classified as digital natives may have the ability to incorporate technology into practice with greater ease than digital immigrants, few research studies identify the specific population of social workers that shows the greatest resistance to technology (Gillingham, 2014). Additional studies that not only analyze the effectiveness of technology-related interventions but also examine the key characteristics of social workers who are less likely to use technology could help to reduce practitioners' resistance to technology. As more outcome-based data that present cost-effective models of technology in social work practice are made available, technology-enhanced service delivery will be expanded, and practitioners will be more apt to use evidence-based technological tools (Smith, 2009).

In planning for the future integration of ICTs into practice, there must be considerations for infusing practice-led approaches to ICT usage as well. This begins with organizational leaders assessing current skills and arranging for social workers to attend training with the new communication technology. Harrison and Rainer (1992) reported that user training

had an important effect on communication technology usage. It also involves “starting with social work practice, not with ICTs themselves” (Hill & Shaw, 2011, p. 11). Firstly, the practice-led approach involves social workers playing a key role, along with ICT specialists and other stakeholders, in developing ICTs' infrastructure (Hill & Shaw, 2011). This involves the active involvement of frontline workers in the design of data management systems. This is paramount if human services organizations want systems that workers will actually use and benefit from (Reardon, 2010). Additionally, in a practice-led environment, ICT hardware and software should be easy to use and “not get in the way of face-to-face work” (Hill & Shaw, 2011, p. 17). Further, ICT software should allow social workers to effectively tell the story of their work with clients (Hill & Shaw, 2011). Finally, practice-led approaches to ICT use should enable social workers to play an active role in advocating for improved access to the global information network for their clients (Baker et al., 2014).

While the perceived benefits to integrating TAM into practice have been highlighted, integration also comes with noted limitations. One limitation of TAM is the assumption that the usage of a given technology is voluntary; however, many employees are required to use a technology system to perform their jobs (Adomavicius & Gupta, 2009). A second known limitation of TAM is that even if a user is not compelled to use a technology by their employers, they may be forced to use a technology they find difficult because there is no other viable choice. Moreover, a third limitation of TAM is that an individual's performance may not necessarily be positively impacted even if the user finds technological tools useful and incorporates technology into their work with ease. Additionally, a system that does not work well but is still highly used by an organization may actually harm the organization that uses it (Adomavicius & Gupta, 2009).

Conclusion

The origins of technology acceptance and resistance by social workers have been viewed as complex, particularly in light of how technology has been used in the past, how it may have been seen as a tool of oppression, and how these experiences have affected employees' emotions and attitudes about proposed technology in the workplace (Stam et al., 2004). In social work practice, embracing new and innovative communication technologies can create opportunities for enhancing human service delivery. With that said, social workers must capitalize on technological change and overcome their resistance to learning new information technology skills, change from traditional to electronic advocacy practice, and integrate these new changes into practice (Dunlop & Fawcett, 2008).

References

- Adomavicius, G., & Gupta, A. (2009). *Handbook of information systems series: Business computing*. Bingley, UK: Emerald Group Publishing.
- Ames, N. (1999). Social work recording: A new look at an old issue. *Journal of Social Work Education, 35*, 227-237.
- Baker, S., Warburton, J., Hodgkin, S., & Pascal, J. (2014). Technology in the network society. *Australian Social Work, 67*(4), 467-478.

- Barrett, S. (1999). Information systems: An exploration of the factors influencing effective use. *Journal of Research on Computing in Education*, 31(1), 4-7.
- Belluomini, E. (2013). Technology changing the face of social work. *The New Social Worker*, 20(2), 26-27.
- Brownlee, K., Graham, J., Doucette, E., Hotson, N., & Halverson, G. (2009). Have communication technologies influenced rural social work practice? *British Journal of Social Work*, 40, 622-637.
- Burton, J., & van den Broek, D. (2009). Accountable and countable: Information management systems and the bureaucratization of social work. *British Journal of Social Work*, 39(7), 1326-1342.
- Carrilio, T. E. (2005). Management information systems: Why are they underutilized in the social services? *Administration in Social Work*, 29(2), 43-61.
- Carrilio, T. E. (2007). Using client information systems in practice settings: Factors affecting social workers' use of information systems. *Journal of Technology in Human Services*, 25(4), 41-62.
- Carrilio, T. E., Packard, T., & Clapp, J. (2003). Nothing in-nothing out: Barriers to data-based program planning. *Administration in Social Work*, 27(4), 61-75.
- Chester, A., & Glass, C. A. (2006). Online counseling: A descriptive analysis of therapy services on the Internet. *British Journal of Guidance and Counseling*, 34, 145-160.
- Costello, T., Brecher, J., & Smith, B. (2009). *Social movements 2.0. The Nation*. Retrieved from <http://www.thenation.com/issue/february-2-2009>
- Csiernik, R., Furze, P., Dromgole, L., & Rishchynski, G. M. (2006). Information technology and social work- the dark side or the light side? *Journal of Evidence-Based Social Work*, 3(3/4), 9-25.
- Cwikel, J., & Cnaan, R. (1991). Ethical dilemmas in applying second-wave information technology to social work practice. *Social Work*, 36, 114-120.
- Davis, F. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Unpublished doctoral dissertation). MIT Sloan School of Management, Cambridge, MA.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-339.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35, 982-1003.
- Drumm, R., McCoy, V., & Lemon, A. (2003). Technology trauma: Barriers to increasing technology utilization. *Journal of Social Work in Health Care*, 37(4), 39-56.
- Duggan, M. (2013). *Cell phone activities 2013*. Retrieved from <http://www.pewinternet.org/2013/09/19/cell-phone-activities-2013/>

- Duggan, M., & Smith, A. (2013). Social media update 2013. *Pew Research Internet Project*. Retrieved from <http://www.pewinternet.org/2013/12/30/social-media-update-2013/>
- Dunlop, J., & Fawcett, G. (2008). Technology-based approaches to social work and social justice. *Journal of Policy Practice*, 7(2-3), 140-154.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Gelman, S. R., Pollack, D., & Weiner, A. (1999). Confidentiality of social work records in the computer age. *Social Work*, 44, 243-252.
- Gillingham, P. (2014). Electronic information systems and social work: Who are we designing for? *Practice: Social Work in Action*, 26(5), 313-326.
- Ginsberg, L. (2011). *Social work in rural communities*. Alexandria, VA: Council on Social Work Education.
- Grant, G. B., & Grobman, L. M. (1998). *The social worker's Internet handbook*. Harrisburg, PA: White Hat Communications.
- Harrison, A. W., & Rainer, R. K. (1992). The influence of individual differences on skill in end-user computing. *Journal of Management Information Systems*, 9(1), 93-111.
- Hill, A., & Shaw, I. (2011). *Social work and ICT*. London: Sage.
- Hill, K., & Ferguson, S. (2014). Web 2.0 in social work macro practice: Ethical considerations and questions. *Journal of Social Work Values & Ethics*, 11(1), 2-11.
- Jones, P. (2010). Collaboration at a distance: Using a wiki to create a collaborative learning environment for distance education and on-campus students in a social work course. *Journal of Teaching in Social Work*, 30(2), 225-236.
- Kanani, K., & Regehr, C. (2003). Clinical, ethical, and legal issues in e-therapy. *Families in Society*, 84, 155-162.
- Kowalenko, N., Bartik, W., Whitefield, K., & Wignall, A. (2003). Rural workforce development and staff support: Remodeling service provision for early intervention in child and adolescent mental health. *Australian Psychiatry*, 11, 110-115.
- Kowitlawakul, Y. (2008). Technology acceptance model: Predicting nurses' acceptance of telemedicine technology (eICU). Available from *Dissertation Abstracts International: Section B. Sciences and Engineering*, 69(04), 2230. (UMI No. 3310144)
- Kreuger, L. W., & Stretch, J. J. (2000). How hypermodern technology in social work education bites back. *Journal of Social Work Education*, 36, 103-114.
- Lamendola, W. (2010). Social work and social presence in an online world. *Journal of Technology in the Human Services*, 28, 108-119.

- Martinez, R. C., & Clark, C. L. (2000). *The social worker's guide to the Internet*. Boston, MA: Allyn & Bacon.
- Menon, G. M., & Miller-Cribbs, J. (2002). Online social work practice: Issues and guidelines for the profession. *Advances in Social Work, 3*, 104-116.
- Mishna, F., Bogo, M., Root, J., & Fantus, S. (2014). Here to stay: Cyber communication as a complement in social work practice. *Families in Society: The Journal of Contemporary Social Services, 95*(3), 179-186.
- Mishna, F., Bogo, M., Root, J., Sawyer, J., & Khoury-Kassabri, M. (2012). "It just crept in": The digital age and implications for social work practice. *Clinical Social Work Journal, 40*, 277-286.
- Monnickendam, M., & Eaglestein, A. (1993). Computer acceptance by social workers: Some unexpected research findings. *Computers in Human Services, 9*(3/4), 409-424.
- Morgan, S., & Polowy, C. (2011). *Social workers and Skype: Part I*. NASW Legal Defense Fund, Legal Issue of the Month. Retrieved from www.socialworkers.org/ldf/legal_issue
- National Association of Social Workers Board and the Association of Social Work Board. (2005). *NASW & ASWB standards for technology and social work practice*. Washington, DC: Author.
- National Association of Social Workers. (2008). *Code of ethics*. Retrieved from <http://www.socialworkers.org/pubs/code/default.asp>
- Palfrey, J., & Gasser, U. (2008). *Born digital: Understanding the first generation of digital natives*. New York: Basic Books.
- Parrott, L., & Madoc-Jones, I. (2008). Reclaiming information and communication technologies for empowering social work practice. *Journal of Social Work, 8*, 181-197.
- Rafferty, J. (1997). Shifting paradigms of information technology in social work education and practice. *British Journal of Social Work, 27*, 959-969.
- Reamer, F. G. (2012). The digital and electronic revolution in social work: Rethinking the meaning of ethical practice. *Ethics and Social Welfare, 7*, 2-19.
- Reamer, F. G. (2013). Social work in a digital age: Ethical and risk management challenges. *Social Work, 58*, 163-172.
- Reamer, F. G. (2014). The evolution of social work ethics: Bearing witness. *Advances in Social Work, 15*(1), 163-181.
- Reardon, D. (2010, November/December). Data driven, people focused – technology takes on social work. *Social Work Today, 10*(6), 6.
- Rock, B., & Congress, E. (1999). The new confidentiality for the 21st century in a managed care environment. *Social Work, 44*, 253-262.

- Saleem, J. J., Russ, A. L., Justice, C. F., Hagg, H., Ebright, P. R., & Doebbeling, B. N. (2009). Exploring the persistence of paper with the electronic health record. *International Journal of Medical Informatics*, 78(9), 618-628.
- Schoech, D. (1999). *Human services technology: Understanding, designing, and implementing computer and Internet application in social services*. Binghamton, NY: Human Sciences Press.
- Schoech, R., Basham, R., & Fluke, J. (2006). A technology enhanced EBP model. *Journal of Evidence-Based Social Work*, 3(3/4), 55-72.
- Smith, M. (2009). What my "LED ball" reveals about the future of technology and social work: A farewell aloha. *The New Social Worker*. Retrieved from http://www.socialworker.com/feature-articles/technology-articles/What_My_LED_Ball_Reveals_About_the_Future_of_Technology_and_Social_Work%3A_A_Farewell_Aloha/
- Social Work and Technology Training for Social Workers by Social Workers. (2013). American Academy of Social Work and Social Welfare. Retrieved from <http://aaswsw.org/proposed-grand-challenge-submissions/social-work-and-technology-training-for-social-workers-by-social-workers/>
- Stam, K. R., Stanton, J. M., & Guzman, I. R. (2004). Employee resistance to digital information and information technology change in a social service agency: A membership category approach. *Journal of Digital Information*, 5(4), 1-20.
- Stillman, L., & McGrath, J. (2008). Is it Web 2.0 or is it better information and knowledge that we need? *Australian Social Work*, 61, 421-428.
- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176.
- Teo, T. (2012). Examining the intention to use technology among pre-service teachers: An integration of the technology acceptance model (TAM) and theory of planned behavior (TPB). *Interactive Learning Environments*, 20(1), 3-18.
- United States Department of Health and Human Services. (2013). *The U.S. health workforce chartbook part IV: Behavioral and allied health*. Retrieved from <http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/chartbook/chartbookpart4.pdf>
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating perceived behavioral control, computer anxiety and enjoyment into the technology acceptance model. *Information Systems Research*, 11, 342-365.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46, 186-204.
- Watling, S., & Rogers, J. (2012). *Social work in a digital society*. Los Angeles: Sage.

Willis, T. (2008). An evaluation of the technology acceptance model as a means of understanding online social networking behavior. *Dissertation Abstracts International*, 69.

Author note

Address correspondence to: Angela Bullock, LMSW, PhD, University of the District of Columbia, 4200 Connecticut Avenue NW, Washington, DC 20008.

Email: angela.bullock@udc.edu

A Conceptual Framework for Information Technology in Social Work Practice

Dale Fitch

Abstract: *This article describes how information systems research in the human services can be facilitated with a conceptual framework that addresses the fundamental roles of data, information, and knowledge in understanding organizational information systems. Using methodologies originating in information systems and organizational research, the resulting conceptual framework explains how social work researchers are to understand information technology from the perspectives of clinical social work, supervision, social work administration, policy, and community collaborations. The article concludes by reminding social work researchers and educators that given that we have done little to educate our students on the differences between data, information, and knowledge, and to educate them based on research performed in our human services agencies, our professional practice relative to technology will not advance in the 21st century.*

Key Words: *Data, information, knowledge, information systems*

This article describes one researcher's academic journey that has focused on better understanding the roles of data, information, and knowledge and how those three entities are captured in human services information systems. As such, it may be considered a case study of what has been learned along the way thus the first person voice is used throughout. While some may consider it to be unorthodox to do so in a conceptual paper, this perspective may largely reflect the behavioral social science research paradigm dominant in social work. In contrast, much information systems research originated in the ethnography field as researchers attempted to understand the lived world of information technology users. In that vein, the use of voice, both first person and second person, was felt to be instrumental in better understanding the divergent perspectives oftentimes encountered with technology artifacts thus the use of first person voice should in no way be perceived as decreasing the rigor of that research (Boyle & Parry, 2007; Robey & Markus, 1998).

After earning my MSSW in 1984, I began my career as a caseworker in a large urban homeless shelter followed by positions as a therapist in a residential treatment center working with emotionally disturbed, adjudicated adolescents, and later with convicted sex offenders. Interspersed were positions as a medical social worker at two university teaching hospitals where I focused on child abuse and service coordination for children with neurodevelopmental disabilities.

Thus my grounding in social work practice predated the Internet age and much that is now referred to as information technology. Nevertheless, I had a keen understanding of the role of "information" and its importance in social work. With the arrival of personal computers and the Internet, and on realizing the possibilities of storing information in a digital format (i.e., no longer solely on paper), I began to understand what could be done

Dale Fitch, PhD, MSSW, is an Associate Professor, School of Social Work, University of Missouri. He is also the Editor-in-Chief for the *Journal of Technology in Human Services*.

with that information. Unfortunately, my practice also let me know what happens when information is not communicated.

My position as a medical social worker led to my participation on several child fatality teams. More often than not, child fatalities were marked by a breakdown in information not communicated between individuals who operated in complex systems. Interwoven with these individuals were the multifaceted interventions for children and families identified as high risk or receiving tertiary-level preventive services that extended across mental health, substance abuse, and/or domestic violence. In all of these circumstances, clinicians and program managers depended on the quality of information available to them at the time to make critical decisions. Therefore, when I made the choice to pursue a research career after fifteen years of practice, the obvious path was for me to focus on improving the information systems used across mental health and social services through research on how organizations use information to facilitate their functioning and ideally organizational decision making whether the decision is made by a line worker, agency leadership, or an interagency community group. This article will describe how information systems research can be facilitated with a conceptual framework and conclude with implications for practice and research.

Conceptual Framework

As I began to explore information systems, I focused my research on three primary components: data, information, and knowledge (Maier & Hädrich, 2011; Quinn & Fitch, 2014). I used an ethnographic approach (Lee, Liebenau, & DeGross, 1997) to understand how human services organize their systems of information largely within a "soft systems" methodology (Checkland, 1999). Conceptually this would appear as:

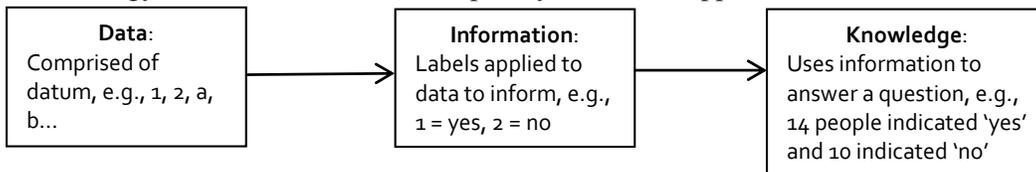


Figure 1. Data, information, knowledge conceptual framework.

My early research revealed that agencies have multiple systems of information or ways of informing agency members. The explicit information system is best known as the system that contains information about the clients served by the agency and accessed through a computer. In addition, the implicit systems of information were paper records kept in file folders, post-it notes, agency forms, evaluation reports, and the information shared at shift change or staff meetings. To make sense of this information and the underlying data, I needed theories and methodologies suitable for the task. Over the years I have used Checkland and Holwell's *Information, Systems and Information Systems* (1998), and Checkland's *Systems Thinking, System Practice* (1981), which led to Beer's *Diagnosing the System for Organizations* (1985) and Ulrich's *Beyond Methodology Choice: Critical Systems Thinking as Critically Systemic Discourse* (2003). Taken together, these theories and methodologies have allowed me to diagnose agency systems

to find where in the process flow of going from data to information to knowledge a breakdown has occurred and to recommend solutions that are systemic (i.e., they not only address the problem at hand but also address design issues in the systems of information that could facilitate overall organizational decision making).

Collectively, my research has not only focused on information systems at the organizational level, but it also extends down to the ways: 1) data are recorded, and 2) expanded upward as information to address, 3) knowledge management within a learning organization, and, ideally, to 4) interagency systems. Across these levels, my research challenges not only who can be involved in controlling these systems but also addresses who and what can be served by these systems. As outlined in the discussion that follows, misconceptualizations for any of these components either in *use* or in the *design* of information systems can hamper optimal organizational functioning. Before describing how my research agenda has integrated the use of Beer's, Checkland and Holwell's, and Ulrich's frameworks, each section will begin with a review of prior research to better understand how we have reached today's common understanding of information systems in human services agencies and how that understanding may or may not serve the furtherance of more social work educators having research agendas that largely focus in this one area.

Data

On the one hand, data are the most fundamental units of an information system and are often the element most overlooked. On the other hand, data are the primary focus of social work research whether they are quantitative or qualitative. For example, all social work research texts build upon the centrality of data in being able to answer research questions. Oftentimes linked to the concept of a variable (information), researchers and educators spend considerable time and energy discussing data as a way to operationalize and measure concepts of interest.

Fortunately some social work scholars, most notably Epstein, have tried to point out that our human services agencies collect a vast amount of data and that some of these data are amenable to research purposes (e.g., Epstein, 1977, 2001; Freel & Epstein, 1993; Grasso & Epstein, 1993; Joubert & Epstein, 2005; Schoech, Quinn, & Rycraft, 2000).

While the importance of entering data into statistical software is valued while obtaining a BSW or MSW degree, we devalue other forms of data by assigning them to paper or leaving them unstructured in a MS Word document. Doing so leaves the informing capacity of data with limited use unless they are manipulated again. The need for capturing this data digitally has been noted for several decades (e.g., Schoech & Arangio, 1979; Semke & Nurius, 1991), especially when doing so may facilitate organizational processes (Coursen & Ferns, 2004).

For example, I have worked in and observed many agency settings in which staff still use tally sheets to record client outcomes or copy and paste data from one form to another, over and over, for different reports, despite the presence of information systems in the agency (Fitch, 2014). This seeming disconnect between the need to capture data digitally and what many social workers experience when using their agency information

systems is quite perplexing. Part of this disconnect comes back to how social work researchers and educators conceptualize the difference between data and information. Colloquially, and sometimes professionally, people interchange the use. For example, it is not unusual to find these two sentences in the same paragraph: "...enters that information in a spreadsheet..." and "...involves the organization of data in columns." Technically, data are entered into spreadsheets in which the column headings convey the information about what the data concern. Some of this conflation might be attributable to early text in this area before the conceptual differences were more clearly identified. For example, the description of information technology applications in Geiss and Viswanathan's (1986) edited text largely focus on shifting away from analog (paper, folders, etc.) to digital ways of handling data without explicating the larger information system that would need to align this data with organizational processes in an information system.

In some of those situations, after analyzing the information and knowledge needs of the agency, I have worked with the agency database administrator to either create new structured data fields (e.g., last name, first name, address) in the agency's information system and/or convert existing unstructured data fields (e.g., text or comment boxes) into structured ones. The use of data to inform and aid in organizational decision making will be discussed in the following section.

My most recent project focusing on data (Fitch, Yoo, & Mosa, 2013), with collaborators from engineering and computer science, involves the use of natural language processing to retrieve information from child and elder abuse case narrative data (i.e., text entered in a comments box on a form). This project stems back to my early research where I found that case narrative data were the most informative for abuse investigators and case managers (Fitch, 2006). Unfortunately, as unstructured data (i.e., free text), they are not amenable to data retrieval techniques available for structured data. However, in recent years the text-analysis tools available to researchers who do natural language processing have grown, so I began forming relationships with agency partners four years ago to secure access to case record data. The implications of this analysis are discussed in the next section, but the research in this one project hinges on the capacity to analyze massive amounts of text data—465,939 case records involving 9,057 children and families and a total vocabulary of 13,878,599 words. Acquiring text analysis skills using R (Wild, 2014) has taken some time, but the payoffs will be substantial as outlined in the following sections.

Information

Since information is so ubiquitous, how it is formed (data) and turned into knowledge is sometimes overlooked. Fortunately, Beer's (1985) viable system model, based on organizational cybernetics, provides a perspective on information as a component of organizational functioning that has been most helpful. In sum, information provides the means for communication up and down organizational levels as agencies seek to meet clients' needs and survive in ever-changing environments. However, it is in the unpacking of those two processes—communicating up and down organizational levels,

and the three actors—clients, agencies, and environment—that the disconnects between data, information, and knowledge are likely to occur.

Existing literature in this area seems to cover all of these processes and actors and many extend over several decades (e.g., Cnaan & Parsloe, 1989; Glastonbury, 1993, 1996; Glastonbury, LaMendola, & Toole, 1988; LaMendola, Glastonbury, & Toole, 1989; Rafferty, Steyaert, & Colombi, 1996; Steyaert, Colombi, & Rafferty, 1996). Other research has focused on applications in hospital settings (Auslander & Cohen, 1992), child welfare (Benbenishty & Oyserman, 1991, 1995; Benbenishty & Treistman, 1998; Oyserman & Benbenishty, 1997), income support (Dearman, 2005), and school settings (Redmond, 2003). Although some of these texts provide a methodology for information system design, how social work researchers think about information in its relationship to data and knowledge, while accounting for the communication needs among the actors, is usually underserved. That is, while doing a competent job describing how a particular application or system serves a need, how that system might fit into a larger conceptualization of data, information, and knowledge needs (i.e., the environment), is addressed less often. For example, missing from this literature is research in the larger information system field that addresses critical perspectives (Adam, 2002; Ulrich, 2003) and the issue of power in agency settings manifested through information system design (Markus, 1983; Wilson, 1997), which is particularly important due to fundamental power imbalances between clients and agencies and human services agencies and other organizations in the environment. For example, organizational dictates, by definition, flow down communication channels; returning communication channels are much more prone to blockage. The extent to which this upward communication is trying to convey information derived from practice data is the extent to which these data are now lost to the organization.

Using Beer's model, I have described information's use by designing and implementing an online referral system for an interagency collaboration, creating forms that delivered data entered *once* to *multiple* users for *multiple* purposes, as a means to differentiate program functioning in a multi-program setting. I have also described the role of information related to the acquisition of competencies or skills in an educational setting, as the linchpin between evidence-based practice and practice-based evidence, and as a feature of privacy and communication for youth in foster care. Each of these projects centralized the data-information-knowledge continuum prior to design of any specific application. Doing otherwise may have overlooked an important actor or the ability to communicate up and down organizational structures, especially when the organizational structure is an interagency collaboration.

Returning to my natural language processing project, once we had a data management process in place for the 13,878,599 words (information), we needed a way to organize the words into a controlled vocabulary that could capture various types of abuse (e.g., physical abuse, sexual abuse or neglect). This task required us to produce a taxonomy from the vocabulary terms by arranging them into a hierarchy of supertype-subtype relationships (e.g., words associated with various forms of physical abuse) and then building a thesaurus that combined the controlled vocabulary terms with the taxonomy to capture the associated relationships between the supertype-subtype

concepts. After developing the category terms, the dataset contained 582,132 words; these words were further consolidated based on conceptual meanings resulting in 4,755 terms. How these terms are helpful for a child or elder abuse investigator will be discussed in the next section.

Knowledge

Beer's Viable System Model asserts that any information system should be assessed by whether it facilitates acquiring knowledge because a viable system is one which can survive changing environments by having practices in place that insure the flow of information, beginning with data, up through the agency, processing that information, and then implementing operational changes via feedback back down through the levels of the agency. See Figure 2.

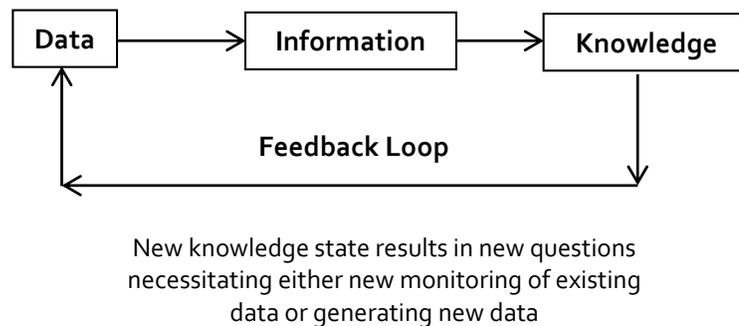


Figure 2. Data, information, knowledge feedback loop.

Making sure this feedback loop is operational is an essential aspect of systems theory in that all of the components are dependent upon feedback in order for the system to perform as designed. For example, referring back to Figure 1, once we know 14 people indicated "yes" and 10 people indicated "no," it would be perfectly reasonable to use a feedback loop to ask the question *why?* Doing so might entail gathering additional data organized via information such that the question might be answered.

From an agency-based perspective, we can see clinicians making treatment decisions, program managers deciding on the design of their programs, and the executive leadership for the agency needing to decide the types of programs they are offering as an agency. All of these decisions are based on information comprised of data entered into the agency's information system and hopefully fed back to the user in a timely manner for their decision-making processes.

On the one hand, most likely due to the dearth of information systems in the human services that function in a way that meets all of these decision-making needs, there is a concomitant lack of empirical social work research in this area. On the other hand, our profession has a tremendous amount of social work research taking place, evidenced by several journals and conferences, which is purportedly producing knowledge. The extent to which our research products are de-coupled from the information systems social work

practitioners use is the extent to which we may be experiencing a fundamental feedback breakdown in the data-information-knowledge continuum in our profession.

Fortunately, some social work researchers have broached this topic over the years, most notably Monnickendam (e.g., Monnickendam, Savaya, & Waysman, 2005). To guide other social work researchers in this area and extend conceptual frameworks beyond Beer, information systems and other researchers have approached this topic via decision support systems (Ba, Stallaert, & Whinston, 2001; Eom, 2000; Mohan, Muse, & McInerney, 1998), decision-making (Bharwani, 2006), design science (Carlsson, 2007), and knowledge management (Henry, 1974). Indeed, Maier and Hadrich's (2011) text on knowledge management systems covers the fundamentals of knowledge management from the inception of data, to information, and on to the culmination of knowledge that impacts organizational functioning. They specifically note that feedback is essential to improving the "quality of information" (p. 357) within the organization. While not delving into the depths of "how to," this text more than compensates by describing the broad range of data and information sources modern organizations must manage and use.

Many of my projects have used this conceptualization to understand agencies and how they work. Specifically, I used organizational cybernetics to assess whether a public child welfare agency is viewed as a learning organization to the extent it leverages the skills gained by Title IV-E graduates (Fitch, Watt, & Parker-Barua, 2014). My research was also the first study to use organizational cybernetics as the axial coding scheme for the qualitative analysis of the focus group data. My other applications of organizational cybernetics involve its use in understanding the need to balance the flow of evidenced-based practice data with practice-based evidence data (Fitch, 2014). In this particular application, clinicians made treatment *decisions*, program managers *decided* on the design of their programs, and the executive leadership for the agency *decided* on the types of programs they were offering as an agency. All of these *decisions* were based on information comprised of data entered into their information system.

Finally, referencing the natural language processing project, the goal is to develop a system that will go by the moniker SAFETY (Semantic Analysis for Efficient Text Yield.) Our next step will be to link the information produced from the vocabulary and taxonomy to an indexing algorithm so we will be able to detect severity of abuse, classify case narratives according to the abuse type, and alert the user to the case narratives that will be most informative for risk assessment decision making, saving invaluable time, effort, and possibly lives. Already, our comparative analysis has shown that child and elder abuse terms drawn from articles in PubMed differ from the terms contained in the case narratives. The significance of this finding lies in that very difference. That is, most *information* retrieval algorithms rely on publicly available *data* for creating their vocabularies and taxonomies that, in turn, play a crucial role in the functioning of the algorithm. If we were to develop our algorithm based up PubMed articles, then we would be losing a large amount of information contained in the case records. Instead, we used the data source most informative for that purpose, existing agency records.

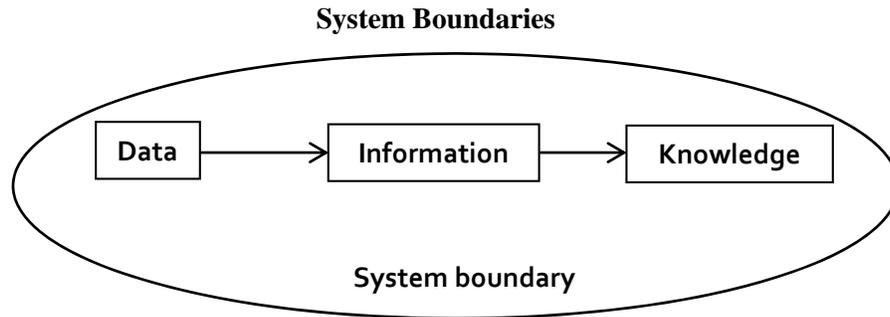


Figure 3. Agency system boundaries.

When analyzing agency information systems, there always comes a point when the boundaries for the system have to be delimited because clients have lives before and after interacting with agency services. In previous iterations, agency information systems were referred to as management information systems (MIS) because they were designed for *management's* purposes. Other iterations included decision support systems (DSS), executive information systems (EIS), etc., all largely serving the needs of management or administration. However, beginning in the late '80s, the notion of an EIS being *everyone's* information system began to take hold. The democratization of digital information access was beginning to be viewed as the only way to improve organizational efficiency since it is the operational level, or line workers, that creates the initial data. The human services are still uneven as far as the democratization of digital information access, and my research has shown that the delimitation of system boundaries (where the system entails all information systems and systems of information) plays an important role.

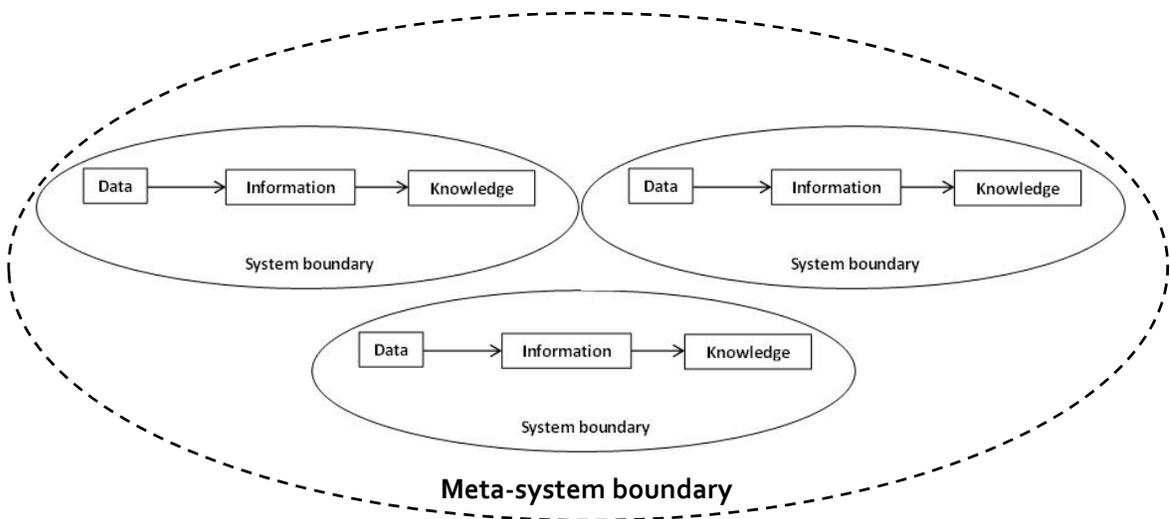


Figure 4. Interagency system boundaries

Fortunately, there has been relatively more social work research in the area of interagency information sharing (see Figure 4) related to knowledge. This research has addressed the need for interorganizational systems in mental health (Bloomfield & McLean, 2003; Manderscheid & Henderson, 2004), welfare services (Harlow & Webb, 2003), substance abuse services (Hile, 1997), child welfare (Howell, Kelly, Palmer, & Mangum, 2004), homelessness (Peressini & Engeland, 2004), and juvenile justice (Savaya, Spiro, Waysman, & Golan, 2004). Paradoxically, the Internet has both facilitated and hampered interagency information sharing in this area. Regarding the former, it is much easier to share information between agencies using secured and encrypted file exchange systems. Regarding the latter, though, vendors have developed systems that have sometimes grouped agencies together into silos. For example, the Homeless Management Information System (HMIS) initiative been of tremendous help to homeless shelters that lacked any kind of information system, and it allows for the networking of these agencies in a community to facilitate information and referrals, service acquisition, and community-level outcome monitoring. Unfortunately, if an agency serves the homeless as well as other client populations, then workers are forced to double (or triple) enter data into the HMIS and any other system the agency might use (Fitch, 2010). Researching in this arena requires a careful assessment of decision-making needs across agency boundaries linked via information to the data that is already being entered by social workers.

The most useful methodology has been Ulrich's CSH, which determines the boundaries by identifying who is involved and who is affected. The CSH then delineates the former into who is served and for what purpose as well as who is a decision maker, which resources are used by the decision maker, and on what basis. Those affected, the latter, serve the purpose of legitimation by acting as witnesses representing embodying values and worldviews. My most explicit application of this methodology was identifying the role of youth in foster care and shifting from a system where their use of social media was controlled by agency-set privacy policies to a system where the youth were allowed to decide about (or control) their own information (Fitch, 2012). Extending the boundaries in the other direction, one can easily see a foster care agency as a subsystem to a larger child welfare agency. Each, in turn, would have its own information system. Taken together, the "system" boundary then becomes a meta-system captured in Figure 4. One can also envision a community collaborative on child well-being consisting of a child welfare agency, a mental health agency, and the school system. A quantitative application of CSH occurs in Fitch and Jagolino (2012), where we employed system dynamics modeling using output data from three such agencies in Minneapolis. Here, too, the feedback emblematic of organizational cybernetics is prominent and illustrates the broad range of applications for these theories and methodologies. Most importantly, all the knowledge gained from these studies was based solely on information *already existing* in human services agencies, information gathered as digital data.

Two Caveats

As with any conceptual framework, some issues are included while others are excluded. Two are notable in this area. The first pertains to the term "capta" used in Checkland and Holwell's text (1998, p. 90) and how they use it in their formulation of the continuum, specifically, data to capta to information. Checkland prefers to speak of data as "facts" with selected facts becoming capta and meaningful facts becoming information. Larger or longer-living meaningful facts are felt to be knowledge. While I find this conceptualization to be helpful in understanding some aspects of this issue, my preference is to examine the continuum from the perspective of users of information technology systems. All social work researchers certainly have a sense of capta, as not all pieces of data are used when we begin to operationalize information. For example, while it may be helpful to know an at-risk young adult's high school GPA, we may not need to know what grade they made in social studies in fifth grade. That data may be helpful (capta) for a junior high guidance counselor, but not necessarily when that person is a young adult. As such, social workers most likely engage in capta identification behavior, but only the results of that behavior will be seen in the data we gather in our information systems.

The second caveat addresses the continuum, acknowledging the literature that has the continuum ending with wisdom (i.e., data, information, knowledge, and wisdom), especially as explored by Rowley (2007). While many aspects of her article are absolutely fascinating, specific aspects of her argument extend beyond my use of data, information, and knowledge as represented in information technology systems. For example, Rowley refers to "the hierarchy" in which she views one transforming into the other (i.e., data as an entity at a lower level in the hierarchy becomes information at a higher level in the hierarchy), which, in turn, becomes knowledge that can be used to create wisdom (p. 164). Wisdom is further described as representing one's values, ethics, and aesthetics. While each of these elements certainly plays a role in practice, I am limiting my focus to those processes we can more operationally define and capture in agency information systems. For, as Rowley notes in her conceptualization of wisdom, it is not an entity suitable for algorithms nor is it programmable. To the extent social work needs to engage in more formal research with information technology systems, it may be conceptually easier for us to focus on the first three parts of the continuum at this point in our profession.

Perhaps in the near future, when we have robust knowledge management systems, we should certainly revisit this issue incorporating the insights of Rowley and others (e.g., Bernstein, 2011; Bierly, Kessler, & Christensen, 2000; Zeleny, 2006).

Implications for Social Work Practice

The implications for social work practice must begin with the education of our BSW and MSW students. Our schools of social work need to examine how we prepare our students to be digital professionals of the 21st century. While our peer professions are educating their students via medical informatics and nursing informatics, social work has no such explicit curriculum. Instead, we focus on some of the most complex aspects of

knowledge generation in our research classes where students are exposed to “data” analysis using SPSS. This approach has two consequences. One, with the traditional research class as their only formal exposure to the data-information-knowledge continuum, our students’ awareness that all three are much more ubiquitous in agency settings is foreshortened. Two, agencies do not routinely analyze their data using SPSS. If we are to expose our students to any data analysis tool, then we need to be teaching them the tools available in their agencies (e.g., MS Excel). While the level of statistical sophistication in MS Excel may not be commensurate to SPSS, SAS or Stata, perhaps that analysis is not needed for program-level data.

In practice, we need to continuously train our staff to be aware of what they do when they handle data. Do they find themselves entering the same data into multiple systems? Do they find themselves using tally sheets to track client outcomes? Are they spending more time managing paperwork than working with clients? The extent to which the answer to any of these questions is *yes* is the extent to which we are depriving our clients of the time and resources they should be receiving in face-to-face interactions. We have machines that can manage data, but those machines cannot do the work of social work.

Implications for Social Work Research

One might assume that as we are now more than a decade into the 21st century, almost fifty years after the advent of information technology in the corporate sector, thirty years after the arrival of the personal computer, and twenty years after the birth of the public Internet, there would be a whole host of social work researchers focusing on the use of information technology in the human services. While many in the social work profession and academy do publish about information technology, we could probably count on one hand the number of tenured faculty members in our schools of social work who have an exclusive focus on information technology encompassing the whole of their research agenda.

Why? In his farewell editorial for the *Journal of Technology in Human Services*, Schoech (2014), founding editor of said journal, made the following statement:

Walter Hudson, an early IT pioneer in practice software, years ago advised young faculty not to specialize in IT until they earned tenure. His rationale was that few human service faculty understood IT and the difficulties involved in IT research and development. Therefore, their IT development work would be unappreciated and tenure could easily be lost. This advice probably still holds today. (p. 249)

Shoech was able to focus on IT research and development and still achieve tenure, but he is a notable exception. Most other tenure-seeking faculty have to include projects that are more easily accessible to our colleagues as we often define our research agendas by issues (e.g., poverty, domestic violence, etc.) or the populations we serve. How can we explain that our research agenda focuses on data, information, and knowledge?

This article attempts to do so. While technology has evolved, the information requirements of human services agencies have remained largely unchanged. Given that we have done little to educate our students on the differences between data, information,

and knowledge and to educate them based on the research that we ourselves perform in our human services agencies, our professional practice relative to technology will not advance in the 21st century. We need to ignore Hudson's advice, and, in doing so, we need to embrace our junior colleagues as they seek to advance social work practice.

Conclusion

While our society continues to move in a more technological and digital direction, we have significant gaps in our field on what that progress will entail. If social work is not involved in the design of technological and digital systems for the human services, we will be left using tools designed by others who may not have our profession's epistemological and values base. I have outlined the components of the systems used by the human services, namely data, information, and knowledge. My research has focused on distinguishing the unique aspects for each component and how they can relate to each other in performing stated functions. Taken together, they can comprise systems whose boundaries must be determined and not left to assumption. If advocating for the rights of clients is the heart of social justice in social work, then the democratization of digital information access can rightly be viewed as one of those rights. Future research as outlined above should and can seek to make those rights more explicit as we use information systems across the human services sector to improve organizational functioning and decision making.

References

- Adam, A. (2002). Exploring the gender question in critical information systems. *Journal of Information Technology*, 17(2), 59-67. doi:10.1080/02683960210145959
- Auslander, G. K., & Cohen, M. E. (1992). Issues in the development of social work information systems: The case of hospital social work departments. *Administration in Social Work*, 16(2), 73-88.
- Ba, S., Stallaert, J., & Whinston, A. B. (2001). Research commentary: Introducing a third dimension in information systems design - The case for incentive alignment. *Information Systems Research*, 12(3), 225-239.
- Beer, S. (1985). *Diagnosing the system for organizations*. New York: John Wiley & Sons.
- Benbenishty, R., & Oyserman, D. (1991). A clinical information system for foster care in Israel. *Child Welfare*, 70(2), 229-242.
- Benbenishty, R., & Oyserman, D. (1995). Integrated information systems for human services: A conceptual framework, methodology and technology. *Computers in Human Services*, 12(3/4), 311-326.
- Benbenishty, R., & Treistman, R. (1998). The development and evaluation of a hybrid decision support system for clinical decision making: The case of discharge from the military. *Social Work Research*, 22(4), 195-204.

- Bernstein, J. H. (2011). The data-information-knowledge-wisdom hierarchy and its antithesis. *NASKO*, 2(1), 68-75.
- Bharwani, S. (2006). Understanding complex behavior and decision making using ethnographic knowledge elicitation tools (KnETs). *Social Science Computer Review*, 24(1), 78-105.
- Bierly, P. E., Kessler, E. H., & Christensen, E. W. (2000). Organizational learning, knowledge and wisdom. *Journal of Organizational Change Management*, 13(6), 595-618.
- Bloomfield, B. P., & McLean, C. (2003). Beyond the walls of the asylum: Information and organization in the provision of community mental health services. *Information and Organization*, 13(1), 53-84.
- Boyle, M., & Parry, K. (2007). Telling the whole story: The case for organizational autoethnography. *Culture and Organization*, 13(3), 185-190.
- Carlsson, S. A. (2007). Developing knowledge through IS design science research: For whom, what type of knowledge, and how. *Scandinavian Journal of Information Systems*, 19(2), 75-86.
- Checkland, P. (1981). *Systems thinking, systems practice*. New York: John Wiley & Sons.
- Checkland, P. (1999). *Soft systems methodology in action*. New York: John Wiley & Sons.
- Checkland, P., & Holwell, S. (1998). *Information, systems and information systems*. New York: John Wiley & Sons.
- Cnaan, R. A., & Parsloe, P. (1989). *The impact of information technology on social work practice*. New York: Haworth Press.
- Coursen, D., & Ferns, B. (2004). Modeling participant flows in human service programs. *Journal of Technology in Human Services*, 22(4), 55-71.
- Dearman, P. (2005). Computerized social casework recording: Autonomy and control in Australia's income support agency. *Labor Studies Journal*, 30(1), 47-65.
- Eom, S. B. (2000). The contributions of systems science to the development of the decision support system subspecialties: An empirical investigation. *Systems Research and Behavioral Science*, 17(2), 117-134.
- Epstein, I. (1977). *Research techniques for program planning, monitoring, and evaluation*. New York: Columbia University Press.
- Epstein, I. (2001). Using available clinical information in practice-based research: Mining for silver while dreaming of gold. *Social Work in Health Care*, 33(3-4), 15-32. doi:10.1300/J010v33n03_03

- Fitch, D. (2006). Examination of the child protective services decision-making context with implications for decision support system design. *Journal of Social Service Research, 32*(4), 117-134.
- Fitch, D. (2010). Homeless management information system customization intervention. *Journal of Human Behavior in the Social Environment, 20*(2), 255-271.
- Fitch, D. (2012). Youth in foster care and social media: A framework for developing privacy guidelines. *Journal of Technology in Human Services, 30*(2), 94-108. doi:10.1080/15228835.2012.700854
- Fitch, D. (2014). An organizational cybernetics framework for achieving balance in evidence-based practice and practice-based evidence. *Journal of Evidence-Based Social Work, 11*(1-2), 114-126. doi:10.1080/15433714.2013.842442
- Fitch, D., & Jagolino, N. (2012). Examining organizational functioning through the lens of complexity theory using system dynamics modeling. *Journal of Social Service Research, 38*(5), 591-604. doi:10.1080/01488376.2012.721285
- Fitch, D., Watt, J.W., & Parker-Barua, L. (2014). Envisioning public child welfare agencies as learning organizations: Applying Beer's Viable System Model to Title IV-E program evaluation. *Journal of Public Child Welfare, 8*(2), 119-142. doi:10.1080/15548732.2013.879089
- Fitch, D., Yoo, I., & Mosa, A. (2013, November). *Child and elder abuse thesaurus for an information retrieval system*. Refereed paper presented at the Annual Program Meeting of the Council on Social Work Education, Dallas, TX.
- Freel, C., & Epstein, I. (1993). Principles for using management information data for programmatic decision making. *Child & Youth Services, 16*(1), 77-93. doi:10.1300/J024V16N01_05
- Geiss, G. R., & Viswanathan, N. (1986). *Human edge: Information technology and helping people*. New York: Haworth Press.
- Glastonbury, B. (1993). *Human welfare and technology*. Netherlands: Van Gorcum.
- Glastonbury, B. (1996). *Dreams and realities*. Helsinki: Stakes.
- Glastonbury, B., LaMendola, W., & Toole, S. (Eds.). (1988). *Information technology and the human services*. London: John Wiley & Sons.
- Grasso, A. J., & Epstein, I. (1993). Introduction: The need for a new model of information utilization in human service agencies. *Child & Youth Services, 16*(1), 1-13. doi:10.1300/J024V16N01_01
- Harlow, E., & Webb, S. A. (Eds.). (2003). *Information and communication technologies in the welfare services*. Philadelphia: Jessica Kingsle.
- Henry, N. L. (1974). Knowledge management: A new concern for public administration. *Public Administration Review, 34*(3), 189-196.

- Hile, M. (1997). The history and function of the Target Cities management information systems. *Computers in Human Services, 14*(3/4), 1-8.
- Howell, J. C., Kelly, M. R., Palmer, J., & Mangum, R. L. (2004). Integrating child welfare, juvenile justice, and other agencies in a continuum of services. *Child Welfare, 83*(2), 143-156.
- Joubert, L., & Epstein, I. (2005). Multi-disciplinary data-mining in allied health practice: Another perspective on Australian research and evaluation [Editorial]. *Journal of Social Work Research and Evaluation, 6*(2), 139-141.
- LaMendola, W., Glastonbury, B., & Toole, S. (Eds.). (1989). *A casebook of computer applications in the social and human services*. New York: Haworth Press.
- Lee, A. S., Liebenau, J., & DeGross, J. I. (Eds.). (1997). *Information systems and qualitative research*. London: Chapman & Hall.
- Maier, R., & Hädrich, T. (2011). *Knowledge management systems*. New York: Springer.
- Manderscheid, R. W., & Henderson, M. J. (2004). From many into one: An integrated information agenda for mental health. *Behavioral Healthcare Tomorrow, 13*, 38-41.
- Markus, M. L. (1983). Power, politics and MIS implementation. *Communications of the ACM, 26*(6), 430-444.
- Mohan, L., Muse, L., & McInerney, C. (1998). Management smarter: A decision support system for mental health providers. *The Journal of Behavioral Health Services & Research, 25*(4), 446-455.
- Monnickendam, M., Savaya, R., & Waysman, M. (2005). Thinking processes in social workers' use of a clinical decision support system: A qualitative study. *Social Work Research, 29*(1), 21-30. doi:10.1093/swr/29.1.21
- Oyserman, D., & Benbenishty, R. (1997). Developing and implementing the integrated information system for foster care and adoption. *Computers in Human Services, 14*(1), 1-20.
- Peressini, T., & Engeland, J. (2004). The homelessness individuals and families information system: A case study in Canadian capacity building. *Canadian Journal of Urban Research, 13*(2), 347-361.
- Quinn, A., & Fitch, D. (2014). A conceptual framework for contextualizing information technology competencies. *Journal of Technology in Human Services, 32*(1-2), 133-148.
- Rafferty, J., Steyaert, J., & Colombi, D. (1996). *Human services in the information age*. New York: Haworth Press.
- Redmond, M. E. (2003). School social work information systems (SSWIS): A relational database for school social workers. *Journal of Technology in Human Services, 21*(1/2), 161-175.

- Robey, D., & Markus, M. (1998). Beyond rigor and relevance: Producing consumable research about information system. *Information Resources Management Journal*, *11*(1), 7-16.
- Rowley, J. (2007). The wisdom hierarchy: Representations of the DIKW hierarchy. *Journal of Information Science*, *33*(2), 163-180. doi:10.1177/0165551506070706
- Savaya, R., Spiro, S., Waysman, M., & Golan, M. (2004). Issues in the development of a computerized clinical information system for a network of juvenile homes. *Administration in Social Work*, *28*(2), 63-79.
- Schoech, R. (2014). Human services technology, 1980+: Retrospective and perspective. *Journal of Technology in Human Services*, *32*(4), 240-253. doi:10.1080/15228835.2014.968432
- Schoech, R., & Arangio, T. (1979). Computers in the human services. *Social Work*, *24*(2), 96-102.
- Schoech, R., Quinn, A., & Rycraft, J. R. (2000). Data mining in child welfare. *Child Welfare*, *79*(5), 633-650.
- Semke, J. I., & Nurius, P. (1991). Information structure, information technology, and the human services organizational environment. *Social Work*, *36*(4), 353-358.
- Steyaert, J., Colombi, D., & Rafferty, J. (1996). *Human services and information technology: An international perspective*. Brookfield, VT: Ashgate.
- Ulrich, W. (2003). Beyond methodology choice: Critical systems thinking as critically systemic discourse. *Journal of the Operational Research Society*, *54*(4), 325-342.
- Wild, F. (2014). Natural language processing. *The Comprehensive R Archive Network*. Retrieved from: <http://cran.r-project.org/web/views/NaturalLanguageProcessing.html>
- Wilson, F. A. (1997). The truth is out there: The search for emancipatory principles in information systems design. *Information Technology & People*, *10*(3), 187-204.
- Zeleny, M. (2006). Knowledge-information autopoietic cycle: Towards the wisdom systems. *International Journal of Management and Decision Making*, *7*(1), 3-18.

Author note

Address correspondence to: Dale Fitch, PhD, MSSW, Associate Professor, School of Social Work, University of Missouri, 703 Clark Hall, Columbia, MO 65211-4470, (573) 884-7405, email: fitchd@missouri.edu

Electronic Information Systems and Social Work: Principles of Participatory Design for Social Workers

Philip Gillingham

Abstract: *The introduction of electronic information systems (IS) to human service organizations has been heavily critiqued, most notably for the ways that IS may undermine frontline social work practice. Socio-technical design has been proposed as one way to redesign IS, and a key element of this approach is the involvement of practitioners in the design process. Social workers, though, may be ill-prepared to engage in such processes. Reflecting on the findings of a program of research which aimed to contribute to future designs of IS that support frontline practice, this article aims to provide some guidance for social workers to help them be active and effective participants in the future development of IS.*

Keywords: *Electronic information system, participatory design*

Problems and limitations of the use of electronic information systems (IS) in social work have emerged from research internationally. Examples include child protection services (Huuskonen & Vakkari, 2013) and psychiatric care (Saario & Stepney, 2009) in Finland and victim and offender mediation in Belgium (Bradt, Roose, Bouverne-De-Brie, & De Schryver, 2011) and Australia (Ombudsman, 2009; Wood, 2008). Some critical literature about the State Automated Child Welfare Information Systems in the USA has also emerged (see Naccarato, 2010). However, the current forms of IS, also known as Management Information Systems or Client Management Systems, being used in England have been mostly heavily criticised (see, for example, Broadhurst et al., 2010; Peckover, White, & Hall, 2008; Pithouse, Hall, Peckover, & White, 2009; Shaw et al., 2009), particularly for how they impair the decision-making of workers and re-order their priorities away from providing services to children and families (see Munro, 2011; White et al., 2009). In a review of child protection services, Munro (2011) concluded that IS present “substantial obstacles to good practice” (p. 114).

The reasons why problems have arisen with IS have been widely debated in the literature. In summary, it has been suggested that IS designers have lacked sufficient knowledge about frontline social work practice (Damodaran, 1996), social work agencies have struggled to define their needs (Senyuçel, 2008), the needs of managers have prevailed over those of frontline social workers (Tregeagle & Darcy, 2008), and social workers have not been sufficiently involved in the design of IS (Wagner & Piccoli, 2007). Socio-technical systems design, which follows the core principles of user participation (Gillingham, 2011; Kujala, 2008), minimum critical specification, and the optimization of local autonomy, supported by ethnographic observation of how work is actually achieved (Wastell & White, 2013), has been proposed as a way forward.

Social workers, however, may be ill-prepared to engage in the design processes for IS, yet their participation is vital to ensure that future design meets their needs. There is ample guidance within the literature to assist IS designers (for example, LaMendola & Krysik, 2008), yet there is little to assist social workers. Therefore, the

aim of this article is to address this gap in the literature and provide some guidance for social workers to engage in the design processes as active and effective participants in the future development of IS.

The Research

The author is engaged in a program of research which aims to generate knowledge that will inform the future design of IS for use in human service organizations (HSO). Partnerships with child protection agencies in England as well as five Australian NGOs, which are government funded to provide services to a range of service users, are contributing to detailed studies. These studies are examining how agencies are using and transforming current and emerging forms of IS and engaging with information and communication technology more generally. Permission to conduct the research has been provided by relevant ethics committees at the author's university and the agencies.

The research design is ethnographic and has involved participant observation of practice and meetings and interviews with key stakeholders (for full details about research methods see Gillingham, 2011). Theoretically the research is guided by concepts drawn from social informatics, defined broadly as "the interdisciplinary study of the design, uses and consequences of information technology that takes into account their intersection with institutional and cultural contexts" (Kling, 1999, p. 205). In this article, concepts and ideas have been drawn from previous research about participatory design and the Joint Cognitive Systems approach developed by Hollnagel and Woods (2005).

Of particular pertinence to this article, the author has been a participant observer in 12 participatory design workshops at two different social welfare agencies. Twenty follow-up interviews with some of the participants, including administrative staff, frontline practitioners, team leaders, and managers, were conducted. During both the periods of observation and interviews, extensive notes were taken and later typed up in a field diary. Drawing from a "grounded theory approach," data were analysed as the research proceeded, with the author using a form of memo writing in the field diary (Lempert, 2007). Emergent themes assisted with focusing subsequent data collection. Identifying, understanding, and interpreting themes in the data was an iterative process in which "ideas [were] used to make sense of data and data [were] used to change . . . ideas" (Hammersley & Atkinson, 2007, p. 159).

Agencies have been recruited on an ongoing basis throughout the research with selection based on their interest in developing, implementing, and evaluating IS. One of the two main agencies referred to in this article provides a wide range of services to children and families, children in state care, people with physical and intellectual impairment, and older people requiring support in their own homes and residential nursing care. This range is typical of non-government agencies in Australia which have diversified as funding has been made available by state and federal governments for services to be provided outside of the government sector. The other agency specializes in supporting adults with intellectual disabilities and provides vocational and residential services.

Though both sets of workshops were described as participatory design, they differed in that one agency aimed to decide on the functionality required of an IS for different workgroups across the agency prior to matching identified need with what

was on offer from vendors. At the other, the IS had already been chosen, and the aim was to map the activities and needs of different workgroups in terms of how they could be molded to fit the functionality of the chosen IS. This article summarizes the findings of this stage of the research with reference to research and theory from disciplines other than social work to provide both practical and theoretical guidance for social workers.

Changing the Dynamics of Participatory Design

Participatory design has long been used as an approach to involve the end users of computer-based technology in its design (Kujala, 2003; Schoech, 1982). Clearly, in terms of socio-technical design, the aim is to match the needs of participants with the IS. However, this may not be the main aim from the perspectives of IS designers and vendors. Participatory design has been used to gain the acceptance of end users in the shift to the use of technology in the workplace (Wagner & Piccoli, 2007) and thereby minimise "technology shock" (Johnson, Hinterlong, & Sherraden, 2001). More cynically, it has also been used as a way to gain end user buy-in for a particular piece of technology, the reasoning being that users have less reason to complain when they have been involved in the processes of design and implementation (Kujala, 2008; Wagner & Piccoli, 2007). Within the literature, it has also been noted that little attention has been paid to whether the participation of end users can actually improve IS, possibly because designers tend to think of themselves as "the experts" (Wagner & Piccoli, 2007). It is also the case that designers, and especially vendors, are attempting to promote and/or sell a commercial product and so cannot be expected to be neutral or critical about the effects of introducing new technology to an agency.

One of the main difficulties for designers has been interpreting the detailed knowledge supplied by end users, particularly in capturing the context for the final use of technology. Kujala (2008) observes that "user involvement is not simple information gathering...users and developers have different vocabularies, interests, and values, which makes the communication and interplay complicated" (p. 458). There is, however, reason to be optimistic that the gap between designers and participants can be closed and that the power imbalance can be shifted more in favor of participants. In the 1990s, social workers' negativity towards adopting digital technology was referred to as "computer phobia," and a key concern of managers and designers was finding ways to get social workers to use computers (Neugeboren, 1996). Nowadays, as laptops, tablets, and smartphones become more ubiquitous in everyday life (Gillingham, 2014a), users are more adept at discussing digital technology. Certainly, designers and vendors, when challenged by participants, may defend themselves with technical language beyond the knowledge base of most social workers. However, this tendency can be countered by adherence to the guidance outlined in the next sections.

Key principle – technology has to amplify the ability of users.

The Joint Cognitive Systems (JCS) approach "offers a principled approach to studying human work with complex technology and provides a conceptual framework for analysis with concrete theories and methods for joint system modelling" (Mouloudi, Morizet-Mahoudeaux, & Valentin, 2011, p. 110). The author has applied these concepts to explore the reasons why problems have arisen generally with IS in human services organizations (Gillingham, 2014b). A key principle from the JCS

approach is that an important measure of success in the implementation of technology is the extent to which it can demonstrably amplify the ability of workers to do their jobs (Hollnagel & Woods, 2005). Although this applies most readily to an evaluation of an IS after it has been implemented, it can also be used by participants during participatory design in the form of a critical question. Speculation about how an IS might amplify or hinder ability is crucial to guard against what Wastell (2011) describes as “magical” thinking: the uncritical belief that technology can only solve, rather than create, problems.

The pitfalls of participatory design

1. The over-complication of practical tasks

As Hollnagel and Woods (2005) have stated: “[u]nfortunately, the extensive use of computers has created an equally large number of possibilities for making simple tasks unnecessarily complex” (p. 37). How such possibilities can arise was amply demonstrated in some of the design workshops attended in this research. In both cases, designers or vendors were keen to demonstrate how their IS could be used to record data in a number of situations where, hitherto, no data was being captured. For example, it was proposed by an IT manager that residential and day care staff could communicate about service users via an IS instead of a verbal exchange supplemented with notes. However, this system would require much more staff time and keep staff away from service users at busy times of the day. This example illustrates that attempts to maximize the use of an IS may just create new tasks and layers of complexity with no clear purpose and no amplification of ability.

2. Solving organisational problems

Changes within organizations when an IS is introduced have been well documented and have been accepted as inevitable (Mengesha, 2010). However, as the critiques mentioned in the introduction demonstrate, many of these changes may be unintended and unconstructive (Gillingham, 2015a). Markus (2004) proposes that technology can be used as a catalyst for organizational change, but only if it is considered part of initiative to promote organizational change with clear aims and methodology. Therefore, introducing an IS cannot be considered a panacea that will solve organizational problems (Gillingham, 2015a). For example, in one agency, a stated aim of introducing an IS was to “break down silos” between different parts of the agency. An IS that enables transparency across an organization may contribute to this process, but only as part of a more focused strategy to promote greater communication and cooperation between managers and their departments. Another agency aimed to reduce bureaucracy, but unless underlying organizational attitudes changed, the tendency to create forms for every instance might be transferred or even magnified within a new IS.

What information, why and who and how

A particular challenge in the workshops, especially for frontline practitioners, was deciding what information should be recorded, why, who should record it, and how it should be recorded. Given previous restrictions about the amount of information that could be recorded in paper files, the default position, encouraged by managers and administrators, was to record everything. This was reinforced in one of

the agencies by the representative of the IS company constantly repeating “you can’t report on what you don’t record.” However, as noted in the critiques of IS, a particular problem with IS has been that the amount of time that practitioners are required to spend entering data on IS has become disproportionate to time spent with service users. In both this and other research (see Gillingham, 2009; Parton, 2008), some participants have estimated that they spend up to 80% of their time engaged in data entry. It was also clear to the author and participants that insufficient time had been allocated to make decisions about information in the workshops, as this task was never completed. The suggestion here is that the process of deciding how information should be categorized should be finalized well in advance of participatory design processes. It is to be expected that there will need to be some trade-offs between the needs of management and administrators and those of practitioners. The following is a summary of the key points to be considered in the process.

What Information?

Clearly, there is a base level of information about service users and service activity that needs to be recorded, but the amount of detail required in relation to service activity is less clear. Both external and internal factors may influence what is required to be recorded. A key external factor that affects how much information needs to be recorded in an IS is accountability. In the Australian context, this involves how non-government agencies report on their activities to their main funding bodies (State and Federal governments). According to participants, this process can be time consuming. Organizations expect that IS can make this task less onerous by drawing together in one system all information about service users and user activity. However, while IS can make reporting easier, they also raise expectations about what can be reported on. As Munro (2011) has argued in the context of England and Wales, this can lead to an “audit culture” which distracts from professional practice. There is also the danger that the reporting abilities of IS distract from the fact that the reports are only as good as the data that exists within them (Carrilio, Packard, & Clapp, 2004). Frequent and detailed reports require the consistent and timely entry of accurate and reliable data. Negotiating required levels of reporting to funding agencies may be considered beyond the remit of a participatory design process, but the need to do so may arise from reflection on how much detail about service activity needs to be recorded in a new IS. This may be an important strategy in addressing the potentially ongoing tension between time spent entering data about service activity and time spent working with service users. The other key external factor is that professional associations have both ethical and practical guidelines about what they expect their members to record about service users and their activities in relation to them (see British Association of Social Workers, 2012; National Association of Social Workers, 2008).

Internal factors which affect what information needs to be recorded may be agency guidelines or organizational culture governing how tasks are carried out and how various organizational roles are enacted (Jones & May, 1992). A participatory design project, in offering the possibility of recording new or different information, prompts reflection on these particular aspects of organizational culture. However, the scale of organizational change that might be required at the same time that a new IS is being implemented should not be underestimated.

By whom?

The advent of desktop computing has changed the role of both social workers and administrative staff within HSOs (Gillingham, 2014c). Much of the administrative work that was previously done by clerks and secretaries, such as typing letters and reports, filing and arranging paperwork, and minuting meetings, is now being done by social workers, to the detriment of direct work with service users. Given the problems associated with making social workers primarily responsible for administrative tasks, a participatory design process may be an opportunity to reconsider who should adopt those responsibilities.

For example, one agency decided that only team leaders, managers, and administrative staff would engage with the IS. Team leaders and administrative staff were responsible for uploading, organizing, and summarizing the casenotes emailed to them by frontline staff. Similarly, in the London Hackney borough, a new approach to organising social work practice involved small teams of practitioners, each with an administrative officer designated to support data entry into the IS (Cross, Hubbard, & Munro, 2010). Social work staff in these units report that they spend significantly less time on administrative tasks than previously (20% rather than 70%) (Cross et al., 2010, p. 21), leaving them more time to work with children and parents.

Encouraging and supporting service users to contribute to the information about their participation in an intervention is not new, as participatory approaches to social work practice have demonstrated (see for example, Tregagle & Mason, 2008). The advent of Web 2.0 and the ability to access IS through the Internet may create new opportunities for such engagement for service users. Giving service users access to their electronic case files is clearly on the agenda in Australia. From their survey of social service agencies, Grundy and Grundy (2013) found that there was a "mixed response" to such a development, though "most were positive." Overall, agencies believed that service users might benefit from being able to follow their progress and receive reminders about appointments and meetings. The main concerns expressed were service user access to computers, security of information, and the potentially damaging misinterpretation of information by service users.

For what purpose?

As observed in the workshops, there is a tendency to design IS in ways that capture ever more information, with the underlying rationale that more information is better than less (Gillingham, 2014c). This practice may lead to frontline practitioners spending a disproportionate amount of their time entering data. To counter this tendency, the rationale for capturing data about service activity and service users must be made explicit in the design of IS. Aside from the need to account for public expenditure, there may be other rationales that can capitalise on the abilities of IS to collate and organise information. In particular, these abilities might sit well with increasing demands for social work and social care practice to be evidence based or evidence informed (Littell & Shlonksy, 2010) as IS can be powerful tools in both the formative and summative evaluation of service delivery (O'Connor, Laszewski, Hammel, & Durkin, 2011). However, a plan for what to evaluate and how to go about evaluating must be clearly articulated to guide the design and implementation of an IS.

The workshop discussions provided another purpose for recording data: the importance that participants attached to the case files for children in the care of the state. As Goddard, Murray, and Duncalf (2012) describe, it is common for adults who were in the care of the state to request access to the case files held by the organizations that cared for them. Creating meaningful case files for children and meeting the needs of a range of stakeholders is clearly a complex task, but research-based approaches have been developed (see Kertesz & Humphreys, 2013).

How is information to be recorded?

How information about service users is recorded is an important consideration. As mentioned above, IS can now be accessed through the internet. With the advent of mobile internet technology, there is less need for social workers to return to the office to enter data. Decisions therefore need to be made about staff members' mobile access to an IS. O'Connor et al. (2011), for example, found that the use of mobile devices by practitioners to enter data about children and families in a home visitation program saved time (and money) and led to a more complete set of data. Making these decisions in the agencies in this research has proved to be difficult as concerns have been raised about data security and how accessing the IS from home might upset the work/life balance of workers. After the IS has been fully implemented, future research can explore how the resolution of these concerns will affect both frontline and management practice.

At a more abstract level, how information about service activity and service users is recorded affects how staff at all levels understand and think about their work. As Aas (2004) and Parton (2008) have argued, the demands of current forms of IS have undermined the traditional narrative approach that has been used in social work. This has led to significant effects on how decisions are made and what interventions are offered to service users.

Categorization

Having decided what information needs to be captured in an IS, a number of decisions need to be made about how the information is categorized within it (Gillingham, 2015b). This caused much debate in the workshops, reflecting the observation that the significance of descriptive language in shaping the behaviour and experiences of those to whom it has been applied has been a long-term concern for social work (Heffernan, 2006). Labeling people in particular ways has consequences for their construction of identity, how they are treated by others, and the expectations placed on them (Barn & Harman, 2006). More broadly, the language used to describe social problems and those who are experiencing them reflects and reinforces the ideology that guides how we understand problems and subsequently respond to them (Vojak, 2009).

For example, an agency which employs a range of professions experienced considerable debate about whether service users would be known in the IS as clients, patients, or, as suggested by the IS vendor, customers. Another challenge was how information should be arranged and labelled within an IS. Each profession reflected its own orientation in suggesting different labels, and it was clear that ambiguity between different tabs or folders, such as "health" and "medical," might lead to data being entered incorrectly. At a finer level of detail, there were myriad decisions to be made about drop-down lists and automatically populated areas of case files, both to

describe the attributes and problems of service users and the types of intervention that were offered. Though such functionality can save much time and effort, participants questioned whether binary choices about whether a service user is experiencing a particular problem, such as mental illness or illicit drug use, were really helpful.

Conclusion

Reflecting on the insights provided in this article, participatory design for social workers emerges as a complex and perhaps daunting activity and, most certainly, not a task to be taken lightly. It is essential that social workers make a significant contribution to, and, increasingly take the lead in the design of technology that will shape, guide, and ultimately support their practice. The insights provided in this article will promote greater preparedness in social workers to engage with participatory design, but no claim is made that they are exhaustive. The implementation of IS raises both ethical and moral concerns which are beyond the scope of this article, and future technologies will present new opportunities and challenges. The main contribution of this article is the promotion of a critical and constructive stance in relation to the adoption of digital technology in social work practice. This approach includes raising questions about whether and how digital technology amplifies the abilities of social workers, how it is related to organizational change, and how information about service users and service activity is handled and categorized. Social workers taking a more informed, proactive, and assertive stance will alter the dynamic in participatory design processes and ensure that IS functionality is developed to meet the specified needs of practitioners, rather than practice being fitted to available functionality. In turn, greater clarity about the needs of practitioners will assist designers in their task of developing tailored and situation-specific IS.

References

- Aas, K. F. (2004). From narrative to database: Technological change and penal culture. *Punishment and Society*, 6(4), 379-393.
- Barn, R., & Harman, V. (2006). A contested identity: An exploration of the competing social and political discourse concerning the identification and positioning of young people of inter-racial parentage. *British Journal of Social Work*, 36, 1309-1324.
- Bradt, L., Roose, R., Bouverne-De-Brie, M., & De Schryver, M. (2011). Data recording and social work: From the relational to the social. *British Journal of Social Work*, 41, 1372-1382.
- British Association of Social Workers. (2012). *The Code of Ethics for Social Work*. Retrieved from http://cdn.basw.co.uk/upload/basw_112315-7.pdf
- Broadhurst, K., Wastell, D., White, S., Hall, C., Peckover, S., Pithouse, A., ... Davey, D. (2010). Performing 'initial assessment': Identifying the latent conditions for error at the front-door of local authority children's services. *British Journal of Social Work*, 40(2), 352-370.
- Carrilio, T. E., Packard, T., & Clapp, J. D. (2004). Nothing in - nothing out. *Administration in Social Work*, 27(4), 61-75.

- Cross, C., Hubbard, A., & Munro, E. (2010). *Reclaiming social work*. London: London School of Economics and Political Science.
- Damodaran, L. (1996). User involvement in the systems design process-a practical guide for users. *Behaviour and Information Technology*, 16(6), 363-377.
- Gillingham, P. (2009). The use of assessment tools in child protection: An ethnomethodological study. University of Melbourne. Retrieved from <http://repository.unimelb.edu.au/10187/4337>
- Gillingham, P. (2011). Computer-based information systems and human service organizations: Emerging problems and future possibilities. *Australian Social Work*, 64(3), 299-312.
- Gillingham, P. (2014a). Electronic information systems and social work: Who are we designing for? *Practice: Social Work in Action*, 26(5), 313-326.
- Gillingham, P. (2014b). Electronic information systems in human service organisations: Using theory to inform future design. *International Social Work*, 1-11. doi:10.1177/0020872814554856
- Gillingham, P. (2014c). Electronic information systems in human service organisations: The what, who, why and how of information. *The British Journal of Social Work*, 45(5), 1598-1613. doi:10.1093/bjsw/bcu030
- Gillingham, P. (2015a). Electronic information systems and human service organizations: The unanticipated consequences of organizational change. *Human Service Organizations: Management, Leadership & Governance*, 39(2), 89-100.
- Gillingham, P. (2015b). Implementing electronic information systems in human service organizations: The challenge of categorization. *Practice: Social Work in Action*, 27(3), 163-175.
- Goddard, J., Murray, S., & Duncalf, Z. (2012). Access to child-care records: A comparative analysis of UK and Australian policy and practice. *British Journal of Social Work Advance Access*, 43(4), 759-774. doi:10.1093/bjsw/bcs004
- Grundy, J., & Grundy, J. (2013). A survey of Australian human service agency software usage. *Journal of Technology in the Human Services*, 31(1), 84-94.
- Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in practice* (3rd ed.). London: Routledge.
- Heffernan, K. (2006). Social work, new public management and the language of 'service user'. *British Journal of Social Work*, 36, 139-147.
- Hollnagel, E., & Woods, D. D. (2005). *Joint cognitive systems: Foundations of cognitive systems engineering*. Boca Raton, FL: CRC Press.
- Huuskonen, S., & Vakkari, P. (2013). 'I Did It My Way': Social workers as secondary designers of a client information system. *Information Processing and Management*, 49, 380-391.
- Johnson, E., Hinterlong, J., & Sherraden, M. (2001). Strategies for creating MIS technology to improve social work practice and research. *Journal of Technology in Human Services*, 18(3-4), 5-22.

- Jones, A., & May, J. (1992). *Working in human services organisations: A critical introduction*. Sydney: Longman.
- Kertesz, M., & Humphreys, C. (2013, November). *Working in the cloud: Making personal records accessible* [PowerPoint presentation]. Presented at the 13th Australasian Conference on Child Abuse and Neglect, Melbourne, Australia. Retrieved from <http://www.aic.gov.au/events/aic%20upcoming%20events/2013/acan/presentations.html>
- Kling, R. (1999). What is social informatics and why does it matter? *The Information Society*, 23, 205-220.
- Kujala, S. (2003). User involvement: A review of the benefits and challenges. *Behaviour and Information Technology*, 22(1), 1-16.
- Kujala, S. (2008). Effective user involvement in product development by improving the analysis of user needs. *Behaviour and Information Technology*, 27(6), 457-473.
- LaMendola, W., & Krysik, J. (2008). Design imperatives to enhance evidence-based interventions with persuasive technology. *Journal of Technology in the Human Services*, 26(2), 397-422.
- Lempert, L. B. (2007). Memo-writing in grounded theory. In A. Bryant & K. Charmaz (Eds.), *The Sage book of ethnography* (pp. 245-262). London: Sage.
- Littell, J. H., & Shlonsky, A. (2010). Towards evidence-informed policy and practice in child welfare. *Research on Social Work Practice*, 20(6), 723-725.
- Markus, M. L. (2004). Technochange management: Using IT to drive organizational change. *Journal of Information Technology*, 19, 4-20.
- Mengesha, N. T. (2010). The role of technological frames of key groups in open source software implementation in a developing country. *The Electronic Journal on Information Systems in Developing Countries*, 43(1), 1-19.
- Mouloudi, P., Morizet-Mahoudeaux, P., & Valentin, A. (2011). RAMSES: A method for the design process of interactive information systems. *International Journal of Human-Computer Interaction*, 27(2), 107-130.
- Munro, E. (2011). *Department for Education. The Munro review of child protection: Final report. A child centred system*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/175391/Munro-Review.pdf
- Naccarato, T. (2010). Child welfare informatics: A proposed subspeciality for social work. *Children and Youth Services Review*, 32(12), 1729-1734.
- National Association of Social Workers [NASW]. (2008). *Code of Ethics of the NASW*. Retrieved from <http://www.naswdc.org/pubs/code/code.asp>
- Neugeboren, B. (1996). Organizational influences on MIS in the human services. *Computers in Human Services*, 12(3-4), 295-310.

- O'Connor, C., Laszewski, A., Hammel, J., & Durkin, M. (2011). Using portable computers in home visits: Effects on programs, data quality, home visitors and caregivers. *Children and Youth Services Review*, 33(7), 1318-1324.
- Ombudsman, V. (2009). *Own motion investigation into the Department of Human Services Child Protection Program*. Retrieved from <http://www.parliament.vic.gov.au/papers/govpub/VPARL2006-10No253.pdf>
- Parton, N. (2008). Changes in the form of knowledge in social work: From the 'social' to the 'informational'? *British Journal of Social Work*, 38, 253-269.
- Peckover, S., White, S., & Hall, C. (2008). Making and managing electronic children: E-assessment in child welfare. *Information, Communication, and Society*, 11(3), 375-394.
- Pithouse, A., Hall, C., Peckover, S., & White, S. (2009). A tale of two CAFS: The impact of the electronic Common Assessment Framework. *British Journal of Social Work*, 39, 599-612.
- Saario, S., & Stepney, P. (2009). Managerial audit and community mental health: A study of rationalising practices in Finnish psychiatric outpatient clinics. *European Journal of Social Work*, 12(1), 41-56.
- Schoech, D. (1982). Strategies for information system development. *Administration in Social Work*, 5(3-4), 11-26.
- Senyucel, Z. (2008). Impact of ICTs on user-provider relations: Perspectives from UK local authorities. *Information Technology and People*, 21(4), 401-414.
- Shaw, I., Bell, M., Sinclair, I., Sloper, P., Mitchell, W., Dyson, P., ... Rafferty, J. (2009). An exemplary scheme? An evaluation of the Integrated Children's System. *British Journal of Social Work*, 39, 613-626.
- Tregeagle, S., & Darcy, M. (2008). Child welfare and information technology: Today's challenge. *British Journal of Social Work*, 38, 1481-1498.
- Tregeagle, S., & Mason J. (2008). Service user experience of participation in case management. *Child and Family Social Work*, 13, 391-401.
- Vojak, C. (2009). Choosing language: Social service framing and social justice. *British Journal of Social Work*, 39(5), 936-949.
- Wagner, E., & Piccoli, G. (2007). Moving beyond user participation to achieve successful IS design. *Communications of the ACM*, 50(12), 51-55.
- Wastell, D. (2011). *Managers as designers in the public services: Beyond technomagic*. Axminster: Triarchy Press.
- Wastell, D., & White, S. (2013). Beyond bureaucracy: Emerging trends in social care informatics. *Health Informatics Journal*, 20(3), 213-219.
doi:10.1177/1460458213487535
- White, S., Broadhurst, K., Wastell, D., Peckover, S., Hall, C., & Pithouse, A. (2009). Whither practice-near research in the modernization programme? Policy blunders in children's services. *Journal of Social Work Practice*, 23(4), 401-411.

Wood, J. (2008). *Report of the Special Commission of Inquiry into Child Protection Services in New South Wales*. Retrieved from http://www.dpc.nsw.gov.au/__data/assets/pdf_file/0008/33794/Executive_Summary_and_Recommendations_-_Special_Commission_of_Inquiry_into_Child_Protection_Services_in_New_South_Wales.pdf

Author note

Dr Philip Gillingham, Senior Research Fellow, School of Social Work and Human Services, University of Queensland, St Lucia Campus, Brisbane, Queensland, Australia. Phone: 66 7 3365 1842. Email: p.gillingham@uq.edu.au

Funding statement

The research that informed this article was supported by the Australian Research Council through a Discovery Early Career Research Award (DE13010004).

Acknowledgements

The author wishes to acknowledge the contribution of the participants in this research.

Developing Ethical Guidelines for Creating Social Media Technology Policy in Social Work Classrooms

Shane R. Brady
David A. McLeod
Jimmy A. Young

Abstract: *This paper discusses social media technology in the context of social work education. While social media technology is prevalent in social work education, most discourse about the ethical use of social media in the classroom has taken a prescriptive and overly cautious approach that neglects the context-dependent nature that social work educators teach in as well as the overwhelmingly positive potential of social media technology in the classroom. This paper utilizes social constructivist theory and the Competing Values framework to guide the development of an ethical decision-making framework for social work educators to use in order to create dynamic classroom policies related to social media technology. The authors strive to make a modest contribution to the existing literature related to social media technology and social work through the development of this new ethical decision-making framework and discourse related to social media technology, ethics, and social work education.*

Key Words: *Social work education, social media, technology, ethical decision-making*

Social media technologies, which include many forms of electronic communication and information sharing, have steadily risen in the U.S. and internationally (Shirky, 2009). These digital communication tools are drastically altering how people interact with one another across space and time (Wesch, 2009). Some have suggested that we are not only living in an era where vast amounts of knowledge are easily accessible to most people through smart phones, tablets, and other portable electronic devices, but also that this trend is changing the nature of how we think about social participation and participatory culture (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2009; Watwood, Nugent, & Deihl, 2009). It is the participatory nature of today's digital experience that is most intriguing, and at the same time, anxiety provoking for many social work educators (Bailey & Johnson, 2014; Schoech, 2013).

Social work education has seen a sharp rise in the attention given to technology and social media in professional practice over the past decade (Hick & McNutt, 2002; Hoefler, 2012; Young, 2014). During recent years, the Council for Social Work Education (CSWE), the major oversight and regulatory mechanism for social work education in the U.S., has created specialized presentation tracks related to technology in social work (CSWE, 2012). The number of social work professionals and educators using social media sites such as Twitter, Facebook, YouTube, and others to promote cross-cultural and intergenerational communication has grown exponentially (Hitchcock & Battista, 2013; Young, 2014). Despite the rise in the use of social media technologies, as well as a

Shane R. Brady, PhD, MSW. Assistant Professor, Anne and Henry Zarrow School of Social Work, University of Oklahoma, Norman, OK. Email: srbrady@ou.edu. David A. McLeod, PhD, MSW. Assistant Professor, Anne and Henry Zarrow School of Social Work, University of Oklahoma, Norman, OK. Email: damcleod@ou.edu. Jimmy A. Young, PhD, MSW. Assistant Professor, Department of Social Work, California State University, San Marcos, CA. Email: youngja2@unk.edu

greater acceptance of their use in social work practice, many educators are hesitant to make use of these technologies in the classroom, often due to a concern over the lack of ethical guidelines currently available (Seamon, 2013). This paper will help guide social work educators in the development of their own ethical guidelines for social media use in the classroom by helping to identify critical issues and questions that educators should consider when developing social media policy. The goal of this paper is to make a modest contribution to the growing literature of technology and social work by contributing to the discourse on ethical use of social media in social work education.

Social Media Technologies in Social Work Education

Social media technologies include virtual internet-based communications, applications, and tools that allow the user to interact with others in some way. Social media technologies include well-known and accepted platforms: Facebook, Twitter, LinkedIn, and YouTube, as well as general categories used for the open and social sharing of information such as blogs, Wikis, petition sites, social bookmarks, and document sharing and publishing sites. The defining principle of social media involves applications or tools that allow the creation and exchange of user-generated content (Kanter & Fine, 2010; Kaplan & Haenlein, 2010). The wide accessibility of smart phones, tablets, laptops, and other portable electronic devices provides increasing opportunities for individuals to participate with others in digital spaces (DeAndrea, Ellison, LaRose, Steinfield, & Fiore, 2012). Given the rise of social media use by individuals in the U.S. and globally, it is not surprising that there is also a marked increase in the use of social media by instructors in higher education, including in social work programs (Ahn, 2011; Bennet & Matont, 2010; Dabbagh & Kistantas, 2012).

Social work by nature of its professional commitment to advocacy, practice-oriented pedagogy, and social justice is a natural fit for using social media technology in the classroom (Hick & McNutt, 2002; Robbins & Singer, 2014). Social work educators have stated that social media is best used in the classroom when it helps students meet learning objectives (Robbins & Singer, 2014). For instance, Podcasts, Google Hangouts, and Skype are all useful digital tools for exposing students to speakers from around the world and for keeping up with relevant policy topics (Hoefler, 2012). Wikis and blogs are already established tools in social work education for engaging in advocacy, promoting dialogue, and posting resources (Bailey & Johnson, 2014). Despite the many positive uses of social media in social work education, challenges continue to exist for instructors and institutions (Perron, Taylor, Glass, & Margerum-Leys, 2010; Reamer, 2013). While issues such as instructor capacity, lack of institutional resources, negative perceptions about social media, and institutional culture are well-documented barriers to using social media in the classroom, the issue of ethical use of social media in social work education has received less attention in the literature (Bailey & Johnson, 2014; Duncan-Daston, Hunter-Sloan, & Fullmer, 2013). Much of the existing discourse on ethics and social media usage focuses on the practitioner-client relationship as opposed to the instructor-student relationship (Mishna, Bogo, Root, Sawyer, & Khoury-Kassabri, 2012; Perron et al., 2010; Reamer, 2013). Additionally, much of the existing discourse on ethics and social media in social work education takes a very cautious and restrictive approach to

social media (Duncan-Daston et al., 2013; Hill & Ferguson, 2014; Kimball & Kim, 2013). Scholars have made recommendations to social work educators that include only using university-sanctioned learning management systems for social media activities, abstaining from using outside social media, instructing students to maintain only a small personal social network, and recommending that instructors not include students in their social networks (Duncan-Daston et al., 2013). Others suggest that social work educators, practitioners, and students consider the degree that information should be shared, to whom it should be shared, and how the NASW Code of Ethics, institutional, and federal/state policies impact how social media policies in the classroom are constructed (Kimball & Kim, 2013).

Despite the influx in the use of social media technologies among college students and in the context of higher education, the National Association of Social Workers (NASW) and CSWE provide minimal guidance about ethical use of social media in social work. While the NASW (2005) in partnership with the Association of Social Work Boards (ASWB) created basic guidelines (currently under revision) for the ethical use of technology in social work practice, little focus has ultimately been paid to the ethical use of social media in the context of social work education. Furthermore, technology and social media change at such a rapid rate that what is considered best practice at any given time will likely be outdated quickly, which creates major challenges for the governing bodies of professional social work (Hill & Ferguson, 2014; Reamer, 2013; Schoech, 2013). In order to contribute to the current discourse on the ethical use of social media and digital technologies in social work education as well as provide some helpful guidance to social work educators, the authors created an ethical decision-making framework rooted in social work values and social constructivism to help educators think through and develop their own policies for guiding social media technology use in the classroom.

Conceptual Framework

Due to the many differing contexts and complexities impacting social work educators across schools of social work, the authors relied heavily on social constructivism and the Competing Values Framework of policy analysis for guidance on developing the framework proposed in this paper to help instructors think through how to develop classroom social media policy. Often times the topics educators are discussing one day are likely to change by the next, making the act of developing social media policies a challenge for educators and institutions (Aragon, AlDoubi, Kaminski, Anderson, & Isaacs, 2014). These authors argue that many classroom policies are context dependent, subjective, and often dynamic documents that are best formulated from an interpretive or social constructivist paradigm (Guba, 1990). Using social constructivism as a guiding theory allows for differing policies to be created based upon the contextual factors known at that time and to be adapted as new information becomes available (Biggs, 1996; O'Connor & Netting, 2008; Stone, 2011). One of the benefits of using social constructivism in policy making is that it acknowledges the subjective values present in decision-making processes, including policy making (Cramer & Brady, 2013; Quinn & Rohrbaugh, 1981).

The Competing Values Framework is the guiding theoretical framework for this paper. The Competing Values Framework emphasizes that various sectors, dimensions, organizations, and individuals involved in policy making often have differing values that may conflict with one another (Cameron, Quinn, DeGraff, & Thakor, 2007; Quinn & Rohrbaugh, 1981). These differing values may create tension between entities that strains relationships, growth, and progress (Cramer & Brady, 2013). Nowhere is the presence of competing values and tension more apparent than in the realm of social media and social work education. While many social work educators view social media as beneficial in promoting social work values, others are concerned that social media use in the classroom could lead to violations of student privacy and confidentiality (Duncan-Daston et al., 2013). The Family Educational Rights and Privacy Act, commonly referred to as FERPA, is the major policy in the U.S. that regulates the classification and sharing of student collegiate records and information (Young, 2014). Many educators view social media threats to student privacy as potentially breaching federal laws such as FERPA, which could cause undo harm to students already in a lower power position in the classroom (Duncan-Daston et al., 2013; Kimball & Kim, 2013). Since no current frameworks exist for considering ethical decision making and policy development in the classroom from a social constructivist perspective, the authors created the framework below to help instructors think through how to develop a social media technology policy for use in the classroom. Despite the desire and tendency of educators to develop and cling to concrete rules and best practices as they relate to curriculum and policy, it is difficult for such rules to be created with regard to social media usage in social work education as a result of the complexity of factors, values, and tensions that often vary greatly from classroom to classroom, school to school, and institution to institution. Instead, the authors accept the subjectivity and context-dependent nature of ethics in social work education in order to offer educators some critical questions to consider as they think through the development of their own policies related to social media usage in the classroom.

Social Media Technology Policy Framework Explained

The table below presents a framework of considerations for helping social work educators think through various aspects related to social media technology use in the classroom. The dimensions included in the framework represent some of the major areas that could impact the policy-making process in social work classrooms. Each dimension listed is accompanied by a definition of the dimension, common competing values, and guiding questions that instructors should consider when assessing what is possible and feasible in terms of social media policy in the classroom.

Table 1: *An Ethical Framework for Consideration when Developing Social Media Policies in Social Work Education*

| | Instructor Dimension | Student Dimension | Institutional Dimension | Professional Dimension |
|--------------------------|---|--|--|---|
| Dimension Defined | Values and perspectives held by social work instructors about social media, technology, and teaching/learning that may promote or hinder the implementation of social media use in the classroom. | Values and perspectives held by social work students related to social media technologies, boundaries, education, and learning style that may promote or hinder acceptance of social media use in the classroom to varying degrees. | Values, policies, organizational culture, and capacity of organizations, schools, departments, and institutions related to social media technology use in the classroom. | Values and ethics related to professional social work and social work education (NASW, CSWE) that could be promoted or threatened through using social media in the classroom. |
| Competing Values | Innovation vs. Resistance to change | Expanded learning milieu vs. Role confusion | Risk management vs. Student engagement | Duty to protect vs. self-determination; social justice vs. obeying policies; Confidentiality and perceived privacy vs. Importance of human relationships Respect of student autonomy vs. Access to learning opportunities |
| Guiding Questions | <ol style="list-style-type: none"> 1. How do you feel about using social media in the classroom? 2. What is your own comfort level with various social media technologies? 3. In what ways do you see yourself using social media in your classes, for what purpose, and with what anticipated learning outcomes for students? 4. What concerns do you have about using social media technologies in social work classes? 5. Are your concerns applicable to the digital world and common practices in communications there? | <ol style="list-style-type: none"> 1. What is your personal comfort level with social media technologies? 2. How do you, if at all, make use of various types of social media technology in your own life? 3. What has been your experience with using social media in educational settings? 4. What concerns do you have, if any, about having social media used in a social work class? 5. Have you ever used or thought about using social media technology in the context of professional social work; if so, how do you envision using it? | <ol style="list-style-type: none"> 1. Does your institution, school, or department have formal policies related to social media/technology use in the classroom? 2. What is the institutional culture like in regards to social media use in the classroom? How do your colleagues and administrators seem to feel about social media use in the classroom? 3. How much of the curriculum for each class and overall is pre-determined or mandated by the school (How much freedom do you as an instructor have to revise, change, and create assignments)? 4. How much does your institution use social media technology? | <ol style="list-style-type: none"> 1. How might some uses of social media technology in social work courses potentially violate social work ethics/policy? 2. How do you see social media technologies in social work classes helping to prepare professional social workers? 3. What professional social work values could be in conflict with one another in a social media classroom policy? 4. How might you negotiate or resolve these potential conflicts between professional values in order to create a useful and ethical policy for using social media in the classroom? |

Instructor dimension. The first dimension listed, the instructor dimension, is one of the largest considerations for any educator considering a social media classroom policy. Every social work educator has differing levels of experience and capacity for using social media technology (Gee, 2010). Additionally, instructors vary in their own values and perspectives about the benefits and drawbacks to using social media in the classroom. Often times, instructors may desire to incorporate the use of social media technologies but also may be fearful in regards to student privacy or integrity (Seamon, 2013). Helpful questions in this dimension relate to self-reflection and awareness. Instructors must be able to critically reflect on their own values, perspectives, and beliefs regarding social media and the best use of web-based communications and digital technologies in order to begin considering what is possible and appropriate for their students or within their institutions.

Student dimension. The second dimension provided in the framework above is the student dimension. In developing a social media policy for the classroom, instructors must consider and weigh the benefits of social media for the professional growth of social work students with the potential drawback that students may be confused about the role of social media in the classroom, concerned about boundaries, and unsure of the difference between using social media as a personal tool as opposed to a professional. Instructors working through this dimension to develop social media policy should consider course objectives, learning needs of students, the purpose of using social media technologies, and how social media will be implemented and used in the classroom. Additional consideration should also be given to how instructors will communicate social media policy to students in a clear and deliberate manner.

Institutional dimension. The third dimension proposed in Table 1 relates to the institutional complexities that instructors face. Institutional forces often have significant influence on the policies that social work educators create for their classrooms. Some of the major forces that may influence educators include existing university or institutional policies that have historically been interpreted to dissuade or support social media technology use in the classroom (Reamer, 2013). In some schools, instructors may readily use social media as a mechanism to encourage social participation, while in other schools, there could exist perceptions that social media use is discouraged or policies could exist that restrict the use of social media for learning activities (Perron et al., 2010). The guiding questions posed for the institutional dimension of the framework above are meant to help instructors form a classroom policy in adherence with any existing institutional policies and in line with the culture of the school.

Professional dimension. Lastly, as professional social workers and social work educators, instructors developing social media technology policies for social work courses must be attentive to the various codes of ethics and standards, including, but not limited to, the NASW *Code of Ethics*, International Federation of Social Workers (IFSW) *Code of Ethics*, and CSWE Educational Policy and Accreditation Standards (EPAS). When considering ethical codes and professional policies, social work professionals and educators will often find themselves forced to consider two or more values that may potentially conflict with one another (Biggs, 1996; Cramer & Brady, 2013). For instance, the NASW Code of Ethics specifies that social workers have a duty to promote social

justice but also to protect the privacy and confidentiality of clients (NASW, 2008). Social work educators must consider the benefits of promoting social work values (e.g., social justice, self-determination), while also considering other values and ethics that could be put at risk (e.g., privacy and confidentiality) through developing social-media-friendly policies for use in the classroom.

Future Directions

Understanding the Purpose and Scope of FERPA

One of the most regularly mentioned challenges to instructors and schools implementing more innovative uses of social media technology in classes is anxiety over violating the Family Educational Rights and Privacy Act (20 U.S.C. § 1232g; 34 CFR Part 99). FERPA was originally passed in 1974 as a means to protect the privacy of student education records (U.S. Dept. of Education, 2014). Education records are defined as records such as files, documents, and other materials that directly relate to a student and are maintained by an educational institution (20 U.S.C. § 1232g; 34 CFR Part 99.3). FERPA in higher education protects the privacy of students by regulating what information can and cannot be disclosed, to whom, and for what reasons. Despite providing added protections to the privacy of student information in higher education settings where federal funding is accepted, FERPA does not restrict instructors or institutions from disclosing directory-based information, which commonly includes names, email addresses, addresses, attendance dates, and honors, as long as the school makes students aware of what directory information is kept and shared in a timely manner that allows students to make requests that institutions not disclose their directory information.

FERPA has the potential to provoke anxiety in instructors. In regards to social media technology, many institutions and instructors fear that social media technology not restricted and maintained through university systems (e.g., Blackboard, university advising systems, directories) may create more opportunities for student information to be shared and for privacy to be breached. Despite these common fears, using social media in the classroom is not a violation of FERPA, but how one uses social media may have ramifications for students, instructors, and institutions (Robbins & Singer, 2014). Additionally, FERPA does not prevent instructors from assigning students the creation of public content as part of their course requirements. FERPA is meant to protect a student's educational records and should not be misconstrued to construct an impermeable barrier between institutions of higher education and the public. While the authors do not profess to have the expertise to provide a legal or formal interpretation of FERPA policy, they do recommend the following helpful FERPA hints: 1) instructors should become more knowledgeable of FERPA through attending institutional training; 2) instructors should consult with their institutional experts about FERPA; 3) instructors should design social media policies as if all students in the class may have requested that directory information be kept private; 4) instructors should consider the potential positive gains as well as potential drawbacks in considering social media policy in the classroom; and 5)

instructors should provide guidelines in the syllabus regarding how social media is to be used and for what purpose.

Promoting Social-media-friendly Environments in Social Work Education

One of the areas for future growth in social media technology use and ethical decision making in social work education is creating and promoting social-media-friendly spaces in institutions and classrooms. Several steps can be taken by social work educators to improve the climate for social media technologies in their institutions. Educators can open up greater dialogue about social media technology and ethics in institutions through mechanisms such as formal committees and task groups as well as informal discussions and forums. Additionally, instructors can consider developing interdisciplinary digital learning communities with other departments, schools, and entities within their college or university as well as with other institutions in order to learn and process how to effectively use social media technology in classrooms and institutions. Furthermore, instructors who are successfully using social media technology can partner with colleagues from information technology and related areas to hold trainings geared towards building the capacity of colleagues for using social media technologies. Lastly, the first critical step in creating social-media- and technology-friendly environments in social work education is to advocate to administration in social work schools, departments, and programs to formally commit to engaging in deeper level discussions about social media technology in the classroom.

Developing a Knowledge Base for Social Media Technology in Social Work Education

Another significant challenge facing instructors, schools, and others in relation to developing effective policies and practices for using social media technology in the classroom relates to the paucity of research and reporting available on social media and social work education. Despite recent contributions made by social work educators, much of the literature related to social media still comes from other disciplines and fields. In order to advance discourse on social media technology in social work education, much more research and dissemination of knowledge is needed to develop informed practice standards or best practices for using social media in social work. More empirical research is needed to better understand how social media technologies are being successfully used in social work education, how social media is impacting student learning of curricular material, and what institutions are doing to embrace social media technologies. The authors recommend that social work educators and institutions using these tools in interesting and innovative ways consider formally evaluating and reporting on their efforts by way of conferences, social media platforms, and formal academic publications to further grow the knowledge base around social media and social work education.

Conclusion

While the authors each utilize social media differently in social work courses, they are in agreement that there is no ideal, one-size-fits-all classroom policy for social media use. The multitude of factors discussed in this paper and the ethical framework for

consideration provided help to illustrate the complexity and importance of creating social media technology policies for the classroom. The authors hope to inspire others to create additional frameworks and tools to provide social work educators with additional guidance on utilizing social media and technology in the classroom. While the authors acknowledge the complexities involved in considering professional ethics, formal policies, institutional culture, student learning, and instructor values when developing social media policy for the classroom, they encourage instructors to also consider the benefits and potential of using social media in the classroom. Recently, social media technologies have impacted the rise of social movements and social change in the Middle East, helped to increase dialogue and action related to recent injustices in Ferguson, MO, Florida, and Ohio, and been successfully used to raise millions of dollars for worthy causes, such as in the "Ice Bucket Challenge." Social media has shown to be a powerful tool with significant potential to facilitate communications and actions in social work practice and education.

References

- Ahn, J. (2011). Digital divides and social network sites: Which students participate in social media? *Journal of Educational Computing Research, 45*, 147-163. doi:10.2190/EC.45.2.b
- Aragon, A., AlDoubi, S., Kaminski, K., Anderson, S. K., & Isaacs, N. (2014). Social networking: Boundaries and limits [Part 1: Ethics]. *TechTrends, 58*, 25-31. doi:10.1007/s11528-014-0734-9
- Bailey, K., & Johnson, E. J. (2014). Internet-based technologies in social work education: Experiences, perspectives, and use. *Caribbean Teaching Scholar, 4*, 23-37. Retrieved from <http://journals.sta.uwi.edu/cts/index.asp?action=fullTextPermaLink&articleid=443&galleyid=390>
- Bennet, S., & Matont, K. (2010). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning, 26*, 321-331. doi:10.1111/j.1365-2729.2010.00360.x
- Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education, 32*, 347-364. doi:10.1007/BF00138871
- Cameron, K., Quinn, R. E., DeGraff, J., & Thakor, A. V. (2007). *Competing values leadership: Creating value in organizations*. North Hampton, MA: Edward Elgar.
- Council on Social Work Education. (2012). *2008 Education and policy accreditation standards*. Retrieved September 12, 2012, from <http://www.cswe.org/Accreditation/2008EPASDescription.aspx>
- Cramer, E. P., & Brady, S. R. (2013). Competing values in serving older and vulnerable adults: Adult protective services, mandated reporting, and domestic violence programs. *Journal of Elder Abuse and Neglect, 25*, 453-468. doi:10.1080/08946566.2013.782781

- Dabbagh, N., & Kistantas, A. (2012). Personal learning environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *Internet and Higher Education, 15*, 3-8. doi:10.1016/j.iheduc.2011.06.002
- DeAndrea, D., Ellison, N. B., LaRose, R., Steinfield, C., & Fiore, A. (2012). Serious social media: On the use of social media for improving students' adjustment to college. *Internet and Higher Education, 15*, 15-23. doi:10.1016/j.iheduc.2011.05.009
- Duncan-Daston, R., Hunter-Sloan, M., & Fullmer, E. (2013). Considering the ethical implications of social media in social work education. *Ethics in Information Technology, 15*, 35-43. doi:10.1007/s10676-013-9312-7
- Gee, J. P. (2010). *New digital media and learning as an emerging area and "worked examples" as one way forward*. Cambridge, MA: The MIT Press. Retrieved from http://mitpress.mit.edu/sites/default/files/titles/free_download/9780262513692_New_Digital_Media.pdf
- Guba, E.G. (1990). *The paradigm dialogue*. Newbury Park, CA: Sage.
- Hick, S. F., & McNutt, J. G. (Eds.). (2002). *Advocacy, activism, and the internet*. Chicago: Lyceum.
- Hill, K., & Ferguson, S. M. (2014). Web 2.0 in social work macro practice: Ethical considerations and questions. *Journal of Social Work Values and Ethics, 11*, 2-11. Retrieved from <http://www.jswve.org/images/PDFs/2014Spring/2-JSWVE-11-1Web%20in%20Social%20Work%20Macro%20Practice-pp%202-11.pdf>
- Hitchcock, L. I., & Battista, A. (2013). Social media for professional practice: Integrating Twitter with social work pedagogy. *The Journal of Baccalaureate Social Work, 18*, 33-45. Retrieved from http://www.curationculture.org/wp-content/uploads/2013/10/HitchcockBattista2013_SocialMediaSWK.pdf
- Hoefler, R. (2012). *Advocacy practice for social justice*. Chicago: Lyecum.
- Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2009). Confronting the challenges of participatory culture: Media education for the 21st century [White paper]. Retrieved from http://digitallearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF
- Kanter, B., & Fine, A. H. (2010). *The networked nonprofit: Connecting with social media to drive change*. San Francisco, CA: Jossey-Bass.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*, 59-68.
- Kimball, E., & Kim, J. (2013). Virtual boundaries: Ethical considerations for the use of social media in social work. *Social Work, 58*, 1-4. doi:10.1093/sw/swt005
- Mishna, F., Bogo, M., Root, J., Sawyer, J. L., & Khoury-Kassabri, M. (2012). It just crept in: The digital age and implications for social work practice. *Clinical Social Work Journal, 40*, 277-286.

- National Association of Social Workers [NASW]. (2005). *NASW and ASWB Standards for Technology and Social Work Practice*. Washington, DC: NASW Press. Retrieved from <http://www.socialworkers.org/practice/standards/naswtechnologystandards.pdf>
- NASW. (2008). *Code of ethics of the National Association of Social Workers*. Retrieved from <http://www.socialworkers.org/pubs/code/default.asp>
- O'Connor, M., & Netting, F. E. (2008). Teaching policy analysis as research: Consideration and extension of options. *Journal of Social Work Education, 44*, 159-173. doi:10.5175/JSWE.2008.200700090
- Perron, B., Taylor, H. O., Glass, J., & Margerum-Leys, J. (2010). Information and communication technologies in social work. *Advances in Social Work, 11*, 67-81. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3117433/>
- Quinn, R., & Rohrbaugh, J. (1981). A competing values approach to organizational effectiveness. *Public Productivity Review, 5*, 122-140. Retrieved from www.jstor.org/stable/3380029
- Reamer, F. (2013). Distance and online social work education: Novel ethical challenges. *Journal of Teaching in Social Work, 33*, 369-384. doi:10.1080/08841233.2013.828669
- Robbins, S., & Singer, J. B. (2014). The medium is the message: Integrating social media in social work education. *Journal of Social Work Education, 50*, 387-390. doi:10.1080/10437797.2014.916957
- Schoech, D. (2013). Community practice in the digital age. In M. Weil, M. Reisch, & M. L. Ohmer (Eds.), *The handbook of community practice* (pp. 809-826). Thousand Oaks, CA: Sage.
- Seamon, J. (2013). *Social media for teaching and learning*. Boston: Pearson. Retrieved from <http://www.pearsonlearningsolutions.com/assets/downloads/reports/social-media-for-teaching-and-learning-2013-report.pdf#view=FitH,0>
- Shirky, C. (2009). *Here comes everybody: The power of organizing without organizations*. London, UK: Penguin.
- Stone, D. (2011). *Policy paradox* (3rd ed.). New York: W.W. Norton.
- U. S. Department of Education. (2014). Family Educational Rights and Privacy Act (FERPA). Retrieved from <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>
- Watwood, B., Nugent, J., & Deihl, W. (2009). *Building from content to community: [Re]thinking the transition to online teaching and learning* [White paper]. Virginia Commonwealth University Center for Teaching Excellence, Richmond, VA.
- Wesch, M. (2009). From knowledgeable to knowledge-able: Learning in new media environments. *New Media Technologies and the Scholarship of Teaching and Learning*. The Academic Commons Magazine. Retrieved from http://www.colorado.edu/ftcp/sites/default/files/attached-files/wesch_-_knowledge_to_knowledgeable.pdf

Young, J. (2014). iPolicy: Exploring and evaluating the use of iPads in a social welfare policy course. *Journal of Technology in Human Services, 3*, 39-53.
doi:10.1080/15228835.2013.860366

Author note

Address correspondence to: Shane R. Brady, PhD, MSW, Anne & Henry Zarrow School of Social Work, University of Oklahoma, 700 Elm Avenue, Norman, OK 73019. Email: srbrady78@gmail.com

Risky Business: Applying Ethical Standards to Social Media Use with Vulnerable Populations

**Hillary Rose Dolinsky
Natalie Helbig**

Abstract: *Social media is changing how those in the helping professions offer clinical, medical, or educational services, provide referrals, administer therapeutic interventions, and conduct research. Non-profits and government organizations working with vulnerable populations need to consider the possibility of ethical missteps when using social media. A comparison of Facebook strategies used with the National Youth in Transition Database (NYTD) program to engage and locate current and former youth in the foster care system was conducted. Facebook practices and strategies were examined based on the current National Association of Social Workers (NASW) Code of Ethics and the Association of Social Work Boards (ASWB) Standards for Technology and Social Work Practice. The ethical standards examined included obtaining consent, preserving confidentiality, verifying youth identity online, and avoiding disclosure of foster care affiliation. Findings provide valuable insight for further discussions around ethical standards in light of the rapidly changing uses of technology in social work. In addition, we illustrate guidelines and best practices used when adopting social media tools for interacting with vulnerable populations.*

Keywords: *Social media policy, ethics, social work administration, vulnerable populations*

Social media and social networking sites (SNS) are playing a greater role in various aspects of child welfare practices. Examples range from providing counseling, therapy, and self-guided interventions to finding prospective adoptive parents (Reamer, 2013) or tracing research participants in long-term outcomes-based research (Balfe, Hackett, Masson, & Phillips, 2013). The accessibility of social media and SNS enables non-profit and government agencies to easily use the power of these tools for information dissemination, resource referral, intervention provision, or tracking. However, one major reason government agencies, regardless of policy area, are hesitant to use social media and SNS in the delivery of public services is the perceived and real risks of security, privacy, records management, and legal issues associated with terms of service (National Association of State Chief Information Officers [NASCIO], 2010; Oxley, 2011). These issues become even more risky for agencies working with vulnerable populations.

State agencies and non-profit organizations likely have some type of acceptable use policy for social media within the organization; however, many are not likely to have guidelines or policies that target use in professional practice. Likewise, the current National Association of Social Workers (NASW) *Code of Ethics* has limited guidance directly related to the use of these new technologies for practice and administration of programs (NASW, 2005, 2008).

Hillary R. Dolinsky, LMSW is a Program Associate at the Center for Technology in Government at the University at Albany, State University of New York. Albany, NY. Email: hdolinsky@ctg.albany.edu. Natalie Helbig, PhD is a Senior Research Associate at the Center for Technology in Government at the University at Albany. Albany, NY. Email: nhelbig@albany.edu.

Literature Review

An emerging body of research is starting to call attention to the type of SNS used and the implications of their use with respect to ethical standards, particularly for those who identify as a member of a vulnerable population (American Youth Policy Forum, 2014; Reamer, 2013; Sewpaul & Jones, 2004). For example, if a victim of domestic violence participates in an online social media group for survivors, that interaction is at risk of being made public knowledge. The interaction may not only allow for her social media network to know that she is a victim, but her perpetrator may also be able to locate her as a result, possibly placing her at risk for further abuse. Many kinds of unintentional mistakes can often be mitigated by designing informative guidelines or social media policies (Hrdinova, Helbig & Stollar-Peters, 2010; Reamer, 2013). Non-profits and government organizations that cater to a specific vulnerable population need to develop detailed social media policies that outline how the organization is going to engage with their consumers while still protecting identities and avoiding undue risk or harm as a result of participation in an online relationship.

The NASW Code of Ethics

The NASW *Code of Ethics* dates back to 1960 and includes 14 statements on best practices in social work (Congress & McAuliffe, 2006). Last revised in 2008, the NASW *Code of Ethics* has evolved to feature ethical principles valued by the profession and ethical standards of practice, each outlining behavioral expectations, reporting requirements, professional obligations, and responsibilities that social workers have to broader society (NASW, 2008). To update the NASW *Code of Ethics*, approval is required from its Delegate Assembly. Consisting of elected NASW members, the Delegate Assembly meets every three years to approve policies and revisions proposed by the association (Congress & McAuliffe, 2006).

Although the NASW *Code of Ethics* describe what social workers should value and what rules they should abide by, it has been critiqued for its inability to translate the principles and standards into practice, particularly with regards to utilizing technology within social work (Perron, Taylor, Glass, & Margerum-Leys, 2010). There is limited guidance on how to apply the ethical standards within the context of social work practice.

In an effort to evaluate the NASW *Code of Ethics*, researchers at the University of Michigan, Washington University, and Eastern Michigan University compared specific standards from the code to the importance of teaching information and computer technologies (ICTs) in social work education. For example, NASW ethical standard 3.07 states that “social work administrators should advocate within and outside their agencies for adequate resources to meet clients’ needs” (NASW, 2008, p. 20). Based on their own interpretation, the research team used this standard to encompass the importance for social workers to obtain real-time data, adopt open source software, and consider cloud computing as a reasonable alternative to issues of remote data storage and security (Perron et al., 2010).

These researchers were able to loosely interpret the NASW *Code of Ethics* and compare them to their ICT research and social work education agenda. As intended, the

NASW *Code of Ethics* leaves enough room for open interpretation to accommodate a wide variety of practice settings and situational dilemmas. However, open interpretation may also leave room for disparity in how non-profits, government agencies, and social work clinicians perceive the NASW *Code of Ethics*.

The ASWB Standards for Technology and Social Work Practice

With the emergence of ICTs, the NASW teamed up with the Association of Social Work Boards (ASWB) in 2005 to create the ASWB Standards for Technology and Social Work Practice. Similar to the NASW *Code of Ethics*, the ASWB Standards for Technology dictate specific principles and expected practitioner efforts in verifying client identity, preserving confidentiality, and obtaining consent when using technology. Even though the ASWB believes that “social workers should acquire skills that use technology appropriately and adapt traditional practice protocols to ensure competent and ethical practice,” (NASW, 2005, p. 4) no guidance is offered on how to apply the technology standards within a clinical, non-profit, or government environment, leaving implementation and enforcement of the ethical standards to the interpretation of decision makers.

Case Study - The National Youth in Transition Database (NYTD)

The National Youth in Transition Database (NYTD) is a federal data collection effort on youth in the child welfare system who are transitioning to independent living. Every three years, a new cohort of youth turning 17 while in foster care participates in the NYTD survey, reporting independent living services received to the state and federal government. If youth participate in an NYTD survey at age 17, they are eligible to participate again at age 19 and 21, illustrating which services are used while youth are in foster care and what services are used or needed once they leave the foster care system. Youth aging out of the foster care system are not only a vulnerable population but also can be difficult to maintain communication with. Their nomadic tendencies and changing addresses and phone numbers require non-profits and agencies seeking to engage with this population over time to consider additional outreach methods.

States are responsible for creating systems for surveying and tracking youth until they are 21. Once a young person leaves care, their information is not updated and the state has a limited relationship with them. In order to create an engagement strategy and tracking mechanism, several states turned to the use of social media. One interviewee, “I came into this knowing that the easiest way to be able to reach the youth at 19 and 21 years old was to reach out to them on their level,” adding that Facebook was a preferred social media tool to help make finding these youth easier. Another state started using social media because “a lot of [foster youth] didn’t have a phone number, but they had email addresses and they were always on Facebook, so it was easier for [the youth].” Using Facebook with the NYTD not only allows NYTD administrators to use a method commonly used among youth in this age range but also offers an additional avenue for providing the survey and tracking youth throughout the data collection phase.

Methods

Sample

We used our knowledge of the NYTD program and verified state NYTD Facebook activities through an online search in order to construct a convenience sample of states using Facebook for our study. After an initial scan, seven states were identified as using social media. We contacted each state representative for the NYTD program to construct a convenience sample of ten child welfare government employees, non-profit agency contractors, and university researchers to be interviewed, with at least one from each of the seven states. Initial contact was established through email invitations, and representatives were provided informed consent and further details about the goals of the study.

Data Collection

Semi-structured phone interviews were conducted with questions regarding social media goals, strategies, applications, practices, and outcomes. Each state representative was asked the same questions, although conversations frequently expanded beyond the interview questions to provide additional insight into each state's rationale for Facebook use within the NYTD. All interviews were conducted in June and July of 2013, and each lasted approximately 45 minutes.

Data Analysis

A review of the existing NASW *Code of Ethics* (NASW, 2008) and the ASWB Standards for Technology (NASW, 2005) was used to develop our analytic framework. We identified the following important ethical dimensions: (a) *informed consent*, obtaining consent from former or current foster youth to engage through Facebook; (b) *confidentiality*, ensuring that information shared through Facebook was kept private and confidential; (c) *disclosure*, avoiding the disclosure of foster care or child welfare involvement as a result of engaging through Facebook and (d) *verification of identity*, confirming and verifying the identity of former or current foster youth prior to initiating a Facebook relationship. All interviews were transcribed, and a coding instrument was developed. The team used various qualitative techniques for examining the transcripts. Summary practices were described, and various characteristics of Facebook strategies were outlined.

Results

Each of the seven cases varied in their approaches, resources, and overall processes for data collection, program structure, and social media use. Table 1 identifies the three models of Facebook use that were observed in the study. One model was an *Open Page*, which provides the public with unrestricted access to the NYTD content created by the state. This model is essentially a supplement to a website, and content is not private or hidden from users. The second model is a *Private Group*, which hides the membership of the Facebook group from other users and is considered closed to the public. In this

model, only NYTD administrators of the Facebook group can send invitations to join the group. The third model is the use of a *Professional Profile*. The profile represents an actual person, not an organization. It is very similar to a personal profile, but the person is using their professional persona. A professional Facebook profile allows the person to send personal messages and have friends in contrast to an open Facebook page which cannot have friends, just followers.

Table 1: Models of Facebook Strategies by States

| Model | Description | # of States* |
|----------------------|--|---------------------|
| Open Page | <ul style="list-style-type: none"> • Public has unrestricted access to content - no hidden content • Supplement to a website • No attached individual identity • Cannot have friends - no direct link to other individual profiles • Limited means of interaction | 5 |
| Private Group | <ul style="list-style-type: none"> • Membership is invitation only • Group does not show up in search results • Administrators oversee membership • Members carry same shared identity | 1 |
| Professional Profile | <ul style="list-style-type: none"> • Represents an individual • Interactive capabilities include sending messages and event invitations as well as posting photos • Profile can friend another profile to build network | 3 |

*Two states utilize multiple models of Facebook. Those States are noted twice in the total number of States use.

Table 2 provides a summary of strategies and resources used by each of the seven states. The states varied in their processes for decision-making, approval, Facebook format, and their development of a social media policy. States also varied in their assessment of how valuable Facebook was to their overall outreach and youth engagement strategies.

Findings and Discussion

Obtaining Consent

In standard practice, a social work clinician will obtain consent from their client prior to providing any form of treatment or intervention. This effort not only protects the clinician and the clinician's non-profit or government agency but also clarifies expectations and boundaries for the client. The NASW *Code of Ethics*, 1.03 states that "social workers should provide services to clients only in the context of a professional relationship based, when appropriate, on valid informed consent" (NASW, 2008, p. 7). The code further explains what consent entails by adding that "social workers should use clear and understandable language to inform clients of the purpose of the services, risks related to the services, limits to services, etc." (NASW, 2008, p. 8). Obtaining consent is a fundamental part of the clinician-client relationship and is an ethically essential part of the therapeutic relationship.

Table 2: Description of Facebook Strategies, Practices, and Policies by State

| Case | Description |
|-------------|--|
| State A | <p>Contracted with a university to implement NYTD</p> <ul style="list-style-type: none"> • Model: Open Page • Approval Process: The state child welfare authority approves a biannual content plan • Social Media Policy: Yes, the state and the university have a social media policy in place • Importance to overall outreach strategy: Not important |
| State B | <p>Contracted with a non-profit to implement NYTD</p> <ul style="list-style-type: none"> • Model: Open Page • Approval Process: The state child welfare authority does not review or approve content • Social Media Policy: The state and the non-profit do not have a social media policy in place; Process documentation does exist • Importance to overall outreach strategy: Important |
| State C | <p>Contracted with voluntary agency to implement NYTD</p> <ul style="list-style-type: none"> • Model: Open Page; Professional Profiles • Approval Process: The state child welfare authority has a low level of approval of Facebook content • Social Media Policy: The state and the non-profit do not have a social media policy in place • Importance to overall outreach strategy: Most important |
| State D | <p>Contracted with non-profit to implement NYTD</p> <ul style="list-style-type: none"> • Model: Open Page; Professional Profiles • Approval Process: The state child welfare authority has low level of approval of Facebook content • Social Media Policy: The state and the non-profit do not have a social media policy in place • Importance to overall outreach strategy: Most important |
| State E | <p>Contracted with university to implement NYTD</p> <ul style="list-style-type: none"> • Model: Private Group • Approval Process: The state child welfare authority has no required approval of Facebook content • Social Media Policy: The state and the non-profit do not have a social media policy in place • Importance to overall outreach strategy: Most important |
| State F | <p>Contracted with university to implement NYTD</p> <ul style="list-style-type: none"> • Model: Open Page • Approval Process: The state child welfare authority has a high level of approval of Facebook content • Social Media Policy: The state and the non-profit do not have a social media policy in place; Process documentation does exist • Importance to overall outreach strategy: Not important |
| State G | <p>State authority implements NYTD</p> <ul style="list-style-type: none"> • Model: Open Page; Professional Profiles • Approval Process: N/A - State implementation • Social Media Policy: The State does have a social media policy • Importance to overall outreach strategy: Most important |

This component of social work practice is no less important when engaging with clients or consumers online. When referring to the use of technology, the NASW *Code of Ethics*, 1.03 states that “social workers who provide services via electronic media (such as computer, telephone, radio, and television) should inform recipients of the limitations and risks associated with such services” (NASW, 2008, p. 8). It can be implied that the reference to computers in this ethical standard is intended to include websites, social media, and email, even though these are not explicitly mentioned within the NASW *Code of Ethics*.

The ASWB Standards for Technology also mention obtaining consent in Standard 9-5; however, this standard only refers to research. The standard states “social workers conducting, evaluating, disseminating, or implementing research using technological approaches shall do so in a manner that ensures ethical credibility and ensures the informed consent of the participant” (NASW, 2005, p. 15). When applying this standard in practice, ASWB suggests that “a risk-management plan is highly recommended, and should include protocols and policies for all technologies used by the agency for all administrative, managerial, and social worker-related purposes” (NASW, 2005, p. 14). Depending on the type of organization, some government agencies implementing Facebook with youth in foster care were required to establish strict procedures and protocols for their social media strategy, whereas non-profit agencies participating in the data collection effort through a contract with a government agency were left to devise their own standards for approval and implementation.

States used a variety of methods to obtain consent from youth prior to beginning Facebook relationship. Some states included specific social media consent language within the survey content used for data collection, indicating that if youth provided their social media information (i.e., Facebook name or Twitter handle), they were agreeing to allow the representative to contact them. Other states obtained more formal documentation of social media consent by asking youth over the age of 18 to sign consent forms in person agreeing to be contacted by the representative through Facebook. To avoid concerns of obtaining parental or guardian consent for youth under the age of 18, one state determined that they were not going to use social media to engage with any youth who were not old enough to provide consent for themselves.

On a very high level, some states considered a young person’s-initiated act of “liking” a Facebook page or joining a private group as consent to participate. Facebook requires that all users who create a personal profile or professional page agree to their terms of use, which state “By using or accessing Facebook Services, you agree that we can collect and use such content and information in accordance with the Data Policy as amended from time to time” (Facebook, 2013, ¶21). Some states use the Facebook terms of use as sufficient consent, arguing that if youth are over the age of 18, they are legally able to consent for themselves and are accountable for their actions on Facebook.

Preserving Confidentiality Online

Given that current and former foster care youth are members of a vulnerable population, all states interviewed heavily considered the implications that a Facebook

relationship has on the ability to maintain confidentiality. The *NASW Code of Ethics* 1.07 Privacy and Confidentiality states “social workers should take precautions to ensure and maintain the confidentiality of information transmitted to other parties through the use of computers, electronic mail, facsimile machines, telephones and telephone answering machines, and other electronic or computer technology” (NASW, 2008, p. 12). Echoing the *NASW Code of Ethics*, standard 7 of the ASWB Standards of Technology states “social workers shall protect client privacy when using technology in their practice and document all services, taking special safeguards to protect client information in the electronic record” (NASW, 2005, p. 9).

In making confidentiality a top priority in the development of their social media strategy, some states decided to limit the ability for users to interact on their Facebook page, ensuring that information could not be shared publicly unless approved by the Facebook page administrator. Interactions were kept to private messages, and in some instances states would only interact with youth who initiated private conversations.

State representatives who created a private, opt-in Facebook group felt that youth over the age of 18 who provided confidential information online were able to consent to online interactions about that information. All state representatives interviewed took precautions to ensure that, as social media account administrators, they would not share confidential information online. Communication directed towards a specific young person through Facebook would be conducted through private messages, not public wall posts or public comments.

Avoiding Disclosure of Foster Care Status or Affiliation

NASW Code of Ethics 1.07 Privacy and Confidentiality states that “social workers should inform clients, to the extent possible, about the disclosure of confidential information and the potential consequences” (NASW, 2008, p. 10). When discussing disclosure concerns with states, all state representatives recognized the importance of allowing youth to engage with them through social media without the expense of disclosing their current foster care status or former foster care affiliation.

To avoid disclosing identities, some states selected to use an open, public, and professional Facebook page instead of a personal Facebook profile tied to a specific employee. State representatives indicated that the open Facebook page removed the assumption that anyone interacting with or “liking” the page was affiliated with the child welfare system since the page was public. A consequence of keeping a professional Facebook page was the inability to interact directly with specific youth, and states indicated that in some instances this was preventive in their social media efforts.

To address this issue, one state decided to remove all mention of foster care from the professional Facebook page and instead switched to a personal Facebook profile. By removing all mention of foster care from the profile content, assumptions could not be made about foster care status or affiliation. This state decided to revise the language to say “youth survey” instead of “foster care survey,” intending to remove any undue harm in associating with their profile. For some states using private Facebook group to interact

with foster youth, state representatives assumed that all members shared the same implied foster care affiliation, and as a result, disclosure concerns were not present.

As a result of varying contracts, agency roles, and government policies, states had different procedures and protocols for addressing disclosure concerns. Some states were required to have approval from the legal counsel within their state child welfare authority, whereas others were only accountable to their individual agency policies and liabilities.

Verifying Youth Identity

All interviewees recognized the potential dangers of contacting the wrong individual when starting an online engagement with a former or current foster youth. While the *NASW Code of Ethics* fails to offer guidance on online identity verification, the NASW and ASWB Standards for Technology describe the importance of verifying identity prior to engaging online. Standard 6 of the NASW and ASWB Standards for Technology states “social workers who use electronic means to provide services shall represent themselves to the public with accuracy and make efforts to verify client identity and contact information” (NASW, 2005, p. 9). Although this standard mentions the verification of identity, the NASW and ASWB interpretation of this standard only outlines the importance for clients to verify the identity and credentials of those claiming to be social workers online, not vice versa. Their interpretation indicates that “social workers need to provide their full name, credentials, licensure information, office address and phone number, and e-mail address” (NASW, 2005, p. 9). No guidance on how social workers should verify the identity of their clients prior to engaging through social media is provided.

However, states recognized the potential dangers of disclosing information and violating both consent and confidentiality when attempting to begin an online relationship with the wrong former or current foster youth. States adopted a variety of methods to confirm that the Facebook profile they were viewing was that of the intended person. Some states sent a private Facebook message, void of all mention of the survey or foster care affiliation, to the young person, and simply asked for a date of birth verification. Other states used email address and locations provided by the young person during initial data collection efforts to verify the email address and location listed on the profile.

Depending on the state’s child welfare records database, some records included photos of the young person that were then compared to photos on the Facebook profile. Once the correct profile had been found, one state took these methods even further and searched through each young person’s list of Facebook friends for identified family members and friends, cross-referencing the names found with the names affiliated with that individual’s case records. A few smaller states confirmed identity in person, asking youth to pull up their Facebook profile once they agreed to allow the state representative to contact them online.

Each state in our study was able to interpret the standards within their own context and consider the implications when developing their Facebook strategy. However, the outcomes of their interpretation and application of the *Code of Ethics* and Standards for

Technology were not always consistent, indicating that the states had varying perspectives on what the ethics and standards meant and how they should be applied in practice. Table 3 summarizes useful practices used by NYTD administrators to uphold these four ethical standards and to avoid ethical mistakes.

| <u>Ethical Standard</u> | <u>Practices for Applying Standards</u> |
|--------------------------------|---|
| Obtaining Consent | <ul style="list-style-type: none"> • Including social media in survey language • Including a comment and participation policy on social media site • Asking permission in person before engaging with youth online |
| Preserving Confidentiality | <ul style="list-style-type: none"> • Keeping social media private and invitation only • Including policies on social media sites that explain liability both for page administrators and for participants |
| Avoiding Disclosure | <ul style="list-style-type: none"> • Removing foster care language from all social media • Keeping social media open and public to all • Making caseworker profiles with no mention of child welfare • Teaching youth about online dangers and risks of disclosure |
| Verifying Youth Identity | <ul style="list-style-type: none"> • Comparing social media pictures to those on file • Checking name, date of birth, location, and/or email address • Checking relatives and friends in the young person's social media network • Confirming profile in person or over the phone |

Discussion and Future Research

When compared to the NASW *Code of Ethics* and the and ASWB Standards for Technology, it appears that these states were able to interpret the standards within their own context and consider their implications when developing their social media strategy. However, the outcomes of their interpretation and application of the *Code of Ethics* and Standards for Technology were not always consistent, indicating that the states had varying perspectives on what the ethics and standards meant and how they should be applied in practice.

The NASW *Code of Ethics* was last updated in 2008, and the NASW and ASWB Standards for Technology has not been revised since its inception in 2005. Since 2008, the number of active monthly Facebook users has grown from 100 million users to over 1 billion. Facebook continues to be the leading SNS, closely followed by Twitter, Pinterest, and YouTube. These tools have become a staple in human interaction and are being applied in a variety of personal and professional settings, including non-profits and government agencies.

The NASW and ASWB Standards for Technology define technology as “a set of prescribed events that are embedded in hardware, software, or telecommunications and that direct activities, decisions, or choices” (NASW, 2005, p. 20). However, neither the NASW *Code of Ethics* nor the NASW and ASWB Standards for Technology define, mention, or address the ethical considerations for social media use. There are several

examples of how non-profits and government agencies are currently applying SNS and social media tools based on their individual interpretation of these ethical standards.

Reamer (2013) highlights three sets of ethical risks relevant to using social media tools, particularly in social work practice: ethical mistakes, ethical decisions, and ethical misconduct. An ethical mistake, such as not obtaining a client's full informed consent, can occur by omission or by commission (Reamer, 2013). Ethical mistakes are different from ethical decisions and misconduct (Reamer, 2013). Future research and standard development could include Reamer's ethical framework when evaluating ethical social media use within social work practice.

A 2009 NASW News issue included an article titled "New Technology Transforming Profession," where the ASWB Director of Board Services is quoted saying "there are some states that have taken a hard look at this issue and are making some changes. However, there is still confusion about how to regulate and what to regulate" (as cited in Sfiligoj, 2009, p. 1). With little to no ethical guidance on social media use in the context of social work practice, social workers will continue to adopt SNS and social media based on their own interpretation of the standards. Although the state representatives interviewed in this study were able to adequately interpret and apply those standards, enforcement of ethical violations will be difficult without explicit guidelines, protocols, and procedures for social media use.

Social media continues to revolutionize the way social workers provide services, connect with clients, and engage with broader society. Further research is needed into the evaluation of social media best practices within the social work profession. Further ethical and legal guidance is needed to ensure that social workers are utilizing new and developing technologies appropriately and with key social work values and principles in mind.

References

- American Youth Policy Forum. (2014). *At-risk youth (Foster youth/juvenile justice)*. Retrieved September 29, 2014, from <http://www.aypf.org/programareas/at-risk-youth-foster-youthjuvenile-justice/>
- Balfe, M., Hackett, S., Masson, H., & Phillips, J. (2013). Lost without a trace? Social networking and social research with a hard-to-reach population. *British Journal of Social Work, 43*, 24-40. doi:10.1093/bjsw/bcr168
- Congress, E., & McAuliffe, D. (2006). Social work ethics: Professional codes in Australia and the United States. *International Social Work, 49*(2), 151-164. doi:10.1177/0020872806061211
- Facebook. (2013). *Facebook statement of rights and responsibilities*. Retrieved July 18, 2013, from <https://www.facebook.com/legal/terms>
- Hrdinova, J., Helbig, N., & Stollar-Peters, C. (2010). *Designing social media policy for government: Eight essential elements*. Retrieved September 30, 2014, from

- http://ctg.albany.edu/publications/guides/social_media_policy/social_media_policy.pdf
- National Association of Social Workers [NASW]. (2005). *NASW & ASWB standards for technology and social work practice*. Retrieved July, 18, 2013, from <http://www.aswb.org/pdfs/TechnologySWPractice.pdf>
- NASW. (2008). *Code of ethics of the National Association of Social Workers*. Retrieved July 18, 2013, from <http://www.socialworkers.org/pubs/code/default.asp>
- National Association of State Chief Information Officers [NASCIO]. (2010). *A national survey of social media in state government: Friends, followers, and feeds*. Retrieved September 30, 2014, from <http://www.nascio.org/publications/documents/nascio-socialmedia.pdf>
- Oxley, A. (2011). *Strengthening cybersecurity series: A best practices guide for mitigating risk in the use of social media*. Retrieved September 30, 2014, from <http://www.businessofgovernment.org/report/best-practices-guide-mitigating-risk-use-social-media>
- Perron, B. E., Taylor, H. O., Glass, J. E., & Margerum-Leys, J. (2010). Information and communication technologies in social work. *Advances in Social Work, 11*(2), 67-81.
- Reamer, F. G. (2013). Social work in a digital age: Ethical and risk management challenges. *Social Work, 58*(2), 163-172. doi:10.1093/sw/swt003
- Sewpaul, V., & Jones, D. (2004). Global standards for social work education and training. *Social Work Education, 23*(5), 493-513. doi:10.1080/0261547042000252244
- Sfiligoj, H. (2009). *NASW News: New technology transforming profession*. Retrieved July 16, 2013, from <http://www.naswdc.org/pubs/news/2009/09/default.asp>

Author note

Address correspondence to: Hillary R. Dolinsky, LMSW, Center for Technology in Government, University at Albany, State University of New York, 187 Wolf Road, Suite 301, Albany NY 12205. Email: hdolinsky@ctg.albany.edu

Developing Scales for Smartphone Applications Together: Youth and Municipal Case Worker Perspectives

Thomas Mackrill
Frank Ebsen
Helle Antczak

Abstract: *This article reports the initial findings of a Danish action research project aiming to develop a digital tool that young persons can use to inform their municipal case workers about their well-being. The project vision is an integrated system with a smartphone interface for youth clients and a web interface for case workers, whereby both parties can track how the young person is doing. Three meetings were held between researchers, software developers, young persons, and their case workers. The young persons rejected self-monitoring on a normative scale. They rejected a scale proposed by case workers that encouraged them to focus on a positive future, favoring a scale that enabled them to focus on their well-being being low. The young persons and case workers disagreed about how data regarding change should be presented. Case workers preferred a graph that highlighted risk, whereas young persons favored a graph that emphasized positive change.*

Key words: *Social work, apps, innovation, scales, youth, action research.*

This pilot study addresses an important field – the use of outcome measures as collaborative tools in social work. In recent years there has been an increased focus on implementing routine outcome measurement into counseling practice with the aim of improving effectiveness (Lambert, 2010). Much of the literature on this has concerned the psychometric properties of the various scales developed and significance of using these methods for outcomes. A key finding has been that the use of routine measurement reduces drop out in routine practice (Lambert, 2010). Some developers of measures note that routine outcome measurement is not just a matter of measurement and that such tools also aim “to give youth a voice in the services they receive” (Duncan, Sparks, Miller, Bohanske, & Claud, 2006, p. 72). The tools are seen as ways clients can communicate about their experiences of progress with their counselors. They can be viewed as part of collaboration about an intervention. Securing the incorporation of the clients’ voice by means of a standardized tool may be central to why the use of such tools can reduce drop out. The steering committee of the American Psychological Association Division 29 task force identified goal consensus and collaboration between client and counselor as a “demonstrably effective” element of the therapeutic relationship (Steering Committee, 2002). They based this conclusion on a review of studies of the goal consensus and collaboration (Tryon & Winograd, 2002) and on research into the working alliance based on Bordin’s (1979, 1994) pan-theoretical concept. Central elements of Bordin’s concept are agreement about counseling goals and agreement about the tasks occurring during counseling, with the third and final element being the bond between the client and the counselor.

As well as using routine outcome measurement to enhance outcomes, other brief collaborative tools have been developed. The most widely researched of these is the Session Rating Scale (Duncan et al., 2006), a four item measure based on Bordin’s

Thomas Mackrill is an Assistant Professor; Frank Ebsen is a Senior Reader, and Helle Antczak is an Associate Professor at the Institute for Social Work at Metropolitan University College in Copenhagen, Denmark .

(1979) concept of the working alliance. The Session Rating Scale is generally used alongside a brief outcome measure called the Outcome Rating Scale (Miller, Duncan, Brown, Sparks, & Claud, 2003). Another noteworthy collaborative tool is the Therapy Personalisation Form (Bowen & Cooper, 2012), where the client, prior to counseling, reports how they would like their counseling in relation to a wide range of parameters. When self-report scales are used alongside interventions, they are not mere research or evaluation tools; they are an intrinsic part of an intervention (Mackrill, 2008, 2011).

There are very few studies of clients' experiences of using routine outcome measurement. Anker, Sparks, Duncan, Owen, and Stapnes (2011) asked a group of clients ($n=377$) to rate their experience of using the Outcome and Session Rating Scales as either "disturbing," "not important," "useful/helpful," or "do not remember." Of these clients, 60.7% reported the scales were "useful/helpful," 30% noted "not important" and 6.6% experienced the scales as "disturbing." In a similar quantitative study of 300 clients using the CORE tracking system (Barkham et al., 2010), 47% were "quite happy," 45% "didn't mind," 3% were "not keen" and 0.8% "disliked it" (Unsworth, 2009). In a qualitative study of family therapy, Sundet (2011) noted that families generally found the Outcome Rating Scale a feasible tool for conversation that gave a good image of how different family members were doing and offered an opening for conversations about progress. Sundet (2011) also noted that one family rejected the use of the scale as they would rather give feedback verbally and some clients found the subscales on the Outcome Rating Scale too broad and found it difficult to point to where they were on the scales. In a further qualitative study of individual psychotherapy with six clients where the Outcome and Session Rating Scales were used, Pedersen (2012) found differences among clients, noting:

some clients experienced the Outcome Rating Scale (ORS) as a great therapeutic tool to think through their situation and decide what to focus on. They liked how the ORS structured the opening of the session and saw the ORS as a good way to quickly give the therapist a lot of information about their condition and situation. Other clients scored the ORS without attaching much meaning to it, but some clients experienced the ORS as distracting. It undermined the presence and removed focus from more important issues. (p. 25)

Pedersen (2012) also noted that clients found expressing a variety of experiences on the subscales of the Outcome Rating Scale difficult, and that while many found tracking their progress using a scale across sessions meaningful, some did not feel this approach to evaluation was meaningful and in line with their therapeutic goals. In a qualitative study using brief CORE outcome measures, Unsworth (2009) found that clients generally felt that a visual representation of their condition and progress was helpful and they were positive about using the scales in dialogues with their counselors, although some clients found it hard to complete measures if they were distressed. The above studies all focus on client experiences of outcome measurement in routine counseling practice. To our knowledge, no studies have been conducted of young persons' experiences of routine self-report tools in the context of collaborative tool development. Furthermore, the above studies all focus on the use of outcome measurement in clinical settings. The context of the present pilot study is the

development of a routine outcome measure for use in municipal case management settings, which is also new territory.

This article reports differences in young person and case worker perspectives on the design of a single item self-report well-being scale for communication purposes. The data are from the first cycle of a Danish action research project aiming to improve communication between young people and their municipal case workers from social services. The action research project is a collaboration between researchers, software developers, and young persons and their municipal case workers. It aims to develop a digital communicative tool that young persons can use to inform their case workers about their well-being as well as about specific, agreed-upon behaviors and activities. The project vision is an integrated system with a smartphone interface for young persons and a web interface for case workers. The project is inspired by psychotherapy research into practice-based evidence where a range of similar systems have been built for use in psychotherapy (see for example Barkham et al., 2010; Lambert, 2010; Miller et al., 2003). The project is also inspired by a local Copenhagen project, "MinVej," where a recovery-supporting smartphone application has been developed not just for, but with psychiatry users. The challenge in this action research project is to develop a system that serves both the interests of young social service users and their caseworkers. As well as providing caseworkers with feedback about their young clients' life, the app interface also aims to offer the young person the opportunity of tracking their own change for personal development purposes.

Developers of self-report scales are generally interested in whether scales are reliable, that is to say consistent in their ability to measure, and valid, referring to whether they measure what they intend to measure. Instead, this pilot study focuses on whether young persons who use a tool find it meaningful and appropriate. This issue is particularly important if a self-report scale is to be used routinely by a young person, not in the immediate vicinity of a professional prompting them to self-report. This is a key way in which the tool developed in this project differs from those used in routine outcome measurement in clinical settings. In this project, action researchers, software developers, caseworkers, and young persons were a participatory community of inquiry engaging in the practical problem of developing a tool to enhance communication (Reason & Bradbury-Huang, 2008). Rather than addressing client and professional experiences of using an outcome measure, this study addresses client and professional participation in developing an outcome measure.

Method

Six caseworkers, who were all qualified social workers with bachelor degrees in social work, were recruited from three municipalities in Denmark, with two social workers from each municipality, five women and one man. All the social workers worked with youth clients in a family or youth social service setting. The social workers recruited six young persons whom they had contact with to participate in the project: three young women aged 14, 16, 17 and three young men aged 16, 17, and 18. The young persons were recruited primarily because their social workers judged they had the resources and willingness to participate. They were not recruited because they had a particular type of problem. The researcher leading the project had a background in counseling research.

Three group meetings were held where the participants discussed a design presented to them as a Microsoft Powerpoint© presentation. The counseling researcher led the first two meetings, and a second researcher took detailed field notes where the perspectives of the participants, the topics of discussion, the atmosphere in the meeting, and the decisions made were noted. The final meeting was led by the software developers. The young persons were asked to give their opinions about the design but also to consider what other young people, who they knew, might think about the design. The social workers were similarly asked to consider what their colleagues might think about the design, as well as themselves. After each meeting, the design was revised based on the input from participants, and a new version was presented at the following meeting. The meetings were divided into two stages. First, social workers provided feedback on the design without the young persons being present. Then, the young persons provided feedback on the design with half of the social worker group present. The social workers were instructed to be silent when the young persons gave their feedback so the young persons could voice their opinions without interference. Towards the end of the meetings, there was dialogue between the social workers and young persons. The meetings were generally lively, and all participants voiced their views about the designs. The counseling researcher facilitated the process so all voices were heard. There was a general sense of excitement about having the opportunity of developing the system. The young persons were offered food and drink during the meetings, and they were given cinema vouchers for two, including a drink and popcorn, as a gift for participating in the project. The findings presented in this paper were fed back to the participants during later meetings to check their validity (Reason & Rowan, 1981), and the participants confirmed that we had understood their perspectives correctly. The analysis thus was conducted by reflecting on discrepancies between youth and social worker perspectives, by examining the contents of the field notes after the meetings, and by playing perceived differences in perspectives back to the participants in subsequent meetings to develop, confirm, or challenge the analyses.

In Denmark, there are no ethics committees that approve social science research such as this. There are only ethics committees in the field of medicine. Young persons participated voluntarily, and parental consent was obtained for young persons under the age of eighteen. Some young persons who were asked to participate declined without this affecting their access to social support in any way. All data were secured according to the regulations of the Danish Data Protection Agency. The identities of the social workers and young persons are concealed.

Results

The young clients rejected the normative scale

Figure 1 shows the initial draft version of the well-being scale. Color-coding with red, orange, and green sections was proposed to enhance the intuitive communicative aspect of tool, drawing on the image of a traffic light where red signals stop, orange signals that a stop may be imminent, and green signals go. The counseling researcher proposed that the green section should take up most of the scale, arguing that a satisfactory overall experience of well-being during the week, which is neither “good” nor “bad,” should be in the middle of the scale. The counseling researcher argued that this was important to avoid giving the young persons an unrealistic

expectation about how good a week could be expected to be. According to the counseling researcher, a week with well-being in the middle of the scale was a sign of success. The young people all rejected this view. They said, “We know we can’t expect to have a fantastic time all the time,” “We know our lives aren’t as good as other people’s lives,” and “We don’t need to be reminded about it by a scale.” They wanted a scale where they had a chance of progressing from one side of the scale to the other, rather than a normative scale where they might just make it to the middle.

Figure 1. Well-being - first version.

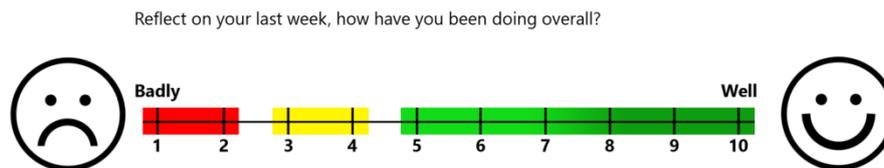


Figure 2. Well-being – case worker version.

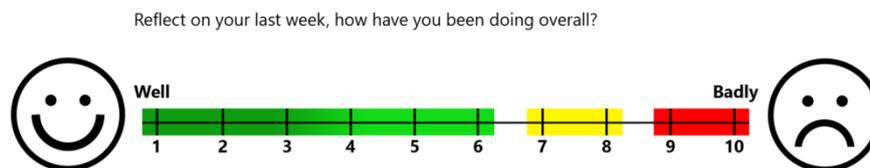
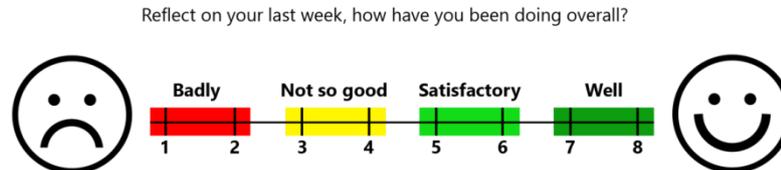


Figure 3. Well-being - young person version.



The young clients rejected a strengths focus

The social worker group also disagreed with the initial design, but for different reasons. In their view, the green section had the right length, but they argued that it should be on the left side of the scale rather than on the right. See Figure 2. They were unanimous in this view. They argued that they had been trained in focusing on client strengths. When the red section was on the left, this was what first caught their eye, as they read from left to right. They wanted their clients first to focus on the green section as a way of drawing their clients’ attention to the potential for improved weekly well-being, that there was hope for a better future, and that they could have better life. The young clients rejected the social workers’ design unanimously, stating that their well-being was generally dissatisfactory, and that a design that intuitively made them focus on how good a week could be was provocative and demotivating, as such a life was such a long way off. They wanted their social workers to appreciate how difficult their lives were. In collaboration with the young persons, we developed the scale that can be seen in Figure 3.

A positive change versus a risk reduction focus

The social worker group and the young person group also disagreed about how past data should be viewed. While they agreed that a graph might be an appropriate way of viewing changes in well-being over time, they disagreed fundamentally about how data should be presented. The social workers favored the red zone being up and the green zone being down on the y axis. Figure 4 shows this, with a positive change as a curve sloping down from left to right. The social workers preferred this view as they felt it represented a change in the level of risk. For them, “low” well-being was a “high” risk, and it should therefore be positioned at the top of the viewing. A “high” level of well-being was a “low” risk that should be positioned at the bottom of the graph. This was intuitively most correct from their perspective. This was the opposite of the initial draft. The social workers' version of the graph with red at the top and green at the bottom was then presented to the young persons who unanimously dismissed this graph. They wanted the red section representing “low” well-being to be at the bottom of the y axis. They wanted to be able to record “positive change,” which for them intuitively meant movement in an “upwards” direction from left to right. See Figure 5. The young people focused on increases in well-being, while the social workers focused on reducing risk.

Figure 4. Well-being graph – case worker version.

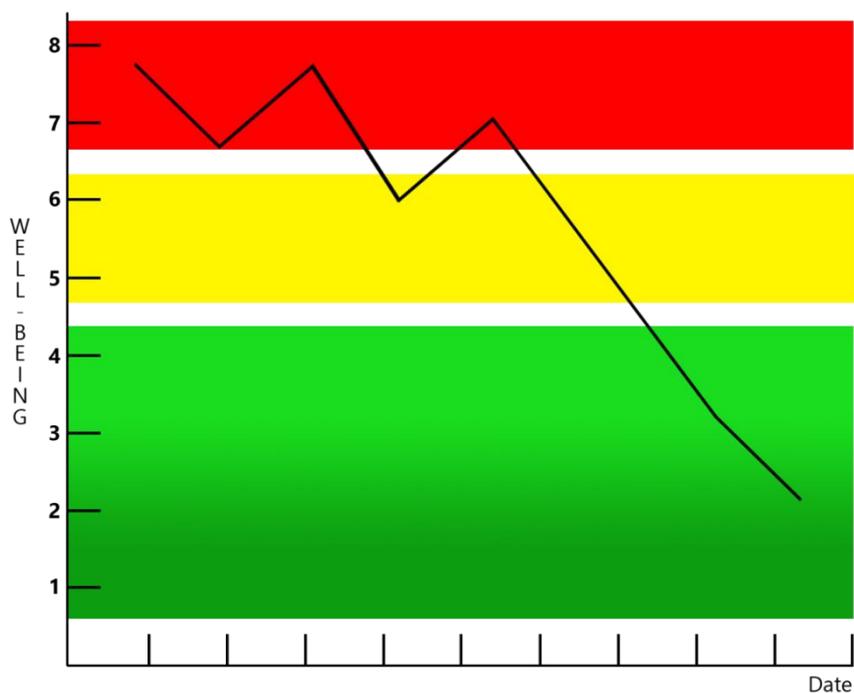
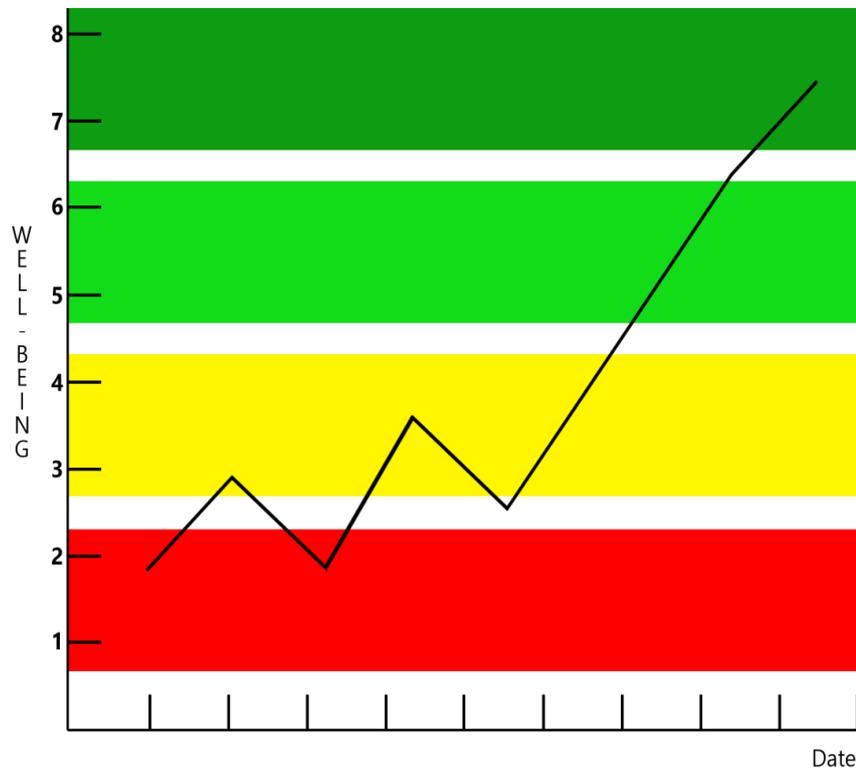


Figure 5. Well-being graph - young person version.



Discussion

The young person and social worker groups were surprisingly unanimous in their viewpoints. At a glance, this may seem to suggest that the results presented were the result of groupthink (Janis, 1982). However, this is not the case as both the young persons and social workers voiced a range of views at the meetings, and there were frank exchanges of views in each group. The counseling researcher made sure there was space to reflect on one's own perspective during meetings, and participants also had the opportunity to reflect on their views between meetings. The counseling researcher supported and repeated the many different perspectives that were expressed, so they could be discussed. It was only after a discussion of the many viewpoints that the groups reached a consensus. The counseling researcher was not aiming for consensus in any way and questioned the unanimity in the groups' perspectives. The counseling researcher was actually surprised by the extent of the participants' agreement, particularly as the groups were not characterized by dominant members imposing their views on others.

The young clients had very clear opinions about how the self-report scale should be designed. Thus, this study highlights the importance of user involvement in scale development. This is particularly important when dealing with a vulnerable group whose perspectives are often ignored. When using self-report scales for routine assessment, it is important to follow advice about using an established instrument rather than one with less scientific credibility (Paulhus & Vazire, 2007), but at the same time it is also important to check whether users have been involved in scale

development or whether their experiences of using the scale routinely have been studied. There may be a difference between asking clients about their experiences of using a scale after a scale has been developed and asking them their experiences during the development of a scale, when they know their views will be taken into consideration in the development of the scale.

The young person's rejection of the normative scale is significant. When using scales in routine self-assessment with vulnerable groups, the young person needs to be able to see their own personal development in relation to the scale as a whole. Using norm-based scales for groups who have trouble living up to the norms inherent in the scales is a poor choice, as the group will consistently be reminded of their failure to live up to the norms.

The difference between the social workers' wish to have a scale that drew attention to the young persons' strengths and possibilities of attaining a positive future and the young persons' wish to have a scale that reflected that their lives were difficult was a surprise to the social workers. The social workers argued that this was a perspective they had been trained in. The key assumption in a strengths perspective is that "every human being has, within or around, resources, capacities, and assets that can be mobilized to overcome adversity or to inspire a better quality of life" (Saleebey, 2008). Most of the social workers who took part in the study were trained in this perspective at the Institute where the researchers were employed. Thus this finding reflected back on the educational practices of the researchers' place of work. The strengths perspective is a reaction to social work that was overly focused on client problems rather than client resources. Striking a balance between recognizing client problems and maintaining hope for a more positive future is a constant challenge in social work. This study showed that the social workers' strengths perspective was out of synch with their clients' perspectives. A discrepancy in perspectives, where social workers maintain hope for clients who have little or no hope for themselves, is an intrinsic part of social work. However, if social workers are so hopeful that clients do not feel their social workers appreciate or understand the problems they face, the strengths perspective becomes a hindrance and a problem in itself. A strengths perspective can perhaps get out of hand if not appropriately combined with a problem focus.

The discrepancy between the young clients' focus on positive changes in well-being and the social workers' focus on risk reduction is not surprising. Risk reduction is a primary goal for municipal case workers, which reflects the legal foundation on child protection that underlies their work. The young persons do not reflect on the law in the same way as the social workers but have a more general interest in change for the better. In their book, *Metaphors We Live By*, Lakoff and Johnson (1980) argue that metaphors shape our perceptions. One metaphor they point to is the metaphor of direction, suggesting that we generally perceive "good" and "more" as "up," and "bad" and "less" as "down." In some ways, this corresponds with the findings presented in this study. On the graph, the young persons intuitively want "more" well-being to be "up," and the social workers similarly want "more" risk to be "up." However, high risk is not "good," and the social workers agreed that high risk should be "up." This suggests that "more" may take precedence over "good" when intuitively determining what is "up."

We used the above analysis in the further development of the tool. We changed the well-being scale so it was in line with young persons' wishes as seen in Figure 3. We also developed the graph in accordance with the young persons' wishes as seen in Figure 5. We discussed the possibility of having a positive change focused graph (Figure 5) on the young person's smartphone interface and a risk-oriented graph (Figure 4) on the case workers' web interface. We choose to have a positive change focus (Figure 5) on both interfaces, as we wanted the social workers and young persons to have the same view, so the web interface could be easily used for talks about how things were going at meetings between the young persons and their case workers, without having to explain why the graphs looked different.

This pilot study is obviously limited by its small sample size and the fact that participants were all willing participants. Some young people in contact with municipal social services would not want to participate in such a project, and we cannot be sure that participants who are willing to participate can represent the perspectives of the unwilling, even though the young persons were asked to consider what other young people, who they knew, would think.

This pilot study is a first step in tool development. We plan to run a test-retest of the single item scale and test it against other scales such as the Outcome Rating Scale (Miller et al., 2003) and the Young Person CORE (Twigg et al., 2009). This would enable the scale to be used both for monitoring change and for collaboration. Further studies of youth and social worker perspectives will take place in connection with testing a trial version of the scale in the second cycle of this action research project.

References

- Anker, M., Sparks, J., Duncan, B., Owens, J., & Stapnes, A. (2011). Footprints of couple therapy: Client reflections at follow up using a mixed method design in routine care. *Journal of Family Psychotherapy, 22*, 22-45.
- Barkham, M., Mellor-Clark, J., Connell, J., Evans, C., Evans, R., & Margison, F. T. (2010). Clinical Outcomes in Routine Evaluation (CORE) – The CORE measures and system: Measuring, monitoring and managing quality evaluation in psychological therapies. In M. Barkham, G. E. Hardy, & J. Mellor-Clark (Eds.), *Developing and delivering practice-based evidence: A guide for the psychological therapies* (pp. 175-220). Chichester, England: Wiley.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research and Practice, 16*, 252-260.
- Bordin, E. S. (1994). Theory and research on the therapeutic working alliance: New directions. In A. O. Horvath & L. S. Greenberg (Eds.), *The working alliance* (pp. 13-37). New York: John Wiley.
- Bowen, M., & Cooper, M. (2012). Development of a client feedback tool: A qualitative study of therapists' experiences of using the Therapy Personalisation Forms. *European Journal of Psychotherapy & Counselling, 14*, 47-62.
- Duncan, B., Sparks, J., Miller, S., Bohanske, R., & Claud, D. (2006). Giving youth a voice: A preliminary study of the reliability and validity of a brief outcome measure for children, adolescents, and caretakers. *Journal of Brief Therapy, 5*, 71-87.

- Janis, I. L. (1982). *Groupthink: Psychological studies of policy decisions and fiascoes*. Boston: Houghton Mifflin.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.
- Lambert, M. J. (2010). *Prevention of treatment failure. The use of measuring, monitoring, and feedback in clinical practice*. Washington DC: American Psychological Association.
- Mackrill, T. (2008). Solicited diary studies of psychotherapeutic practice - pros and cons. *European Journal of Psychotherapy & Counselling*, 10, 5-18.
- Mackrill, T. (2011). Diaries. In L. L'Abatè & L. Sweeney (Eds.), *Research on writing approaches in mental health* (pp. 55-65). Bingley, United Kingdom: Emerald Group Publishing Limited.
- Miller, S. D., Duncan, B. L., Brown, J., Sparks, J., & Claud, D. A. (2003). The Outcome Rating Scale: A preliminary study of reliability, validity, and feasibility of a brief visual analog measure. *Journal of Brief Therapy*, 2, 91-100.
- Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224-239). New York: Guilford.
- Pedersen, M. J. (2012). *Clients' and therapists' experience of tracking* (Doctoral thesis, Institute for Psychology, Copenhagen University). Available from <http://www.e17.dk/medier/628889>
- Reason, P., & Bradbury-Huang, H. (Eds.). (2008). Introduction. In *Sage handbook of action research: Participative inquiry and practice* (pp. 1-10). London: Sage.
- Reason, P., & Rowan, J. (Eds.). (1981). Issues of validity in new paradigm research. In *Human inquiry: A sourcebook of new paradigm research* (pp. 239-250). New York: John Wiley and Sons.
- Saleebey, D. (2008). The strengths perspective: Putting possibility and hope to work in our practice. In B. W. White (Ed.), *Comprehensive handbook of social work and social welfare* (vol. 1, pp. 132-142). Hoboken, NJ: John Wiley & Sons.
- Steering Committee. (2002). Empirically supported therapy relationships: Conclusions and recommendations of the Division 29 Task Force. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 441-443). New York: Oxford University Press.
- Sundet, R. (2011). Collaboration: Family and therapist perspectives of helpful therapy. *Journal of Marital and Family Therapy*, 37, 236-249.
- Tryon, G. S., & Winograd, G. (2002). Goal consensus and collaboration. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 109-125). Oxford, UK: Oxford University Press.

Twigg, E., Barkham, M., Bweick, B. E., Mulhern, B., Connell, J., & Cooper, M. (2009). The Young Person's CORE: Development of a brief outcome measure for young people. *Counselling and Psychotherapy Research*, 9, 160-168.

Unsworth, G. (2009). *Therapists' and clients' perceptions of using CORE-Net and ARM-5 in the NHS* (Doctoral Thesis, Faculty of Health and Medical Sciences, Division of Health and Social Care, University of Surry, UK). Available from <http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.510359>

Author note

Correspondence concerning this article should be addressed to Thomas Mackrill, Metropolitan University College, Institute for Social Work, Kronprinsesse Sofies Vej 35, 2000 Frederiksberg, Denmark. thma@phmetropol.dk. Ph. +45 72489341

Challenges and Opportunities of Using Digital Storytelling as a Trauma Narrative Intervention for Children

Kim M. Anderson
Jonathan R. Cook

Abstract: *This article address the challenges and opportunities of implementing a web-based Digital Storytelling (DS) curriculum to supplement the trauma narrative component of Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) for traumatized young people, ages 9-17, receiving mental health services at a rural domestic violence (DV) agency. Digital storytelling, as the term suggests, combines storytelling with technology that integrates a mixture of digital images, text, audio narration, and music. Ultimately, implementing the DS curriculum empowered participants to process and develop their trauma narratives in a multi-sensory, accessible, and coherent manner. In doing so, they gained tools (writing, narrating, illustrating, and ultimately assembling their own stories) to form adaptive responses regarding their family violence experiences in the immediate aftermath and possibly over time. Agency implications are discussed regarding training, technical, and confidentiality issues related to the implementation of a web-based DS curriculum.*

Keywords: *Digital storytelling, narrative, children exposed to domestic violence, trauma-focused cognitive behavioral therapy*

This article focuses on the use of digital storytelling (DS) as a narrative intervention for traumatized young people, ages 9-17, receiving mental health services at a rural domestic and sexual violence agency. In particular, we developed a web-based DS curriculum to supplement the trauma narrative component of Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), an evidence-based intervention for children with emotional and behavioral difficulties associated with violence exposure and trauma. TF-CBT is typically delivered in 12-16, weekly 90 minute sessions (60 minutes with the child, 30 minutes with the parent to recap the child's session). The core components of TF-CBT make up the acronym PRACTICE: *psycho-education, relaxation skills, affect modulation, cognitive coping, trauma narrative development, in-vivo exposure, conjoint parent-child meeting, and enhancing safety* (Cohen, Mannarino, & Deblinger, 2006).

We sought to understand the elements (i.e., digital images, text, audio narration, and music) of DS and their individual and collective narrative and mental health benefits (Gubrium, 2009; Lambert, 2006). DS was intuitively recognized by agency staff as a good fit with the cognitive, emotional, and linguistic needs of children, yet it was a novel intervention. Therefore, we chose not to use it as a stand-alone protocol and instead integrated it into the existing TF-CBT protocol. The DS curriculum is presented, along with a discussion regarding the challenges and opportunities of implementing it as a narrative intervention for youth traumatized by family violence (e.g., domestic violence, child sexual abuse/violence).

Kim M. Anderson, Ph.D., LCSW, is an Associate Professor in the School of Social Work at the University of Missouri. Jonathan R. Cook, Ph.D., is an Assistant Professor of Psychology, Rhodes College.

Children's Trauma Narrative Construction

Processing family violence experiences is complicated as children may repress one or more aspects, perceptions, or feelings. This chaos of fragments is difficult to understand and is associated with confounding emotions and negative appraisals of self and others, thus overwhelming children with experiences they cannot process and, consequently, inhibiting their ability to construct a coherent self-narrative (Simon, Feiring, & McElroy, 2010). Processing, organizing, and integrating traumatic memories is challenging due to encoding in a dissociated and often sensory rather than a verbal manner; thus, they cannot be effectively communicated or organized (Niederhoffer & Pennebaker, 2009). Integrated functions such as cognition, memory, and emotion become disconnected, particularly in cases of prolonged exposure to interpersonal trauma such as with domestic violence or child sexual abuse (Simon et al., 2010). Failure to adequately integrate trauma-related information underlies several psychological and physical problems including post-traumatic stress disorder (PTSD), low self-esteem, and destructive coping mechanisms (Cohen et al., 2006; Dube, Anda, Felitti, Edwards, & Williamson, 2002).

Creating a written trauma narrative is a critical component of standard TF-CBT, and general guidelines are provided in a published treatment manual (Cohen et al., 2006). During the trauma narrative component, the child develops a storybook (using words, pictures, and/or drawings) or uses other creative expressions (e.g., poetry, song, art techniques) to tell the story of their trauma (Cohen et al., 2006; Cohen, Mannarino, & Iyengar, 2011). The goal of the trauma narrative is to disentangle unpleasant associations between reminders, thoughts, and discussion of the trauma from overpowering emotions, such as horror, fear, or helplessness. Thus, over the course of several sessions, children are encouraged to write in increasing detail about the trauma, including their thoughts and feelings about it. In our experience, we found that young people often avoided the trauma narrative component because of the nature of the content and difficulty with speaking or writing plainly about their childhood trauma, as the experiences were often fragmented, difficult to understand, and associated with overwhelming emotions. We believed that digital storytelling might help them find another avenue to discover their voice during the development of the trauma narrative because of its multi-sensory nature and cultural congruence with young people's connection to digital media. Thus, we added digital storytelling to the trauma narrative component of TF-CBT, as a child-friendly, multi-media narrative alternative that integrated images, narration, and music to *tell* one's trauma narrative.

Digital Storytelling as a Narrative Intervention

Digital storytelling, as the term suggests, combines storytelling with technology (Lambert, 2006). DS involves a computer-based program that integrates a mixture of digital images, text, audio narration, and music. Such modalities are highly customizable, interactive, and allow the user to control how individual digital media elements interact with one another. In addition, the user can personalize digital stories with pan and zoom effects that create a sense of movement and highlight areas of importance in an image. The process of DS involves the individual assessing and making decisions regarding how the story interacts with the images, narration, or music/sounds (Gubrium, 2009). The technical

process is user-friendly; both youth and adults often catch on quickly (Davis & Weinshenker, 2012). Once the story is created and saved, one can view, edit, and continue to add to it until the final version is completed. After completion, all pictures, narrations, and music are compiled and exported into a single video file that one can then view in increments or in its entirety. The end result is the creation of a two to five minute film of one's story (Gubrium, 2009; Lambert, 2006).

Traumatic memories are more disorganized than other memories, and narrative interventions aimed at organizing memory may be particularly effective for children because more organized memories are easier to integrate into existing ones (Foa & Rauch, 2004; Hanney & Kozłowska, 2002). Digital storytelling allows for gradual exposure to one's life traumatic experiences through the use of storyboards—a means of planning out, creating, and telling one's story in a compelling and emotionally engaging form (Lambert, 2006). DS embodies the narrative approach of “emplotment,” which involves arranging temporal elements into a whole by connecting them together and directing them toward a conclusion or ending (Polkinghorne, 1991). Essentially, storyboarding transforms a sequence of disconnected images juxtaposed with narration into a unified story with a point or a theme (Anderson, 2010). For traumatized youth, DS provides a good balance between giving a basic structure to construct one's story that allows immersion into story material (e.g., family pictures) while also providing disengagement opportunities as the child learns technical tools for movie making. Such balance allows them to shift between re-experiencing negative memories while developing mastery over the traumatic experiences and its portrayal in their narrative. Consequently, traumatic reactions that young people otherwise might carry with them throughout their lives may be prevented, lessened, or ameliorated.

Rural DV Agency and Case Example

The DS curriculum outlined below developed out of the TF-CBT services offered by the only victim service provider for a rural county (population approximately 43,000) in a Midwestern state. The youth therapy program (YTP) was comprised of the first author as clinical coordinator, the second author as program coordinator, and a licensed professional play therapist. In response to the difficulty young people were having in constructing traditional written trauma narratives, a DS web-based curriculum was created and added to the trauma narrative component of PRACTICE. We wanted to better understand the capacity of DS to facilitate recovery and promote resiliency in clients, ages 9-17, exposed to familial domestic and/or child sexual violence who were experiencing post-traumatic stress disorder (PTSD). Of 41 agency referrals, 28 met criteria for PTSD and 25 of those followed through after intake to begin DS within the context of TF-CBT. Of the 25 who started TF-CBT services, 16 (9 male and 7 female, all Caucasian, ranging in age from 7-16 years old, $M=12$; $SD=3.28$) completed treatment (63%). Non-completion ($n=9$) was most often due to life crises such as loss of housing, transportation, and/or employment.

We modified the protocol for DS from a 3-day standard workshop model for community participants (see Center for Digital Storytelling, n.d.) to one integrated into an evidence-based therapeutic model (TF-CBT) for young people with PTSD. This adaptation resulted in a web-based DS curriculum for the trauma narrative component (see Digital

Storytelling, 2015) that provided direction and guidelines that were not sufficiently delineated in the professional literature regarding trauma story construction with children. The DS curriculum consisted of three structured sessions covering the purpose, process, and technical tools of DS and two to three unstructured sessions for them to complete their digital stories. The DS curriculum added essential structure to the trauma narrative component of PRACTICE, and it helped the children process and develop their stories of family violence in a less threatening and more approachable manner.

Initially, we used a personal computer program (Windows Moviemaker); eventually, an iPad was used (applications: Pinnacle studio, iMovie) as it was more user-friendly for participants and less costly for the agency. The clinician provided children with technical assistance and encouraged them to use their TF-CBT skills. Embedded throughout the DS curriculum were digital story examples (downloaded from public sites) of children who had survived, persevered, and even thrived despite adversity (e.g., parental death, domestic violence, alcoholism).

The first DS session began with the rationale for making a trauma narrative: for young people to tell their stories and say the things they needed to express, even if they did not know how to do so at the moment. The concept of DS was introduced by explaining that participants would create a brief movie about their lives and the difficult experiences (i.e., family violence) they had endured. They were told they would take on several roles: author, narrator, director, and editor. They were encouraged to write scripts or condensed (i.e., 100-250 words) versions of their life stories. The script-development process addressed components of narrative therapy and resilience theory, along with elements of storytelling to guide each youth's script. Their scripts highlighted the important people and events in their lives, including experiences of family domestic and sexual violence, along with their strengths, coping skills, and ways of healing despite enduring adversity. Although participants were given a good deal of latitude in content, the DS curriculum provided a guide to create coherent narratives that had beginnings, middles, and ends.

In DS session two, young people finished their scripts and were introduced to how images, narration, and music/sounds would be used to complete their stories. Participants were encouraged to use personal artifacts (e.g., pictures, drawings) that could be scanned and digitized. As part of the DS curriculum, several pictures of various people, places, and landscapes were provided to help them identify associated emotions and convey how text (e.g., the word *sad*) was not always needed to distinguish such feelings. Different types of music were added to these pictures, and participants were asked to notice if their emotions changed as a result. In doing so, music was highlighted as another medium to convey emotion. Next, they were shown a DS of a young person's experiences with bipolar disorder and the loss of his supportive father; upon viewing it, they were asked to identify the emotions expressed through the pictures and music represented in his story.

In DS session three, participants further explored their difficult experiences (i.e., family, domestic, and/or sexual violence); the terms "difficult experiences" or "hard times" resonated more with them than the word "trauma." They viewed a digital story of a youth who used rap to tell his experiences of witnessing his father harming his mother. The clinician reiterated that the youth did not have to relive scary experiences; he/she had

control over portraying as much or as little of his/her adversity in their DS. If participants seemed stuck, they were encouraged to focus on the end of their stories —where they were in the present moment— and to think about how they got there. To further underscore the concept of resilience, participants watched a DS in which a youth used music to cope with family alcoholism. This allowed them to see how difficult experiences were a part of their stories but did not have to define them.

In DS session three, participants also created audio-recordings of their scripts. Although some young people were hesitant, gradually they became more accepting of their voices as they read and reread their scripts aloud. For an example of the use of one's voice, participants viewed an animated DS of a youth with Asperger's Syndrome interviewing his mother about being his parent. As they audio-recorded their scripts, they played back the recordings to make changes as they saw fit. They were encouraged by the clinician to consider that their audio recordings did not have to be perfect; in other words, it was okay to hesitate, get choked up, or pause. After finishing their audio recordings, participants were asked to collect pictures (a maximum of 15) related to their script to bring in for their next session. The clinician helped them focus on the overall purpose of their stories and how one unique picture was not needed to match each word, sentence, or paragraph. In fact, a digital story could include as few as one or two pictures to accompany the narration. They were also asked to bring in music/sounds (a maximum of three) to complement their narration. The agency also had an iTunes account for participants without access to music. Instrumental music, as a background soundtrack for the audio recordings, often worked best as it did not compete with or override the audio narratives. Also, the use of silence was introduced as a compelling way to emphasize the visual narratives.

During subsequent DS sessions, participants worked on finalizing their digital stories as they interacted with different images, narratives, and background soundtracks, including decisions regarding timing and placement, allowing for as much immersion and disengagement of story material as necessary. Upon completion of the digital stories, the audio recordings, images, and music were exported into brief videos. The youth often expressed enthusiasm and pride in their finished work. Working with digital media allowed them to more easily approach their difficult family experiences than what we had observed in our previous attempts of addressing the "T" (e.g., trauma narrative) aspect of PRACTICE through the written format only. The use of a multi-sensory approach (as opposed to writing/drawing only) allowed these young people to engage in an interactive dynamic process that ultimately allowed them to use technical tools to create their stories while controlling how they were expressed. In addition to script development, other DS elements – voiceover, images, sound track – drew on their own inherent semiotic "grammar" (Kress, 2003) to expand upon the storytelling process.

As with all aspects of PRACTICE in TF-CBT, the child's digital story sessions were also shared with the non-abusing parent/guardian with the youth's understanding and consent (Foster, 2014). Caregivers often assisted them with collecting pictures and music for their DS, and observing its construction helped prepare the young people to view it in its entirety at the conjoint session (i.e., when the child and parent view the finished digital story together). The conjoint session, an important component of TF-CBT, was often powerful as parents came to new understandings and appreciation of their children's

trauma, recovery, and resilience. As one parent stated in regard to her daughter's digital story, "The recorded voice of a young person with such a big story has a huge impact." Upon completion of TF-CBT services, each participant was given a DVD of his/her digital story. During the final session, the clinician, participants, and parents discussed guidelines, particularly safety and confidentiality issues, regarding the sharing of one's video with others.

The use of DS as a trauma narrative intervention was well-received by all participants ($N=16$), and allowed them to process very difficult experiences in a manner that offered them creative control and various ways to portray their stories. During exit interviews, participants completed a Likert-type questionnaire asking about the process and outcome of DS in the framework of TF-CBT. These young people found that creating a digital story that included their most difficult, along with their more positive, experiences was an enjoyable process even though the material was challenging. Hearing their voice (reading their story aloud and recording their story) became an integral part of their trauma narrative process. They reported valuing the creative process along with having control over the story they wanted to tell. Participants also completed standardized instruments on PTSD, depression, self-esteem, and coping at pre- (intake session) and post-intervention (exit interview); results indicated a clinically significant difference in psychological distress and well-being over the course of treatment for all participants. See Anderson and Wallace (2015) for additional information regarding our research design and findings.

Case Example: Mary

A case example of a nine-year-old Caucasian female, pseudonym "Mary," is presented to highlight how the DS process facilitated her recovery from sibling incest. Mary resided with her 40-year-old stepfather and 34-year-old biological mother, both of whom brought her to weekly TF-CBT sessions. Approximately nine months prior to initiating agency services, Mary disclosed to her mother that her biological brother (age 13) and stepbrother (age 12) had repeatedly sexually abused her. Both boys were removed from the home and placed in an inpatient facility for sex offenders. As a result of these experiences, Mary's parents reported that she was emotionally distressed, withdrawn, and feared reminders of her brothers and the abuse (e.g., avoiding parents' bedroom where she was abused). Mary's mother reported, "My biggest fear is that my daughter will never be okay again."

During the intake process for services, Mary and her parents were introduced to the components of TF-CBT, including how Mary would use DS to tell her story of the abuse. She was shown the iPad and the DS application and was very excited about using it. In the first four sessions, Mary developed mastery of introductory TF-CBT components (i.e., psycho-education on trauma, relaxation methods, affect modulation, and cognitive coping skills). She also spent a few minutes on the iPad at the end of each session playing video games and exploring the DS program. Mary then began six consecutive sessions creating her digital story. Throughout the DS process, Mary viewed videos created by children who had faced adversity presented in the DS curriculum. In doing so, she learned how others used specific DS elements such as voice, photographs, sound, music, and pacing to tell their stories.

During the first and second DS sessions, Mary finished her storyboard and began to write her script. Mary's storyboard included the most meaningful events in her life before, during, and after the abuse took place (a narrative with a beginning, middle, and end). She chose to first write about the happiest times in her early life followed by the abuse itself including its emotional impact, her personal strengths and resiliency capacities, and how she had learned to cope after the abuse. She wrote about the abuse and the embarrassment, fear, worry, anger, and guilt that she felt regarding it. The clinician and Mary further reviewed the DS curriculum regarding how to represent emotion and discussed how she could use specific photographs in her DS trauma narrative to illustrate particular feelings or experiences related to the abuse rather than verbally labeling the emotion. As part of the script development, Mary identified a previously un verbalized dysfunctional belief—that she was to blame for the abuse and the subsequent removal of her brothers from their home. Her challenging this belief, with the support of the clinician and her parents, became an important aspect of her therapeutic process.

In the third DS session, Mary completed her script and narrated it. Listening to her recorded story was a powerful and emotional experience for Mary. Initially, she described listening to her own voice as “really weird.” After listening to herself several times, she stated that she liked it, especially the narrated ending: “I’m learning to be okay even though I was abused. I can think about the abuse and talk about it and cope and not be as upset as I used to be. I feel happy. I feel safe. I feel loved. My parents are there for me.” The audio-recording process provided Mary with some distance from the abuse while simultaneously empowering her through the control she had narrating her own story. Her voice became louder, stronger, and less tentative towards the narration of the abuse she experienced.

During the fourth through sixth DS sessions, Mary brought in family photographs that she had selected with the assistance of her parents and sequenced them to her audio-recording. She chose photographs based on literal rather than abstract meanings (i.e., showing a picture of her home when describing what it was like growing up there). She sequenced the images chronologically according to the specific events she described in her narration (i.e., growing up, the abuse, and current coping/resiliency). Next, she assembled the content using the iPad.

Mary was particularly excited about this stage of the DS process because she was excited to be working on an iPad, and the technical process appeared to be intuitive for her. Mary chose to not use background music and instead let her voice be the focal point. After she completed the assembly of digital media, it was exported as a video file.

Implementing DS specifically for the trauma narrative aspect of TF-CBT enabled Mary to negotiate a balance between representing her traumatic experiences with her words and pictures while simultaneously learning technological skills. By the time Mary viewed the final exported video, she had listened to the audio and her digital story more than a dozen times. Initially, Mary found it difficult to watch and listen to the DS, particularly during the sequence where the photographs of her brothers were paired with her narration of the abuse. However, with repeated viewings Mary was able to watch the entire digital story with minimal or no distress due to desensitization during the DS process. When the clinician asked Mary about this change she said, “I’m learning how to cope with the hard

times I've been through." Through multiple forms of repeated exposure embedded in the development of the DS trauma narrative, Mary's distress decreased (as in all aspects of PRACTICE, participants are asked to rate their distress on a Subjective Units of Distress of Scale, SUDS) and her mastery of technical and storytelling increased as indicated in her coherent, integrated, and completed story.

Throughout the creation of Mary's digital story, the clinician shared it with her parents (without Mary present but with her knowledge and consent) so they could process their own feelings and reactions about the abuse as well as have a sense of her narrative progress. Initially, both parents found listening to and viewing the digital story difficult, particularly the sections in which Mary described the abuse. During these meetings, the clinician talked to Mary's parents about their feelings of guilt and responsibility regarding the abuse, as well as how they could support their daughter's coping and resiliency abilities. Similar to Mary's own experience, her parents found the digital story less distressing with repeated exposures. Ultimately, they came to view Mary's concluding comments on her coping, resiliency, and hope for the future as an especially powerful component of her story.

Next, a conjoint parent-child session was held with the clinician to view the completed digital story together. This was an emotional but positive experience for both Mary and her parents, who expressed their love and support for her. They also discussed the positive changes they had seen Mary make over the course of treatment. The *in vivo* (e.g., in-session desensitization to trauma stimuli) component of PRACTICE ended up not being necessary as DS construction exposed Mary to triggers, such as pictures of her abusers and the location of the abuse, to which she became desensitized. Upon completion of TF-CBT services, Mary and her parents were given a DVD of her digital story, and guidelines regarding the sharing of her story, particularly safety, legal, and confidentiality issues, were addressed.

Discussion and Implications

Several studies demonstrate the relation between formulating an integrated and coherent story after experiencing traumatic events and enhanced trauma recovery and growth (e.g., Anderson & Hiersteiner, 2008; van Minnen, Wessel, Dijkstra, & Roelofs, 2002). The organization of stressful memories, particularly in a narrative structure, is a critical factor in the beneficial effects of children processing their stories about stressful events (Hanney & Kozłowska, 2002; Simon et al., 2010). When children process the story of their family violence experiences in depth and detail, their recent and traumatic memories are transformed and more easily incorporated into their life narratives. DS empowers children to address difficult experiences in a deliberate manner while giving them creative control and a variety of ways to tell the story. The sequential process of script development, audio-recorded self-narrative, selection of photographs, and assembly of the video incorporates multiple sensory modalities (i.e., visual, auditory, tactile) to help youth tell one's story in manageable doses. Such processing allows children to elaborate and organize their trauma memories while tolerating the negative emotions associated with it. Our research findings indicate that being able to gain insight and understanding into a personally traumatic event for these participants enhanced feelings of efficacy and control over the event, one's emotions, and life in general (Anderson & Wallace, 2015).

DS as a trauma narrative intervention provides young people with a structured, interactive, and empowering method of processing traumatic experiences. We were amazed by the facility with which participants learned and developed digital storytelling skills while processing their traumatic life experiences. We found that they were more willing to revisit the past and address present emotions than they had been with the written narrative as they had the structure and tools to regulate exposure to trauma material. Participants often addressed their difficult experiences with interest rather than avoidance even though they experienced discomfort regarding abuse-related memories, emotions, and cognitions. As in the example of Mary's case, the inclusion of her voice and family photographs was initially distressing, but she quickly habituated to these new stimuli and no longer found them to be upsetting. DS provided a good balance between giving a basic structure to construct her story that allowed immersion into story material (e.g., family pictures) while also providing disengagement opportunities as Mary learned technical tools for movie making. Despite the seriousness of the abuse, Mary fully participated and even came to enjoy working on her story, particularly when it came time to use the iPad. Working on a tablet-sized device may also have increased Mary's feelings of self-efficacy because she could sit comfortably and hold it in her lap as opposed to having to work at a table and use a larger desktop computer.

The addition of a web-based DS curriculum in the context of TF-CBT provides mental health clinicians with practical information on narrative development to use in their own practices. The clinician's role is to provide a safe environment for each youth to develop his/her digital story and to support the process. Because of the way trauma affects children's processing, their story creation can appear random and non-linear at first. However, over time they can often create meaningful and profound stories about their experiences. We found that young people have an intuitive sense of how they want their stories to develop. They knew how they wanted their stories portrayed in regard to the sequencing of images, music selected, and the use of their voice, even though they may not have been able to articulate the "why" and "how" of their process. Consequently, we learned that it was best to not inquire about the construction process, e.g., asking them to talk about what their digital images represent. Instead, it was better to focus on the written script and ask questions regarding how selected images, songs, etc., helped to complete their stories.

A few areas to consider before clinicians adopt DS as a trauma narrative intervention include training, technical, and confidentiality issues. In addition to staff being educated on TF-CBT, the first author, who was trained at the Center for Digital Storytelling, also provided instruction and guidance on digital storytelling. Although our DS curriculum is a useful tool for clinicians, it may not be sufficient for their technological needs without oversight from someone skilled in DS. In addition, agencies will need internet access and personal computers with moviemaking programs. If iPads are used, the applications are relatively inexpensive (e.g., \$5.00); however, the agency still needs to have a personal computer to download and burn the video to a DVD. Also, technological failures may result in the loss of digital data gathered during the trauma narrative sessions. For example, in Mary's case, her voice recording was unusable as the audio file was corrupted. Fortunately, Mary was good-natured about re-recording the narrative, but this could be upsetting for

some clients. Using a built-in audio recorder found on most smartphones and subsequently importing the file onto the iPad might be one potential solution to avoiding lost data. Furthermore, teaching clients how to use the software can constitute an additional time commitment, especially for less technologically savvy clients. However, as younger generations are raised in increasingly technologically immersive environments, the need for such training may be minimal.

Confidentiality guidelines must be considered when using any electronic device to collect and assemble digital stories. A portable device containing DS materials should be password protected and not include the clinician's personal photographs or videos. In addition, an electronic album of photos should be created for each client to prevent clients from seeing the images of others. Agency administrators will also need to make decisions on how the videos will be stored upon termination of services and if clients will receive a copy of their completed stories. The DV agency for the current project, after much staff discussion, decided that clients had a right to their digital stories and provided them with copies. However, the clinician met with all participants and caregivers to discuss the implications of having their videos, including possible legal and confidentiality ramifications. Although implementation of DS requires careful agency consideration, the benefits include a powerful, highly personal, and multisensory method for clients to process traumatic events.

Conclusion

Trauma is a deeply personal experience, and no one child will tell his/her story the same. Narrative approaches, such as digital storytelling, can influence trauma recovery and resilience by offering a means of owning and being able to tell one's story. Young people not only learn to process and integrate the traumatic experience into the larger context of their lives but are also empowered through the process of writing, narrating, illustrating, and ultimately assembling their own story. In doing so, they have the storytelling and technical tools to form adaptive responses regarding their family violence experiences, both in its immediate aftermath and over time, possibly preventing the trauma cycle from continuing.

References

- Anderson, K. M. (2010). *Enhancing resilience in survivors of family violence*. NY: Springer.
- Anderson, K. M., & Hiersteiner, C. (2008). Recovering from childhood sexual abuse: Is a storybook ending possible? *The American Journal of Family Therapy*, 36(5), 413-424.
- Anderson, K. M., & Wallace, B. (2015). Digital storytelling as a trauma narrative intervention for children exposed to domestic violence. In J. Cohen & L. Johnson (Eds.), *Film and video-based therapy* (pp. 95-107). New York: Taylor & Francis/Routledge.
- Center for Digital Storytelling. (n.d.). Retrieved from <http://storycenter.org>

- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. NY: Guilford Press.
- Cohen, J. A., Mannarino, A. P., & Iyengar, S. (2011). Community treatment of posttraumatic stress disorder for children exposed to domestic violence: A randomized control trial. *Archives of Pediatrics and Adolescent Medicine, 165*(1), 16-21.
- Davis, A., & Weinshenker, D. (2012). Digital storytelling and authoring identity. In C. C. Ching & B. Foley (Eds.), *Technology and identity: Research on the development and exploration of selves in a digital world* (pp. 47-64). Cambridge, UK: Cambridge University Press.
- Digital Storytelling. (2015). *What is digital storytelling therapy?* Retrieved from <http://digitalstorytherapy.com/>
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Williamson, D. F. (2002). Exposure to abuse, neglect, and household dysfunction among adults who witnessed intimate partner violence as children: Implications for health and social services. *Violence and Victims, 17*(1), 3-17.
- Foa, E. B., & Rauch, S. A. (2004). Cognitive changes during prolonged exposure versus prolonged exposure plus cognitive restructuring in female assault survivors with posttraumatic stress disorder. *Journal of Consulting Clinical Psychology, 72*(5), 879-884.
- Foster, J. M. (2014). Supporting child victims of sexual abuse: Implementation of a trauma narrative family intervention. *The Family Journal: Counseling and Therapy for Couples and Families, 22*, 332-338.
- Gubrium, A. (2009). Digital storytelling: An emergent method for health promotion research and practice. *Health Promotion Practice, 10*(2), 186-191.
- Hanney, L., & Kozłowska, K. (2002). Healing traumatized children: Creating illustrated storybooks in family therapy. *Family Process, 41*(1), 37-65.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
- Lambert, J. (2006). *Digital storytelling: Capturing lives, creating community*. Berkeley, CA: Digital Diner Press.
- Niederhoffer, K. G., & Pennebaker, J. W. (2009). Sharing one's story: On the benefits of writing or talking about emotional experience. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 621-632). NY: Oxford University Press.
- Polkinghorne, D. E. (1991). Narrative and self-concept. *Journal of Narrative and Life History, 1*(2 & 3), 135-153.
- Simon, V. A., Feiring, C., & McElroy, S. K. (2010). Making meaning of traumatic events: Youths' strategies for processing childhood sexual abuse are associated with psychosocial adjustment. *Child Maltreatment, 15*(3), 229-241.

van Minnen, A., Wessel, I., Dijkstra, T., & Roelofs, K. (2002). Changes in PTSD patients' narratives during prolonged exposure therapy: A replication and extension. *Journal of Traumatic Stress, 15*(3), 255-258.

Author note

Address correspondence to: Kim M. Anderson, PhD, LCSW, School of Social Work, University of Missouri, 705 Clark Hall, Columbia, Missouri, 65211. Email: andersonki@missouri.edu.

If They Like It They Can Take It With Them: A Mixed Methods Examination of Internet-Based Mindfulness Meditation With Incarcerated Youth

Michelle Evans-Chase

Abstract: *The most successful programming offered in juvenile justice facilities does not easily transfer back to communities to give youth the opportunity to practice intervention skills once they return home. This transferability is particularly important to youth leaving state custody given that they disproportionately return to poor communities and disrupted families that both exacerbate behaviors associated with juvenile justice involvement and act as barriers to much needed services and support. With this in mind, a randomized controlled trial was conducted with a sample of 60 youth, ages 16 to 22, sentenced to state custody in a juvenile detention facility in New Jersey to quantitatively assess the ability of freely available Internet-based mindfulness meditation instruction to increase mindfulness. Weekly journals and open-ended post-test questions were used to qualitatively explore treatment experiences. Differences among age and treatment groups on quantitative measures of mindfulness, along with content analysis of journal entries, suggest that the Internet delivery of mindfulness meditation instruction increased mindfulness in older youth. Forty percent of treatment youth, compared to 5% of control youth, provided at least one detailed entry describing their use of “class skills” to help them deal with conflict in the facility. These findings suggest that an Internet delivery of mindfulness meditation is engaging to incarcerated youth, helpful to them in coping with life in a juvenile justice facility, and able to increase mindfulness in older youth who practice it.*

Keywords: *Internet, mindfulness meditation, juvenile justice, transition, incarceration, youth*

Approximately 60,000 youth were detained in juvenile justice facilities in 2012 (Hockenberry, Sickmund, & Sladky, 2015). Previous cohorts of youth leaving state custody have reported difficulties with anger management (80%), anxiety (61%), depression (59%), substance abuse (68%), and suicidal ideation (27%) at the time of their release (Sedlak & McPherson, 2010; Snyder & Sickmund, 2006). These findings are important given that incarcerated youth are disproportionately exposed to family and community environments out of custody known to exacerbate these and other poor mental health and behavioral outcomes. Additionally, such experiences, which include exposure to family and community violence (Baglivio et al., 2014; Hawkins et al., 2000), family disruption (Baglivio et al., 2014; Travis, Cincotta, & Solomon, 2003), and poverty (Snyder & Sickmund, 2006), often act as barriers to obtaining the services and support youth need to deal with these issues once they return home. Until those structural factors that give rise to these circumstances (e.g., poverty, institutional racism) are addressed, identifying ways to provide youth with support both in and outside of custody is one operative way to address the impact that these experiences have on youth.

Michelle Evans-Chase, Ph.D., is an Assistant Professor of Psychology at Rowan University in Glassboro, NJ. 116 Robinson Hall, Rowan University 201 Mullica Hill Road • Glassboro, New Jersey 08028. Email: evans-chase@rowan.edu

The purpose of this study is to identify an effective intervention for incarcerated youth that 1) increases their ability to cope with the stressors that exacerbate the emotional and behavioral problems associated with juvenile justice involvement and 2) is delivered in such a way that they have continued, free access after release, regardless of family or community resources. The intervention chosen for the study, mindfulness meditation, is a practice associated with positive mental, behavioral, and emotional changes in samples of adults and youth with and without mental health diagnoses, and it is amenable to an Internet delivery method that would allow for continued practice once youth leave custody.

Background and Significance

It is well documented that incarcerated youth face disproportionately high rates of community and family stressors outside of custody known to increase the likelihood of delinquent and aggressive behavior (Baglivio et al., 2014; Bjerk, 2007; Carlson, 2006; Smith & Ecob, 2007). These experiences, which are enduring factors in the lives of incarcerated youth, include parental incarceration (Schnittker & John, 2007; Travis et al., 2003), violent victimization, exposure to violence (Baglivio et al., 2014; Bjerk, 2007; Carlson, 2006), and poverty (Bjerk, 2007; Carlson, 2006).

Programming and Out of Custody Context

Programming in juvenile justice facilities is an opportunity to intervene in the lives of youth and help them develop into healthy young adults. Currently, most of the successful interventions used with incarcerated youth, such as cognitive behavioral therapies and interpersonal skill development (Lipsey, Wilson, & Cothorn, 2000), are not designed to provide continued structure in the practice of newly acquired skills once youth are out of custody. Additionally, a systematic review of 198 juvenile justice intervention studies found that only five studies assessed transition or post-release programming, suggesting that transition programming is either a rare practice with youth leaving custody or that such programming is implemented with no evidence (Evans-Chase & Zhou, 2014). What appears to be the current practice in juvenile justice facilities is to provide treatment and programming for youth only until they are released, after which ill-equipped families and communities are left responsible for finding, connecting, or providing youth with the support they need. High rates of recidivism (Snyder & Sickmund, 2006) and longitudinal data suggest that this is not a successful strategy. One study of youth leaving custody found that, while 45% had at least one DSM-IV diagnosis, only 20% were receiving mental health services at 6 months post release and only 15% at 12 months (Bullis, Yovanoff, & Havel, 2004). Additionally, only 48% of the cohort was connected to any community-based agencies at 6 months post release, with 33% at 12 months. Identifying mechanisms that provide access to continued support once youth leave custody could help to ensure their success while at the same time serving the goals of the juvenile justice system.

Internet-based Interventions

Previous research on technology use by adolescents has indicated that 93% of youth, regardless of income, are daily users of technology, including personal computers, iPods, cell phones, and the Internet (Palermo, Wilson, Peters, Lewandowski, & Somhegyi, 2009).

Despite empirical support for the use of technology in the delivery of interventions supporting adolescent physical health (Maher, Williams, Olds, & Lane, 2010), mental health (Palermo et al., 2009), and risk reduction (Heinicke, Paxton, McLean, & Wertheim, 2007), it is rarely used in juvenile justice interventions (Evans-Chase & Zhou, 2014). Using computers or iPods to deliver in-custody programming could give youth leaving custody the opportunity to continue to practice intervention skills after release with the same structure, breaching the transition gap and increasing their ability to incorporate intervention skills into their everyday lives.

Mindfulness Meditation

Mindfulness meditation (MM) is a skill that has been successfully taught both with a teacher present as well as via guided meditation tapes (Ditto, Eclache, & Goldman, 2006). Successful integration of MM into individual practice has been found with programs ranging from 45-minute sessions once per week for 4 weeks (Jain et al., 2007) to 2-hour sessions once per week for 8 weeks (Ramel, Goldin, Carmona, & McQuaid, 2004). The three components common to most definitions of MM practice include *present awareness*, or having one's awareness in the present moment; *nonjudgmental awareness*, or being aware of but not judging the emotions, thoughts, or events of the present moment as good or bad; and *acceptance*, or accepting the emotions, thoughts, or events of the present moment as they are (Biegel, Brown, Shapiro, & Schubert, 2009; Burke, 2010).

Positive mental health outcomes and behavior change. Previous research on MM has found significant effects on positive states of mind and stress reduction in comparison to relaxation and control groups (Broderick, 2005; Jain et al., 2007). Studies have also found a positive relationship between MM and reduced substance abuse in incarcerated adults (Bowen et al., 2006) and increased self-control and self-awareness and decreased stress and anger in adolescent sex offenders (Derezotes, 2000). MM has been successfully combined with cognitive and dialectical behavior therapies as a treatment for children with anxiety (Semple, Reid, & Miller, 2005) and for the prevention of suicidal behaviors in patients with past suicidal ideation (Williams, Duggan, Crane, & Fennell, 2006). A recent review of research conducted between 2003-2008 found the associated effect of MM to include lowered anxiety, depression, anger and worry; a greater sense of well-being; increased emotional control; lowered levels of cortisol; and an increased ability to reduce harmful behaviors such as binge eating, smoking, and substance use (Greeson, 2009).

MM with incarcerated youth. These findings suggest that MM may be uniquely suited for use in the juvenile justice system given its successful use with adolescents and as an effective treatment for youth with behavioral and emotional problems similar to those reported by youth leaving custody. Furthermore, given the effectiveness of MM in addressing mental health issues such as suicidal ideation, depression, and anxiety in a variety of populations, MM should be no less effective and may even be more helpful for those youth incarcerated in the juvenile justice system with undiagnosed and/or untreated mental health issues. Finally, the increased emotional and behavioral control associated with MM may be protective against the emotional responses associated with the life stressors incarcerated youth face outside of custody (Greeson, 2009).

Methods

As part of a randomized, controlled trial of the effects of MM on self-regulation, the current study explores participants' experiences with the Internet-based instruction qualitatively through content analysis of journals and open-ended questions and quantitatively using the Five-Factor Mindfulness Questionnaire (FFMQ). For a full description of study methods, see Evans-Chase (2013).

Recruitment and Randomization

All male juvenile offenders incarcerated in the New Jersey state correctional facility in Monroe Township, NJ who were scheduled for release no less than 3 months from entrance into the study, who voluntarily agreed to be in the study, who voluntarily signed an assent or consent form, and who had at least one parent sign a consent form (for youth under 18) were eligible to participate in the study. Residents who were in protective custody or were otherwise not safe in a group setting, either because they were a threat to others or a high victim risk as defined by the facility, were excluded from the participant pool prior to recruitment activities.

Consent interviews were conducted with youth 18 and over, and assent interviews were conducted with youth 17 and under. Parental consent forms were sent to the parents/guardians of all youth under the age of 18 who assented to participate. The packets contained a letter of introduction, two copies of the consent form, one for the parent/guardian to keep and one for them to mail to the principal investigator (PI), and a stamped envelope addressed to the PI.

Randomization was done at the individual level within housing unit groups such that youth from housing units 1, 2, and 3 were randomly assigned to either treatment or control groups meeting on Thursday nights and youth from housing units 4, 5, and 6 were randomly assigned to either treatment or control groups meeting on Friday nights. Housing units were combined by the facility administrators based on those units that normally mixed in other facility activities. All study activities were held in the same community building, including recruitment, randomization, treatment and control sessions, and data collection. The randomization process itself used a list of numbers, with even numbers representing Mindfulness Meditation assignment and odd numbers representing Guided Relaxation (GR) assignment. Each number was written on an individual piece of paper, folded, and placed in a small paper bag. At the end of the pretest session, as each participant turned in his completed questionnaire he was asked to pick one of the pieces of paper out of the bag. The number chosen indicated group assignment. Randomization was conducted in this fashion for three reasons: 1) to give the participants a clearer understanding of what was meant by random assignment to groups, 2) to give the participants an opportunity to feel that they were a part of the study process, and 3) because conducting the randomization process after administration of the pretest has been identified as a method that can prevent the impact that knowledge of group assignment can have (Boruch, 1997).

Treatment and Control Sessions

Classes were conducted for 1 hour once per week for 8 weeks. A male Research Assistant used pre-recorded instructions to facilitate treatment and control group sessions. Participants sat in chairs at the table of their choosing. All of the chairs faced the front of the room where the iPod and speaker were placed on a centrally located table. Snacks provided by the facility were also made available during the sessions. The Research Assistant handed out the journals, took roll, and turned on the audio for that session. The journals were handed out at the beginning of the session to give participants something to do (doodle, draw, write) if they found it difficult to sit still during the entire audio session. This procedure was planned in recognition of the high rates of Attention Deficit Disorder in this population (Adams, 2010) to allow them to continue to listen while also engaging in a physical activity that would not be disruptive to the other participants. MM classes used MP3 downloads of classes led by Noah Levine, who has extensive experience teaching meditation to incarcerated youth and adults as well as non-incarcerated youth recovering from drug and alcohol addiction. The downloads used for the study, all of which are available for free on Levine's website (Levine, 2015), involved specific instructions in MM that encouraged relaxed, nonjudgmental awareness of thoughts and feelings while focusing on breathing. The instruction also included commentary on how these MM practices (nonjudgmental awareness of thoughts and feelings during meditation) relate to compassion, patience, and mindfulness in everyday life.

GR classes utilized a Progressive Muscle Relaxation (PMR) MP3 download that included very simple instructions in contracting and relaxing different muscle groups in a conscious attempt to relax the body and reduce cognitive and physiological stress (Pawlow & Jones, 2005). Progressive Relaxation has been found to significantly lower levels of salivary cortisol after a single 1-hour session (Pawlow & Jones, 2005) and, in meta-analysis, to have a medium-high effect on anxiety, particularly for young people (Manzoni, Pagnini, Castelnuovo, & Molinari, 2008). While PMR and meditation both significantly reduce anxiety (Manzoni et al., 2008), the practice of MM is additionally associated with "important shifts in cognition, emotion, biology, and behavior" (Greeson, 2009, p. 15). It is this change in behavior, cognition, emotion, and biology that was hypothesized for the treatment group but not for the control group. That both the treatment and control groups might experience decreases in anxiety was an additional benefit of the choice of PMR (termed Guided Relaxation for the study) for the control group such that it provided the possibility that the comparison group might benefit from participation in the study, although no stress or anxiety scales were included in data collection materials.

Incentives

To thank participants for their participation, snacks were provided during data collection and class sessions. Additionally, gift cards were provided based on level of participation: \$5 for the pre-test, \$5 for attending 5 or more classes or \$10 for attending all 8 classes, and \$5 for the post-test. Participants were asked at post-test to identify a store or restaurant for which they would like a gift card purchased in the amount corresponding to their level of participation in the study.

Measures

To test the novel delivery of MM instruction, a quantitative measure assessing changes in mindfulness between pre and post-test and qualitative measures exploring the experience of the delivery method were used.

The 5-Facet Mindfulness Questionnaire (FFMQ). The FFMQ includes 5 subscales that measure different facets of mindfulness, including Observing, Describing, Acting with Awareness, Nonjudging of Inner Experience, and Nonreactivity to Inner Experience. The FFMQ was designed for use with a range of ages and has been used successfully with both children (E. Sablinga, personal communication, March 5, 2010) and young adults (Baer et al., 2008).

Construct validity of the five facets has been demonstrated in a sample of older adolescent and adult students, where the Describing, Acting with Awareness, Nonjudging of Inner Experience, and Nonreactivity facets were significantly and negatively correlated with psychological symptoms and significantly and positively correlated with psychological well-being (Baer et al., 2008). The Observe facet was positively and significantly correlated with psychological symptoms in those with more meditation experience but not amongst those with little or no meditation experience. It appears that the Observing facet has different meanings in experienced versus inexperienced meditators such that *Observing* for non-meditators represents a more negative self-focus that can be maladaptive, while in experienced meditators, *Observing* involves an internal and external focus that is non-judgmental (Baer et al., 2008).

Journals. Journals were handed out at the beginning and collected at the end of each class session and included a closed-ended section in which participants were asked to circle the number of times they had practiced between classes and an open-ended section in which they were asked to write down any thoughts, experiences, or suggestions about the class. Any practice done between classes would, by necessity, be from memory, as participants had no access to computers or the Internet, nor were they given the name of the MM or GR instructor until the classes were completed. To assure that identical instructions were given to treatment and control groups, the following was read during the initial class sessions:

We will meet each week to do this but in between classes you can practice (MM or GR) as much or as little as you want to. The only thing we ask is that you keep track of how many times you practice. Each week before I start the MP3 instructions I will hand out these journals for you to keep track of whether you practiced between classes or not and if you did, how many times. You can also use the journals to write down anything about the classes that you think would be important for the researcher to know.

Treatment Experience

Six open-ended questions were presented at post-test to the MM participants; these questions asked for general opinions about their experiences with the intervention. The questions asked what they liked most and least about the classes, if and how learning MM helped them deal with everyday life, if they would be interested in participating in more

classes, and if/how they thought being at a juvenile facility affected the ability to practice MM.

Data Analysis

Multiple Regression analysis was used to test the effect of the MM instruction on mindfulness using four dummy variables: three for age: age1 (age 16-17), age2 (age 18), and age3 (age 19-23) and one for group assignment. Two models tested differences between groups in mindfulness post-test scores: a Main Effects model that included pre-test scores, a treatment dummy variable, and two of three age group dummy variables; and an Interaction Model that added an interaction term (agextreat) created by multiplying the age group dummy variables by the treatment dummy variable.

The author used an iterative, open coding process to identify topics and themes arising from the MM journals and post-test open-ended questions. The content analysis process included multiple readings of the narrative data (i.e., journal entries and post-test answers), with the first reading done without expectation of what topics or themes might arise. During the second reading, topics were noted for each entry or answer and then transferred to a database in Microsoft Excel. Topics were then explored for key concepts or words, and themes were created out of related topics. Entries were then re-read for the existence of the main themes or key concepts across participants. Content analysis was done first for the MM group and followed by analysis of GR narrative data for the frequency with which youth in the GR group addressed the most common themes identified in the MM data as well as for common topics and themes within GR journal entries.

Human Subjects

The risk to the participants was minimal. Participation in Mindfulness Meditation or Guided Relaxation does not include any risk greater than that faced in everyday life in the facility. However, because of the vulnerability of incarcerated youth, several procedures were implemented to ensure that participation was truly voluntary. First, although the state is the legal guardian of the youth and able to give consent for their participation, assent forms were used to make sure that each youth was completely informed about the study and participated voluntarily. Parents of all assenting youth were contacted and asked to provide consent for their son's participation in the study. Second, to assure that any youth who declined to participate did not face any consequences for declining, both the PI and Research Assistant referred to youth who declined as "not qualifying" when communicating with the facility rather than saying that the youth declined to participate. This terminology is consistent with and reflective of the study Entrance Criteria, which includes voluntary participation and a voluntarily signed assent form. All procedures were approved by the University of Pennsylvania Institutional Review Board and the New Jersey Juvenile Justice Commission Research Review Board.

Results

A total of 60 young men participated in the study. The mean age of the overall sample was age 18 ($sd=1.30$), with 17 (28%) in the age 16-17 group, 24 (40%) in the age 18 group, and 19 (32%) in the age 19-23 group. Of the 60 participants who started the study, 45% ($n=27$) completed the study through the post-test and are used in quantitative analysis. Attrition from the study and thus exclusion from the quantitative analysis was most commonly due to being out of custody at the time of the post-test ($n=17$, 29%), not attending the post-test session ($n=9$, 15%), or being on lockdown on the day of the post-test ($n=3$, 5%). All journals with at least one entry were included in the analysis.

Treatment vs. Control: Mindfulness

A paired samples t-test was used to establish equivalence between the mean scores for the two groups (MM vs. GR) on baseline mindfulness. No significant differences were found between the MM ($M=122.71$, $SD=19.80$) and GR ($M=124.58$, $SD=11.16$) groups, $t(24) = 0.289$, $p=0.77$. Multiple Regression analysis was used to test models of differences between groups at post-test using four dummy variables: 3 for age: age1 (age 16-17=1, age 18-23=0), age2 (age 18=1, age 16-17=0, age 19-23=0), and age3 (age19-23=1, age 16-18=0); and one for group assignment: treatgrp (1=treatment, 0=control). The age groupings were made 1) based on common separations in brain imaging studies of developmental differences in those areas most affected by MM practice (Allen et al., 2012; Holzel et al., 2007; Luna, Padmanabhan, & O'Hearn, 2010; Tang, Lu, Fan, Yang, & Posner, 2012), 2) to allow for contrast with multiple referent groups (Gordon, 2010), and 3) to create more equal groupings for analysis (Gordon, 2010).

Because the developer of the FFMQ has recommended that the Observing sub-scale be used only in comparisons within treatment groups when evaluating mindfulness programs due to possible differences in meaning for those with more MM experience (Baer, Samuel, & Lykins, 2011), two datasets were used to test four models. Two models used the original mindfulness scores, including the Observing sub-scale, and three models used a dataset of scores with the Observe sub-scale removed from both pre and post-test totals. The Main Effect Only model for each dataset tested the effect of being in the treatment versus the control group, controlling for pre-test scores and age group; the Interaction Model included these variables plus an interaction term for age group x treatment group.

As demonstrated in Table 1 using all of the sub-scales, the GR group significantly outperformed the MM group in the oldest age group by an average of 15 points ($p<0.05$), a difference that did not hold once the Observe sub-scale was removed ($B= -11.57$, $p>.05$). The age2 MM youth (comprised of youth aged 18) also outperformed the age3 MM youth (comprised of youth age 19-23) by almost 21 points ($p<0.05$) using the full Mindfulness scale, but the difference was both smaller and non-significant with the reduced scale ($B= 13.86$, $p>0.05$).

Table 1. Regression analysis of Mindfulness scores using the full scale and reduced scale with the Observe sub-scale removed from post-test totals.

| | Original | | Adjusted | |
|---|-------------------|---|-------------------|----------------------------|
| | Main Effects Only | Interaction | Main Effects Only | Interaction |
| | B (SE) | B (SE) | B (SE) | B (SE) |
| Pretest | 0.66 (0.15)* | 0.70 (0.15)* | 0.58 (0.15)* | 0.60 (0.16)* |
| Treat v Control | -4.91 (4.29) | | -3.81 (3.73) | |
| Treat v Control Age1 | | -4.56 (8.13) ^o | | -2.25 (7.93) ² |
| Treat v Control Age2 | | 5.09 (6.51) ^a | | 2.29 (6.06) ³ |
| Treat v Control Age3 | | -15.68 (6.55)* | | -11.57 (6.12) |
| Age1 | -8.41 (5.7) | -12.62 (7.5) | -4.89 (4.85) | -8.63 (7.14) |
| Age2 | -3.55 (4.95) | -12.31 (5.95) | -3.52 (4.41) | -9.28 (5.59) |
| Age1xTreat | | 11.12 (10.59) | | 9.31 (10.09) |
| Age2xTreat | | 20.77 (9.03)* | | 13.86 (8.54) |
| Age1xTreat ¹ | | -9.65 (10.75) ^a | | -4.54 (10.45) ³ |
| Intercept | 45.05 (18.95)* | 43.81 (18.78)* | 45.39 (15.64)* | 45.42 (17.02)* |
| N | 24 | 24 | 24 | 24 |
| Adj R2 | 0.53 | 0.60 | 0.42 | 0.45 |
| F-Value | F(4, 19)=7.42* | F(6, 17)=6.69* | F(4, 19)=5.22* | F(6, 17)=4.07* |
| ΔAdjR2 | | 0.07 | | 0.03 |
| F-Value | | F(2,17)=1.46 | | F (2,17)=0.31 |
| *p<0.05 | | ¹ with age 2 as the reference group | | |
| ^a Intercept: B=31.50, SE=18.45, p>0.05 | | ² Intercept: B=36.79, SE=16.66, p<0.05 | | |
| ^o Intercept: B=31.19, SE=19.53, p>0.05 | | ³ Intercept: B=36.14, SE=16.73, p<0.05 | | |

Content Analysis: Journal Entries

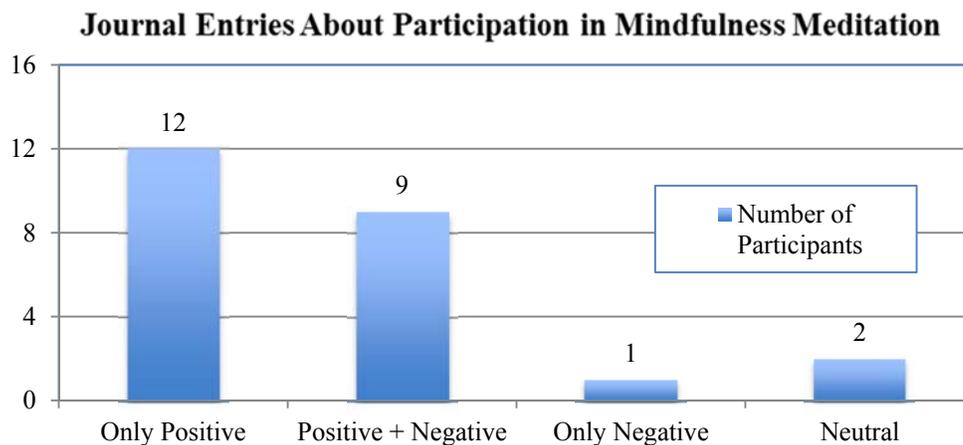
Table 2 lists the most common themes found in the MM journals. Comparisons with GR journals indicated that a higher percentage of youth in the MM classes wrote about the application of class skills to help them control their behavior or deal with their emotions outside of class (54% v. 30%), with an even bigger gap between the two groups in the percentage of youth who described specific examples in which they used class skills to regulate their emotions or behavior outside of class (42% v. 5%). A higher percentage of youth in the GR classes reported that practicing class skills both inside and outside of class reduced their stress levels and/or made them feel calm or relaxed (65% v. 58%).

Table 2. Primary Themes Compared Across Treatment Conditions

| | Number of Participants* | |
|---|-------------------------|------------|
| | MM n=24 | GR n=20 |
| Described using class skills to self-regulate behavior or emotions | 13 (54%) | 6 (30%) |
| Described specific examples of self-regulating emotions or behavior | 10 (42%) | 1 (5%) |
| Reduced stress, were calmed by class or practice outside of class | 14 (58%) | 13 (65%) |
| Neither | 4 (17%) | 2 (10%) |

* Some participant journals contained multiple themes, therefore column totals > number of participants

As demonstrated in Figure 1, about half of the MM participants ($n=12$) had journal entries that communicated only positive experiences and thoughts about the class or the use of meditation or mindfulness skills outside of class. About 38% ($n=9$) had primarily positive journal entries mixed with entries that communicated factors about the class that they did not like. One primary complaint about the class was that it was boring ($n=3$), although two of these three participants also commented in their journals that, while they found the class boring, they still practiced the MM instructions outside of class and found that it helped them relax and control their anger. A second complaint was that it was difficult to hear the instructions because of the volume of the iPod ($n=3$) or that the speaker's voice on the iPod was sometimes hard to understand ($n=2$). Of the 10 participants who wrote negative comments, nine also included positive experiences of class participation. All of the participants who described practicing MM outside of class, regardless of their feelings towards the class itself, reported only positive experiences in applying class skills to difficult situations encountered in their day-to-day lives in the facility.

**Figure 1. Journal commentary about participation in Mindfulness Meditation Classes Across All Entries**

Treatment Engagement

Youth in the MM group were asked open-ended questions at post-test about their experiences in the class. In response to the question *What part of the meditation classes did you enjoy most?*, 60% ($n=9$) indicated that it was the intervention activity itself that they liked the most, 27% ($n=4$) indicated that it was the class time spent interacting with other participants or eating the snacks provided by the Research Assistant that they liked most, and 13% ($n=2$) provided a response too ambiguous to interpret (see Figure 2).

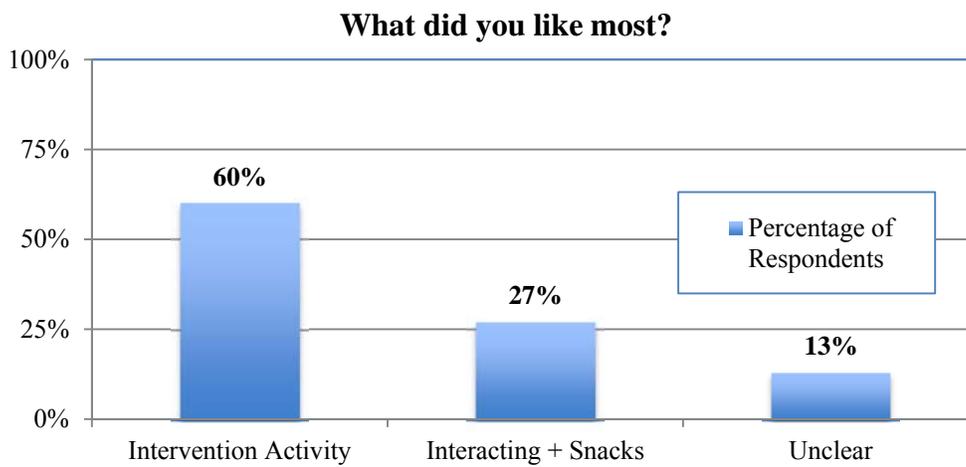


Figure 2. Percentage of Respondents Reporting What They Liked Most About the Mindfulness Meditation Classes.

In response to the question *What part of the meditation classes did you not like?*, 47% ($n=7$) indicated that there was nothing about the classes that they did not like, 33% ($n=5$) indicated that they had some difficulty with the sound of the intervention delivery, and 7% ($n=1$) indicated that he found the classes boring. In response to the question *Did learning mindfulness meditation help you deal with everyday life?*, 67% ($n=10$) indicated that learning MM helped them deal with the stressors that they faced living in a juvenile justice facility by helping them control or be aware of their own behavior in emotional situations, and/or by helping them stay out of trouble. In response to the question *Would you be interested in participating in more classes if they were offered at the [facility]?*, 93% ($n=14$) indicated that they would be interested. In response to the question *Do you think being in a juvenile justice facility makes it hard to practice MM?*, 60% ($n=9$) reported that practicing MM was hard because of the difficulty in finding a quiet place where they would not be bothered, and 40% ($n=6$) reported that it was not difficult, that it is something particularly well suited to juvenile justice facilities.

Discussion

Findings from this study provide support for a new method of MM instruction for incarcerated youth. Using the Internet in this fashion could increase the ability of juvenile justice facilities to not only provide MM instruction in custody but also provide a longer period of transitional support for youth leaving custody such that the instruction is freely accessible on the Internet, giving youth the opportunity to continue to practice intervention skills using the same instructions and teacher after release that they became familiar and comfortable with in custody.

Mindfulness

Because previous research suggests that the *Observing* factor has different meanings for experienced meditators, all comparisons were made using two datasets: one with Mindfulness scores including the Observe sub-scale and one with the Observe sub-scale removed. The results suggest that the Observing questions may have been understood differently at post-test by older youth in the MM group given that the oldest GR age group significantly outperformed the oldest MM group at post-test using the full scores but that the difference did not hold once the Observing sub-scale was removed. These findings may be an indication that older youth in the MM group had the qualitative change referenced by Baer and colleagues (2011) in which their experience with MM changed their understanding at post-test of what it means to observe one's emotions and reactions, that is, from one with to one without judgment.

Once the Observe scores were removed, neither model found significant differences between the MM and GR groups in any of the age groups. This is surprising given the differences found between groups in the content analysis of journal entries and the evidence of changes in the oldest MM group associated in previous research with MM experience. It may be that FFMQ questions, at least those other than the Observe sub-scale, hold different meanings in the institutional setting. There are many unique factors in custody that may impact the ability of youth to identify, without examples specific to their unique situation, how often they accept the moment as it is or have present time awareness as asked in the FFMQ. Future research is needed to test the validity of the FFMQ in measuring mindfulness with youth living in correctional settings.

Journals

Comparisons of journal entries between the MM and GR youth provide qualitative support for the ability of Internet-based MM instruction to increase mindfulness in incarcerated youth. First, over half of the youth in the MM classes wrote at least one entry mentioning the use of class skills to self-regulate emotions and behavior outside of class while less than a third of GR youth did. More compelling is the difference between the groups in providing specific, detailed examples of situations in which class skills were used and how they used them, with over 40% of MM youth providing at least one detailed example that recounted a situation in which they became angry during an interaction with a staff member or resident but took a moment to breath and think about how they wanted to respond and as a result did not react in an angry or aggressive manner. By contrast, only

one GR youth provided such specific examples. Instead, entries describing the use of GR in the self-regulation of emotions or behavior were more likely to be general reactions unassociated with any particular situation.

The specificity and detail of the journal entries of the MM youth compared to the GR youth suggest that the MM youth may have been more aware of their behavior and able to apply what they were learning more consciously so that when the time came to write in their journals during class time, they could bring to mind and provide considerable detail of specific situations in which they found class skills helpful. Furthermore, descriptions of interpersonal situations where they became angry contained evidence of responses characteristically associated with mindfulness: awareness of thoughts and emotions (awareness), conscious decisions not to respond with anger (acceptance of situation or emotion, non-reaction), and the ability to later describe situations with detail (being present, describe).

Treatment Engagement

Programming that is found in intervention studies to be effective with youth does not always translate into effective practice unless youth themselves find the program engaging enough to be worth the effort of participation. Based on questions asked of the MM participants at post-test, it appears that the vast majority of youth found the intervention as delivered engaging. Most reported that the MM activity itself was their favorite part of the class (compared to the opportunity to socialize and eat snacks) and that the skills they learned were immediately applicable to their lives in dealing with the stress associated with living in a juvenile justice facility, in being aware of and controlling their emotional reactions, and/or in helping them stay out of trouble.

Conclusion

The level of engagement and real-life application of intervention skills demonstrated here suggests that MM instruction using MP3 downloads with youth in custody could increase their ability to cope with the stressors of life within juvenile justice facilities and possibly translate to continued practice after release when such coping mechanisms are even more imperative if youth are to thrive within their troubled families and communities. Future research should include longitudinal studies to assess the extent to which youth continue to practice mindfulness meditation once they return home and if such continued practice is associated with positive effects on mental health and behavioral outcomes. Future research should also include samples of young women and special populations of youth not represented here (i.e., those in juvenile justice substance use and mental health treatment units) and should explore the efficacy of a shorter intervention period, with multiple classes per week across fewer weeks, to address the high rate of attrition due to changes in custody status (i.e., release or transfer to a different facility) endemic to an 8-week intervention in the juvenile justice system. Finally, future studies should explore the efficacy of individual delivery via personal iPods to allow for inclusion of incarcerated youth who are not safe in group settings.

References

- Adams, E. (2010). Healing invisible wounds: Why investing in trauma-informed care for children makes sense. *Justice Policy Institute*. Retrieved from <http://www.justicepolicy.org>.
- Allen, M., Dietz, M., Blair, K., van Beek, M., Rees, G., Vestergaard-Poulsen, P., ...Roepstorff, A. (2012). Cognitive-affective neural plasticity following active-controlled mindfulness intervention. *The Journal of Neuroscience*, *32*(44), 15601-15610.
- Baer, R., Samuel, D., & Lykins, E. (2011). Differential item functioning on the Five Facet Mindfulness Questionnaire is minimal in demographically matched meditators and nonmeditators. *Assessment*, *18*, 3-10.
- Baer, R., Smith, G., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., & Williams, J. (2008). Construct validity of the Five Facet Mindfulness Questionnaire in meditating and nonmeditating samples. *Assessment*, *15*, 329-342.
- Baglivio, M., Epps, N., Swartz, K., Sayedul, M., Sheer, A., & Hardt, N. (2014). The prevalence of adverse childhood experiences (ACE) in the lives of juvenile offenders. *Journal of Juvenile Justice*, *3*, 1-23.
- Biegel, G., Brown, K., Shapiro, S., & Schubert, C. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Community and Clinical Psychology*, *77*, 855-866.
- Bjerk, D. (2007). Measuring the relationship between youth criminal participation and household economic resources. *Journal of Quantitative Criminology*, *23*, 23-39.
- Boruch, R. (1997). *Randomized experiments for planning and evaluation: A practical guide*. Thousand Oaks, CA: Sage.
- Bowen, S., Witkiewitz, K., Dilworth, T., Chawla, N., Simpson, T., Ostafin, B., ...Marlatt, A. (2006). Mindfulness meditation and substance abuse in an incarcerated population. *Psychology of Addictive Behavior*, *2*, 343-347.
- Broderick, P. (2005). Mindfulness and coping with dysphoric mood: Contrasts with rumination and distraction. *Cognitive Therapy and Research*, *29*, 501-510.
- Bullis, M., Yovanoff, P., & Havel, E. (2004). The importance of getting started right: Further examination of the facility-to-community transition of formerly incarcerated youth. *Journal of Special Education*, *38*, 80-94.
- Burke, C. (2010). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child & Family Studies*, *19*, 133-144.
- Carlson, K. (2006). Poverty and youth violence exposure: Experiences in rural communities. *Children & Schools*, *28*, 87-96.

- Derezotes, D. (2000). Evaluation of yoga and meditation training with adolescent sex offenders. *Child and Adolescent Social Work Journal, 17*, 97-113.
- Ditto, B., Eclache, M., & Goldman, N. (2006). Short-term autonomic and cardiovascular effects of Mindfulness Body Scan Meditation. *Annals of Behavioral Medicine, 32*, 227-234.
- Evans-Chase, M. (2013). Internet-based Mindfulness Meditation and self-regulation: A randomized trial with juvenile justice involved youth. *OJJDP Journal of Juvenile Justice, 3*, 63-79.
- Evans-Chase, M., & Zhou, H. (2014). A systematic review of the juvenile justice intervention literature: What it can (and cannot) tell us about what works with delinquent youth. *Crime & Delinquency, 60*, 453-472.
- Gordon, R. (2010). *Regression analysis for the social sciences*. NY: Taylor & Francis.
- Greeson, J. (2009). Mindfulness research update: 2008. *Complementary Health Practice Review, 14*, 10-18.
- Hawkins, J., Herrenkohl, D., Farrington, D., Catalano, R., Harachi, T., & Cothorn, L. (2000). *OJJDP Juvenile Justice Bulletin: Predictors of youth violence*. Retrieved from www.ncjrs.gov/pdffiles1/ojjdp/179065.pdf
- Heinicke, B., Paxton, S., McLean, S., & Wertheim, E. (2007). Internet-delivered targeted group intervention for body dissatisfaction and disordered eating in adolescent girls: A randomized controlled trial. *Journal of Abnormal Child Psychology, 35*, 379-391.
- Hockenberry, S., Sickmund, M., & Sladky, A. (2015). Juvenile residential facility census, 2012: Selected Findings. *OJJDP Juvenile Offenders and Victims: National Report Series*. Retrieved from <http://www.ncjj.org/Publication/Juvenile-Residential-Facility-Census-2012-Selected-Findings-.aspx>
- Holzel, B., Ott, U., Hempel, H., Hackl, A., Wolf, K., Stark, R., & Vaitl, D. (2007). Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept meditators and non-meditators. *Neuroscience Letters, 421*, 16-21.
- Jain, S., Shapiro, S., Swanick, S., Roesch, S., Mills, P., Bell, I., & Schwartz, G. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination and distraction. *Annals of Behavioral Medicine, 33*, 11-21.
- Levine, N. (2015). *Dharma punx*. Retrieved from <http://www.dharmapunx.com/htm/mp3.htm>
- Lipsey, M., Wilson, D., & Cothorn, L. (2000). *OJJDP Juvenile Justice Bulletin: Effective interventions for serious juvenile offenders*. Retrieved from <http://www.ncjrs.gov/pdffiles1/ojjdp/181201.pdf>
- Luna, B., Padmanabhan, A., & O'Hearn, K. (2010). What has fMRI told us about the development of cognitive control through adolescence? *Brain and Cognition, 72*, 101-113.

- Maher, C., Williams, M., Olds, T., & Lane, A. (2010). An Internet-based physical activity intervention for adolescents with cerebral palsy: A randomized controlled trial. *Developmental Medicine & Child Neurology*, *52*, 448-455.
- Manzoni, G., Pagnini, F., Castelnuovo, G., & Molinari, E. (2008). Relaxation training for anxiety: A ten-years systematic review with meta-analysis. *British Medical Central Psychiatry*, *8*, 41-53.
- Palermo, T., Wilson, A., Peters, M., Lewandowski, A., & Somhegyi, H. (2009). Randomized controlled trial of an Internet-delivered family cognitive-behavioral therapy intervention for children and adolescents with chronic pain. *Pain*, *146*, 205-213.
- Pawlow, L., & Jones, G. (2005). The impact of abbreviated progressive muscle relaxation on salivary cortisol and salivary immunoglobulin A (sIgA). *Applied Psychophysiology and Biofeedback*, *30*, 375-387.
- Ramel, W., Goldin, P., Carmona, P., & McQuaid, J. (2004). The effects of Mindfulness Meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy & Research*, *28*, 433-455.
- Schnittker, J., & John, A. (2007). Enduring stigma: The long-term effects of incarceration on health. *Journal of Health & Social Behavior*, *48*, 115-130.
- Sedlak, A., & McPherson, K. (2010). *OJJDP Juvenile Justice Bulletin: Conditions of confinement: Findings from the survey of youth in residential placement*. Retrieved from <http://www.ncjrs.gov/pdffiles1/ojjdp/227729.pdf>
- Simple, J., Reid, E., & Miller, L. (2005). Treating anxiety with mindfulness: An open trial for mindfulness training in anxious children. *Journal of Cognitive Psychotherapy: An International Quarterly*, *19*, 379-392.
- Smith, D., & Ecob, R. (2007). An investigation into causal links between victimization and offending in adolescence. *The British Journal of Sociology*, *58*, 633-660.
- Snyder, H., & Sickmund, M. (2006). *Juvenile offenders & victims: 2006 national report* (Report No. NCJ 212906). Washington, DC: US Department of Justice, Office of Justice Programs, OJJDP. Retrieved from <http://www.ojjdp.gov/ojstatbb/nr2006/downloads/nr2006.pdf>
- Tang, Y., Lu, Q., Fan, M., Yang, Y., & Posner, M. (2012). Mechanisms of white matter changes induced by meditation. *Proceedings of the National Academy of Sciences*, *109*, 10570-10574.
- Travis, J., Cincotta, E., & Solomon, A. (2003). *Families left behind: The hidden costs of incarceration and reentry* (Report No. CPR03 0105). Washington DC: Urban Institute Justice Policy Center. Retrieved from http://www.urban.org/uploadedpdf/310882_families_left_behind.pdf

Williams, J., Duggan, D., Crane, C., & Fennell, M. (2006). Mindfulness-based cognitive therapy for prevention of recurrence of suicidal behavior. *Journal of Clinical Psychology: In Session*, 62, 201-210.

Using Technology in Social Work Practice: The mDad (Mobile Device Assisted Dad) Case Study

Shawna J. Lee
Tova B. Walsh

Abstract: *Mobile technology presents an exciting opportunity for social workers to reach populations that are typically underserved by interventions and services. We present one application of technology that is particularly relevant to social work practice. The mDad (Mobile Device Assisted Dad) smartphone application (app) was developed to augment existing social work practices by providing a father-friendly tool to help new fathers learn about and engage with their infants and toddlers. We discuss the process of developing the smartphone app content and conducting usability testing of the mDad app. We conclude with a discussion of the lessons learned from the mDad project and the challenges of implementation and dissemination of technology-based interventions in community contexts.*

Keywords: *Father, fathering, parenting, intervention, prevention, child welfare*

Mobile phones are ubiquitous: 91% of Americans own a mobile phone (Pew Research Center, 2014), and 61% of mobile phone owners have a smartphone (Nielsen, 2013). Smartphones are extremely versatile and are an increasingly important part of people's daily lives. One study showed that smartphone users had their device with them or in the same room 90% of the time (Dey et al., 2011). Moreover, mobile phones, smartphones, and tablets are starting to bridge the "digital divide" of economic and social inequality in access to technology-based information (Chang et al., 2013; Ginossar & Nelson, 2010). Smartphone ownership rates are actually higher among African Americans (33%) and Hispanics (45%) than Whites (27%) (Nielsen, 2011). Young people have especially high rates of mobile technology use; for example, 77% of 18-29 year olds with an annual household income of less than \$30,000 are smartphone owners, and rates of smartphone ownership in this age range are between 80-90% among those with higher incomes (Pew Research Center, Internet and American Life Project, 2013).

In response to the growing use of online and mobile technology, there has been unprecedented growth in efforts to use technology as a tool to improve health outcomes. Although much of this research is in its early stages, technology-based interventions using the Internet, smartphones, and text messaging are increasingly being applied to promote psychosocial wellbeing as well as physical health. For example, currently available interventions aim to alleviate depression and mental illnesses (Burns et al., 2011; Depp et al., 2010; Granholm, Ben-Zeev, Link, Bradshaw, & Holden, 2012), promote happiness and emotional self-awareness (Della Porta, Pierce, Zilca, & Lyubomirsky, 2012; Morris et al., 2010), increase relationship satisfaction (Kalinka, Fincham, & Hirsch, 2012), increase prosocial behavior and reduce aggressive behavior (Rajabi, Ghasemzadeh, Ashrafpour, &

Shawna J. Lee, PhD, MSW, is an Associate Professor at the University of Michigan School of Social Work, in Ann Arbor, Michigan. Tova Walsh, PhD, MSW, is an Assistant Professor at the University of Wisconsin, School of Social Work, in Madison, Wisconsin.

Saadat, 2012), and promote parenting skills and reduce child maltreatment (Baggett et al., 2010; Evans, Wallace, & Snider, 2012; Jordan, Ray, Johnson, & Evans, 2011; Mast et al., 2014; Ondersma, Svikis, Thacker, Beatty, & Lackhart, 2014; Thraen, Frasier, Cochella, Yaffe, & Goede, 2008; Walters et al., 2014; Whittaker et al., 2012). Furthermore, findings from pilot studies suggest that mobile technology can be an effective tool to deliver behavioral health interventions to at-risk populations (e.g., Aguilera & Munoz, 2011; Carta, Lefever, Bigelow, Borkowski, & Warren, 2013; Gazmararian, Elon, Yang, Graham, & Parker, 2013). Thus, the use of mobile technology may present an opportunity for social workers to reach typically underserved or hard-to-reach populations.

In this paper, we discuss one application of technology with particular relevance to social work practice. The mDad (Mobile Device Assisted Dad) app was conceived of as an innovative way to augment existing social work practices by providing an accessible, father-friendly tool to help new fathers learn about and engage with their infants and toddlers. The mDad app incorporates educational content on child development with suggestions of simple activities that fathers can engage in with their infants and toddlers. In this paper, we describe the initial development and usability testing of the mDad app and implications for social work practice with fathers and families.

Usability testing is a practice that analyzes early implementation processes and evaluation procedures before they are finalized (Akin et al., 2013). Because the field of technology-based interventions is growing at breathtaking speed, explicating our experience with the content development and usability testing processes of developing the mDad app will help researchers and practitioners interested in the application of technology to social work. In our case, the process of usability testing included extensive examination of the acceptability of mDad content to the target population, as well as examining users' interactions with the app interface. This process of extensive usability testing was particularly important because social workers and other service providers have had little success engaging fathers in traditional parenting education approaches. Therefore, we used qualitative interviews and focus groups to better understand how men reacted to and engaged with the content of mDad, with the long-term goal of learning how to more effectively tailor mobile interventions for new fathers to their unique parenting needs.

Why Focus on Fathers?

In focus groups and discussions with diverse fathers including young fathers, military fathers, and low-income African American fathers, men have voiced a genuine desire to be involved with their children and to be positive parents and partners (Lee et al., 2013; Lee, Yelick, Brisebois, & Banks, 2011; Walsh, Dayton, et al., 2014). However, fathers have also articulated challenges in understanding how best to engage with their children, especially infants. Concerns about being a positive, engaged parent were particularly salient among two groups: (a) military fathers, who experienced long separations from their children because of deployment, and (b) urban African American fathers, who voiced the desire to "step up" in ways that their own fathers had not. Motivated by the desire to be a good parent and the experience of significant parenting challenges, many fathers are interested in receiving support for building their parenting skills (Walsh, Dayton, et al., 2014).

Despite the interest of most fathers in being a good parent, practitioners and researchers usually face difficulties when trying to engage fathers in interventions to promote positive father-child relationships (McAllister, Wilson, & Burton, 2004; Stahlschmidt, Threlfall, Seay, Lewis, & Kohl, 2013). Generally, parenting education and intervention programs have been designed for and evaluated using mothers (Bilukha et al., 2005; Lundahl, Tollefson, Risser, & Lovejoy, 2008; Mikton & Butchart, 2009), with notable exceptions (e.g., Cornille, Barlow, & Cleveland, 2005; Fagan, 2008). Thus, the content of most parenting programs might have little direct relevance to the experiences of most fathers. For example, few programs account for the needs or experiences of nonresidential fathers. Moreover, some providers have conflicting feelings about fathers' participation in parenting programs and services. Because few practitioners are trained in methods for engaging fathers, service environments often lack a "father-friendly" atmosphere (O'Donnell, Johnson, D'Aunno, & Thornton, 2005). In addition, evidence has indicated fathers have low levels of interest in traditional parenting programs (Cornille et al., 2005; Duggan et al., 2004; Fagan & Iglesias, 1999; O'Donnell et al., 2005; Raikes, Summers, & Roggman, 2005). One study of Early Head Start-sponsored efforts to engage fathers indicated 17% of fathers participated in at least one parenting education program; however, fewer than 10% of fathers participated in father-only events (Raikes et al., 2005). Moreover, when parenting services are available only during traditional weekday business hours, fathers' work schedules often prevent their participation. An additional participation barrier stems from the stigma associated with asking for assistance, but scant data are available on stigma specific to parenting programs.

Technology-Based Approaches Designed for Mothers

Although the use of technology to deliver parenting education and interventions to fathers is an emerging practice, using technology to engage mothers is a fairly well-established approach, including computer-based (Ondersma, Grekin, & Svikis, 2011; Ondersma, Svikis, & Schuster, 2007), web-based (Feil et al., 2008; Thraen et al., 2008), and mobile phone-based approaches (Bigelow, Carta, & Lefever, 2008; Carta et al., 2013; Jabaley, Lutzker, Whitaker, & Self-Brown, 2011). One study used text messages as an enhancement to home visitation services and found lower rates of attrition among the mothers who regularly received text messages from service providers. In addition, as compared with mothers who did not receive text messages, mothers who received text-enhanced services reported lower levels of depressive symptoms (Carta et al., 2013). The Text4Baby program has been widely used to promote maternal and child health during pregnancy and infancy. Results from Text4Baby are promising, and initial program evaluation has shown users felt more prepared to be new mothers and were more opposed to alcohol use during pregnancy (Evans et al., 2012). Other notable findings showed over 600,000 pregnant women and new mothers have enrolled in Text4Baby, demonstrating tremendous reach and dissemination of a text messaging-based intervention (Gates, Stephens, & Artiga, 2014). More important, many of the mothers reached by Text4Baby would have received little, if any, parenting education via traditional means. However, to our knowledge, to date no technology-delivered parenting approach has focused on fathers.

mDad Rationale and Preliminary Studies

Multiple factors motivated the development of mDad. First, there are relatively few existing parenting interventions designed for and tested with fathers, including non-residential fathers. Second, stigma associated with asking for help and education may prevent fathers from accessing existing services. Third, prior research suggests that technology-based parenting interventions with mothers are effective, yet few or no technology-based approaches have been designed for and tested with fathers. Given that fathers are unlikely to participate in traditional parenting education services, technology-based approaches hold promise for extending service provision to an underserved population. Fourth, we believe that technology-based approaches have great potential for reaching specific at-risk groups of fathers, such as young fathers, who might be disconnected from services but well connected to technology. Fifth, our approach was informed by evidence that pregnancy and the birth of a new child present a moment of high parental motivation when fathers are likely to be more receptive to parenting information and services. Therefore, the perinatal period presents a window of opportunity to engage fathers in intervention to promote the development of positive father-child relationships (Dubowitz, 2002; McLanahan, Garfinkel, Mincy, & Donahue, 2010; Walsh, Tolman, et al., 2014). Our survey of the research illuminated the many real and perceived barriers that fathers face in engaging with services, including lack of availability of parenting education specific to fathers and lack of father-friendly content. Foremost in our minds was the need to make mDad content father-friendly.

Our preliminary studies underscored the importance of these issues. Prior to development of the mDad smartphone app, the authors conducted focus groups and interviews with fathers representing a range of parenting contexts, including low-income fathers and military fathers (reported elsewhere: Lee, Neuget, et al., 2013; Lee, Yelick, et al., 2011), selected in part because they represent fathers who may lack needed supports and experience significant parenting stressors, including complex family structures, socioeconomic disadvantage, and periods of separation from their child (e.g., due to extended military deployment). These discussions were a part of the principal investigator's ongoing research agenda and took the form of more general conversations about fatherhood, parenting, barriers to father engagement, and fathers' perception of whether technology would be a suitable tool to meet their parenting support needs. In other words, these focus groups and interviews were not about the mDad app per se, but served as preliminary studies to inform its development. A key take-home point from both studies was that fathers felt unsure how best to engage with young children, particularly during infancy when child care is often thought of as primarily the role of mothers. Results further suggested that fathers tend to rely more on informal sources of parenting information (e.g., spouse/partner, family members, friends) than on formal sources of information (e.g., pediatricians and social workers). The fathers who participated in focus groups were interested in a range of parenting information related to children's growth and developmental milestones, as well as effective co-parenting and communication. Furthermore, most of the participants in these groups reported high levels of technology use and seemed amenable to the possibility of using technology such as a smartphone app to learn about caring for their baby. Sample demographics and characteristics and more

detailed analysis of the results are reported elsewhere (Lee, Neuget, et al., 2013; Lee, Yelick, et al., 2011).

mDad Content Development

We assembled a multidisciplinary research team to develop the “beta” version of mDad. The team included social workers and psychologists with expertise in father engagement, early child development, and parent support programs, as well as a technology-development team who specialize in developing and delivering Internet-based and mobile health interventions. The social workers and psychologists reviewed the early child development and father engagement literature and developed the father-friendly parenting education and support that constitutes the content of the app. The technology specialists were responsible for development of the application software, tailoring technology, and creative design.

The mDad beta app was designed to send push notifications to users’ smartphones two times per week. The push notifications link to parenting education messages within the app containing information on the development of infants and toddlers and developmental milestones. This information is presented in conjunction with suggested activities to help fathers think of new ways to engage with their baby. In addition, the parenting education prompts users to use the app to document their child’s development by creating logs and uploading pictures and videos. The mDad app is designed so that fathers can use it with their partner (such as the child’s mother or caregiver, or another significant person) or independently.

Our preliminary research helped to guide the development of mDad content (e.g., Lee, Neuget, et al., 2013; Lee, Yelick, et al., 2011; Walsh, Dayton, et al., 2014). For example, we used a multi-pronged approach to enhance the father-friendly nature and the relevance of mDad content (see Figure 1). In contrast to programs such as Text4Baby that primarily focus on messages related to maternal and child health, mDad was designed with an explicit focus on opportunities for paternal engagement; that is, mDad focused on presenting simple, concrete ways for fathers to interact with their baby through providing care, playing games, or reading and talking to the baby. This focus was informed by our preliminary studies in which fathers described challenges and uncertainty related to engaging with their infant.

Research has shown that when users received messages tailored to their individual needs and characteristics, the messages were perceived as more relevant, were more likely to be read and recalled, and were more effective at changing behavior (Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008; Kreuter & Strecher, 1996; Kreuter, Strecher, & Glassman, 1999; Noar, Benac, & Harris, 2007). Therefore, a key design element of mDad was to implement message tailoring to enhance the relevance of the content to individual fathers (see Figure 1). Specifically, content was tailored to the age of the target child and to whether the father was a residential or non-residential father.

Figure 1. Design elements of mDad

| Tailoring | Personalizing | Targeting | Framing |
|---|--|---|--|
| <ul style="list-style-type: none"> • Age of child • Non-residential vs. residential • Number of children | <ul style="list-style-type: none"> • Names (user, partner, child) • Child gender | <ul style="list-style-type: none"> • Use of humor • Non-clinical language • Topics important to dads • Parenting resources list | <ul style="list-style-type: none"> • Messages are positively framed • Messages underscore importance of dads |

Further, the content was designed to be father-friendly and personalized to each user. We consulted with a fathering expert and a comedian, both of whom made numerous suggestions to enhance the accessibility and father-friendly nature of the content by using humor and “buddy language” (i.e., the voice of a dad talking to another dad). The fathering expert also made suggestions for fun father-child engagement activities.

Methods

Introduction to Usability and Acceptability Testing

While the research team worked on multiple rounds of content development, we also engaged in acceptability and usability testing of “beta mDad” with fathers. Usability testing examines the user experience in navigating through the features of an app, whether the technical aspects of the app function well, and whether features of the app are intuitive to the user. Another goal of usability testing is to identify potential challenges or barriers that participants might encounter in using the technology (Kaufman et al., 2003). Acceptability testing examines if the content resonates with the intended user; in our case, we focused on whether men found the content of the push notifications and engagement activities to be relevant, useful, and consistent with their fathering experiences.

The next section describes the data gathered through several rounds of usability and acceptability testing with fathers, using a convenience sampling approach. Data collection included (a) in-depth, one-on-one interviews to gather fathers’ response to mDad messages and other content as it was being developed; (b) in-depth, one-on-one interviews with individuals who used and provided feedback on the beta version of the app; and (c) focus groups and small group discussions on the final version of mDad content, using screenshots gleaned directly from the app. Our preliminary studies, described above, examined fathers’ access to parenting information and sources of parenting support in early fatherhood, whereas the usability and acceptability testing focused on fathers’ engagement with the actual content of the mDad beta app. All research procedures were reviewed and approved by the University of Michigan Institutional Review Board.

Study Procedures

All interviews and focus groups used a semi-structured format, covering a list of topics and questions defined by the research team in an interview guide. Different questions were asked in the interviews conducted as usability testing than those conducted as acceptability testing. One-on-one interviews were conducted by a member of the research team who was either involved in the tech development or in the content development. Interviewers took detailed notes on the conversation. Focus group were usually facilitated by trained male

facilitators who were not members of the research team or authors of this study. Often, a member of the research team observed the focus groups and took notes. When a member of the team was not available to observe and take notes, focus groups were audio recorded for review by the research team.

Data Analysis Plan

For analysis, the two study authors independently reviewed notes from the interviews to identify important concepts and themes in the data, read and reread each transcript in an iterative fashion to discern any previously unrecognized concepts and themes, and arrived at a consensus on themes emerging from the transcripts and interviews. It is important to note that the goal of our usability and acceptability testing was to inform and refine development of mDad, not necessarily to derive research hypotheses, answer research questions, or generate generalizable conclusions. This is reflected in our methodology, which uses an exploratory data collection method and data analysis approach that is highly descriptive and specific to the context of our study only.

Measures

Usability Interviews

A male member of the technology development team conducted the first iteration of usability testing. These interviews used a semi-structured usability testing script. The interview opened with the statement, "I am going to show you some screen shots and sketches that we have made of our design ideas. I'd like to discuss these ideas with you and get your opinions." Participants were presented with a series of scenarios and asked, "I am going to give you a scenario and ask you to do some tasks. As you are completing each task I want you to 'think out loud' as you decide which button to push and where to go within the site. I am going to ask you as much as possible to try and understand how you are looking at it, what you are trying to do, and what you are thinking." A small number of young men ($n=4$) recruited from the University of Michigan student population examined mock-ups of the mDad user interface.

Acceptability of mDad Content to Military Fathers (Team RWB)

Following the first round of usability testing, a member of the research team conducted in-depth acceptability interviews with military fathers ($n=9$) who had at least one child 3 years or younger. These interviews focused on the acceptability of mDad content, including usefulness and relevance to their experiences as service members and fathers of young children. Respondents were recruited through the Facebook page for the nonprofit veterans' organization Team Red, White, and Blue. The fathers who provided feedback were either active military personnel or recent veterans. To gather feedback on a broad range of content, the fathers were sent samples of parenting education content to review, including messages for a father of a 1- to 2-month-old child and a father of an 11- to 12-month-old child. Each father offered his feedback during a brief (15 to 30 minutes) phone call as part of a semi-structured interview with a member of the research team who took detailed notes during the phone call. The interviewer followed an interview guide that

asked participants to describe their overall impression of the sample messages; whether the content was interesting and relevant; whether the language and the tone was accessible and engaging; and what topics they would like to see added, expanded, or excluded. These fathers were also asked for suggestions for making content more relevant, accessible, and engaging. Two researchers reviewed this initial feedback and used it to refine the parenting content.

Acceptability and Usability Testing with mDad Beta Users

In the next iteration of testing, we conducted in-depth assessment of usability and acceptability of mDad content with fathers ($n=4$) who used the app for 8 weeks. Semi-structured interviews regarding acceptability of content were conducted over the phone, and usability questions were delivered via a brief online survey. A member of the research team conducted the interviews and took detailed notes on the feedback provided. Following an interview guide, the interviewer asked fathers whether they found content useful and relevant to their parenting, if there were specific components of the mDad app that they particularly did or did not like, if the tone in which information was delivered was appealing, whether they found the app easy or difficult to navigate, whether there were content areas not covered that they would like to see included in the app, whether they would recommend the app to a father friend, and if they had suggestions to make the app something they would be more likely to use or recommend to a friend. The four fathers who participated in this iteration of testing were again recruited through veterans' organization Team Red White & Blue, and all were fathers of young children who were either currently serving in the United States military or had a history of military service. Three respondents were interviewed at the conclusion of the 8-week pilot test, and one was interviewed in the middle of the testing period, prior to a scheduled deployment.

Acceptability Focus Groups with Urban, African American Fathers

The research team also conducted six focus groups with a total of 27 men. Respondents were all African American and ranged in age from 21 to 62 years. All of the men identified as having experience with parenting, and all except one participant self-identified as a father or surrogate father. The majority had at least one child currently living at home, and the ages of the children currently living at home ranged from newborns to 32 years of age.

In this phase of the project, we created a detailed handout about mDad. We used screen shots of the mobile app to show key functions of the app. We also highlighted several parenting education messages from the app. The goal was to get feedback from men regarding the acceptability of the content and functionality of mDad. Again, we used a semi-structured format and all focus group facilitators followed an interview guide. Questions included, "mDad provides functions like uploading pictures of your baby and recording when they accomplish milestones, like their first tooth or eating new foods. What do you think about this function? Would you use a function like this?" and "mDad also provides dads the option of creating 'logs' which are little notes about your baby, such as 'baby's favorite things to do' and 'things dad did to make baby smile.' Do you think you would use a function like this?" To examine the acceptability of the mDad messages, we provided sample messages directly from the app and said: "This is the kind of information

that mDad provides. Is this information interesting to you? Do you think it would help you as a dad? Do you think it is engaging to you as a father?"

Results

Usability Interviews

In the first round of usability interviews focusing on the layout of the app features and functionality of the app, men made several suggestions for how to improve the user interface and the features of the app to make it easier to use and navigate. In general, these young men rated themselves as very familiar with and comfortable using computers and other electronic devices. Respondents provided feedback on how to improve ease of use, reduce visual clutter, and make cues more intuitive, for example, making the camera icon easier to access.

Acceptability of mDad Content to Military Fathers (Team RWB)

Fathers indicated that their overall impression of mDad content is that it is interesting and relevant to them. They found the information provided on developmental milestones to be interesting and accessible, liked the friendly, non-pedantic tone, and appreciated the brevity and specificity of the messages. They liked the features that allow shared participation with a co-parent and virtual tracking of their child's development and said that these features make the app highly engaging.

Fathers were most enthusiastic about the activity suggestions offered by mDad; they reported that these suggestions were useful and appealing and gave them new ideas for things to do with their young children. For example, the sample content for the father of a 1- to 2-month old explained that "It may seem like babies can't do much... but they come pre-wired with some amazing abilities." A brief explanation of baby reflexes was followed by suggestions of how fathers could test and observe their baby's reflexes (e.g., test and observe the grasping reflex by touching the palm of the baby's hand and seeing if the baby grabs onto their finger). Several fathers reported trying the suggested activities with their young children and enjoying them and said they had tried things they would not have thought to do without the prompt from mDad.

Fathers who reviewed sample content suggested the content could be improved in future iterations through increased tailoring. For example, the father of a child with special needs said that it would be very helpful for him if mDad offered specific ideas for activities suited to children with diverse needs. A father of two said that he would appreciate ideas for activities that he could engage in with both his young child and older child because he is usually with both children together.

Acceptability and Usability Testing with mDad Beta Users

Feedback was positive and suggested that a broad cross-section of military fathers (including first-time and experienced fathers of varied ages and relationship status) found the app content interesting, useful, and relevant to their parenting experiences. For example, one father said the content was relevant to him even as an experienced father:

I love the app. At first I thought it would be more useful for first-time fathers, but it turned out to be so helpful even though I already have kids - it reminded me all kids aren't the same and helped me try new things.

Fathers who both were and were not at home with their children at the time of using mDad found the app useful and the content relevant. For example, one military father who was away from his family on a temporary duty assignment said he used the app to keep up with his spouse about what their baby was doing.

Functions such as logging a child's developmental milestones and receiving tailored parenting education were perceived favorably. Fathers found the personalization and customization of the app to be a great strength. Fathers indicated that they found the activity suggestions useful, the tone of the messages appropriate and appealing, and the features of the app easy to navigate. They appreciated the tone of the app for being both educational and humorous. Moreover, they found the content well suited to their needs and interests as fathers of young children. In particular, these fathers noted that they valued the suggestions of developmentally appropriate activities for engaging with children at a specific age.

The mDad brief messages were described as more useful than long books or dense websites that the fathers would have to sift through for information relevant to their particular circumstances. Fathers reported that the frequency of messages and level of detail provided met their needs. In the words of one father:

I get sick of apps that send too much information or send things too often. This app didn't send too much, so I never got tired of it. When I saw I had an update, I wanted to see what it was, and I went straight into the app. I always found information that was relevant for me and my son.

Specifically, fathers liked the app medium of delivery because it made relevant parenting information available and accessible whenever and wherever they had time and interest. Fathers described looking through mDad activity suggestions and reading through app content as a productive thing to do (replacing less productive online activity) when they had a few spare moments such as waiting for an appointment. The timing of the messages – delivered on Tuesdays and Fridays – was rated as highly favorable; fathers reported that the messages helped to plant the seed for things to do over the weekend when they had the most family time.

Participants varied in their assessment of the relative importance of specific message topics but agreed that, overall, the topics were on point. They felt the app would be especially useful for first-time fathers but would also be useful for more experienced fathers. All participants agreed they would use mDad and would recommend the app to other fathers.

Acceptability Focus Groups with Urban, African American Fathers

Similar themes emerged in our discussion with urban, African American fathers. For example, participants indicated that they liked the language in the app and found the humor to be engaging as well. They liked the functionality of receiving push notifications as a reminder. In general, these fathers expressed enthusiasm about mDad and about having

readily accessible parenting resources in the form of information on their phone. Participants noted that even when parents are not together, it is important for dads to learn about and connect with their baby, and they liked the accessibility of the app. Furthermore, they favorably rated the tailoring and personalization of mDad.

When we asked fathers to rate the acceptability of specific mDad messages, respondents rated favorably content on baby proofing, child development, and ideas for engaging with the baby or toddler. Numerous fathers indicated that some of the content, such as the notion of swaddling, was new to them. These fathers also had suggestions for ideas that they thought would improve the app, including a social networking feature that would allow users to share photos and videos with a wider network of friends and family, for example, connecting the app to Facebook or Instagram. Other suggestions included content for parents with children who have special needs.

Discussion

As noted in the introduction, smartphone use in American society is increasingly widespread and especially common among those individuals whom social workers are often trying to more effectively reach with social work interventions – for example, young people, low-income individuals, and members of racial and ethnic minority groups. However, many barriers still exist to the implementation and dissemination of technology-based interventions in community contexts. For a variety of reasons, those most in need of intervention might be less likely to receive such services. For example, factors such as low health literacy have been shown to hinder receptivity to Text4Baby messaging (Gazmararian, Yang, Elon, Graham, & Parker, 2013). In our case, focus groups and interviews with men suggested that a pedantic tone would hinder fathers' receptivity to mDad messages, so we focused on making the messages more engaging by using a warm and humorous tone. Specifically, we used a humor consultant to transform the tone—and hence the user experience—of the app so that fathers find mDad engaging. In addition, each member of our multidisciplinary research team contributed content-specific expertise to mDad development. However, the numerous rounds of revising content by each team member were time and resource intensive. In parallel with the research team developing and revising content, we conducted four separate rounds of acceptability and usability testing, as detailed above, which took well over a year.

An advantage of technology-based approaches is the option of tailoring interventions to the individual user. E-health research focusing on improving physical health outcomes has shown that tailoring messages can enhance intervention effectiveness (Hawkins et al., 2008; Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003; Kreuter & Strecher, 1996; Kreuter et al., 1999). Participants in our study provided positive feedback about the personalization and tailoring of mDad messages. Some feedback suggested that more extensive tailoring would make the app even more acceptable to fathers. For instance, one father whose child has developmental delays said he would have found it helpful to receive content addressing parenting a child with special needs. Similarly, several divorced fathers suggested adding content on co-parenting after divorce. However, tailoring can present several challenges. Given the extent of possible dimensions on which to tailor messages, priority areas must be determined. Each tailoring element requires extensive

research to identify how content should be adapted to maximize relevance in response to the specific tailoring element. The current understanding of how best to tailor content of technology-based psychosocial interventions to underserved individuals is still quite limited.

Researchers will appreciate the possibility of enhanced data collection using technology. Technology-based interventions can both facilitate traditional forms of data collection and support new approaches. Website analytics enable researchers and developers to collect user data passively and track a variety of user interactions such as the type of content participants read and return to most (and least) frequently. Site analytics can also track whether users follow links to additional resources, including who and how many follow each link; the frequency with which fathers write in the log and what they write about; how often fathers upload pictures and videos and what they document; and which users use the app independently and which use it with a partner. Survey data and user data can be integrated to inform better understanding of under what conditions the intervention is most effective, and whether dosage (frequency with which fathers engage with the app) corresponds to gains in father engagement as measured via survey.

Last, although technology has enormous potential to reach individuals with great ease, dissemination remained a challenge in our experience. The ability to engage a large number of potential users requires buy-in from stakeholders. Traditional methods of recruitment (e.g., flyers and bulletin board postings) are unlikely to be effective for an app. The approach most likely to be effective is leveraging a close connection to community collaborators who can help with the dissemination process. Recruitment was challenging, but the fathers we reached were overwhelmingly positive and recommended the app to others. The positive participant response suggests it is not only worthwhile to invest in varied and creative recruitment strategies but also a promising strategy to invite early adopters to support dissemination by recruiting friends. Reaching even a small number of people is meaningful if they would otherwise not be served because existing interventions are either inaccessible or unappealing to them; technology-based interventions thus hold great promise for expanding access for underserved populations. Once taken to scale, technology-based interventions offer a cost-effective approach because the major costs are in the initial outlay and many additional users can be added at minimal costs.

Conclusion

This study has a number of implications for the use of technology in social work practice. It suggests that delivery of tailored parenting information via smartphone app has the potential to make psychosocial interventions more engaging, more efficient, and less expensive, while reaching clients who might otherwise not be served by traditional parenting programs and services. However, challenges associated with this type of approach include the substantial investment needed up front to develop a high-quality, technology-based intervention. The mDad app and similar uses of technology in social work practice are in the early stages, and further studies are needed to evaluate and enhance the efficacy of this type of highly promising intervention.

References

- Aguilera, A., & Munoz, R. F. (2011). Text messaging as an adjunct to CBT in low-income populations: A usability and feasibility pilot study. *Professional Psychology: Research and Practice, 42*(6), 472-478. doi: 10.1037/a0025499
- Akin, B. A., Bryson, S. A., Testa, M. F., Blase, K. A., McDonald, T., & Melz, H. (2013). Usability testing, initial implementation, and formative evaluation of an evidence-based intervention: Lessons from a demonstration project to reduce long-term foster care. *Evaluation and Program Planning, 41*, 19-30. doi:10.1016/j.evalprogplan.2013.06.003
- Baggett, K. M., Davis, B., Feil, E. G., Sheeber, L. L., Landry, S. H., Carta, J. J., & Leve, C. (2010). Technologies for expanding the reach of evidence-based interventions: Preliminary results for promoting social-emotional development in early childhood. *Topics in Early Childhood Special Education, 29*(4), 226-238. doi:10.1177/0271121409354782
- Bigelow, K. M., Carta, J. J., & Lefever, J. B. (2008). Text using cellular phone technology to enhance a parenting intervention for families at risk for neglect. *Child Maltreatment, 13*, 362-367. doi:10.1177/1077559508320060
- Bilukha, O., Hahn, R. A., Crosby, A., Fullilove, M. T., Liberman, A., Moscicki, E., . . . Briss, P. A. (2005). The effectiveness of early childhood home visitation in preventing violence. *American Journal of Preventive Medicine, 28*(2S1), 11-39. doi:10.1016/j.amepre.2004.10.004
- Burns, M. N., Begale, M., Duffecy, J., Gergle, D., Karr, C. J., Giangrande, E., & Mohr, D. C. (2011). Harnessing context sensing to develop a mobile intervention for depression. *Journal of Medical Internet Research, 13*(3), e55. doi:10.2196/jmir.1838
- Carta, J. J., Lefever, J. B., Bigelow, K. M., Borkowski, J. G., & Warren, S. F. (2013). Randomized trial of a cellular-phone enhanced home visitation parenting intervention. *Pediatrics, 132*, S167-S173. doi:10.1542/peds.2013-1021Q
- Chang, B. L., Bakken, S., Brown, S. S., Houston, T. K., Kreps, G. L., Kukafka, R., . . . Stavri, P. Z. (2013). Bridging the digital divide: Reaching vulnerable populations. *Journal of the American Medical Informatics Association, 11*(6), 448-457. doi:10.1197/jamia.M1535
- Cornille, T. A., Barlow, L. O., & Cleveland, A. D. (2005). DADS family project: An experiential group approach to support fathers in their relationships with their children. *Social Work with Groups, 28*(2), 41-57. doi:10.1300/J009v28n02_04
- Della Porta, M. D., Pierce, R. S., Zilca, R., & Lyubomirsky, S. (2012). Pursuing happiness in everyday life: The characteristics and behaviors of online happiness seekers. *Emotion, 12*, 1222-1234. doi:10.1037/a0028587
- Depp, C. A., Mausbach, B., Granholm, E., Cardenas, V., Ben-Zeev, D., Patterson, T. L., . . . Jeste, D. V. (2010). Mobile interventions for severe mental illness: Design and

- preliminary data from three approaches. *Journal of Nervous and Mental Disease*, 198, 715-721. doi:10.1097/NMD.0b013e3181f49ea3
- Dey, A. K., Wac, K., Ferreira, D., Tassini, K., Hong, J-H., & Rojas, J. (2011). Getting closer: An empirical investigation of the proximity of user to their smart phones. *Ubicomp*, 163-172. Retrieved from <http://dl.acm.org/citation.cfm?id=2030135>
- Dubowitz, H. (2002). Preventing child neglect and physical abuse: A role for pediatricians. *Pediatrics in Review*, 23(6), 191-196. doi:10.1542/pir.23-6-191
- Duggan, A., Fuddy, L., McFarlane, E., Burrell, L., Windham, A., Higman, S., & Sia, C. (2004). Evaluating a statewide home visiting program to prevent child abuse in at-risk families of newborns: Fathers' participation and outcomes. *Child Maltreatment*, 9, 3-17. doi:10.1177/1077559503261336
- Evans, W. D., Wallace, J. L., & Snider, J. (2012). Pilot evaluation of the Text4baby mobile health program. *BMC Public Health*, 12, 1-10. doi:10.1186/1471-2458-12-1031
- Fagan, J. (2008). Randomized study of a prebirth coparenting intervention with adolescent and young fathers. *Family Relations*, 57, 309-323. doi:10.1111/j.1741-3729.2008.00502.x
- Fagan, J., & Iglesias, A. (1999). Father involvement program effects on fathers, father figures, and their Head Start children: A quasi-experimental study. *Early Childhood Research Quarterly*, 14, 243-269. Retrieved from [http://dx.doi.org/10.1016/S0885-2006\(99\)00008-3](http://dx.doi.org/10.1016/S0885-2006(99)00008-3)
- Feil, E. G., Baggett, K. M., Davis, B., Sheeber, L., Landry, S., Carta, J. J., & Buzhardt, J. (2008). Expanding the reach of preventive interventions: Development of an Internet-based training for parents of infants. *Child Maltreatment*, 13, 334-346. doi:10.1177/1077559508322446
- Gates, A., Stephens, J., & Artiga, S. (2014). Profiles of Medicaid outreach and enrollment strategies: Using text messaging to reach and enroll uninsured individuals into Medicaid and CHIP. Retrieved from <http://kff.org/medicaid/issue-brief/profiles-of-medicaid-outreach-and-enrollment-strategies-using-text-messaging-to-reach-and-enroll-uninsured-individuals-into-medicaid-and-chip/>
- Gazmararian, J. A., Elon, L., Yang, B., Graham, M., & Parker, R. (2013). Text4Baby program: An opportunity to reach underserved pregnant and postpartum women? *Maternal and Child Health Journal*, 18, 223-232. doi:10.1007/s10995-013-1258-1
- Gazmararian, J. A., Yang, B., Elon, L., Graham, M., & Parker, R. (2013). Successful enrollment in Text4Baby more likely with higher health literacy. *Journal of Health Communication: International Perspectives*, 17, 303-311. doi:10.1080/10810730.2012.712618
- Ginossar, T., & Nelson, S. (2010). Reducing the health and digital divide: A model for using community-based participatory research approach to e-health interventions in

- low-income Hispanic communities. *Journal of Computer-Mediated Communication*, 15, 530-551. doi:10.1111/j.1083-6101.2009.01513.x
- Granholm, E., Ben-Zeev, D., Link, P. C., Bradshaw, K. R., & Holden, J. L. (2012). Mobile assessment and treatment for schizophrenia (MATS): A pilot trial of an interactive text-messaging intervention for medication adherence, socialization, and auditory hallucinations. *Schizophrenia Bulletin*, 38, 414-425. doi:10.1093/schbul/sbr155
- Hawkins, R. P., Kreuter, M., Resnicow, K., Fishbein, M., & Dijkstra, A. (2008). Understanding tailoring in communicating about health. *Health Education Research*, 32, 454-466. doi:10.1093/her/cyn004
- Jabaley, J. J., Lutzker, J. R., Whitaker, D. J., & Self-Brown, S. (2011). Using iPhones to enhance and reduce face-to-face home safety sessions within SafeCare: An evidence-based child maltreatment prevention program. *Journal of Interpersonal Violence*, 26, 377-385. doi: 10.1007/s10896-011-9372-6
- Jordan, E. T., Ray, E. M., Johnson, P., & Evans, W. D. (2011). Text4Baby: Using text messaging to improve maternal and newborn health. *Nursing for Women's Health*, 15, 206-212. doi:10.1111/j.1751-486X.2011.01635.x
- Kalinka, C. J., Fincham, F. D., & Hirsch, A. H. (2012). A randomized clinical trial of online-biblio relationship education for expectant couples. *Journal of Family Psychology*, 26(1), 159-164. doi:10.1037/a0026398
- Kaufman, D. R., Patel, V. L., Hilliman, C., Morin, P. C., Pevzner, J., Weinstock, R. S., . . . Starren, J. (2003). Usability in the real world: Assessing medical information technologies in patients' homes. *Journal of Biomedical Informatics*, 36, 45-60. doi:10.1016/S1532-0464(03)00056-X
- Kreuter, M. W., & Strecher, V. J. (1996). Do tailored behavior change messages enhance the effectiveness of health risk appraisal? Results from a randomized trial. *Health Education Research*, 11, 97-105. doi:10.1093/her/11.1.97
- Kreuter, M. W., Lukwago, S. N., Bucholtz, D. C., Clark, E. M., & Sanders-Thompson, V. (2003). Achieving cultural appropriateness in health promotion programs: Targeted and tailored approaches. *Health Education & Behavior*, 30(2), 133-146. doi:10.1177/1090198102251021
- Kreuter, M. W., Strecher, V. J., & Glassman, B. (1999). One size does not fit all: The case for tailoring print materials. *Annals of Behavioral Medicine*, 21, 276-283. doi:10.1007/BF02895958
- Lee, S. J., Neugut, T. B., Rosenblum, K. L., Tolman, R. M., Travis, W. J., & Walker, M. H. (2013). Sources of parenting support in early fatherhood: Perspectives of United States Air Force members. *Children and Youth Services Review*, 35, 908-915. doi:10.1016/j.chilyouth.2013.02.012

- Lee, S. J., Yelick, A., Brisebois, K., & Banks, K. L. (2011). Low-income fathers' barriers to participation in family and parenting programs. *Journal of Family Strengths, 11*, 1-16. Retrieved from <http://digitalcommons.library.tmc.edu/jfs/vol11/iss11/12>
- Lundahl, B., Tollefson, D., Risser, H., & Lovejoy, M. C. (2008). A meta-analysis of father involvement in parent training. *Research on Social Work Practice, 18*, 97-106. doi:10.1177/1049731507309828
- Mast, J. E., Antonini, T. N., Raj, S. P., Oberjohn, K. S., Cassedy, A., Makoroff, K. L., & Wade, S. L. (2014). Web-based parenting skills to reduce behavior problems following abusive head trauma: A pilot study. *Child Abuse & Neglect, 38*, 1487-1495. doi:10.1016/j.chiabu.2014.04.012.
- McAllister, C. L., Wilson, P. C., & Burton, J. (2004). From sports fans to nurturers: An Early Head Start program's evolution toward father involvement. *Fathering, 2*, 31-59. doi:10.3149/fth.0201.31
- McLanahan, S. S., Garfinkel, I., Mincy, R. B., & Donahue, E. (2010). Introducing the issue. *Future of Children, 20*(2), 3-16. doi:10.1353/foc.2010.0005
- Mikton, C., & Butchart, A. (2009). Child maltreatment prevention: A systematic review of reviews. *Bulletin of the World Health Organization, 87*, 353-361. doi:10.2471/BLT.08.057075
- Morris, M. E., Kathawala, Q., Leen, T. K., Gorenstein, E. E., Guilak, F., Labhard, M., & Deleeuw, W. (2010). Mobile therapy: Case study evaluations of a cell phone application for emotional self-awareness. *Journal of Medical Internet Research, 12*(2), e10. doi:10.2196/jmir.1371
- Nielsen. (2011, February 1). *Among mobile phone users, Hispanics, Asians are most likely smartphone owners in the U.S.* Retrieved from <http://www.nielsen.com/us/en/newswire/2011/among-mobile-phone-users-hispanics-asians-are-most-likely-smartphone-owners-in-the-u-s.html>
- Nielsen. (2013, June 6). *Mobile majority: U.S. smartphone ownership tops 60%.* Retrieved from <http://www.nielsen.com/us/en/newswire/2013/mobile-majority--u-s-smartphone-ownership-tops-60-.html>
- Noar, S. M., Benac, C. N., & Harris, M. S. (2007). Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin, 133*, 673-693. doi:10.1037/0033-2909.133.4.673
- O'Donnell, J. M., Johnson Jr., W. E., D'Aunno, L. E., & Thornton, H. L. (2005). Fathers in child welfare: Caseworkers' perspectives. *Child Welfare, 84*, 387-414.
- Ondersma, S. J., Grekin, E. R., & Svikis, D. S. (2011). The potential for technology in brief interventions for substance use, and during-session prediction of computer-delivered brief intervention response. *Substance Use & Misuse, 46*(1), 77-86. doi:10.3109/10826084.2011.521372

- Ondersma, S. J., Svikis, D. S., & Schuster, C. R. (2007). Computer-based brief motivational intervention for post-partum drug use: A phase II randomized clinical trial. *American Journal of Preventive Medicine*, 32(3), 231-238.
- Ondersma, S. J., Svikis, D. S., Thacker, L. R., Beatty, J. R., & Lackhart, N. (2014). Computer-delivered screening and brief intervention (e-SBI) for postpartum drug use: A randomized trial. *Journal of Substance Abuse Treatment*, 46(1), 52-59. doi:10.1016/j.jsat.2013.07.013
- Pew Research Center, Internet and American Life Project. (2013). *Smartphone ownership - 2013 update*. Washington, DC: Pew Research Center. Retrieved from http://www.pewInternet.org/files/old-media/Files/Reports/2013/PIP_Smartphone_adoption_2013_PDF.pdf
- Pew Research Center. (2014). *Mobile technology fact sheet*. Washington, DC: Author. Retrieved from <http://pewInternet.org/Commentary/2012/February/Pew-Internet-Mobile.aspx>
- Raikes, H. H., Summers, J. A., & Roggman, L. A. (2005). Father involvement in Early Head Start programs. *Fathering*, 3(1), 29-58. doi:10.3149/fth.0301.29
- Rajabi, A., Ghasemzadeh, A., Ashrafpour, Z., & Saadat, M. (2012). Effects of counseling by mobile phone short message service (SMS) on reducing aggressive behavior in adolescence. *Procedia-Social and Behavioral Sciences*, 46, 1138-1142. doi:10.1016/j.sbspro.2012.05.263
- Stahlschmidt, M. J., Threlfall, J., Seay, K. D., Lewis, E. M., & Kohl, P. L. (2013). Recruiting fathers to parenting programs: Advice from dads and fatherhood program providers. *Children and Youth Services Review*, 35, 1734-1741. doi:10.1016/j.chilyouth.2013.07.004
- Thraen, I. M., Frasier, L., Cochella, C., Yaffe, J., & Goede, P. (2008). The use of TeleCAM as a remote Web-based application for child maltreatment assessment, peer review, and case documentation. *Child Maltreatment*, 13, 368-376. doi:10.1177/1077559508318068
- Walsh, T. B., Dayton, C. J., Erwin, M. S., Muzik, M., Busuito, A., & Rosenblum, K. L. (2014). Fathering after military deployment: Parenting challenges and goals of fathers of young children. *Health & Social Work*, 39, 35-44. doi: 10.1093/hsw/hlu005
- Walsh, T. B., Tolman, R. M., Davis, R. N., Palladino, C. L., Romero, V. C., & Singh, V. (2014). Moving up the "magic moment": Fathers' experience of prenatal ultrasound. *Fathering*, 12(1), 18-37. doi:10.3149/fth.1201.18
- Walters, S. T., Ondersma, S. J., Ingersoll, K. S., Rodriguez, M., Lerch, J., Rossheim, M. E., & Taxman, F. S. (2014). MAPIT: Development of a Web-based intervention targeting substance abuse treatment in the criminal justice system. *Journal of Substance Abuse Treatment*, 46, 60-65. doi:10.1016/j.jsat.2013.07.003
- Whittaker, R., Matoff-Stepp, S., Meehan, J., Kendrick, J., Jordan, E., Stange, P., . . . Rhee, K. (2012). Text4Baby: Development and implementation of a national text

messaging health information service. *American Journal of Public Health*, 102, 2207-2213. doi:10.2105/AJPH.2012.300736

Author note

Address correspondence to: Shawna J. Lee, MSW, PhD, University of Michigan School of Social Work, 1080 South University Avenue, Ann Arbor, MI 48109. Email: shawnal@umich.edu. The authors would like to thank the University of Michigan Curtis Research and Training Center for funding to support this research.

Game-Based Intervention—A Technical Tool for Social Workers to Combat Adolescent Dating Violence

**Emma Sorbring
Anette Bolin
Jennie Ryding**

Abstract: *The prevalence of dating violence is increasing, and effective prevention and intervention methods are needed to address this growing social problem. The use of online, game-based intervention programs opens up new possibilities for large-scale interventions through social work as well as individual outreach work. This study examined young people's experience of an online game-based intervention programme designed to address dating violence among youths. Swedish youths who took part in the intervention programme were interviewed in focus groups. The interpretation of the results was based on theories of learning through digital media; the results indicate that the use of a game as an intervention method for this socially sensitive topic was perceived as positive by the young people, who saw it as a new, engaging, and interesting method. The study indicates that young people's perception is that they are engaged by and learn about dating violence through online games. This only holds true, however, if the game is played in a school context and not outside the classroom, since the game was not perceived as a real game.*

Keywords: *Dating violence, social work methods, game-based, youth at risk*

Information technology offers new ways for social workers to reach out to large groups, and young people especially benefit from the use of information technology. In order to create a valid, high-quality intervention that is not only easy for social workers to use effectively but also has the ability to impact young people's behaviours, research that considers young people's experiences of the use of online tools is needed. In this study we gather qualitative information directly from the young people who have taken part in a game-based intervention programme regarding dating violence. This provides useful information about how young people themselves evaluate the game, information that can be used to develop the basic methods used by social workers to address social problems such as adolescent dating violence.

Adolescent Dating Violence

Teenagers usually start to date when they are between the age of 13 and 15 years. Indeed, 72% of all 8th and 9th graders in the USA (Eaton et al., 2010), and 88% of teens 15 years or older in the UK report some sort of dating relationship (Barter, McCarry, Berridge, & Evans, 2009). Although dating is an important part of life, it can also cause a lot of pain (physical, emotional, and psychological).

Emma Sorbring, PhD in psychology, is the research director for Centre of Child and Youth Studies at University West, Trollhättan, Sweden. Email: emma.sorbring@hv.se. Anette Bolin, PhD in social work, is a senior lecturer in social work at University West, Trollhättan, Sweden. Email: anette.bolin@hv.se. Jennie Ryding is a research assistant at University West, Trollhättan, Sweden. Email: jennie.ryding@hv.se.

Abuse dynamics in adolescent relationships appear in a variety of forms, not limited to the more commonly recognised physical violence. According to Saltzman, Fanslow, McMahon, and Shelley (2002), dating violence can incorporate physical violence, sexual violence, psychological/emotional violence, and the threat of physical or sexual violence. Much of the published literature on dating violence subsumes the latter category—threat of physical or sexual violence—into either physical, sexual, or psychological/emotional violence (Leen et al., 2013), leaving three core categories. The first category is *Physical violence*, which is the intentional use of physical force with the potential for causing death, disability, injury, or harm. The second category is *Sexual violence*, which includes three elements: 1) the use of physical force to compel an unwilling person to engage in a sexual act (whether or not the act is completed), 2) an attempted or completed sex act involving a person who is unable to understand the nature of the act or to decline participation, and 3) abusive sexual contact such as intentional, unwanted sexual touching or intentional touching of a person of diminished capacity. The third and final category is *Psychological/emotional violence*, which involves trauma caused by acts, threats of acts, or coercive tactics. Such abuse can include, but is not limited to, humiliating the victim, controlling what the victim can and cannot do, withholding information from the victim, isolating the victim from friends and family, and denying the victim access to money or other basic resources.

In a recent literature review, Leen et al. (2013) observe that whilst data is difficult to compare due to methodological differences, 10-20% of all teenagers experience physical violence in adolescent dating relationship. Prevalence rates for other abuse categories have been reported to be significantly higher, with victimisation through psychological/emotional abuse as high as 77% in general populations (Tschann et al., 2009). Leen and colleagues (2013) concluded in their review article of North American and European studies that psychological dating violence is more prevalent than physical and sexual dating violence and prevalence rates are similar for girls and boys across all forms of violence in the majority of the reported studies. Gender differences, when they are present, mainly concern sexual abuse. Although prevalence rates vary greatly between studies, common themes are the ubiquity of abuse dynamics in adolescent dating relationships and that dating violence is a concern for a large proportion of young people (Leen et al., 2013). Due to the negative impact that adolescent dating-violence (ADV) has on the individual's short- and long-term health (such as low self-esteem, negative self-concept, anxiety, depression symptoms, suicide thoughts and attempts) as well as future negative relations (Molidor & Tolman, 1998; Muños-Rivas, Gámes-Guadix, Fernández-González, & Lozano, 2011; O'Donnell et al., 2006), there is a growing consensus about the importance of the development of effective, easy-to-facilitate, and large-scale intervention programs (Edelen, McCaffrey, Marshall, & Jaycox, 2009).

Risk Factors and Intervention Programmes

Extensive research on dynamic risk factors (i.e., those subject to change through intervention) has been conducted, particularly in the USA, revealing factors ranging from acceptance of rape myths (Maxwell, Robinson, & Post, 2002) to having friends who perpetrate dating violence (McDonnell, Ott, & Mitchell, 2010). Risk factors can be

grouped into four broad categories: peer influence, substance use, psychological adjustment and personal competencies, and attitudes toward violence (Leen et al., 2013). Attitudes play an important role in the occurrence of ADV; for example, attitudes that legitimize the use of violence are more common among individuals perpetrating ADV (Foshee, Linder, MacDougal, & Bangdiwala, 2001; Josephson & Proulx, 2008; McDonnell et al., 2010; Sears, Byers, & Price, 2007). The majority of prevention and intervention programs (especially in the U.S.) have aimed to change young people's attitudes and knowledge about ADV, thereby indirectly reducing its incidence. The success of these interventions has varied from improvements in adolescents' attitudes and behaviours that disappear at a six-month follow up (Taylor, Stein, & Burden, 2010) to sustained, positive change over a period of several years (Foshee et al., 2004).

From Traditional Intervention Programmes to Game-Based Interventions

Interventions aimed at young people and intimate relations reported in the literature have, until now, mostly taken place in group-based programs conducted in a school context over several months, mostly during school hours (Adler-Baeder, Kerpelman, Schramm, Higginbotham, & Paulk, 2007; Gardner, Giese, & Parrott, 2004). There have also been intervention programs conducted outside school settings (Antle, Sullivan, Dryden, Karam, & Barbee, 2011; Wolfe et al., 2003), although there is a risk that these interventions can exclude students who do not participate in after-school activities. Consequently, the school setting provides a good environment to set up interventions since these types of programs reach most youth. Although there are many benefits from working in a group, such as establishing group attitudes, starting a broader discussion, and gaining from others' experiences, interventions on a group level may exclude youth who do not want to expose their own experiences. For example, in the study by Fox, Hale, and Gadd (2013), younger students reported feeling uncomfortable and anxious during group sessions and in role-play. Moreover, findings from some intervention programmes have reported negative effects on abuse behaviour, potentially linked to peer influence (Wolfe et al., 2003). Dishion, McCord, and Poulin (1999) argue that group interventions with deviant adolescent populations may be hampered by negative peer influence. Given that general populations will presumably include some deviant tendencies, group-based interventions in primary settings will also possibly suffer from negative peer influence. The potential for individual engagement with an attitudinal and behavioural change intervention, as within a serious game-based intervention, reduces the risk of negative group effects identified by Dishion et al. (1999).

Although some intervention programmes have demonstrated success in reducing risk factors and curtailing abusive behaviours, several concerns have emerged about these programmes. These concerns have precipitated the present design for a game-based approach. Game-based learning include the use of "serious games" (learning games), which, unlike games created only for pleasure, are designed to achieve clearly stated learning objectives (Michael & Chen, 2006). Young people see the digital world in which they have grown up as an everyday arena for knowledge improvement. Consequently, game-based learning can appeal to the needs, expectations, and frames of reference for this group (Felicia, 2009). For example, in the UK 100% of 6-10 years olds consider

themselves to be gamers, and similar trends can be seen in the rest of Europe (de Freitas, 2006). Game-based learning has the ability to increase motivation and can thus create motivation levels necessary to maintain youths' involvement and improve the chances of reaching expected learning objectives (Wastiau, Kearney, & Van den Berghe, 2009). Game-based learning has been used for promoting knowledge and changing behaviours among young people in relation to relational and sex issues, as well as other health-related issues (Connolly, Boyle, MacArthur, Hainey, & Boyle, 2012). Jouriles and colleagues (2009) have recognized that virtual reality appears to be a promising tool to change women's attitudes towards sexual harassment. Furthermore, Arnab et al. (2013) have shown that game-based learning has a positive impact on adolescents' understanding of personal risk and the consequences of coercion.

Green Acres High-An Online Game-Based Intervention

Overall, a game-based approach potentially provides a more easily implemented and scalable intervention, better able to be tailored to the circumstances of regions or countries, in addition to the benefits theorised for game-based learning more generally (Connolly et al., 2012). In light of this, the present project designed and developed Green Acres High, a digital game for addressing adolescent dating violence. Green Acres High was created, designed and developed in the European project CAVA (Changing Attitudes to dating Violence in Adolescents). In summary, Green Acres High was constructed as a learning game-based intervention for school settings, with the aim of addressing risk factors in adolescents' attitudes to abusive relationship dynamics and empowering adolescents to both take action within their own relationships and support peers' actions in reducing abuse. The study targeted adolescents between 13–19 years of age. The lower ages of the age span is when most European teenagers start dating (Eaton et al., 2010). The upper limit is not firm, but after the age of 19 young people start to move in together and ADV becomes domestic violence.

Green Acres High is divided into five chapters of ADV-related content. Each chapter focuses on a different element of the intervention programme. The five chapters can be played one by one or several at a time; however, the intervention is designed so that all lessons have to be played and in the right order. When the player advances in the chapters, the game incorporates increasingly complex content to build the player's awareness of key ADV dynamics. Players sequentially engage with content about "Healthy Relationships," "Abuse and warning signs," "Risk factors," "Achieving healthy relationships," and "Safely seeking help." The game includes different types of tests, tasks, links, and videos in order to capture as many aspects of e-learning as possible. After completing tests and tasks, the player is given feedback presenting the correct answers as well as an explanation of why the wrong answers are incorrect, for the purposes of motivating him or her and guaranteeing that the player is learning as much as possible when playing the game. The intervention programme was set up by social work students from a university in West Sweden. The entire game—all five lessons, which take about 20-25 minutes to complete—was designed so it could be played over a period of weeks, either one lesson at a time or 2-3 lessons simultaneously. The game was in English.

An American research group (Elias-Lambert, Boyas, Black, & Schoech, 2015; Schoech, Boyas, Black, & Elias-Lambert, 2013) has developed a school-based primary-intervention serious game called “Choices & Consequences” (C&C). Green Acres High and the C&C game have many similarities, such as exposing teenagers to different virtual situations and asking their opinion regarding safety. But there are also some differences: Green Acres High takes place in a school setting but C&C takes place during leisure time, and Green Acres High is played individually whereas C&C is played in groups. The evaluation of the C&C game shows that students playing the game liked the fact that it was interactive and, although the debriefing discussions with the group was perceived as one of the most positive elements with the game, some of the more quiet students requested the possibility to play the game as an individual.

The Present Study

The aim of the present study was to examine Swedish adolescents’ attitudes towards the online game-based intervention for ADV called Green Acres High Focus group interviews were conducted with the aim of gaining insight into the participating adolescents’ thoughts and ideas with regard to the usefulness of the game.

Methods

Participants

Three groups together totalling 12 participants were recruited, by one of the authors, from trial sessions of the Green Acres High game-based intervention that were conducted as part of the CAVA project during the fall of 2012. Participants offered to voluntarily and anonymously sign up for a focus group interview. The participants were all students at upper secondary schools (i.e., high school) and between the ages of 16 and 18. The first focus group had three participants (two females and one male), the second group had five (all young women), and the third group had four (two females, two males), for a total of 12 participants: three young men and nine young women. Three people were 18 years old (two young women, one young man), three were 17 years old (two males, one female), and six were 16 years old (all female). Ten of the 12 participants (seven females, three males) had been in a relationship.

Procedures and Data Collection

Three upper secondary schools in the western parts of Sweden agreed to take part in the study. Third year university students studying social work carried out the serious game intervention at the schools over two separate occasions each lasting 1.5 to 2 hours. The sessions were held two to three weeks apart. During each occasion, the students each used a computer to play two or three lessons from Green Acres High. After the last of the five lessons, the students who wanted to be part of the focus group interview met with one of the authors.

The focus group interviews were semi-structured with a set of questions determined in advance, allowing the participants to express their own thoughts and experiences

during the interview. The interviews were conducted in Swedish and the quotes used in the result below were translated by two persons. All of the interviews took place at the participating students' schools. The length of the interviews varied from 29 to 44 minutes. Prior to the interviews the participants were informed about the purpose of the study, the use of the material, the voluntary nature of their participation, and that they could stop or leave the interview whenever they wanted. The participants were given a cinema ticket for their participation, although this was announced after the focus group interview had ended.

Analysis

The focus group interviews were recorded using a Dictaphone and transcribed verbatim. The transcriptions were coded using inductive thematic analysis in accordance with the procedures outlined by Braun and Clarke (2006). The three authors scrutinized the transcripts after completion of the transcriptions. A top-to-bottom, data-driven method was used, wherein the material itself generates concepts and themes. The analysis was first and foremost inductive, where the data itself gradually led to themes. The first step of the thematic analysis is to get to know the data and to gain familiarity with it. This was done when transcribing, reading, and re-reading the data. The second step was to generate initial codes, which involves a systematic coding of interesting features of the data and the collection of data relevant for each code. The different codes were later organized into potential themes. A process of determining and naming the themes took place to refine the specifics of each theme. The themes selected captured important and relevant information given by the respondents, representing the meaning of the data or a pattern in responses in relation to the research question. The purpose of the themes that emerged is to encapsulate the content of the dataset. The themes created needed to be reviewed in order to see whether they worked in relation to the coded extracts, as well as the dataset as a whole (Braun & Clarke, 2006). Excerpts from the data were selected from the transcripts in order to highlight participants' thoughts and expressions in relation to specific themes. Ongoing discussions helped reduce potential disputes that occurred during the analytical process. The study has strong empirical roots, and an inductive approach was used with the intention of establishing conclusions based on empirical data. The study is therefore empirical-data driven (Langemar, 2005).

Results

The thematic analysis resulted in three different themes. Themes 1 and 2 had one or two subthemes (see Table 1).

Table 1: Themes and Subthemes

| THEMES | SUBTHEMES |
|--|--|
| 1. Game-based intervention: a new and appreciated method | 1.1 A game to be used in school but not otherwise 1.2 Game + Discussion = reflection upon ADV |
| 2. Not a "real" game, but still ok | 2.1 Technical aspects of the game |
| 3. Impact of the game—increased awareness of dating violence | |

Theme 1: Game-Based Intervention: A New and Appreciated Method

The respondents were well aware of the increasing use of computers: “the concept [of a game-based intervention] feels right since the use of computers is more popular than ever. Today it is natural to do everything on the computer” (young man/group 1). However, this participant also argued that computers are still perceived as something fun and entertaining, which can have a negative impact on how seriously the players view the game. Some students may find it easier to listen to ordinary lectures than digital ones: “...you are not given the opportunity to play around as when you are doing it on the computer.” The idea of using a game as a tool for raising awareness and changing attitudes about a particular topic is, according to several of the respondents, fantastic, although they highlight the importance of the game being engaging and of high quality. If this were not the case, it would probably affect the players’ attention span and interest in the game: “the game has to be fun, but still educational, and with that you have succeeded” (young woman/group 2). The respondents felt that using a game for learning is a more enjoyable way of learning than listening to someone talking, since it allows for players to act individually: “This allows for the individual to take in information in a different way compared to traditional lessons” (young woman/group 2). Some of the respondents believed that more enduring knowledge could be created through the medium of a game since players remember where the knowledge came from and, consequently, it becomes more tangible and lasting: “Yes, you remember ‘when we played that specific game’ and that game was about this and that... I think you learn and remember better with any type of game, the game might make it easier to understand the context” (young woman/group 1).

Subtheme 1.1: A game to be used in school, but not otherwise. The participants thought that if they, or other students, were asked to play the game at home, it would probably not be taken as seriously as when playing it during school hours. They thought that the interest in the game would decrease if it were played in the home since there are other distractions in the home environment: “There is so much else you want to do when at home” (young man/group 3). Participants also thought that the attention given to the game and its topic of dating violence would probably decrease in comparison to when playing it at school, and players would probably try to play it in the fastest manner possible: “No, I don’t think you would have taken it seriously. You would probably just be clicking your way through the game to be done with it” (young woman/group 2). At school, there is not much else to do, and players’ engagement with the game would therefore probably be different: “At school we are all doing the same thing... it’s a little bit more focused” (young woman/group 2). Participants also presumed that many students would ignore the game if it was given as homework, something that would also affect the subsequent discussions: “I think a lot of people would skip playing the game at home. They might not feel that they need to discuss it anyway and that they can listen during the discussions without really discussing it and will therefore not take it as seriously” (woman/group 2). Another positive aspect of playing it at school is that the support of both social workers and peers can be sought: “I think it’s better to play it at school so that you can be given help if needed and you can talk about it more” (woman/group 2).

Subtheme 1.2: Game + Discussion = reflection upon dating violence. The adolescents highlight the need for discussions about both ADV and the use of the game. They believe that discussions are an important part of using the game and should be included to achieve the best possible results. According to the respondents, discussing the content of the game provides the possibility of venting thoughts and questions that had arisen when playing the game. A young man in group 3 says: “It is better to use the game than not using it at all,” meaning that the game could be the starting point of a more widespread discussion about the topic. Some of the respondents commented on the need for interactive discussions when addressing a serious issue such as ADV: “I don’t think that the teacher should be talking in front of the class (about ADV) but instead we should do it in groups, discuss it in the groups and so on. Or that we have a discussion in the whole class, with each other” (young woman/group 2). The respondents believed that discussions can also promote a greater and more active engagement from the students while actually playing the game, since they know that the content will be discussed later and therefore they need to pay attention to the game: “I think that could do a lot [playing the game first and then discussing the topic]. And doing it directly afterwards and not waiting because then you will probably forget a lot” (young man/group 1).

Theme 2: Not a Real Game but Still OK

Although they found the game intervention to be useful in drawing attention to ADV, several of the respondents commented that they did not experience it so much as a game, but more as a tool for sharing information and knowledge: “I didn’t really perceive it as a game, more as reading a book or something” (young woman/group 1). They did not perceive it as a game because it did not contain any of the gaming features common to digital games. According to the respondents the players’ task was mostly about going from one place to another and clicking through the game. They pointed out that since players have few opportunities to act autonomously, a true gaming experience was lacking: “The idea itself [a game about ADV] is really important, but there was a lot of “click here and click there” so it didn’t really feel like a game, more like reading a book or something” (young woman/group 1). Had players been allowed to act more independently, the game would, according to one of the respondents, have been more interesting and more interactive: “It would have been positive if you as a player were allowed to do more by yourself. It got very...you were shown what to do all the time” (young woman/group 1). While the game was perceived as interesting, there was no great feeling playing it: “It was ok. Nothing that came out of it was extraordinary, no wow directly...” (young woman/group 2).

Subtheme 2.1: Technical aspects of the game. Some of the respondents commented that it was sometimes difficult to complete tasks due to a lack of knowledge about the nature of dating violence. Because of this they all expressed a wish for a function enabling them to go back in the game to tasks and simulations already carried out: “It was a little bit annoying that you were not able to go back to previous chapters to see what has been said or the content in case you missed reading something or didn’t understand a certain part” (young woman/group 2). The respondents did find it useful that information was shared both through text and sound, although some found this rather annoying: “To

hear the information is of course good, and in the English language and so on, but I think it would have been enough to read it because you will still understand what you are supposed to do and if you are supposed to do things differently” (young woman/group 1). Some of the dialogues from “The Messenger” (the avatar delivering the information) were considered to be a little too long, containing too much information, and that it would have been better if the information had been divided into several, smaller dialogue boxes: “It was a little bit annoying that you couldn’t skip the dialogues. You read all the text and then you were done but you still had to sit and listen to him (the Messenger)” (young woman/group 1). Overall they considered the Messenger a useful feature of the game. Some of the respondents also commented that they wished the game had contained some real-life video clips instead of animation, since it would have made the game more serious and closer to reality: “It (the game) should perhaps contain a reality video clip. Like an introduction or something, something real (young man/group 1). The animation, some respondents claimed, detracted from the seriousness of the game and made the players perceive it as only a game and ADV as something that doesn’t exist in reality: “Something I feel in regards to this game, it was sort of, I think that it wasn’t really taken in a serious way, or how should I put it, it felt like it’s only a game, it doesn’t happen in reality, although, when you think about it, it does really happen in reality, after you have played the game, but at the moment it didn’t feel like it, it only felt like a game...” (young woman/group 2). The respondents were also positive towards the feedback given when playing the game because it facilitated an understanding of what was right or wrong and why. The respondents expressed that the feedback in the game enabled further knowledge to be gained. It was useful, for instance, to know why a certain answer was right and why another one was not correct: “Yes, otherwise you would have been sitting there, clicking your way through the game and not really able to understand, and if you clicked the wrong one then you wouldn’t have known why it was wrong” (young woman/group 2).

Theme 3: Impact of the Game–Increased Awareness of Dating Violence

When discussing the impact that this game-based intervention had on their views about ADV, all of the respondents agreed that the game had at least opened their eyes to the issue. They also believed that it had raised their awareness and understanding both about the nature of ADV, as well as the different signs and risk factors. However, participants could neither define nor concretize more specifically what they had learnt: “You knew that it existed, dating violence, but not like that” (young woman/group 2). Some of the respondents expressed that even though they already knew about ADV, they still did not consider it to be a serious matter. After playing the game, however, they changed their mind:

“ don’t really know whether I learned something. I don’t know... Maybe you will notice when you are in a situation like that and that you back off a little bit” (young woman/group 1)

“But just the fact that it is eye-opening and gets you to think about it is erudition in itself... that’s enough I believe” (young man/group 1).

The game, according to the respondents, has enabled them to develop a different and more conscious awareness of ADV, even though they admitted that the phenomenon might nevertheless occur:

“Perhaps you look upon it differently now. Maybe you are more, maybe you didn’t think it was as bad as it sounded but after (playing the game) it was actually as bad...” (young man/group 1).

Discussion

The purpose of this study was to examine adolescents’ subjective experiences of a game-based intervention addressing ADV. The results show that the respondents perceived Green Acres High as an innovative intervention, although not really as a game, since a true game feeling was missing in that it did not contain very much actual gaming. Nevertheless, the participants believed that, compared to using traditional teaching methods, using a game for an ADV intervention could enhance changes in attitudes and knowledge about dating violence. Other attempts to address the issue within school curriculums also show students gain an increased ability to identify unhealthy relations including dating violence (Adler-Baeder et al., 2007). In this sense teaching about dating violence is one way to combat the phenomenon. At the same time, research also shows that pupils can feel uncomfortable learning about dating violence through traditional methods such as role-play and in-group sessions (Fox et al., 2013). In light of an increasing awareness of the prevalence of dating violence (Leen et al., 2013), there is a need for approaches that are both more effective and which minimize students’ experiences of discomfort (Fox et al., 2013). In that games can impact attitudes and bring about changes in behaviour on relational and sex issues (Connolly et al., 2012), Green Acres High can in this sense be regarded as a useful digital tool in outreach social work with young people. However, as the students in this study quite clearly state, this is a game they would not play outside of the classroom and, were they asked to do so, they would not treat the subject seriously. This result emphasises the importance of using computer games to address dating violence in a school context.

We propose that the combination of using an online computer game on a large-scale basis, together with more individualized small-group sessions of reflection and discussion, offers a new digital tool for outreach social work for young people and can constitute an innovative device in a toolbox that, traditionally, has been dominated by face-to-face interactive communication (Adams, 2005; Andersson, 2013; Smith, 2005). Outreach work is targeted at individuals and groups who otherwise are hard to reach and who need easily accessible linkage to support (Andersson, 2013). Indeed, this sort of digital intervention can be the answer to the call made by O’Donnell et al. (2006) for social work interventions that, both at an individual level (for those who may have experiences of violence either from being abused or being an abuser), and on a group level, can lower the prevalence of dating violence.

It appears that using the game in a school setting can enable social workers to reach and engage young people in a context where learning is in focus. The results clearly indicate that the young people will engage with the game during class. In line with

previous research, one conclusion to draw is that the game appears to have the ability to increase motivation and increases the chances of reaching expected learning goals (Wastiau et al., 2009), which can result in changed attitudes to dating violence. By being directed at a wider group of individuals, not just individual victims or perpetrators, knowledge can be shared. It can in this way become possible to reach young people who previously might not have reflected much upon the topic of dating violence. According to the respondents, knowledge about dating violence mediated by a digital game has greater chances of being remembered. This result accords well with other research, which indicates that the design of digital games is based on the principle that, in order to progress further in the game, players need to learn, to memorize, and to obtain additional information (Felicia, 2009). In this way, cognitive processes of learning about dating violence can be enhanced. The young people in the focus group also highlighted the need for interaction and discussions with peers to be considered an important part of handling a socially sensitive topic such as dating violence. In light of this finding, interaction with peers and social workers, in the types of debriefing sessions that Felicia (2009) proposes, would function as a way to solidly link the game with the anticipated learning outcomes. In addition, looking at the prevalence of dating violence (Leen et al., 2013), there is the likelihood that some young people in the debriefing sessions would also have experiences of violence, either as victims or as abusers. Consequently, social workers need to develop an awareness of individual young people's potential vulnerability and, in line with the objectives of outreach social work (Andersson, 2013), work actively to link them to other sources of support.

Conclusions and Limitations

Using a serious game method in a school setting offers social workers an effective method of working with dating violence, both from the perspective of prevention and intervention. It is clear that young people today belong to the digital-gaming generation. New methods need to be used to attract their attention and to make social learning possible in an interesting and interactive way. Social workers can use games to increase the motivation of players so that, through motivation, knowledge can be acquired and attitudes be changed (Wastiau et al., 2009).

Since the use of game-based interventions by social workers is relatively new, further research into the effectiveness of this type of intervention is needed; longitudinal studies can identify long-lasting changes in attitudes, knowledge, and behaviour. Since ADV has proven to be an increasing, it is also important to find effective tools that can have a positive impact on young people's behaviours and, in the long term, can decrease the prevalence of ADV. It is important for social workers to listen to young people themselves to create tools that are interesting enough for young people to want to pay attention to them. The present study was limited with regard to the number of respondents and offers no generalization possibilities. It still provides valuable insights into adolescents' subjective thoughts about a game-based intervention. More respondents would have given the study more depth. Since this study was qualitative, it focused on examining subtle interactive processes taking place in specific contexts that are difficult to generalize, something important to remember when discussing the validity of a

specific study (Smith, 2008).

Implications for Practice

In practice, it is recommended that Green Acres High be used in outreach social work with young people, with the aim of targeting dating violence from a preventative perspective as well as targeting individuals who may have experiences of violence either from being abused or being an abuser. For example, the finding that the young people indicated that they did not think dating violence was as bad as it sounded until after playing the game can enable social workers to work effectively with young people impacted by dating violence. The result also indicates that while the young people would not engage seriously with the game and the topic outside of a school environment, as the game is not a “real” game, it nevertheless works in a school environment “as there is not much else to do in a lesson” (young woman/group 2). Subsequently, Green Acres High can function as an effective tool for outreach social work in a school context. In this sense social workers, in order to use Green Acres High, need to collaborate with school authorities to use class time for this purpose. As research indicates, collaboration between schools and social work can be problematic (Farmakopoulou, 2002). For example, addressing issues of dating violence may not have the same priority for school authorities as for social workers.

A further implication is that the suitability of a serious game targeting dating violence is age dependent. Felicia (2009) recommends that the activities and types of skills in serious games be suitable for the target age group. In our view the targeted age group for Green Acres High should be contextually determined, depending upon the young people’s experiences of dating and intimate relations. In Sweden, for example, the majority of fifteen-year-olds do not have experiences of dating and/or intimate sexual relations, and generally dating is more common in upper secondary school (16- to 19-years-old) (Tikkanen, Abellson, & Forsberg, 2011). With regard to the cognitive and emotional element of being able to link the game to one’s own or peers’ experiences during the process of reflection in the debriefing session, we believe that the game would not, in a Swedish context, be suitable for a younger age group as it would be too far removed from the young people’s day-to day lives. The risk would be that learning about dating violence would not be meaningful and may be even harmful, as young people may get a feeling of disillusionment about intimate relations before they even have had a chance to gain their own experiences.

References

- Adams, R. (2005). Working within and across boundaries: Tension and dilemmas. In R. Adams, L. Dominelli, & M. Payne (Eds.), *Social work futures: Crossing boundaries, transforming practice* (pp. 99-114). New York: Palgrave Macmillan.
- Adler-Baeder, F., Kerpelman, J., Schramm, D., Higginbotham, B., & Paulk, A. (2007). The impact of relationship education on adolescents of diverse backgrounds. *Family Relations*, 56, 291-303.

- Andersson, B. (2013). Finding ways to the hard to reach—considerations on the content and concept of outreach work. *European Journal of Social Work, 16*(2), 171-186. doi:10.1080/13691457.2011.618118
- Antle, B., Sullivan, D., Dryden, A., Karam, E., & Barbee, A. (2011). Healthy relationship education for dating violence prevention among high-risk youth. *Children and Youth Services Review, 3*(1), 173-179.
- Arnab, S., Brown, K., Clark, S., Dunwell, I., Lim, T., Suttie, N. ...de Freitas, S. (2013). The development approach of a pedagogically-driven serious game to support Relational and Sex Education (RSE) within a classroom setting. *Computers & Education, 69*, 15-30.
- Barter, C., McCarry, M., Berridge, D., & Evans, K. (2009). *Partner exploitation and violence in teenage intimate relationships*. London, UK: National Society for the Prevention of Cruelty to Children.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.
- Connolly, T., Boyle, E., MacArtur, E., Hainey, T., & Boyle, J. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computer & Education, 59*, 661-686.
- de Freitas, S. I. (2006). Using games and simulations for supporting learning. *Learning, Media, and Technology, 31*, 343-358.
- Dishion, T. J., McCord, J., & Poulin F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54*, 755-764.
- Eaton, D., Kann, L., Kinchen, S., Shanklin, S., Ross, J., Hawkins, J. ...Weschler, H. (2010). Youth risk behavior surveillance — United States, 2009. *Morbidity and Mortality Weekly Report, 59*(SS-5), 1-142.
- Edelen, M. O., McCaffrey, D. F., Marshall, G. N., & Jaycox, L. H. (2009). Measurement of teen dating violence attitudes: An item response theory evaluation of differential item functioning according to gender. *Journal of Interpersonal Violence, 24*, 1243-1263.
- Elias-Lambert, N., Boyas, J. F., Black, B. M., & Schoech, R. J. (2015). Preventing substance abuse and relationship violence: Proof-of-concept evaluation of a social, multi-user, tablet-based game. *Children and Youth Services Review, 53*, 201-210. doi:10.1016/j.childyouth.2015.04.007
- Farmakopoulou, N. (2002). What lies underneath? An inter-organizational analysis of collaboration between education and social work. *British Journal of Social Work, 32*, 1051-1066.
- Felicia, P. (2009). *Digital games in schools: A handbook for teachers*. European Schoolnet. Retrieved April 4, 2013, from http://games.eun.org/upload/GIS_HANDBOOK_EN.PDF

- Foshee, V. A., Linder, G. F., MacDougal, J. E., & Bangdiwala, S. (2001). Gender differences in the longitudinal predictors of adolescent dating violence. *Preventative Medicine, 32*, 128-141.
- Foshee, V., Bauman, K., Ennett, S., Linder, F., Benefield, T., & Suchidran, C. (2004). Assessing the long-term effects of the Safe-Dates program and a booster in preventing and reducing adolescent dating violence victimization and perpetration. *American Journal of Public Health, 94*(4), 619-624.
- Fox, C., Hale, R., & Gadd, D. (2013). Domestic abuse prevention education: Listening to the views of young people. *Sex Education, 14*(1), 28-41. doi:10.1080/14681811.2013.816949
- Gardner, S. P., Giese, L., & Parrott, S. M. (2004). Evaluations of the connections: Relationships and marriage curriculum. *Family Relations, 53*, 521-527.
- Josephson, W. L., & Proulx, J.B. (2008). Violence in young adolescents' relationships: A path model. *Journal of Interpersonal Violence, 23*, 189-208.
- Jouriles, E. N., McDonald, R., Kullowatz, A., Rosenfield, D., Gomes, G. S., & Cuevas, A. (2009). Can virtual reality increase the realism of role plays used to teach college women coercion and rape resistant skills? *Behavior Therapy, 40*(4), 337-345.
- Langemar, P. (2005). *Att låta en värld öppna sig: Introduktion till kvalitativ metod i psykologi* [To let the world open itself: Introduction to qualitative methods in psychology]. Stockholms Universitet: Psykologiska institutionen.
- Leen, E., Sorbring, E., Mawer, M., Holdsworth, E., Helsing, B., & Bowen, E. (2013). Prevalence, dynamic risk factors and the efficacy of primary interventions for adolescent dating violence: An international review. *Aggression and Violence Behaviour, 18*, 159-174.
- Maxwell, C. D., Robinson, A. J., & Post, L. A. (2002). The nature and predictors of sexual victimization and offending among adolescents. *Journal of Youth and Adolescence, 32*(6), 465-477.
- McDonnell, J., Ott, J., & Mitchell, M. (2010). Predicting dating violence victimization and perpetration among middle and high school students in a rural southern community. *Children and Youth Services Review, 32*(10), 1458-1463.
- Michael, D., & Chen, S. (2006). *Serious games: Games that educate, train and inform*. Canada: Thomson Course Technology PTR.
- Molidor, C., & Tolman, R.M. (1998). Gender and contextual factors in adolescent dating violence. *Violence Against Women, 4*, 180-194.
- Muños-Rivas, M. J., Gámes-Guadix, M., Fernández-González, L., & Lozano, M. P. G. (2011). Validation of the Attitudes About Aggression in Dating Situations (AADS) and the Justification of Verbal/Coercive Tactics Scale (JVCT) in Spanish adolescents. *Journal of Family Violence, 26*, 575-584. doi:10.1007/s10896-011-9391-3

- O'Donnell, L., Stueve, A., Myint-U, A., Duran, R., Agronick, G., & Wilson-Simmons, R. (2006). Middle school aggression and subsequent intimate partner physical violence. *Journal of Youth and Adolescence, 35*, 693-703.
- Saltzman, L., Fanslow, J., McMahon, P., & Shelley, G. (2002). *Intimate partner violence surveillance: Uniform definitions and recommended data elements*. Centers for Disease Control and Prevention. Retrieved from <http://www.cdc.gov/violenceprevention/pdf/ipv/intimate-partner-violence.pdf>
- Schoech, D., Boyas, J. F., Black, B. M., & Elias-Lambert, N. (2013). Gamification for behavior change: Lessons from developing a social, multiuser, web-tablet based prevention game for youths. *Journal of Technology in Human Services, 30*, 197-217.
- Sears, A., Byers, S. E., & Price, L. (2007). The co-occurrence of adolescent boys' and girls' use of psychologically, physically, and sexually abusive behaviours in their dating relationships. *Journal of Adolescence, 30*, 487-504.
- Smith, J. A. (2008). *Qualitative psychology: A practical guide to research methods* (2nd ed.). London: Sage.
- Smith, M. K. (2005). Detached, street-based and project work with young people, [Online]. Retrieved March 14, 2015, from <http://www.infed.org/youthwork/b-detyw.htm>
- Taylor, B., Stein, N., & Burden, F. (2010). The effects of gender violence/harassment prevention programming in middle schools: A randomized experimental evaluation. *Violence and Victims, 25*(2), 202-223.
- Tikkanen, R. H., Abelsson, J., & Forsberg, M. (2011). UngKAB09 [Young people and sexual relations] Skriftserien 2011:1, Report from Gothenburg University.
- Tschann, J. M., Pasch, L. A., Flores, E., Marin, B. V., Baisch, E. M., & Wibbelsman, C. J. (2009). Nonviolent aspects of interparental conflict and dating violence among adolescents. *Journal of Family Issues, 30*(3), 295-319.
- Wastiau, P., Kearney, C., & Van den Berghe, W. (2009). *How are digital games used in school? Complete results of the study*. Retrieved April 4, 2014, from the European Schoolnet website http://games.eun.org/upload/gis-full_report_en.pdf
- Wolfe, D., Wekerle, C., Scott, K., Straatman, A. L., Grasley, C., & Reitzel-Jaffe, D. (2003). Dating violence prevention with at-risk youth: A controlled outcome evaluation. *Journal of Consulting and Clinical Psychology, 71*, 279-291.

Author note

Correspondence can be addressed to Emma Sorbring, emma.sorbring@hv.se, University West, SE-461 86, Trollhättan, Sweden.

This project was supported by an EC Daphne III Transnational Action Grant number JUST/2009/DAP3/AG/1068 — 30-CE-0386806/00-15.

The Use of Geographic Information Systems (GIS) in Conducting a Needs Assessment of Seniors in Collier County

Thomas Patrick Felke

Abstract: *Despite boasting a population where approximately 50% of individuals are aged 65 or older, Naples, Florida, has few services specifically targeting this population. This article reports on a project that utilized geographic information systems (GIS) to examine the current needs of the senior population in a defined section of Collier County, Florida. Various data points regarding the population age 65 and over were obtained using the U.S. Census Bureau's American FactFinder tool. These data were incorporated into digital maps that included the census tracts of the selected geographic area, locations of existing programs/services, and the existing transportation network. The results of the spatial analysis were corroborated by data collected via key informant interviews and focus groups. The result of the project was the establishment of the first senior access center in Collier County, FL. The project reinforces the use of GIS technologies for the purposes of needs assessment and siting program locations in the human services.*

Keywords: *Geographic information systems (GIS), seniors, needs assessment*

Social work practitioners can employ geographic information systems (GIS) technologies for a variety of purposes, such as planning, monitoring, and evaluating of programs and services. This article describes a project in which GIS technologies were utilized as part of a community needs assessment focused on seniors in Collier County, Florida. The technologies merged existing descriptive data about the target population to a discrete geographic section of the county. Digital representations of the locations for existing services for seniors as well as a digital representation of the public transportation network assisted in identifying possible locations for the establishment of a senior access center within the county.

Whereas most projects employing GIS technologies have focused on *ex post facto* evaluation, this project utilized GIS technologies as a planning tool. The project centered on examining gaps in services to seniors and the identification of a site in Naples, FL with the best potential for establishing a senior access center. The project also included focus groups and key informant interviews in concert with GIS technologies in order to strengthen the analysis. This methodological approach is not one seen previously in the literature.

The Leadership Coalition on Aging for Collier County (LCA-CC), a partnership of community agencies working with the senior population, sought to commission a needs assessment to examine the specific needs of seniors in Collier County. Collier County is located in Southwest Florida, consists of approximately 2,300 square miles, and has an estimated population of over 330,000 residents (U.S. Census Bureau, 2013). The county includes three cities and nineteen unincorporated areas though the latter have local recognition as communities. One of these cities, Naples, has consistently ranked among the top three cities nationally having the most millionaires per capita (Kiplinger, 2014).

Dr. Thomas P. Felke is the BSW Program Coordinator and an Assistant Professor in the Department of Social Work at Florida Gulf Coast University. He focuses his research efforts on conducting community needs and assets assessments using community-based participatory research. He routinely teaches an elective course focused on the use of geographic information systems as a planning, research, and evaluation tool in the social services. (Email: tfelke@fgcu.edu)

Despite this fact, local human service professionals and members of the LCA-CC knew that the events of the 2008 financial crisis had a significant impact on many individuals in Naples, particularly seniors. Based on their work with seniors in the local communities, members of the LCA-CC were interested in exploring the feasibility of establishing one or more access centers for seniors in Collier County. At the time, no single point of service access for seniors existed in Collier County. LCA-CC members felt this resulted in a lack of service coordination as well as sparse information regarding what services are available and to whom. Members identified four pre-existing locations in Collier County as having potential for being able to accommodate a senior access center but were uncertain which site was the best location or what specific services seniors most desired. This led to the development of the community needs assessment project described here. Due to his background with GIS technologies as a research instrument, the author was asked to participate in the project.

GIS Applications

GIS technologies are mapping tools used to create digital representations of key demographic variables according to desired geographic areas. A GIS is an organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information (ESRI, 1992). These technologies allow the user to join quantitative data that includes a geographic reference with digital maps in order to display the data in a defined geographic space. The majority of descriptive data collected, maintained, and utilized in social work practice is geographically referenced information. This information provides details as to what may exist near, or even at, a specific location depending upon the level of spatial data. Spatial data, or digital representations of physical geography, are produced in several levels. These include but are not limited to state boundaries, city or town boundaries, zip code areas, census tracts, block groups, and streets. The following example illustrates the connection between descriptive and spatial data: When a social service agency collects a client's mailing address during an intake meeting, this data potentially contains several geographic references: the state, town, zip code, and street address where the client resides. Using a GIS, one can use descriptive data in combination with spatial data to create digital maps that symbolize what lies where. Further, the technologies provide tools for analyzing the geographically referenced data to identify patterns, understand spatial relationships, and detect trends (ESRI, 1992).

GIS technologies were first introduced in the 1960s for land use management. Today, they are used by practitioners from various backgrounds across an array of agencies for a variety of purposes. These technologies are employed at local, national, and international levels for purposes including disaster management (Amamoo-Otchere & Akuetteh, 2005; Wood, 2000; Zakour & Harrell, 2004), monitoring disease outbreaks (Ailes et al., 2014; Hershey et al., 2011; Idowu, 2011), and monitoring of refugee situations (Bjorgo, 2000; Kemper, Jenerowicz, Gueguen, Poli, & Soille, 2011).

The application of GIS technologies first appeared in the social work literature in the late 1990s when Hoefler, Hoefler, and Tobias (1994) proposed GIS technologies as a potential tool for social workers to consider. Queralt and Witte (1998, 1999) undertook the

earliest applications of utilizing GIS technologies to examine gaps in childcare service in areas of Massachusetts and Florida. The relevance of geography and, by extension, the application of GIS technologies for research and evaluation purposes has been explicated in the social work literature (Coulton, 2005; Felke, 2007; Hillier, 2007). As a result, the social work profession has seen an increase in the use of GIS technologies for a variety of planning and evaluation efforts (Friesthler, Lery, Gruenewald, & Chow, 2006; Guerrero & Kao, 2014; Leung & Hanna, 2001; Wong & Hillier, 2001).

GIS technologies have also been utilized to examine issues related to seniors. Hirshorn and Stewart (2003) believed that these technologies had largely been underutilized for gerontological research efforts between 1983 and 2000. However, a review of the recent literature suggests that efforts in this area have increased. For example, GIS technologies have been used to examine barriers in accessing services related to health and food insecurity (Lin, 2004; Ohta et al., 2007; Yamashita & Kunkel, 2012). Though research on the topic is seemingly limited, GIS technologies have been used to ascertain ideal locations for the establishment of services to seniors. Carlson, York, and Primomo (2011) employed GIS technologies in this manner when identifying possible sites to deliver community-based fall prevention program for older adults; the authors found GIS technologies were valuable in facilitating the selection of sites to maximize accessibility and utilization by targeted populations.

Project Overview

Faculty from the Department of Social Work at Florida Gulf Coast University (FGCU) was engaged to undertake the first ever needs assessment of seniors residing in Collier County. An initial meeting was held with LCA-CC members to outline the scope of the project and to define certain parameters. The spatial target area was one of the primary aspects of the study needing to be defined. While the LCA-CC was concerned with issues related to seniors throughout Collier County, it became apparent that the actual study area was smaller than the entire county itself. As a result, an area including the city of Naples and its immediate unincorporated border areas became the target geography for the needs assessment as shown in Figure 1. This decision was made after a discussion of the feasibility in attempting to focus on an area as large and disparate as Collier County.

Another important decision was the definition of a senior for the purposes of this project. Discussion among LCA-CC members centered on whether 60 or 65 years old should be established as the minimum age. In the end, the LCA-CC resolved to define a senior as an individual aged 65 years or older. This decision had only a minor impact on the data collected as the U.S. Census Bureau collects data for this population at both ages depending on variable. For example, data related to households receiving SNAP benefits is available for households including an individual aged 60 and older while data on individuals living alone is available for individuals aged 65 and over.

With insight from FGCU faculty, the LCA-CC sought to develop a comprehensive demographic profile of the senior population in the target geographic area to better understand the population as a whole. This was important as it was clear that a perception existed among some members of the LCA-CC that poverty was not an issue among the

senior population. That was clearly reflected when, during an initial planning meeting to discuss possible variables, a LCA-CC member stated, “This is Naples. There are no poor people in Naples.” The LCA-CC also sought to create a visual illustration of the senior population in relation to the existing public transportation network and human service providers. The primary purpose of this initiative was to develop an advocacy platform from which LCA-CC members could promote the expansion of the public transportation network to areas thought to be underserved. The final objective was to solicit feedback from human service professionals working with seniors and from members of the senior population regarding perceptions of senior needs in the target area. This was deemed important in order to ascertain whether the perceptions of the providers were in line with those of the seniors in the area.

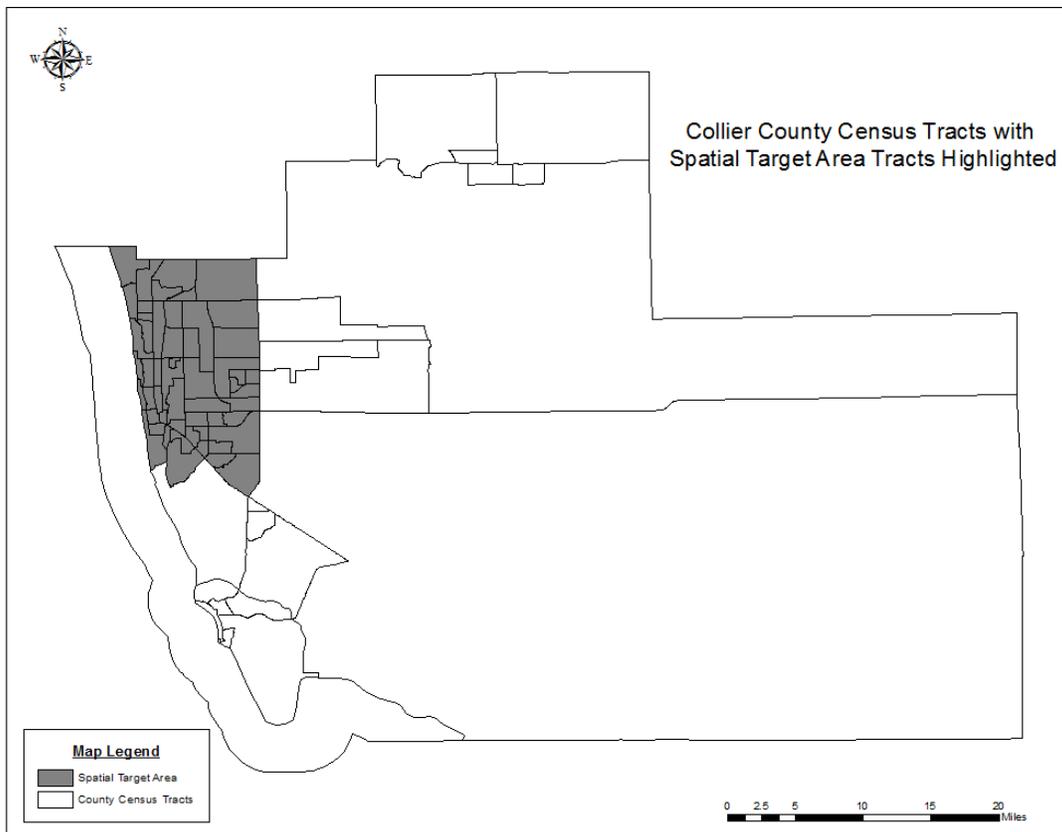


Figure 1. Spatial Target Area

Based on this and additional feedback gathered at the initial meeting, FGCU faculty began to formulate an assessment plan. They decided on a mixed methods approach because a quantitative component, including a spatial analysis using GIS technologies, would allow for the illustration of the target population in the selected geographic area while a qualitative component would allow for human service professionals, members of

the target population, and other community stakeholders to lend voice to the quantitative data. The quantitative portion consisted of the analysis of existing data collected using the American Factfinder tool of the U.S. Census Bureau. The qualitative portion included key informant interviews with human service professionals working with the senior population in Collier County as well as focus groups with seniors residing in the county. Upon acceptance of the assessment plan by the LCA-CC, the project began in the summer of 2013.

GIS Methodology

While a mixed methods approach was developed, the primary focus of this article is the application of GIS technologies in this project. The primary purpose of this particular methodology was to illustrate the senior population in the geographic target area. As mentioned previously, the first step in this process was the development of an orientation basemap which was used to provide viewers with a geographic context of the spatial target area. A decision was made to collect data at the census tract level in order to provide an accurate illustration of the target population in the target geographic area. According to the U.S. Census Bureau (2012), census tracts “are small, relatively permanent statistical subdivisions of a county...generally have a population size between 1,200 and 8,000 people...to provide a stable set of geographic units for the presentation of statistical data” (para. 1). The general intention of Census tracts is to represent neighborhoods, as they are designed to be relatively homogeneous with respect to population characteristics, economic status, and living conditions (Iceland & Steinmetz, 2003). As the target geographic area in this project consists of both incorporated and unincorporated areas, census tracts were deemed as the best spatial representation of the area.

To create a digital representation of the target geography, the author first obtained a digital map, or shapefile, of all census tracts in Collier County from the U.S. Census Bureau website. The author modified the census tract shapefile using ArcGIS (ESRI, 2011, version 10.1), a commercial GIS software program, to include only those tracts found in the target geography. The resultant shapefile included 53 census tracts from the initial set of 74 as shown previously in Figure 1.

A shapefile of the major road network of Collier County as well as a major highway, Interstate 75, were obtained from the Collier County GIS Services Division. These shapefiles were added to the ArcGIS project as overlays to the modified census tracts shapefile. The street network shapefile was modified through a process known as clipping so that it matched the borders of the census tract shapefile. The same modification process was undertaken on the shapefile of Interstate 75. To complete the digital representation of the area transportation network, two shapefiles of the public transportation system – one for the transit routes and one for the route stops – were obtained from the Collier County Metropolitan Planning Organization (MPO). The route shapefile was not included in the project file as it closely approximated the major road network. These shapefiles were also modified using the clip process outlined previously and then added to the ArcGIS project as overlays to the census tracts layer.

A final layer of the identified site locations were also added to the project file. These locations were added through geocoding, a process of address interpolation whereby street address data is digitally represented as a point along a digital street network (ESRI, 2010). These layers were combined in the project file to create a basemap of the spatial target area as shown in Figure 2.

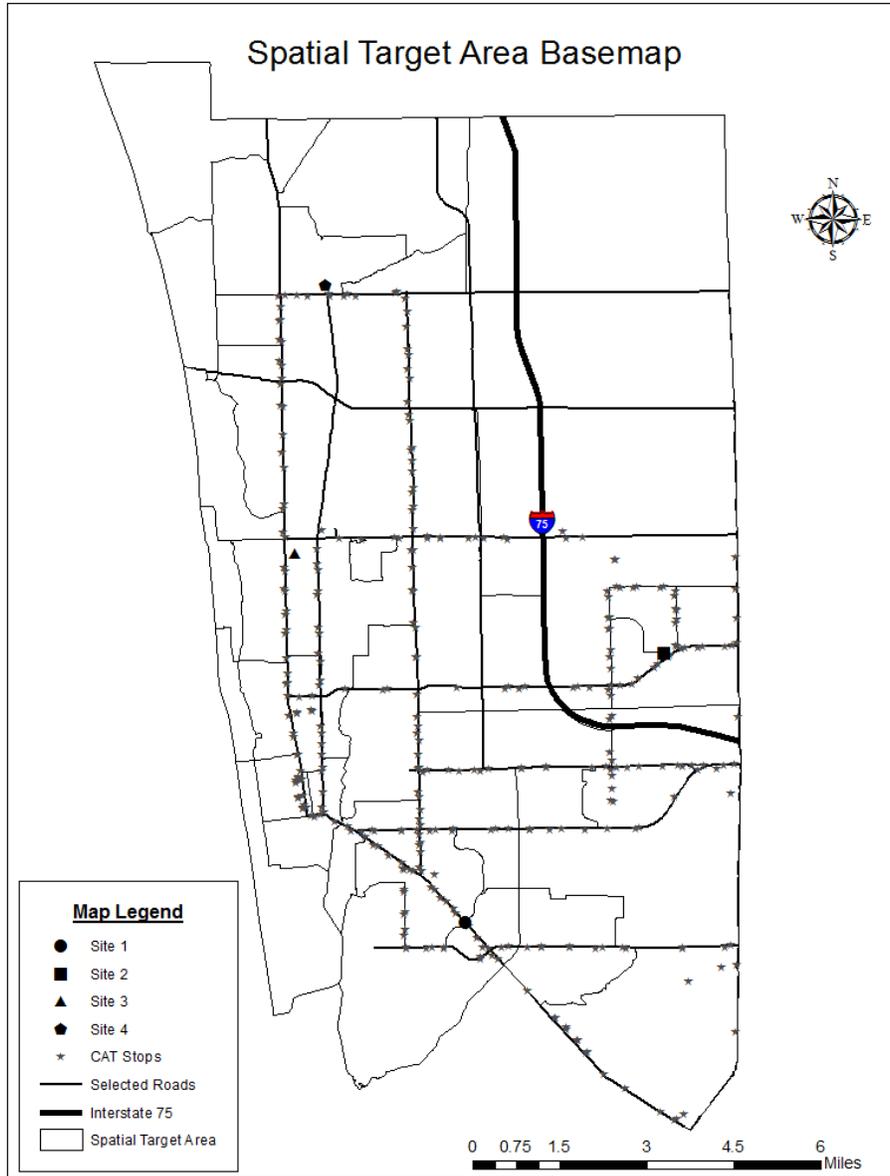


Figure 2. Spatial Target Area Basemap

Once the spatial data set was modified and assembled, work began on building the descriptive dataset for the spatial target area. All descriptive data were obtained from the U.S. Census Bureau website using the American Factfinder tool. The author collected data from the 2012 American Community Survey (ACS) 5-year estimate dataset. The five-year estimates are a strong choice for use when analyzing very small populations such as at the census tract level (U.S. Census Bureau, 2013). A further rationale for the selection of this dataset was the availability of a broad range of age-specific variables. Using Microsoft Excel, the author compiled a comprehensive dataset along with a codebook containing descriptions of the variables and the tables from which they were drawn. The use of a Microsoft Excel workbook also allowed for the calculation of descriptive statistics and the creation of pivot tables used to view and present data in later presentations. The author ensured a unique identifier was included for each row of data, with each row representing a specific census tract found in the target area. This was done in order to create a join between the descriptive data for each census tract with its digital representation in the shapefile. This join between the table associated with the spatial data and the table holding the descriptive data is what allows for the visualization of the descriptive data on the digital map.

Data Analysis

The spatial data was first analyzed to locate key features and orient stakeholders to the reduced target area. A geoprocessing tool found in ArcMap was employed to locate the central feature, in this case the central census tract, of the target geographic area. This feature was located slightly east of center in the target area. This feature was both centrally located in the existing public transit system and home to one of the potential site locations for the Senior Center as shown in Figure 3.

The next step in the analysis was the visualization of the descriptive data that had been joined to the digital map. The author visualized each variable in the digital map using a basic count per census tract in order to identify the census tracts with the highest number of seniors according to each variable displayed. In the target geographic area, the senior population totaled approximately 58,000 individuals (48% male; 52% female). The population was shown to be distributed with the largest concentrations in the northwest corner and central southern sections of the target area. A smaller but concentrated band of seniors was located in the target area near the centrally located site. While this map did not seem to have a major impact factor, the power of utilizing GIS technologies was apparent as, upon seeing the maps, several LCA-CC members remarked they were not aware the senior populations were located in certain areas. One member, upon seeing the close proximity between a large pocket of the senior population and their agency location, stated, "I had no idea that so many of them were right in my backyard."

Several demographic and socioeconomic variables were illustrated via GIS using basic counts in each census tract of the spatial target area. Within the target area, there were an estimated 2,470 households with a householder aged 65 years or older with income in the past 12 months below the federal poverty level. Spatially, the highest concentration of this population was located in the northeast corner of the target area with pockets also identified in the center and southeast corner. Additionally, there were approximately 1,200

households with at least one resident aged 60 or older having received SNAP (Food Stamps) benefits in the past twelve months. Two pockets were identified with one being located in the northeast corner of the target area while the other was found near the central site location.

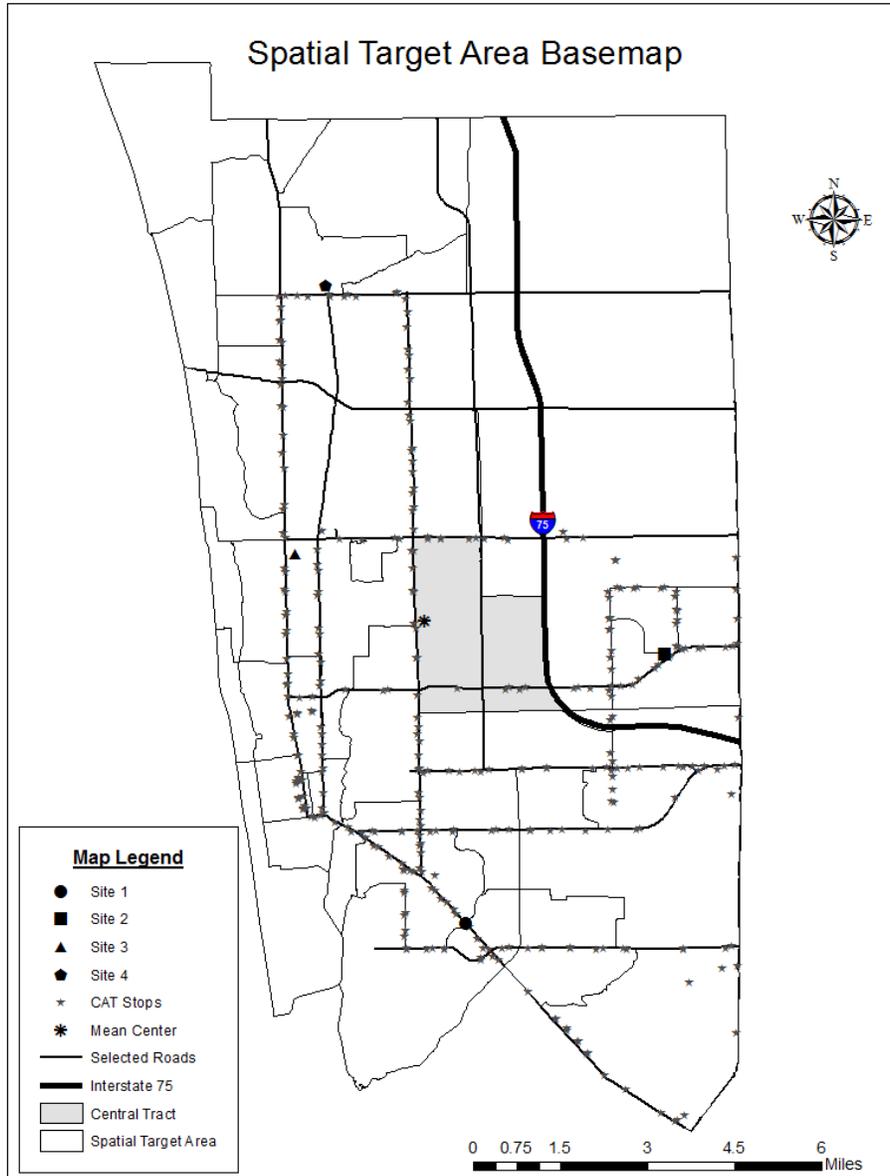


Figure 3. Central Features

One of the most important findings was the data regarding the number of households consisting of seniors living alone in the target area. The data showed that approximately

16,600 individuals, roughly 29% of the total senior population, were living alone. There was almost double the number of senior women (66%) than men (34%) living alone. These populations were found to be distributed evenly throughout the target area with a few exceptions based on gender. The highest pocket of male seniors in this category was located in the southern area whereas three pockets of female seniors in this category were located in the central and northern areas. Taken as a whole, the highest densities were found near the central site location as well as on the northwest border. This variable took on the utmost importance as “lack of companionship” was the primary theme of the focus groups conducted with seniors in the target spatial area.

Using the total senior population by census tract as a base layer, a second geoprocessing tool was used to buffer the stops along the public transportation system. A buffer is an area of a pre-defined distance created around a map feature in order to conduct proximity analysis (ESRI, 2012). In this project, buffers of a quarter mile and a half-mile were created around the public transportation stops. These distances were selected based on walkability research among the elderly that identified these distances as the outer limits to which seniors will utilize public transportation (Hess, 2012; Kim & Ulfarsson, 2004). An additional one mile buffer was added for comparative purposes. The proximity analysis found that none of the four site locations were particularly accessible for individuals utilizing the existing public transportation system as shown in Figure 4. In most cases, minimum walking distances between transit stops and site locations were in excess of one mile. Two locations were found to have at least one transit stop situated within a quarter-mile though only in one direction of the transit loop.

In summary, none of the four selected locations were located directly within a census tract with the highest population of individuals over 65, with the largest number of individuals below the federal poverty level, with the lowest median income, or with the largest number of household receiving SNAP benefits. Census tracts located in the northeast and northwest corners of the target area were found to contain high concentrations of seniors who might benefit from a senior access center. However, the lack of an available site location as well as limited public transportation were cited as major barriers for seniors residing in these areas. The centrally located site was in the closest proximity when evaluating the population according to each of these variables. This site was also the only location having a transit stop within a quarter-mile distance. Based on the findings of the spatial and proximity analyses, triangulated through data collected via the key informant interviews and focus groups, the author made a series of recommendations. Primary among the findings was the confirmation, despite public perception, that the target area was home to seniors with incomes below the poverty level and who lack access to needed services because of either transportation barriers or a lack of basic services for low-income individuals. The findings also showed a need, and want, for social activities and companionship among seniors.

Given its proximity to high senior populations based on the variables examined, the central site location was recommended for the establishment of a senior center with a second site located in the southeast corner, if feasible. A final recommendation was also made for the development and provision of alternate transportation options for seniors in

the northeast and northwest corners of the target area so they might benefit from participation in a senior center.

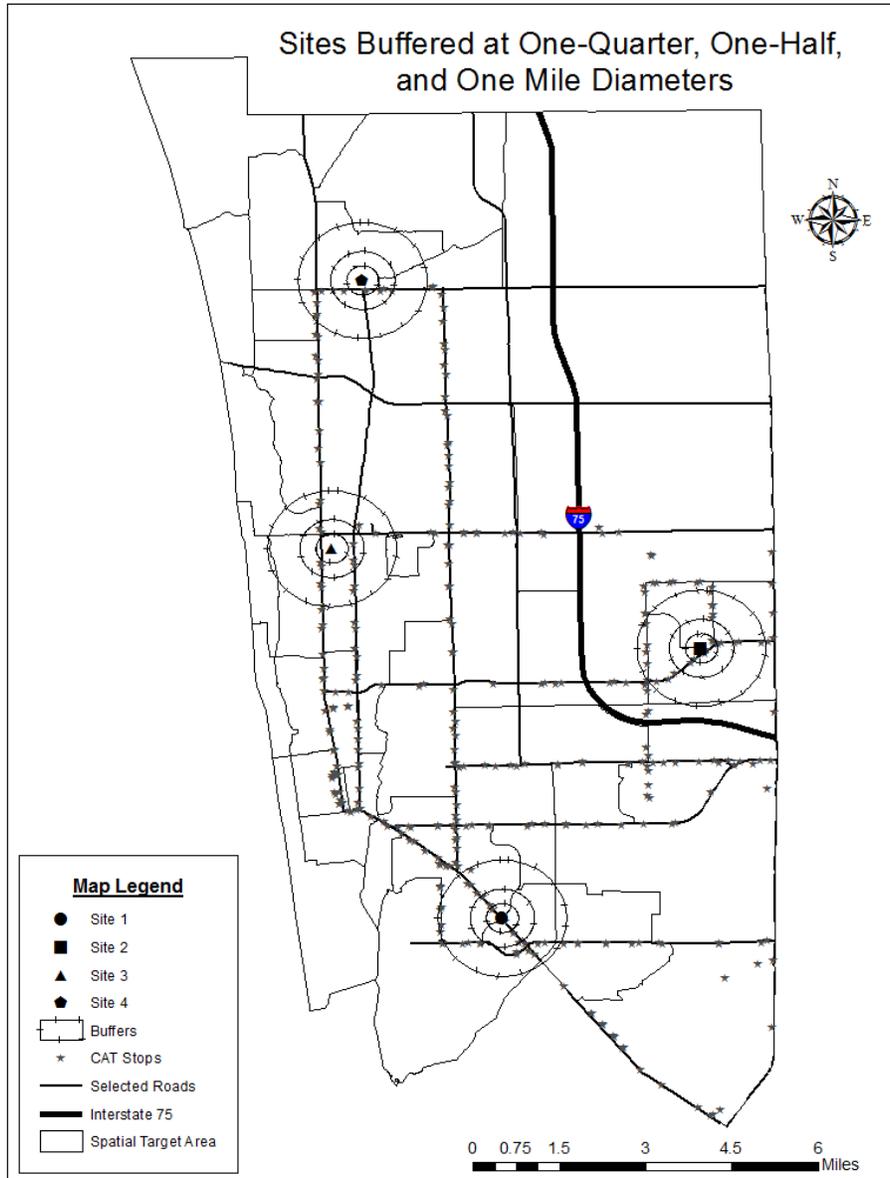


Figure 4. Site/Transportation Buffers

Recommendations

GIS technologies provide a tool that can be used for planning or evaluation purposes. The project described in this article focused on its use as a planning tool. The resultant

maps provided a tangible product that allowed stakeholders to visualize the target population, according to various attributes, within the spatial target area. The maps also provided evidence that was difficult to refute and that ran contrary to prevailing opinions regarding the number of seniors in need in the spatial target area. By using GIS technologies, an optimal location for a senior access center was established, and some gaps for the senior population in the existing public transportation network were highlighted.

The incorporation of qualitative methodologies was a major benefit to this study. While the GIS technologies were able to provide a demographic illustration of seniors, it was the qualitative data that both supported and helped reframe the study along the way. Companionship was stated in the focus groups as the primary desire of seniors in establishing a senior access center. This was supported by the collected quantitative data showing a high number of seniors living alone in the spatial target area. This fact was corroborated in the key informant interviews with human service professionals who also noted a lack of access to transportation as a major barrier for seniors. However, the majority of seniors noted in the focus groups that this was not a primary issue for them as they did not rely on public transportation opting instead to either drive themselves or carpool with neighbors. Means of transportation was not included as a quantitative variable as the LCA-CC members felt it was too obvious of a barrier to consider evaluating. In hindsight, given the feedback from the focus groups, it might have been a very useful variable to examine.

It is important to take into consideration the understanding of the stakeholder group of both available data and GIS technologies. LCA-CC members often questioned the use of the dataset being utilized, not in terms of its accuracy, but availability. Members felt that data such as that used in this project should have been available more frequently and been collected locally. Educating members on the complexities of data collection and management, even for the comparatively small spatial target area in this project, became an important task in order to develop confidence in the process. It was also important to educate members on the capabilities of GIS technologies. While many members felt they understood what the technologies could be used for, it became clear in preliminary discussions that this knowledge was actually limited. Some members felt the technology was, and would be, used to track the target population while others would routinely confuse GIS and GPS (global positioning systems) technologies both in name and function.

Conclusion

Based on the project findings outlined in this article, funding was obtained to establish the first senior access center in Collier County. The 4,000-square-foot center opened in January 2014 with a plan to operate a weekly congregate luncheon and occasional social activities for seniors. Due to a tremendous response from seniors in the Naples community and adjoining areas, the Center now operates on a daily basis, serving approximately 450 local seniors. Initial analysis of the participant demographics, as well as direct feedback from seniors, has found that the center is meeting the needs identified in the study. GIS technologies are now being used as an evaluative tool for this purpose with a spatial analysis showing that participants are from the areas identified as having high concentrations of seniors living alone as well as areas with high numbers of seniors living below the poverty line. The county transit department noted the recommendations

concerning transportation preferences as reported in the focus groups. Public transportation was expanded to areas with high concentrations of seniors through deviations in the fixed route transit system and expansion of ride share services, which allow seniors to attend activities without the need to walk extended distances or ride traditional public transit routes that include multiple stops and/or circuitous routes.

The opening of second center is planned in the southeast corner of the target area by the end of 2014 using the results of this project as a basis for its establishment. The second location is being sited based on recommendations produced through the spatial analysis.

Moreover, neighboring communities have recognized the value in utilizing GIS technologies as a tool in conducting community needs assessments. The author has been contacted by organizations in two neighboring counties who are seeking to utilize GIS technologies as part of their needs assessment and planning efforts. One effort will focus on future parks and recreation planning while the second will be aimed at identifying and prioritizing community needs in a currently unincorporated area seeking to become incorporated. The practical application of GIS technologies is evident and will hopefully continue to gain visibility as a tool for the social work practitioner.

References

- Ailes, E., Newsome, K., Williams, J., McIntyre, A., Jamieson, D., Finelli, L., & Honein, M. (2014). CDC pregnancy flu line: Monitoring severe illness among pregnant women with influenza. *Maternal and Child Health Journal, 18*(7), 1578-1582.
- Amamoo-Otechere, E., & Akuetteh, B. (2005). Building disaster anticipation information into the Ghana development and poverty mapping and monitoring system. In P. van Oosterom, S. Zlatanova, & E. M. Fendel (Eds.), *Geo-information for disaster management* (pp. 809-818). Berlin: Springer-Verlag.
- Bjorgo, E. (2000). Refugee camp mapping using very high spatial resolution satellite sensor images. *Geocarto International, 15*(2), 79-88.
- Carlson, T., York, S., & Primomo, J. (2011). The utilization of geographic information systems to create a site selection strategy to disseminate an older adult fall prevention program. *The Social Science Journal, 48*(1), 159-174.
- Coulton, C. (2005). The place of community in social work practice research: Conceptual and methodological developments. *Social Work Research, 29*(2), 73-86.
- ESRI. (1992). *The ARC/INFO Method*. Redlands, CA: Environmental Systems Research Institute.
- ESRI. (2010). *What is geocoding?* Retrieved from <http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html#/002500000001000000.htm>
- ESRI. (2011). *ArcGIS for Desktop (Version 10.1) [Software]*. Available from <http://www.esri.com/software/arcgis/arcgis-for-desktop>

- ESRI. (2012). Buffer (Analysis). Retrieved from <http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html#//000800000019000000>
- Felke, T. (2007). Geographic information systems: Potential uses in social work education and practice. *Journal of Evidence-based Social Work Practice, 3*(3/4), 103-113.
- Friesthler, B., Lery, B., Gruenewald, P. J., & Chow, J. (2006). Methods and challenges of analyzing spatial data for social work problems. *Social Work Research, 30*(4), 198-210.
- Guerrero, E., & Kao, D. (2014, January). *Access to integrated care in substance abuse treatment: Travel distance from low income and diverse communities*. Paper presented at the annual conference of the Society for Social Work and Research, San Antonio, TX.
- Hershey, C. L., Doocy, S., Anderson, J., Haskew, C., Spiegel, P., & Moss, W. J. (2011). Incidence and risk factors for malaria, pneumonia, and diarrhea in children under 5 in UNHCR refugee camps: A retrospective study. *Conflict and Health, 5*, 24-33.
- Hess, D. (2012). Walking to the bust stop: Perceived versus actual walking distance to bus stops for older adults. *Transportation, 39*(2), 247-266.
- Hillier, A. (2007). Why social work needs mapping. *Journal of Social Work Education, 43*(2), 205-221.
- Hirshorn, B., & Stewart, J. (2003). Geographic information systems in community-based gerontological research and practice. *Journal of Applied Gerontology, 22*(1), 134-151.
- Hoefler, R. A., Hoefler, R., & Tobias, R. A. (1994). Geographic information systems and human services. *Journal of Community Practice, 1*, 113-128.
- Iceland, J., & Steinmetz, E. (2003). The effects of using census block groups instead of census tracts when examining residential housing patterns. *Racial and ethnic residential segregation in the United States: 1980-2000*. U.S. Census Bureau, Census Special Report, CENSR-3, Washington, DC: U.S. Government Printing Office.
- Idowu, P. (2011). *A GIS data model for disease surveillance and monitoring: Nigeria as a case study*. Saarbrücken, Germany: Lambert Academic Publishing.
- Kemper, T., Jenerowicz, M., Gueguen, L., Poli, D., & Soille, P. (2011). Monitoring changes in the Menik Farm IDP camps in Sri Lanka using multi-temporal very high-resolution satellite data. *International Journal of Digital Earth, 4*(1), 91-106.
- Kim S., & Ulfarsson, G. (2004). Travel mode choice of the elderly: Effects of personal, household, neighborhood, and trip characteristics. *Transportation Research Record, 1894*, 117-126.

- Kiplinger. (2014). Where millionaires live in America. Retrieved from <http://www.kiplinger.com/slideshow/real-estate/T010-S001-where-millionaires-live-in-america-slide-show/index.html>
- Leung, C. K., & Hanna, M. (2001). *Improving human service planning with ArcView: An exploratory study of childcare stability and utilization*. Paper presented at the ESRI International Users Conference, San Diego, CA. Retrieved from <http://gis.esri.com/library/userconf/proc00/professional/papers/PAP168/p168.htm>
- Lin, S. (2004). Access to community pharmacies by the elderly in Illinois: A geographic information systems analysis. *Journal of Medical Systems, 28*(3), 301-309.
- Ohta, K., Kobashi, G., Takano, S., Kagaya, S., Yamada, H., Minakami, H., & Yamamura, E. (2007). Analysis of the geographical accessibility of neurosurgical emergency hospitals in Sapporo city using GIS and AHP. *International Journal of Geographical Information Science, 21*(6), 687-698.
- Queralt, M., & Witte, A. D. (1998). A map for you? Geographic information systems in the social services. *Social Work, 43*(5), 455-469.
- Queralt, M., & Witte, A. D. (1999). Estimating unmet need for services: A middling approach. *Social Service Review, 73*, 524-559.
- U.S. Census Bureau. (2012). *Geographic terms and concepts - census tract*. Retrieved from https://www.census.gov/geo/reference/gtc/gtc_ct.html
- U.S. Census Bureau. (2013). *American Community Survey 3-year estimates – Collier County, Florida census tracts*. Retrieved from <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- Wong, Y. I., & Hillier, A. (2001). Evaluating a community-based homelessness prevention program: A geographic information system approach. *Administration in Social Work, 25*(4), 21-45.
- Wood, W. (2000). Complex emergency response planning and coordination: Potential GIS applications. *Geopolitics, 5*(1), 19-36.
- Yamashita, T., & Kunkel, S. (2012). Geographic access to healthy and unhealthy foods for the older population in a U.S. metropolitan area. *Journal of Applied Gerontology, 31*(3), 287-313.
- Zakour, M., & Harrell, E. (2004). Access to disaster services: Social work interventions for vulnerable populations. *Journal of Social Service Research, 30*(2), 27-54.

#AdvocatingForChange: The Strategic Use of Hashtags in Social Media Advocacy

Gregory D. Saxton
Jerome N. Niyirora
Chao Guo
Richard D. Waters

Abstract: *Social media continues to change how advocacy organizations mobilize, educate, and connect with their constituents. One of the most unique yet understudied tools available on social media platforms is the hashtag. Little research exists on how social work and advocacy organizations use hashtags, much less on how such use can be effective. This study examines the hashtag use by 105 constituent members of the National Health Council, a national US-based patient/health advocacy coalition. The study presents an inductive coding scheme of the types of hashtags employed, analyzes inter-sectoral differences in hashtag usage, and examines the relationship between hashtag use and measures of the effectiveness of social media messages.*

Keywords: *E-advocacy, hashtags, health, nonprofits, social media*

Technology has significantly changed the landscape of social work practice, and perhaps no area has been impacted more over the past decade than community organizing and policy advocacy. Social media platforms dominate discussions of online advocacy because of their ease of use and abilities to tap into peer-to-peer networks to spread advocacy messages (Goldkind & McNutt, 2014; Guo & Saxton, 2014). Little research, however, has been conducted on the use of hashtags in relation to the success of advocacy efforts and social media engagement.

Hashtags, short words or phrases that follow the hash or pound sign (#), such as #StopDiabetes, #HIV, or #MarchforBabies, are used on social media platforms to brand advocacy movements, archive messages for the movement, and allow those not personally connected to a user to see and comment on messages that use the hashtag (Bruns & Burgess, 2011). Using hashtags with online advocacy efforts allows movements to spread organically to like-minded individuals and organizations and to spread virally to other users of the social media platform. The purpose of this research is to determine how advocacy organizations use hashtags on Twitter, the types of hashtags being used, and whether using hashtags increases the level of engagement by those following advocacy efforts online.

This research examines eight months' of hashtag use on Twitter by 105 organizational members of the National Health Council, a large US-based patient advocacy association. Messages were examined for the presence of hashtags, the number and style of hashtags used, and how these hashtags impacted the number of times a message was *retweeted*, or shared, by other Twitter users. Regressions show hashtag use – and especially certain types

Gregory D. Saxton, PhD, is an Associate Professor in the Department of Communication at the University at Buffalo, SUNY. Jerome Niyirora, PhD, is an Assistant Professor in the College of Health Sciences and Management at the State University of New York Polytechnic Institute. Chao Guo, PhD, is an Associate Professor in the School of Social Policy & Practice at the University of Pennsylvania. Richard D. Waters, PhD, is an Associate Professor in the School of Management at the University of San Francisco.

of hashtags – increased the level of engagement by those following the advocacy movements. This study informs theory and practice about how organizations can use social media platforms to best advocate for public policy and community organizing efforts.

Prior Research

Social Work and e-Advocacy: From Web 1.0 to Social Media

The spread of computer-media communications has led scholars to study its implications for social work practice (e.g., Anstadt, Burnette, & Bradley, 2011; Perron, Taylor, Glass, & Margerum-Leys, 2010). One of the most prolific areas of research has been e-advocacy. Advocacy—whether directly through lobbying or indirectly through grassroots mobilization, coalition building, or public education—is a core function of nonprofit organizations, for it is through such efforts that organizations can further represent the interests of their constituents (Guo & Saxton, 2010; Mosley, 2013). Social work in particular has a strong professional commitment to social justice and advocacy (Queiro-Tajalli, Campbell, & McNutt, 2003). Not surprisingly, a large body of research has shown how new media are changing the nature of advocacy work.

The first wave of research dealt with how early Internet technologies, especially as websites and email, were changing advocacy and activism practices (Hick & McNutt, 2002). Scholars explored the advocacy opportunities and challenges presented by these electronic media (McNutt, 2008). Scholars also sought to develop an understanding of the determinants of e-advocacy activities (Goldkind, 2014) as well as what makes for effective use of the website for electronic advocacy efforts (Edwards & Hofer, 2010).

With the widespread and rapid adoption of social media platforms, a growing body of literature is now beginning to explore the intersection of social media and advocacy work. The earliest studies looked at adoption, or whether nonprofit advocacy organizations were using social media tools (Bortree & Seltzer, 2009). The next wave explored managers' perceptions of social media for advocacy work (Obar, Zube, & Lampe, 2012) along with the potential challenges of using social media tools (Goldkind & McNutt, 2014). Research has also explored how these organizations were using social media for advocacy work (Guo & Saxton, 2014).

e-Advocacy Messages and Their Effectiveness

An examination of social media-based advocacy efforts ultimately involves a focus on organization-audience communication. The primary communicative tool on all social media platforms is the series of regular, brief discrete messages – the tweet, the status update, the video, or the photo – that is sent to an organization's followers on Twitter, Facebook, YouTube, or Instagram, respectively. As a result, recent social media research in both a general organizational context (Lovejoy & Saxton, 2012; Waters & Jamal, 2011), as well as in the context of organizational advocacy, has come to focus on the nature of the messages organizations are sending. For instance, in a study of *tweets* (Twitter messages) sent by 150 large advocacy organizations, Guo and Saxton (2014) found the most prevalent advocacy tactics reflected in the tweets were public education and grassroots lobbying with

some manifestations of research, coalition-building, public events/direct action, and voter registration and education. There were few instances of media advocacy, administrative lobbying, direct lobbying, or judicial advocacy.

While the above studies are invaluable, scholars have yet to examine the efficacy of advocacy work on social media. A variety of potential approaches could be pursued, such as looking at the impact on policy or attitudinal change. Although undoubtedly worthwhile, communication and public relations scholars have recently found an interesting alternative: examining the relationship between organizations' social media messages and the immediate audience reaction that manifests in the form of such actions as *liking*, commenting on, or sharing an organization's message on Facebook or *retweeting* (sharing) or *favoriting* (archiving) a message on Twitter (Saxton & Waters, 2014). This ability to measure the almost real-time public reaction to an organization's advocacy messages facilitates a shift in measurement from the perceptual to the behavioral realm and provides organizations with a quantitative and comparable gauge to measure the relative effectiveness of their advocacy messaging strategies.

Here Comes the Hashtag

Social media have engendered new forms of communicating and interacting with the public. One of the most innovative tools is the hashtag. Since Twitter employee Chris Messina sent the first ever tweet containing a hashtag in 2007 (Kirkpatrick, 2011), hashtags have become popular and spread to other social media platforms.

Hashtags indicate topics or themes, and they represent an important innovation in social media communication. First, the use of hashtags is powerful because it is participatory. Hashtags are not decided in advance by a pre-determined set of users. The hashtag system constitutes a decentralized, user-generated tagging, organizing, and classification system. The hashtag classifies messages, improves searchability, and allows the organization to link messages to existing knowledge and action communities. It is this community element that undergirds the power of hashtags. Briefly put, hashtags can lead to the formation of *ad hoc publics* (Bruns & Burgess, 2011) of networks that develop around the hashtag. These networks/communities can be ephemeral and arise in response to emergencies and crises, or they can be more stable, long-term communities of practice or knowledge that develop to spread ideas, news, or opinions on a given topic.

Despite their potential importance, neither scholars nor nonprofit organizations have closely examined hashtags. Two areas that have not been addressed to date are the use of hashtags in advocacy work and the determinants of the effectiveness of organizations' advocacy messages. This study addresses these areas by examining the nature and efficacy of advocacy organizations' communication on Twitter, focusing on the role of hashtags in connecting with audiences.

Method

Our sample comprises the National Health Council's (NHC) 105 member organizations.¹ The NHC is a patient advocacy organization whose mission is "...to provide a united voice for the millions of people living with chronic diseases and disabilities and their family caregivers." Its aim is to bring "...together diverse stakeholders within the health community to work for health care that meets the personal needs and goals of people with chronic diseases and disabilities" (NHC, 2015, para. 2).

Data from each organization's Twitter account were gathered for an eight-month period from January 1 through August 31, 2014. Computer code written in Python programming language (available upon request) was written to access the account-level details and the individual tweets sent by each of the NHC member organizations. These tweets were likely written and shared by NHC members for the purposes of advocating for their causes, publicizing their organizations, and interacting with their followers. These publicly available tweets provided researchers an unobtrusive way to investigate hashtag strategy and usage by NHC member organizations even though they were unaware of the research. Given recent attention concerning the ethical use of social media updates, especially journalists quoting updates in news stories, the researchers turned to the Association of Internet Research's report on ethical decision-making and internet research (Markham & Buchanan, 2012) to ensure that the research design did not violate ethical principles. Given that no individuals are quoted in the current study and that the research focused on reporting trends, it was deemed that the research met the Association of Internet Research's criteria for ethically sound studies.

Once the tweets were downloaded, the study employed a two-stage, mixed-methods approach combining quantitative and qualitative content analyses. The first stage involved an inductive analysis of the hashtags used in each tweet to identify communication strategies unique to the social media innovation. Two researchers reviewed the data to create initial categories for the types of hashtags used by NHC organization members in their tweets. Then, they worked to reduce the amount of overlap among the categories by providing clear operational definitions of the different categories that created the final typology presented in Table 1. Complementing this analysis was a series of quantitative content analyses used to identify the most popular hashtags and the general frequency of hashtag use. This mixed-method approach is in line with methodological literature, which sees content analysis (Krippendorff, 2004) as more appropriate for positivistic evaluations of frequency distributions and qualitative inductive analyses (Strauss & Corbin, 1998) as more appropriate for grounded theory building.

In the second stage of the analysis, a series of regressions was used to determine the relationship between hashtag utilization and the effectiveness of organizational messaging, as reflected in the number of retweets each message receives. Collectively, these two sets of analyses allowed us to identify the types of hashtags organizations were using, how they

¹ Full list available at www.nationalhealthcouncil.org/pages/member-roster.php

were using them, and the relative effectiveness of the hashtag communication strategies we identified.

Results

Summary of NHC Organizations' Twitter Usage

Of the 105 organizations, two did not have a Twitter account. Four others with Twitter accounts did not send a tweet during 2014. The remaining 99 organizations sent a total of 75,934 tweets from January 1 through August 31, 2014. Two of the most important measures of public engagement on social media accounts are the number of *followers* an organization attracts and the number of times an organizations' messages are shared, or reposted, by other users (Saxton & Waters, 2014). The number of followers, to start, is an indication of the size of the audience the organization is attracting on social media, for followers reflect users who have made the conscious decision to connect with the organization and see its messages. Message sharing, in turn, occurs when a user finds an organization's message valuable in some way and then chooses to forward the message to the user's own followers. On Twitter, this act of sharing is called *retweeting*, and is a critical means of ensuring the dissemination of an organization's messages and reaching a bigger and more diverse audience (Saxton & Waters, 2014). The average organization in our sample received 6,432 *retweets* during the 8-month period (SD=14,934); this ranged from a minimum of 1 retweet to a maximum of 87,382. The average organization had 25,040 followers (SD=85,892) and followed 5,763 other Twitter users (SD=30,105). There was a wide range on these two variables: from 91 to 684,086 followers and from 4 to 233,212 users followed. The organizations sent on average 767 tweets (SD=768.5) over the 8-month period (or 3.2 per day), with one organization sending as few as 2 and one as many as 3,087 (12.7 per day).

Organizations' Use of Hashtags

Hashtag use was prevalent. The 75,934 tweets collectively contained 9,934 unique hashtags. The mean number of times hashtags were used was 853 (SD=969) and ranged from 0 to 4,720. The number of unique hashtags employed was fewer: an average organization employed 202 unique hashtags (SD=189.8) in their tweets over the eight-month period, with a range from 0 to 770 unique hashtags.

Figure 1 shows a hashtag cloud based on all the hashtags. The larger the hashtag, the more frequently it appeared in the organizations' tweets. A visual inspection shows heavy prevalence of hashtags denoting medical conditions (e.g., *#diabetes*), health goals (e.g., *#endALZ*), policy advocacy (e.g., *#passtheableact*) and health-related events (e.g., *#icebucketchallenge*) and conferences (e.g., *#asco14*).

To delve into the most frequently used hashtags further, Figure 2 shows the number of times the top 25 most popular hashtags were used. The most popular hashtag, *#endALZ*, was used 1,459 times by the 99 organizations over the eight-month study period. The 25th most-popular hashtag, *#ACA*, was used 402 times.

Figure 2 only shows the most frequently used hashtags. Not shown is that a full 5,595 of the 9,934 hashtags (56.3%) are used only once and a further 1,250 hashtags (12.6%) are used only twice. With another 632 being used only 3 times (6.4%), a full 75.3% of all hashtags are only employed 1 to 3 times. Thus, there is not a *normal distribution* or bell curve to the frequency with which the various hashtags are employed. Instead, a few hashtags receive extremely heavy usage while the great majority of them are sparsely used.

Classifying Hashtags

To understand the types of hashtags advocacy organizations are using, the study took an inductive approach to see what categories of hashtags might help patient advocacy organizations deliver more effective messages to their target audiences. To develop the coding scheme, a random sample of 1,000 of the 75,934 tweets was analyzed. Of these tweets, 226 were retweeted messages, or messages sent by other organizations that the organizations in our sample decided to re-post. Given that the intentionality of hashtag use in such retweeted messages was less clear, the researchers decided to concentrate hand coding efforts on the 774 original tweets out of the random sample of 1,000 (83 of the 99 organizations are represented in this sample of 774 tweets). Of these 774 tweets, 264 did not contain a hashtag, while 510 contained one or more hashtags. The hashtags in these 510 tweets were hand coded individually.

Based on the inductive coding of data, the 8-category coding scheme for hashtags presented in Table 1 was developed. The table also shows how frequently each hashtag type occurred within this random sample of tweets. The most prevalent category is termed *Public Education* hashtags, which includes three types (medical condition, knowledge base, and policy) and account for half of the hashtags (50.4%). The second type of hashtag is the *Event* hashtag (19.3%), which often reflects fundraising and awareness-raising events. The third type of hashtag (3.2%) is the *Call-to-Action* hashtag. These hashtags can be used to mobilize audiences for collective action, whether to engage in direct online or offline action or simply to assist in further disseminating its public education messages.

Tags that reflect the organization's *Values and Goals* (9.0% of hashtags) are a fourth category of hashtags. *Values and Goals* hashtags help the organization differentiate itself from others in a way that helps serve to strengthen the organization's brand. They are related to the fifth category of hashtags, called *Branding*. Branding hashtags (7.2%) employ some variant of the organization's name, its programs, or slogans unique to the organization.

Dialogic hashtags (5.0%) serve to foster dialogue with audience members. The majority of these hashtags are chat-focused hashtags that serve as the focus for regularly scheduled chats with constituents. Others either target audience members or ask questions to produce responses. What binds these dialogic hashtags is the relationship-building role they serve (Bortree & Seltzer, 2009; Lovejoy & Saxton, 2012). The emphasis is not specifically on informing or mobilizing the audience but rather on building a community of like-minded constituents that can then potentially be relied on in the future to help the organization meet its advocacy mission.

The final two types of hashtags are more descriptive. First, *Time and Place* hashtags (3.3%) serve to denote a time or place important to the tweet and organization. Second, *Business* hashtags (2.2%) are those related to business issues, specific sectors of the economy, or particular stocks. Hashtags that were unrelated to any of these categories and deemed off-topic to the organizations were classified as *miscellaneous*; however, this category only contained two hashtags.

Table 1. *Hashtag Codes with Examples and Frequencies*

| Hashtag category w/ definition | Examples | Freq | % |
|--|---|------------|---------|
| 1. KNOWLEDGE & PUBLIC EDUCATION | | 413 | 50.5% |
| Medical condition —hashtag denoting disease or medical condition | #diabetes, #Hemophilia, #psoriasis | (153) | (18.7%) |
| Knowledge base —health-related research, knowledge, education | #hearthealthy, #AsthmaAwareness, #ALSresearch | (231) | (28.2%) |
| Policy —health-related public policy, public policy issues | #SunshineAct, #DeviceTax, #HCCosts | (29) | (3.5%) |
| 2. EVENTS —health-related event, conference, holiday | #WorldCancerDay, #WalktoCureArthritis, #ALSIceBucketChallenge | 158 | 19.3% |
| 3. VALUES AND GOALS —organizational values or goals. Useful for reinforcing the organization's core values and ultimate strategic goals. | #StopDiabetes, #PatientAccess, #coloncanceradvocate | 74 | 9.0% |
| 4. BRANDING —organization-specific hashtags, unique organization identifiers, hashtags noting one of the organization's program names | #ShowUpDifferently, #MerckOncology, #UHFscholars | 59 | 7.2% |
| 5. DIALOGIG —“chat” and dialogue hashtags | #HeartChat, #HemoChat, #DidYouKnow? | 41 | 5.0% |
| 6. TIME AND PLACE —any time or location hashtag | #PuertoRico, #Summer, #Capitol | 27 | 3.3% |
| 7. CALL-TO-ACTION —hashtags asking audience to do something | #ShareForAwareness, #HugDontJudge, #Raise100K | 26 | 3.2% |
| 8. BUSINESS —related to business issues, stocks, companies, etc. Captures a wide range of non-health, non-advocacy-related hashtags, used in the sample | #Biotech, #GM, #Stocks | 18 | 2.2% |
| Total | | 818 | |

Note: Frequencies are the number of times each hashtag type was used in the 510 of 1,000 randomly selected tweets that were original (i.e., were not themselves retweets, n=774) and contained a hashtag (n=510). A total of 818 hashtags were included in these 510 tweets; percentages indicate proportions relative to these 818 hashtags. Not shown is a *miscellaneous* category in which 2 hashtags (#FREE, #adoption) were placed.

Comparing Hashtag Use Across Organizations

The NHC organizes its members into five categories: Patient Advocacy Organizations (n=46), Nonprofit Organizations with Health Interests (n=9), Professional and Membership Associations (n=24), Business and Industry (n=23), and Associate Members (n=2). From a representational standpoint, the first two are heavily invested in patient advocacy, the middle category represents professional interests, while the final two for-profit categories focus more on representing business interests. For analysis purposes we considered three types of organizations: 1) patient advocacy nonprofits, 2) professional interest organizations, and 3) business interest organizations.

The Venn diagram in Figure 3 shows the intersection of the 9,934 hashtags used across the three organization types. For instance, the patient advocacy organizations used 4,756 hashtags that were never employed by any business interest or professional interest organization over the 8-month period, 351 hashtags that were used by professional interest but not business interest organizations, and 462 hashtags that were used by business interest but not professional interest organizations. There were 386 hashtags that were cross-sectoral, that is, not limited to use by just one sector or category of organization. In the multiple regressions, this idea resurfaces during examinations of the effectiveness of hashtags.

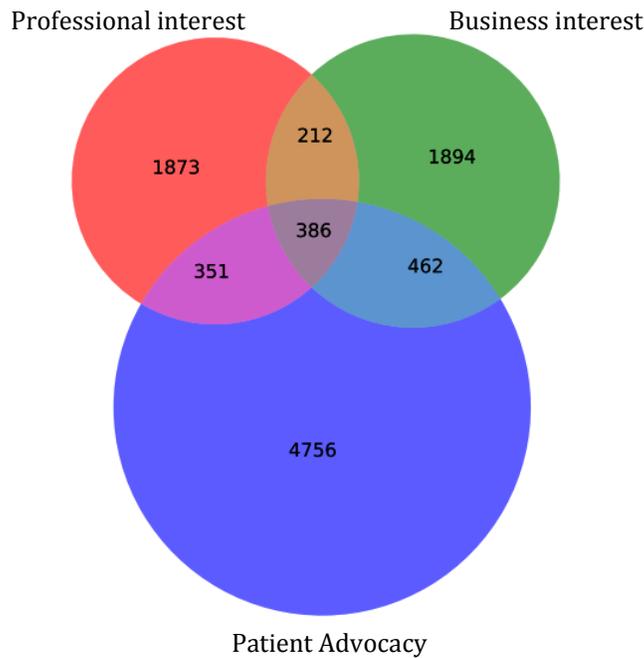


Figure 3. Number of hashtags used in common across the 3 main organization types

Relationship Between Hashtag Use and Message Effectiveness

A series of regressions are used to examine the relationship between the organizations' use of hashtags and the effectiveness of the organizations' messages. Specifically, the analyses examine whether the use of hashtags leads to greater advocacy message effectiveness and which types of hashtags are most effective.

Dependent Variable. Our dependent variable for the regressions is audience engagement with organizations' messages as measured by the number of retweets each message receives. Table 2 contains summary statistics for the retweet count variable along with all other variables included in the regressions. There is substantial variability in the number of retweets a message receives. While the average is 3.58 retweets, the standard deviation is 11.49 and the range is from 0 to 897.

Table 2. Descriptive Statistics, Jan. 1 – Aug. 2014 for 60,919 Tweets by 99 Health Advocacy Organizations

| | # Obs. | Mean | SD | Min | Max |
|----------------------------------|--------|----------|----------|-----|--------|
| <i>Message Attention Measure</i> | | | | | |
| Retweet Count | 60,919 | 3.58 | 11.49 | 0 | 897 |
| <i>Hashtag Counts</i> | | | | | |
| # Hashtags | 60,919 | 1.0911 | 1.03 | 0 | 10 |
| Sector-spanning Hashtag | 60,919 | 0.24 | 0.43 | 0 | 1 |
| <i>Hashtag Type</i> | | | | | |
| Public Education | 774 | 0.35 | 0.48 | 0 | 1 |
| Event | 774 | 0.20 | 0.40 | 0 | 1 |
| Call-to-action | 774 | 0.03 | 0.18 | 0 | 1 |
| Values and Goals | 774 | 0.09 | 0.28 | 0 | 1 |
| Branding | 774 | 0.07 | 0.26 | 0 | 1 |
| Chat & Dialogue | 774 | 0.05 | 0.22 | 0 | 1 |
| Time or Place | 774 | 0.03 | 0.17 | 0 | 1 |
| Business | 774 | 0.02 | 0.13 | 0 | 1 |
| <i>Tweet-level Controls</i> | | | | | |
| # URLs | 60,919 | 0.65 | 0.50 | 0 | 4 |
| # User mentions | 60,919 | 0.72 | 1.03 | 0 | 11 |
| # Characters | 60,919 | 112.92 | 28.10 | 5 | 153 |
| Photo | 60,919 | 0.08 | 0.27 | 0 | 1 |
| Video link | 60,919 | 0.01 | 0.08 | 0 | 1 |
| <i>Account-level controls</i> | | | | | |
| # Followers | 60,919 | 46.33 | 117.96 | .09 | 684,09 |
| # Tweets (to 12/2013) | 60,919 | 5,084.12 | 3,788.51 | 12 | 14,589 |
| Time on Twitter (# days) | 60,919 | 1,838.91 | 387.89 | 331 | 2,689 |

Multiple Regressions. Table 3 presents results from a series of four negative binomial regressions. In each model the dependent variable is the number of retweets each tweet receives. Each model contains the same suite of account-level and tweet-level control variables shown to be significant predictors of social media message sharing (Saxton &

Waters, 2014). What varies in each model is the specific hashtag-related variable. In Model 1, the key independent variable is the number of hashtags contained in each tweet while the main independent variable in Model 2 is a binary variable indicating the presence of a sector-spanning hashtag. In Model 3, the primary independent variables are a series of dummy variables representing the 8 hashtag types in Table 2. Finally, all the above-mentioned independent variables are included in Model 4.

Table 3. Negative Binomial Regressions, Dependent Variable is # of Retweets

| | (1) | | (2) | | (3) | | (4) | |
|-----------------------------------|-----------------------------------|-----------|------------------------------------|-----------|-----------------------------------|-----------|-----------------------|-----------|
| | <u>IV=Hashtag</u> <u>Count</u> | | <u>IV=Common</u> <u>Hashtag</u> | | <u>IVs=Hashtag</u> <u>Type</u> | | <u>Combined model</u> | |
| | <u>Coeff.</u> | <u>SE</u> | <u>Coeff.</u> | <u>SE</u> | <u>Coeff.</u> | <u>SE</u> | <u>Coeff.</u> | <u>SE</u> |
| <i>Hashtag Frequency</i> | | | | | | | | |
| # Hashtags | 0.13** | (0.01) | | | | | -0.17 | (0.11) |
| <i>Cross-Sector Hashtag</i> | | | | | | | | |
| Common Hashtag | | | 0.14** | (0.02) | | | 0.30* | (0.15) |
| <i>Hashtag Type</i> | | | | | | | | |
| Public Education | | | | | 0.57** | (0.12) | 0.71** | (0.21) |
| Values and Goals | | | | | 0.46* | (0.20) | 0.52* | (0.23) |
| Branding | | | | | 0.37 | (0.23) | 0.57* | (0.25) |
| Time or Place | | | | | -0.41 | (0.34) | -0.17 | (0.36) |
| Call to Action | | | | | 0.51 | (0.33) | 0.70* | (0.34) |
| Chat | | | | | 0.35 | (0.25) | 0.48 ⁺ | (0.28) |
| Event | | | | | -0.17 | (0.15) | -0.01 | (0.19) |
| <i>Tweet controls</i> | | | | | | | | |
| # URLs | 0.21** | (0.01) | 0.17** | (0.01) | -0.03 | (0.14) | -0.08 | (0.14) |
| # User mentions | -0.30** | (0.01) | -0.31** | (0.01) | -0.38** | (0.07) | -0.41** | (0.07) |
| # Characters | 0.01** | (0.00) | 0.01** | (0.00) | 0.01** | (0.00) | 0.01** | (0.00) |
| Photo | 1.11** | (0.02) | 1.11** | (0.02) | 1.29** | (0.22) | 1.27** | (0.22) |
| Video link | 0.72** | (0.08) | 0.74** | (0.08) | -20.99 | (19830.9) | -18.91 | (7067.4) |
| <i>Account controls</i> | | | | | | | | |
| # Followers (1,000s) | 0.004** | (0.0001) | 0.003** | (0.0001) | 0.003** | (0.0005) | 0.003** | (0.0005) |
| # Tweets | 0.0001** | (0.0001) | 0.0001** | (0.0001) | 0.0001** | (0.0001) | 0.0001** | (0.0001) |
| Time on Twitter | 0.0003** | (0.0001) | 0.0003** | (0.0001) | 0.0005** | (0.0001) | 0.0005** | (0.0001) |
| Constant | -1.59** | (0.05) | -1.57** | (0.05) | -1.60** | (0.38) | -1.49** | (0.38) |
| <i>N</i> | 60,919 | | 60,919 | | 774 | | 774 | |
| <i>Pseudo R²</i> | 0.22 | | 0.22 | | 0.26 | | 0.27 | |
| <i>Log likelihood</i> | -125402.09 | | -125537.93 | | -1609.51 | | -1606.11 | |
| <i>Model Sig. (χ²)</i> | 15315.55** | | 15043.87** | | 234.54** | | 241.33** | |

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$; Standard errors in parentheses; omitted (baseline) hashtag category for Model 3 is *Business*.

With maximum-likelihood models such as in negative binomial regression, there is no traditional R^2 ; for this reason, an analogous *pseudo-R²* is typically reported. The R^2 shown here is the ML (Cox-Snell) R^2 .

The results are highly robust to these alternative specifications. In the first two models, conducted on the entire database of 60,919 original tweets (15,015 of the 74,934 tweets were retweeted/non-original messages and were thus excluded from these analyses), the coefficient on the hashtag variable is significant. In both models—controlling for the number of followers, time on Twitter, and the cumulative number of retweets sent, along with the length of the tweet and whether the tweet contains a photo, video, URL, or user mention—the hashtag measure is associated with significantly more retweets than when a hashtag is absent. In particular, again controlling for the account-level and tweet-level measures just listed, a message is likely to receive significantly more retweets the more hashtags are included (Model 1) and if the tweet contains a cross-sectoral hashtag (Model 2).

Models 3 and 4, in turn, are conducted on the random sample of 774 hand-coded tweets. In both models the omitted category is *Business* hashtags.² Thus, this is the baseline category against which the other hashtag dummy variables are compared. In Model 3, the coefficients on two hashtag category variables are significant: *Public Education* and *Values and Goals*. In Model 4, the coefficients on the “sector-spanning” variable and four hashtag category variables are significant: *Public Education*, *Values and Goals*, *Branding*, and *Call-to-Action*. This means that tweets with a sector-spanning hashtag are significantly more likely to be retweeted by the organization’s constituents and that tweets with a public education hashtag, a hashtag related to organizations’ values or goals, a branding hashtag, or a call-to-action hashtag are significantly more likely to be retweeted by the organization’s constituents when compared to tweets with a business-related hashtag.

The results for control variables are consistent across the four models. In all models retweets are associated with tweets that do not contain user mentions, are longer, contain photos, and which are sent by organizations with more followers, have been on Twitter longer, and have sent more tweets. In two of the four models, the inclusion of hyperlinks and video links is also positively associated with retweeting behavior.

Discussion

This study examined hashtag use by the 105 members of the National Health Council, a national US-based patient/health advocacy coalition. The study makes several significant contributions to the current literature. First, it improves scholars’ understanding of the use of hashtags in social media advocacy by presenting an inductive coding scheme of the types of hashtags employed. Of the eight categories of hashtags, public education hashtags are far more frequently used than any other. Such hashtags focus on educating the public, a key, long-term advocacy tactic and one for which social media is particularly well suited (Guo & Saxton, 2014). However, some of the less-frequently-used hashtag types deserve special attention, as they suggest interesting potential for the organization. Values and

² In a regression equation with a series of dummy (binary) variables it is typically necessary to omit one of the dummy variables. That variable serves as the baseline against which the regression coefficients for the other dummy variables may be compared.

Branding hashtags, for example, help the organization differentiate itself from others in a way that helps to strengthen understanding of the organization.

Second, this study compares the different ways organizations can use hashtags to enhance the effectiveness of social media advocacy as measured by the number of retweets each message receives. Three distinctive strategies of using hashtags were identified. The first strategy is simply to play the numbers game; that is, to increase the number of hashtags in a single tweet to boost the number of retweets. The second, and arguably more sophisticated strategy, is to find common ground with partners across sectors. This common-ground strategy focuses on identifying and including sector-spanning hashtags in a tweet. A third strategy refers to the selective use of certain types of hashtags. For example, the organization might choose to include particular types of hashtags (e.g., call-to-action hashtags) believed to be more noticed by followers.

In the regression analyses, the effectiveness of these three strategies was tested and had significant and positive effects on the dependent variable (number of retweets received) when tested separately, offering evidence that each of the hashtag strategies helps to increase the level of audience engagement. When tested together, the significance of the hashtag count variable disappears; however, the sector-spanning variable and several hashtag type variables (i.e., public education, values and goals, branding, call-to-action, and chat and dialogue) were significant. This finding suggests that, among the three strategies, it is not the number of hashtags but rather the type of hashtags used that really matters.

Given that the type of hashtags is critical to social media success, it may be helpful to conclude the current study with a brief review of suggested best practices for using hashtags to advance organizational and advocacy messaging. First, it is necessary to use hashtags that are likely to advance the organization's cause. Although an organization can use generic hashtags, such as *#cancer*, organizational messaging becomes more memorable and serves for better brand recognition when a hashtag is more specific, such as *#FindaCure* or *#CancerSucks* (Ma, Sun, & Cong, 2013). When creating hashtags, organizations should ensure that they are not using a hashtag that has been trademarked or used before. Reviewing hashtag directories like www.Twubs.com can help organizations avoid using hashtags that are already in use by other campaigns. Additionally, potential hashtags should be reviewed internally by an organization's communications team and leadership, but they should also be tested with a few close outsiders (e.g., volunteers, key donors) to make sure that any potential social media mishap is averted.

Once an organization selects its hashtag, the next challenge is to grow a community around that hashtag. While regular usage of the hashtag may help increase the public's association of the hashtag with a specific organization, it is more important to have active social media consumers also using the hashtag in positive messaging surrounding the cause and organization (Kywe, Hoang, Lim, & Zhu, 2012). Organizations should consider how they can use hashtags to get individuals involved with an advocacy effort by creating a personal user experience—not simply focusing on the organization. For example, the Red Cross could have simply used the hashtag *#npm14* to promote its campaign for "National Preparedness Month" in September, 2014. However, *#npm14* became a widely successful

hashtag because users were encouraged to share how they were preparing for natural disasters.

Finally, regardless of what hashtag strategy an organization chooses, it is necessary to monitor how the hashtag is used by the public. Continued evaluation of the hashtag's usage is important for multiple reasons. First, it can be used to help determine what message points are reverberating among targeted audiences. These messages then can be used in other advocacy efforts to reiterate key messages to prompt further interactivity and engagement for the issue. On the other hand, if a hashtag has not been successful in generating interest in the organization, cause, or campaign, it can be retired and replaced by one that may generate that interest (Kwye et al., 2012). Second, it is helpful to see how the hashtag is being used by others so that campaigns can be cancelled if a hashtag has been used in a mocking manner. For example, in promoting nutrition in schools across the nation, first lady Michelle Obama spoke about the importance of healthy lunches and mentioned that students could share their *#healthylunch* using that hashtag; however, the hashtag usage was quickly overrun with pictures of questionable school lunches and accompanied by a sarcastic *#ThanksMichelleObama* hashtag. Monitoring may not be able to end mocking and scorn on social media, but it can empower the organization to address points of concern that are expressed by social media users.

Finally, the monitoring should be carried out across the social web. Even though this study focuses on Twitter hashtags, the hashtag has become commonplace across most social media platforms. An organization's campaign that started on Twitter may very well find its way to Instagram, Pinterest, YouTube, and Facebook. An organization that wants to become active in advocacy efforts must remember that social media platforms are interconnected, thus hashtag usage must be reviewed on all potential platforms to avoid potential communication blunders.

This study also has implications for social work practice. For organizations that aspire to excel in their advocacy work on social media, tweets will get retweeted and noticed if they use sector-spanning hashtags. Likewise, hashtags that educate the public, communicate core organizational values and goals, and engage the audience into action or dialogue are more likely to be shared with others. This study is a first step to fully understanding the strategic use of hashtags in social media advocacy. Future research should test the classification scheme in other domains as well as interview social media advocates and marketers to determine whether the classification scheme aligns with their motivations for using hashtags.

References

- Anstadt, S. P., Burnette, A., & Bradley, S. (2011). Towards a research agenda for social work practice in virtual worlds. *Advances in Social Work, 12*(2), 289-300.
- Bortree, D. S., & Seltzer, T. (2009). Dialogic strategies and outcomes: An analysis of environmental advocacy groups' Facebook profiles. *Public Relations Review, 35*(3), 317-319. doi: 10.1016/j.pubrev.2009.05.002

- Bruns, A., & Burgess, J. E. (2011, August). *The use of Twitter hashtags in the formation of ad hoc publics*. Paper presented at the 6th European Consortium for Political Research General Conference, University of Iceland, Reykjavik.
- Edwards, H. R., & Hoefler, R. (2010). Are social work advocacy groups using Web 2.0 effectively? *Journal of Policy Practice, 9*(3-4), 220-239.
- Goldkind, L. (2014). E-advocacy in human services: The impact of organizational conditions and characteristics on electronic advocacy activities among nonprofits. *Journal of Policy Practice, 13*(4), 300-315.
- Goldkind, L., & McNutt, J. G. (2014). Social media and social change: Nonprofits and using social media strategies to meet advocacy goals. In A.-M. José Antonio & L.-C. Ana María (Eds.), *ICT management in non-profit organizations* (pp. 56-72). Hershey, PA, USA: IGI Global.
- Guo, C., & Saxton, G. D. (2010). Voice-in, voice-out: Constituent participation and nonprofit advocacy. *Nonprofit Policy Forum, 1*(1), Article 5. Retrieved from <http://www.bepress.com/npf/vol1/iss1/5>
- Guo, C., & Saxton, G. D. (2014). Tweeting social change: How social media are changing nonprofit advocacy. *Nonprofit and Voluntary Sector Quarterly, 43*(1), 57-79. doi: 10.1177/0899764012471585
- Hick, S., & McNutt, J. G. (2002). *Advocacy, activism, and the Internet: Community organization and social policy*. Chicago: Lyceum.
- Kirkpatrick, M. (2011). The first hashtag ever tweeted on Twitter: They sure have come a long way. Retrieved February 4, 2011, from *ReadWriteWeb.com* website <http://bit.ly/1BnGNwV>
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*. London: Sage Publications, Inc.
- Kywe, S. M., Hoang, T.-A., Lim, E.-P., & Zhu, F. (2012). On recommending hashtags in Twitter networks. *Social Informatics, 7710*, 337-350.
- Lovejoy, K., & Saxton, G. D. (2012). Information, community, and action: How nonprofit organizations use social media. *Journal of Computer-Mediated Communication, 17*(3), 337-353.
- Ma, Z., Sun, A., & Cong, G. (2013). On predicting the popularity of newly emerging hashtags in Twitter. *Journal of the American Society for Information Science and Technology, 64*(7), 1399-1410.
- Markham, A., & Buchanan, E. (2012). Ethical decision-making and Internet research. Retrieved February 19, 2015, from <http://aoir.org/reports/ethics2.pdf>
- McNutt, J. G. (2008). Advocacy organizations and the organizational digital divide. *Currents: New Scholarship in the Human Services, 7*(2), 1-13.

- Mosley, J. (2013). Recognizing new opportunities: Reconceptualizing policy advocacy in everyday organizational practice. *Social Work, 58*(3), 231-239.
- National Health Council. (2015). *About the National Health Council*. Retrieved from <http://www.nationalhealthcouncil.org/about-nhc>
- Obar, J. A., Zube, P., & Lampe, C. (2012). Advocacy 2.0: An analysis of how advocacy groups in the United States perceive and use social media as tools for facilitating civic engagement and collective action. *Journal of Information Policy, 2*, 1-25.
- Perron, B. E., Taylor, H. O., Glass, J. E., & Margerum-Leys, J. (2010). Information and communication technologies in social work. *Advances in Social Work, 11*(2), 67-81.
- Queiro-Tajalli, I., Campbell, C., & McNutt, J. (2003). International social and economic justice and on-line advocacy. *International Social Work, 46*(2), 149-161.
- Saxton, G. D., & Waters, R. D. (2014). What do stakeholders like on Facebook? Examining public reactions to nonprofit organizations' informational, promotional, and community-building messages. *Journal of Public Relations Research, 26*(3), 280-299. doi: 10.1080/1062726x.2014.908721
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research* (2 ed.). Thousands Oaks, CA: Sage.
- Waters, R. D., & Jamal, J. Y. (2011). Tweet, tweet, tweet: A content analysis of nonprofit organizations' Twitter updates. *Public Relations Review, 37*(3), 321-324. doi: 10.1016/j.pubrev.2011.03.002

Author note

Correspondence concerning this article should be addressed to Gregory D. Saxton, Department of Communication, University at Buffalo, SUNY, 331 Baldy Hall, Buffalo, New York 14260-1020. Tel: (716) 645-1161. Email: gdsaxton@buffalo.edu

Supporting Child Welfare Traineeship Students through an Online Peer Network

Stephanie Bosco-Ruggiero
Sharon Kollar
Virginia C. Strand
Robin Leake

Abstract: *This article describes the implementation of an online peer network for social work traineeship students pursuing or continuing careers in child welfare. Literature on best principles and practices for facilitating an online community is reviewed, and an explanation of how these best practices were used is provided. Initial program design and program developments, which took place over four years, are described. An overview of the evaluation data and how the program evaluation was carried out is presented. The article concludes with a discussion about successes and challenges experienced in building the peer network and further research needed to understand benefits of the use of online communities and social media in social work education.*

Keywords: *Online communities, social media, traineeship, evaluation, social work education*

Increasingly, social media and online communities are being used in social work practice, administration, research, and education: to facilitate inter- and intra- agency collaboration and build communities of practice or professional networks (Greenhow & Robelia, 2010); in professional practice with clients (Giffords, 2009; Mishna, Bogo, Root, Sawyer, & Khoury-Kassabri, 2012); to disseminate information (Hitchcock & Battista, 2013); to support social work education and continuous learning (Davis & Goodman, 2014; Dunworth, 2009; Kilpeläinen, Pyykkönen, & Sankala, 2011; Moore, 2008; Quinney, 2005); to help bridge research and practice (Lewis, Koston, Quartley, & Adsit, 2010); and in community organizing and advocacy (Edwards & Hoefler, 2010; Parrott & Madoc-Jones, 2008; Young & Delves, 2009).

Online community platforms used in social work include wikis (Kilpeläinen et al., 2011), blog sites (Hickson, 2012; Young & Delves, 2009), email list serves (Murty, Gilmore, Richards, & Altilio, 2012), discussion forums/boards (Quinney, 2005), and Ning sites (Davis & Goodman, 2014). Social media used in social work includes LinkedIn, Facebook, and Twitter (Hitchcock & Battista, 2013). Online communities now offer many of the same features as social media and vice versa. For example, many community

Stephanie Bosco-Ruggiero, MA is a doctoral student at the Fordham University Graduate School of Social Service, New York, NY and former Student Peer Network Coordinator at the National Child Welfare Workforce Institute (boscoruggier@fordham.edu). Sharon Kollar, LMSW is the LINKD Coordinator at the National Child Welfare Workforce Institute and adjunct instructor at the School of Social Welfare at the University at Albany, Albany, NY. (skollar@albany.edu). Virginia Strand, DSW is a Professor at the Fordham University Graduate School of Social Service, West Harrison, NY and the University Partnership Facilitator at the National Child Welfare Workforce Institute (strand@fordham.edu). Robin Leake, Ph.D is an Associate Professor at the University of Denver Graduate School of Social Service, Denver, CO and the Lead Evaluator at the National Child Welfare Workforce Institute

platforms offer friending, following, and commenting features while social media channels allows for the creation of private groups, document sharing, and email lists. The differences between community platforms and social media are lessening while interfaces and sharing of content across platforms (e.g., “share on Twitter”) is increasing.

Despite increasing use of online community platforms and social media in social work, concerns remain that social workers are not being adequately prepared to use technology (Giffords, 2009; Hitchcock & Battista, 2013; Kilpeläinen et al., 2011; Parrott & Madoc-Jones, 2008; Perron, Taylor, Glass, & Margerum-Leys, 2010; Young & Delves, 2009) and that social work organizations are underutilizing these online tools (Baker, Warburton, Hodgkin, & Pascal, 2014; Edwards & Hoefler, 2010). Social work programs play an important role in introducing to students how they can use social media and online communities in their professional work and in instructing students in the use of these technologies. There are a variety of ways in which social work educators and schools can integrate social media and/or online communities into courses or programs. For example, course instructors might require students to enroll in an online community for students in the course or integrate blogging into course assignments. Programs might require students to develop professional profiles on LinkedIn or create an online portfolio.

This article examines the National Child Welfare Workforce Institute’s (NCWWI) development of an online peer network to support BSW- and MSW-level students participating in child welfare traineeship program. It details the establishment, development, and growth of an online peer network that utilized two popular online platforms (Ning and Facebook) and presents results from the program evaluation.

Online Peer Networks and Communities of Practice in Social Work

Due to the stressful nature of their work, social workers and social work students may greatly benefit from the support and camaraderie of a peer network (Bergart & Simon, 2005). While in-person networking may be preferable, it is not always a realistic option for social workers who have major constraints on their time, work in rural areas, and/or have few on-site professional development opportunities (Bergart & Simon, 2005). Online communities offer professionals and students more options for networking and may better meet their professional, social, and practical needs (Dunlap & Lowenthal, 2011). Students or professionals of color and those in rural areas may particularly benefit from online communities which can connect them with professionals from different backgrounds and introduce them to a wider array of professional opportunities (Davis, Deil-Amen, Rios-Aguilar, & González Canché, 2012; Davis & Goodman, 2014).

Wenger, White, and Smith (2009) view technology and community as interactive; in their view, the right platform can contribute to a community’s sustainability and help a community build a sense of identity and purpose. Selecting a platform or social media site that best meets potential members’ needs is important. Organizations or instructors may want to survey potential members during the selection process.

Literature Review - Principles and Practices for Building Effective Online Communities

An art and science to building effective online communities has emerged. Prior to developing an online community for the traineeship students, NCWWI staff reviewed the literature on best practices and principles for building successful online communities. Online communities must be *well facilitated* (Berlanga, Rusman, Bitter-Rijkema, & Sloep, 2009; Charalambos, Michalinos, & Chamberlain, 2004; Wenger, MacDermott, & Snyder, 2002). Simply making a community available does not mean people will join or actively participate. A facilitator must understand how to build a strong and sustainable community (Backer, 2008; Fayard & DeSanctis, 2005; Waltonen-Moore, Stuart, Newton, Oswald, & Varonis, 2006), set the stage for positive member interaction by modeling a friendly conversational rhythm (Fayard & DeSanctis, 2005), guide the group in resolving and negotiating conflicts (Berlanga et al., 2009; Charalambos et al., 2004; Olofsson, 2007), seek feedback from members on the strengths and challenges of the community, and direct solution-focused discussions around identified challenges.

Community facilitators should understand how to *motivate* members to participate. Cultivating a dedicated core group of members who consistently contribute to the community and model active participation is one tool for increasing motivation (Wenger et al., 2002). A facilitator also should create a *safe space* for members to interact (Backer, 2008; Charalambos et al., 2004; Gerard, 2012). One option is to offer varying levels of privacy within the site (e.g., only friended profiles can see certain posts) (Berlanga et al., 2009).

Facilitators must also learn how to increase member commitment. They should limit the size of a community and narrow its focus (Backer, 2008; Kraut, Resnick, & Kiesler, 2012). They should create opportunities for members to shape the structure, function, content, policies, and operations of the community (Berlanga et al., 2009). Encouraging social and professional interaction (Backer, 2008; Dunworth, 2009) may also increase commitment. Social presence theory suggests members will feel more satisfied and connected to their community (Ho, Quinton, Zia, Laubach, & Bittner, 2012) when they sense other members are real people and when they are able to express their thoughts and feelings authentically (Lowenthal, 2010).

NCWWI Student Traineeship Peer Network: Program Description

Over the last decade, attention to the recruitment and retention of competent child welfare staff has become a priority in the field (DePanfilis & Zlotnik, 2008). Schools of social work have responded to this challenge with educational programs designed not only for currently employed child welfare staff returning for graduate degrees but also for preparing social work students at both the BSW and MSW levels for child welfare practice (Zlotnik & Pryce, 2013).

It is within this context that two federal initiatives emerged which supported child welfare traineeship programs at schools of social work. One was the NCWWI, which from 2008-2013 focused on building the capacity of the nation's child welfare workforce and supporting the development of skilled child welfare leaders. Twelve traineeship programs

prepared a diverse group of BSW and MSW students for client-centered practice informed by child welfare and leadership competencies. A second federal initiative started in 2008 also supported traineeship students through five Child Welfare Comprehensive Workforce projects.

The NCWWI student peer network supported BSW and MSW students from 17 traineeship programs. The student peer network coordinator (“the coordinator”), in partnership with NCWWI staff and traineeship program faculty, was responsible for the network’s development and implementation. The three main goals of the peer network were to offer students opportunities for professional and leadership development, professional and social networking, and peer support for improved practice. The central components of the peer network were two online communities and a webinar series.

Online platform

The team chose Ning after considering a number of platforms including LinkedIn, an email listserv, Google group, and Wikispace. Ning sites are customizable for private groups and offered a wider variety of features than other platforms. The Ning site included personalized member profile pages, a chat room, private messaging, a discussion forum, blog space, photo and video sharing, closed and open groups, content pages, event calendar, and an option to add external apps. The Ning site was easy to set up and customize. An informal survey was sent to new traineeship students each fall to gather information about their interests to generate useful content for the site early on.

Ning allowed for *social and professional interaction* in a *safe space*. Only traineeship students were invited to join the site, and the coordinator and several other staff members were the only non-student members of the site. Discussion forums (see Figure 1), groups, the blog space, and an event calendar offered space for professional networking while photo-sharing and private messaging offered space for social interaction as well.

The peer network was marketed through a flyer, a letter from the coordinator to new traineeship students, presentations by staff during student orientations (either virtual or in-person), and by faculty. At the beginning of the first year of the program, all traineeship students who provided a valid email address were invited to join the site. Upon joining, new site members were required to answer several profile questions including year in the program, program name, and fieldwork site. They could include more detail in their profile by answering optional questions related to their professional experience and career goals.

Webinars

All traineeship students, including site members, were invited to participate in professional development webinars. Initial webinar topics were selected based on an informal poll of peer network members. Webinar topics included how to achieve quality, commitment, and competence in the child welfare workforce; secondary traumatic stress; systems of care; and career development. Professionals from the field as well as seven students were presenters. Webinars were recorded and archived on the Ning site for later viewing.

Figure 1: Ning Site Discussion Forum

The screenshot displays a Ning site discussion forum with the following data:

| Discussions | Replies | Latest Activity |
|--|---------|-------------------------------|
| Choosing the right position What concerns do you have about choosing the right position? What advice are you seeking? Started by you in Career | 8 | Apr 16 Reply by [redacted] |
| Evidence Based Practice in Child Welfare Has your agency implemented EBP practice? What kind? What challenges were encountered? How successful has it been? What advice do you have... Started by you in Child Welfare in the U.S. | 1 | Apr 14 Reply by [redacted] |
| From Place to Place Hi Everyone! I am posting a link to a 2009/10 documentary that follows six adults whom recently aged out of foster care; capturing issues s... Started by [redacted] in Child Welfare in the U.S. | 1 | Feb 17 Reply by [redacted] |
| Increasing Fatherhood Capacity - Will it Strengthen Positive Outcomes for Children and Families Research has show that children with involved fathers/and or father figures have an increased chance for better outcomes. The National Fath... Started by [redacted] in Child Welfare in the U.S. | 13 | Jan 21 Reply by [redacted] |
| Career Advice I recently read three articles in The New Social Worker Magazine online Winter 2013 edition. I think they are worth reading as they provide... Started by [redacted] in Career | 2 | Jan 11 Reply by [redacted] |

Leadership Group

To *motivate* students to participate in the peer network, the coordinator organized a student leadership group that guided peer network activities and modeled active participation. Over four years, the leadership group included five to nine students from different schools.

Program Developments

To ensure the community was *well facilitated*, the coordinator's hours were increased during the second year. This allowed more time to add site content, obtain feedback from members, and write to individual members to encourage them to participate. To encourage *professional networking*, the coordinator created groups on the site around specific topics and schools. Group features included discussion posting and resource sharing. Members of groups were offered the option of meeting by teleconference, but only several calls were held due to difficulty in finding a time when all members of a group could meet.

Towards the end of year two, in response to student and faculty feedback, the coordinator developed a Facebook group to complement the Ning site. Facebook group features include status updates; photo, video, and link sharing; a calendar; document uploading; and polls. All students were invited to join the group by the beginning of year three. Also in year three the coordinator began sending Ning site members weekly e-bulletins that profiled students, highlighted resources, and listed upcoming events. A monthly update also was sent to program faculty to keep them updated about student peer network activities and resources.

Evaluation

The traineeship peer network team worked with NCWWI program evaluators at the Butler Institute for Families at the University of Denver to develop evaluation questions to help answer the following research questions: 1) How successful was NCWWI in developing a peer network that engaged BSW and MSW students and supported their professional development, and 2) How can the peer network be improved and maximally benefit student members?

Method

Questions about the peer network were embedded in the traineeship program's formal survey of students, the Stipend Student Inventory (SSI), which focused on student competencies and experiences. The SSI was administered annually online via Qualtrics to all BSW and MSW traineeship students at program entry in the fall, in the spring, and in the summer after students graduated. The peer network section of the SSI asked questions about site and feature usage, participation in webinars, and the usefulness of other activities.

The coordinator gathered additional evaluation data by observing member activity on both sites, using Google Analytics, reviewing webinar evaluations, and from informal feedback from faculty. Google Analytics provided data on site visits, page visits, and the location, number of sessions, visits to specific pages, and geographic location of site visitors. Observing activity on both sites allowed the coordinator to monitor which features were used most frequently. Data downloaded from Ning provided information on member log-on patterns (e.g., date of last log-on) and the number of members receiving broadcast messages.

During the first years of the project, the team used evaluation data to enhance program goals and strategies and modify SSI peer network evaluation questions to better capture information about barriers and facilitators to program implementation.

Results

Member Totals

Over four years, 245 students participated in one or both of the peer network sites: 233 joined the Ning site and 74 joined the Facebook Group (Table 1). Fifty-two percent of traineeship students joined the Ning site by the end of year four while 16% joined the

Facebook Group. Demographic data was available through the SSI for 232 of the 245 traineeships students who joined at least one of the peer network sites. Of those known, 47% were BSW students while 53% were MSW students. The racial/ethnic background of the students was 42% White/Caucasian, 32% Black or African American, 12% Latino or Hispanic, 11% American Indian or Alaska Native, and 2% Other (i.e., mixed race, Asian, Pacific Islander). The majority of students were female (87%).

Table 1: Cumulative Ning and Facebook member totals over four program years

| | Year 1 | Year 2 | Year 3 | Year 4 |
|-----------------|--------|--------|--------|--------|
| Ning | 50 | 120 | 165 | 233 |
| Facebook | N/A | N/A | 53 | 74 |

Table 2: SSI respondents by year

| SSI | Administered | Recipients | Completed Surveys (Response rate) | # Ning Participants (% of completed surveys) | # Facebook Participants (% of completed surveys) |
|------------------|--------------|------------|-----------------------------------|--|--|
| Annual | Spring 2011 | Students | 127 (79%) | 59 (46%) | -- |
| Annual | Spring 2012 | Students | 111 (77%) | 56 (50%) | 34 (31%) |
| Annual | Spring 2013 | Students | 119 (64%) | 40 (34%) | 48 (40%) |
| Follow-up | Summer 2011 | Graduates | 33 (50%) | -- | -- |
| Follow-up | Summer 2012 | Graduates | 101 (69%) | 35 (35%) | 22 (22%) |
| Follow-up | Summer 2013 | Graduates | 121 (47%) | 20 (17%) | 33 (27%) |

-- = no data due to question not asked

SSI Respondent Demographics

Table 2 reflects the number of SSI respondents by year. Of the 357 respondents who completed the SSI over four years, 25% were BSW students and 44% were MSW students. In identifying ethnicity, 52% were White/Caucasian, 21% Black or African American, 15% Hispanic or Latino, and 8% American Indian or Alaska Native. The majority of respondents were female (91%).

Peer Network Engagement and Usage

Ning site visits (see definition of "visits" below) increased between years one, two, and three but decreased in year four (see Table 3), perhaps because the program was coming to a conclusion. Use of mobile devices to view the Ning site increased each year. The most frequently used Ning site features were the discussion forum, blogspace, and photo-sharing (see Table 3). The most frequently viewed content on Ning was the home page, member pages, archived webinars, discussion forum, topical groups, and blogspace. School-specific groups were not widely used. One hundred and sixty-five members (71%) of the Ning site created an expanded profile by answering the optional profile questions while 68 (29%) answered the required questions only.

On Facebook, all discussion posts were viewed by a majority of members although only a small number of members started new discussions. Upon joining the Facebook

group, students were asked to introduce themselves via a status update, and most did. Like Ning, Facebook activity also decreased in year four.

Figure 2: Ning site visits over four years*



* Site “visits” are defined by Google Analytics as the total number of sessions during the specified date range, including repeat sessions by the same user.

Table 3: Ning and Facebook feature usage over four years

| | Feature | Total by end of year four |
|------------------|------------------------------|---------------------------|
| Ning Site | Discussion forums | 16 |
| | Discussion forum replies | 61 |
| | Discussion forum views | 541 |
| | Photos posted | 100 |
| | Blog posts | 14 |
| | Blog comments | 14 |
| | Blog views | 352 |
| | Events | 47 |
| | Groups | 15 |
| | Group discussions | 16 |
| | Group discussion replies | 22 |
| | Group discussion views | 169 |
| | Group comments* | 16 |
| | Videos posted | 8 |
| Facebook | Discussion and reply posts** | 140 |
| Group | Facebook events added | 22 |

* Group comments feature is used to post brief messages but is not a threaded discussion
 **excludes staff posts

Student Satisfaction and Utility Ratings

According to SSI data, over the duration of the program, students' most frequent reasons given for visiting a site were to access resources, learn about challenges other students were facing, read about upcoming events such as webinars, and learn more about

content featured in broadcast messages from the coordinator. In 2011, 82% of Annual SSI respondents said they felt the Ning was easy to navigate. In 2013, 78% of Annual SSI respondents indicated they received the monthly e-bulletins sent by the coordinator and of those, 71% found them useful.

In the 2013 Annual and Follow-up SSI, students and alumni reported high overall satisfaction with the peer network since they first joined (70% of students and 55% of alumni were satisfied/highly satisfied). Of the students responding to the 2013 Annual SSI, approximately 65% said resources on Ning were helpful in their coursework and careers, and more than 70% reported Ning enabled them to connect with other students across the country. Fifty percent of respondents said they received support from other students through the network.

Webinars

Most students (68% in 2011 SSI; 66% in 2012 SSI) unable to attend live webinars cited scheduling conflicts and work/school priorities as the main reasons for not attending. For those who attended, satisfaction with webinars increased each year. In the 2011 SSI, 64% of respondents said they learned useful information from webinars, increasing to 76% for students and 91% for alumni in 2012. Several student presenters noted the experience enhanced their leadership skills and was highly rewarding.

Future Peer Network Activity

At the end of year four, all SSI respondents were asked how likely they were to participate in a future student peer network hosted on Ning, Facebook, LinkedIn, or an email list serve. More than 50% of respondents indicated they were likely to participate on any platform, suggesting online peer networking and community building is a useful activity for many social workers and a variety of platforms can be used.

Discussion

Based on data gathered during four years of the program, the peer network largely met its goals of offering students additional opportunities for professional and leadership development. While it also met its goal of offering students opportunities for professional and social networking, it did not fully meet its goal of facilitating peer support for practice improvement.

Less than half of eligible students participated in the peer network. It became evident during the course of the program that many traineeship students struggle to balance school, work, and family, leaving little time to participate in a peer network. A core group of students regularly contributed to the peer network, and it was evident these students highly valued the peer network. One of these student said she was sorry more students had not actively participated.

The Ning site's capacity to help students *co-create and shepherd knowledge* was manifest in use of the blog space, discussion forum, and groups. Ning and Facebook offered excellent platforms for fostering *professional and social interaction*. Student interaction

on the sites generally centered on professional topics, but frequent photo-sharing, for example, suggests many students also enjoyed the opportunity to interact with other students on a more social level.

Active facilitation was critical to the success of both sites. When the coordinator's time on the project was increased, she was able to engage with students individually and encourage them to make specific contributions such as posting a discussion or writing a blog. The bi-modal distribution of the peer network between students' experience in the field and those with little to no experience necessitated creating a community relevant to each. Informal feedback suggested many experienced students believed the peer network was oriented toward students with less experience. To better engage experienced students, the coordinator developed a webinar, resource page, and group on supervision and management. She also developed a group and several career development webinars for students with less experience.

Schools of social work or traineeship programs interested in supporting students through an online peer network should consider students' level of professional experience. Some students noted they wanted to be engaged in the peer network as professionals, not just as students; therefore, programs may want to shape the peer network to appeal more to students' sense of professional identity.

Evaluation Strengths and Limitations

The evaluation was primarily developmental in design, allowing the program team to respond to data with needed program modifications. The collaborative approach between the evaluation and programs teams to identify relevant evaluation questions was a major strength of the evaluation. Other strengths included the evaluation's capacity to capture barriers and facilitators to implementation, measure real-time site usage through site observation, and use data from Google Analytics and Ning. As the program evolved, SSI evaluation questions about the peer network were revised. A limitation of the evaluation was the lack of consistency in questions about the peer network from year to year. Although valuable annual data was collected, the team could not compare some measures across student cohorts. Another weakness of the evaluation was the low alumni response rate. Future studies might increase response rates by using pop-up surveys embedded in social media or community sites or by conducting focus groups of users and non-users.

Conclusion

Increased use of technology can enhance social work education and practice. Schools of social work are encouraged to consider using online community platforms or social media to enhance student comfort with these technologies and to support their learning and professional development. As schools of social work migrate toward offering full or hybrid online education, online community-building for students and professionals will only increase in importance.

Specifically, supporting social work students and alumni as they transition into child welfare careers has emerged as an important issue for educators and administrators (Anderson, Coulborn Faller, & Leake, 2013). Online communities and social media can

play a role in the professional socialization of students entering the field (Miller, 2010) and as a transition support for professionals continuing their careers at an agency after earning a professional degree.

A community facilitator of an online community for social work students must be given adequate time to devote to the task of facilitation. He or she must become familiar with the best principles and practices of online community engagement including developing a community identity, creating a safe space, motivating members to participate, and increasing member commitment. The facilitator also should review current literature on social presence in online communities.

Further research is needed to better understand how social work programs can optimally use online communities and social media to support social work students and alumni. Potential research questions include: What is the aptitude of entering students in the use of these technologies? To what extent are programs encouraging use of these technologies? What do we know from social work alumni about how these technologies are being used in the field? With more data, social work educators will be able to further enhance learning with technology.

References

- Anderson, G. R., Coulborn Faller, K., & Leake, R. (2013). Social work traineeship programs. In K. Briar-Lawson, M. McCarthy, & N. Dickinson (Eds.), *The Children's Bureau: Shaping a century of child welfare practices, programs, and policies* (pp. 201-216). Washington, DC: NASW Press. Retrieved from http://www.garymallon.com/spring2014/cw702/2013_003_NASW_ChildrensBureau.pdf#page=213
- Backer, T. E. (2008). *Peer networking and community change: Experiences of the Annie E. Casey Foundation*. Retrieved from Indiana University-Purdue University Indianapolis University Library Philanthropy Archives: https://folio.iupui.edu/bitstream/handle/10244/248/PeerNetworking_full.pdf
- Baker, S., Warburton, J., Hodgkin, S., & Pascal, J. (2014). Reimagining the relationship between social work and information communication technology in the network society. *Australian Social Work, 67*(4), 467-478.
- Bergart, A. M., & Simon, S. R. (2005). Practicing what we preach: Creating groups for ourselves. *Social Work With Groups, 27*(4), 17-30.
- Berlanga, A., Rusman, E., Bitter-Rijpkema, M., & Sloep, P. (2009). Guidelines to foster interaction in online communities. In R. Koper (Ed.), *Learning network services for professional development* (pp. 13-29). Secaucus, NJ: Springer.
- Charalambos, V., Michalinos, Z., & Chamberlain, R. (2004). The design of online learning communities: Critical issues. *Educational Media International, 41*(2), 135-143.
- Davis III, C. H. F., Deil-Amen, R., Rios-Aguilar, C., & González Canché, M. S. (2012). *Social media and higher education: A literature review and research directions*.

- Retrieved August 14, 2014, from
<http://works.bepress.com/cgi/viewcontent.cgi?article=1003&context=hfdavis>
- Davis, C., & Goodman, H. (2014). Virtual communities of practice in social group work education. *Social Work with Groups, 37*(1), 85-95.
- DePanfilis, D., & Zlotnik, J. L. (2008). Retention of front-line staff in child welfare: A systematic review of research. *Children and Youth Services Review, 30*(9), 995-1008.
- Dunlap, J. C., & Lowenthal, P. R. (2011). Learning, unlearning, and relearning: Using Web 2.0 technologies to support the development of lifelong learning skills. In G. Magoulas (Ed.), *E-infrastructures and technologies for lifelong learning: Next generation environments* (pp. 292-315). Hershey, PA: IGI Global.
- Dunworth, M. (2009). Supporting students through social networking. *Journal of Practice Teaching in Social Work and Health, 9*(3), 64-80.
- Edwards, H. R., & Hoefler, R. (2010). Are social work advocacy groups using Web 2.0 effectively? *Journal of Policy Practice, 9*(3-4), 220-239.
- Fayard, A. L., & DeSanctis, G. (2005). Evolution of an online forum for knowledge management professionals: A language game analysis. *Journal of Computer Mediated Communication, 10*(4), article 2. doi:10.1111/j.1083-6101.2005.tb00265.x
- Gerard, J. G. (2012). Linking in with LinkedIn: Three exercises that enhance professional social networking and career building. *Journal of Management Education, 36*(6), 866-897.
- Giffords, E. D. (2009). The internet and social work: The next generation. *Families in Society: The Journal of Contemporary Social Services, 90*(4), 413-418.
- Greenhow, C., & Robelia, B. (2010). Educational and social benefits of social network sites: Applications to human services. In S. Dasgupta (Ed.), *Social computing: Concepts, methodologies, tools and applications* (Vol. 1, pp. 188-209). Hershey, PA: IGI Global.
- Hickson, H. (2012). Reflective practice online—exploring the ways social workers used an online blog for reflection. *Journal of Technology in Human Services, 30*(1), 32-48.
- Hitchcock, L., & Battista, A. (2013). Social media for professional practice: Integrating twitter with social work pedagogy [Special issue]. *Journal of Baccalaureate Social Work, 18*, 33-45.
- Ho W., Quinton, A., Xia, J., Laubach, J., & Bittner, K. (2012). *Can Wikis increase students' perception of social presence? A white paper exploring the possibility of increased collaboration and learning outcome*. Retrieved February 24, 2015, from The Pennsylvania State University – World Campus
<http://learningdesign.psu.edu/research2/SocialMediaWhitePaper.pdf>
- Kilpeläinen, A., Päykkönen, K., & Sankala, J. (2011). The use of social media to improve social work education in remote areas. *Journal of Technology in Human Services, 29*(1), 1-12.

- Kraut, R. E., Resnick, P., & Kiesler, S. (2011). *Building successful online communities: Evidence-based social design*. Cambridge, MA: Massachusetts Institute of Technology Press.
- Lewis, L. A., Koston, Z., Quartley, M., & Adsit, J. (2010). Virtual communities of practice: Bridging research and practice using Web 2.0. *Journal of Educational Technology Systems, 39*(2), 155-161.
- Lowenthal, P. R. (2010). The evolution and influence of social presence theory on online learning. In T. Kidd (Ed.), *Online education and adult learning: New frontiers for teaching practices* (pp. 124-139). Hershey, PA: Information Science Reference.
- Miller, S. E. (2010). A conceptual framework for the professional socialization of social workers. *Journal of Human Behavior in the Social Environment, 20*(7), 924-938.
- Mishna, F., Bogo, M., Root, J., Sawyer, J.-L., & Khoury-Kassabri, M. (2012). "It just crept in": The digital age and implications for social work practice. *Clinical Social Work Journal, 40*(3), 277-286.
- Moore, B. (2008). Using technology to promote communities of practice (CoP) in social work education. *Social Work Education, 27*(6), 592-600.
- Murty, S. A., Gilmore, K., Richards, K. A., & Altilio, T. (2012). Using a LISTSERV™ to develop a community of practice in end-of-life, hospice, and palliative care social work. *Journal of Social Work in End-of-Life & Palliative Care, 8*(1), 77-101.
- Olofsson, A. D. (2007). Participation in an educational online learning community. *Educational Technology and Society, 10*(4), 28-38.
- Parrott, L., & Madoc-Jones, I. (2008). Reclaiming information and communication technologies for empowering social work practice. *Journal of Social Work, 8*(2), 181-197.
- Perron, B. E., Taylor, H. O., Glass, J. E., & Margerum-Leys, J. (2010). Information and communication technologies in social work. *Advances in Social Work, 11*(2), 67-81.
- Quinney, A. (2005). 'Placements online': Student experiences of a website to support learning in practice settings. *Social Work Education, 24*(4), 439-450.
- Waltonen-Moore, S., Stuart, D., Newton, E., Oswald, R., & Varonis, E. (2006). From virtual strangers to a cohesive online learning community: The evolution of online group development in a professional development course. *Journal of Technology and Teacher Education, 14*(2), 287-311.
- Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston: Harvard Business Press.
- Wenger, E. C., White, N., & Smith, J. D. (2009). *Digital habitats: Stewarding technology for communities*. Portland, OR: CPsquare.
- Young, S., & Delves, L. (2009). Expanding to fit the (blog)space: Enhancing social work education through online technologies. *Same places, different spaces. Proceedings*

ascilite Auckland 2009, 1130-1139.

<http://www.ascilite.org.au/conferences/auckland09/procs/young.pdf>

Zlotnik, J. L., & Pryce, J. A. (2013). Status of the use of Title IV-E funding in BSW and MSW programs. *Journal of Public Child Welfare*, 7(4), 430-446.

Author note

The authors wish to thank the National Child Welfare Workforce Institute (NCWWI) partners—University at Albany/SUNY, University of Denver, Fordham University, University of Iowa, Michigan State University, University of Michigan, University of Maryland, University of Southern Maine, Portland State University, and the Children’s Bureau/ACF/DHHS—whose strong collaboration made this work possible. The work for this publication was funded by the US-DHHS, ACF, Children’s Bureau, Award #90CT0145. This article is solely the responsibility of the NCWWI and does not necessarily represent the official views of the Children’s Bureau.

Correspondence can be addressed to boscoruggier@fordham.edu.

Massive Open Online Courses (MOOCs) in Social Work Education: Implications for Online Education

Trevor G. Gates
Alice Walters

Abstract: *Rapid technological developments continue to create new opportunities for innovation in higher education. Social work education (SWE) has often lagged behind other disciplines in applying emergent trends. The historical influence of social work professionalization may contribute to this cautious approach. Massive open online courses (MOOCs) are an important trend gathering recent attention in higher education. The contribution of MOOCs to SWE remains undetermined. This essay explores the relevance of MOOCs for SWE through the lens of historical context considering economic factors, benefits, and challenges to MOOC implementation. We conclude with recommendations for integrating MOOCs in SWE.*

Keywords: *Social work education, online education, massive open online courses, open enrollment, educational technology, access to education*

Higher education (HE) continues to adapt to a changing economy, expanding technology, and fluctuating student bodies. Social work education (SWE) has become increasingly complex as such factors converge with pressures for educational change. Massive open online courses (MOOCs) are a recent development sweeping through online HE in expanding application to diverse disciplines of study (Head, 2014; Pence, 2012). Determining the relevance of MOOCs for SWE requires weighing the specialized professional requirements of social work with the benefits and challenges of the MOOC educational format. In this essay, we provide an overview of MOOCs, review historical influences on SWE, and consider factors surrounding MOOC utilization for SWE. Lastly, we provide recommendations for a deliberative strategy to include MOOCs in SWE.

Overview of MOOCs

MOOCs have rapidly advanced from their first inception. MOOCs began in 2008 with a course opened to online enrollment by Siemens and Downes at the University of Manitoba (Brown, 2013). The Massachusetts Institute of Technology and Stanford University followed with free online courses in technical fields (Sandeen, 2013). Educators proposed MOOCs as free college-level courses that would provide instruction to any student with an Internet connection, perhaps reaching thousands of students per course (Bowen, 2013). In 2011, 160,000 students enrolled in Stanford's artificial intelligence MOOC, grounding the vision (Rodriguez, 2012).

MOOCs are a specialized form of online education (OE). They are *massive* for enrollment numbers that dwarf comparison to traditional courses (Tschofen & Mackness, 2012). They are *open* both for access to courses and for a learning environment emphasizing flexible interaction between participants and content resources (Rodriguez,

Trevor G. Gates is an Assistant Professor in the Greater Rochester Collaborative MSW Program, at the College at Brockport, State University of New York. Alice Walters provides Academic and Instructor Support in the College of Social and Behavioral Sciences, School of Social Work and Human Services at Walden University.

2012; Tschofen & Mackness, 2012). MOOCs are *free* to the enrolled, but do incur costs requiring subsidy decisions by sponsors (Cusumano, 2013; Vardi, 2012). The paradox of MOOCs is that there are many variations and practical interpretations for *massive, open, and free* implementation (Baggaley, 2013; Clark, 2013; Miller, 2014; Tschofen & Mackness, 2012). MOOCs range from models of informal participation to formal recognition of completion through certificates and college credit (Cooper & Sahmi, 2013; Cusumano, 2013). The attraction to MOOCs may be tied to a pedagogy that embraces elements of learner self-organization, connectedness, openness, complexity, and a chaotic learning environment reliant on individualized participant applications (Brown, 2013; deWaard et al., 2011; Saadatmand & Kumpulainen, 2014).

The phenomenal growth of MOOCs has astounded many in HE. Currently, MOOC giant Coursera (2013) offers 550 courses from 107 institutions throughout the world, in diverse subjects including education, science, sociology, law, and public health. A growing number of Coursera's courses are available for college credit. To date, however, social work courses on MOOC platforms are limited and only in beginning stages of development.

Historical Tensions in SWE in the U.S.

Historical influences in SWE may be partly responsible for the discipline's notable absence in MOOCs. Professionalization was one of the first controversies surrounding SWE and stemmed from two distinct approaches to practice. Addams organized settlement houses at Hull House in Chicago, advocating for participatory engagement from middle-class volunteers to serve the poor (Lundblad, 1995). Richmond of the Charity Organization Society conceptualized social work differently. She saw the potential for casework as a systematic method for managing individual and family problems (Kemp, Whittaker, & Tracy, 1997; Morris, 2000; Wenocur & Reisch, 2001). Settlement houses focused on broad societal-level goals while casework targeted individualized interventions. Time would eventually integrate these aims. Social work grew to incorporate individual, family, group, and community work (Margolin, 1997).

Practice competency has also driven the nature of SWE. Early SWE occurred within community agencies using the casework-focused approach of Richmond's model (Wenocur & Reisch, 2001). Though a consensus on whether SWE should remain in agencies or move to the university was hardly reached, in 1898 the first social work class was offered at the New York School of Philanthropy (later Columbia University) (National Association of Social Workers [NASW], 2013). This event began the convention, continued through the 1960s, of SWE as an MSW-level university degree (NASW, 1995).

SWE expanded further in the 1970s with Bachelor of Social Work (BSW) education. BSW programs developed from a need to professionalize entry-level workers. In 1974, the first BSW programs emerged (Reid & Edwards, 2006). Controversy ensued regarding elements of undergraduate SWE and its distinction from MSW programs; today, boundaries of BSW and MSW programs continue to generate discussion (Aguilar, Brown, & Cowan, 1997; Raymond & Atherton, 1991; Vinton, 1999; Weinbach, 1999; Wolk & Wertheimer, 1999;).

OE and Practice

OE is one aspect of HE affecting SWE (Menon & Coe, 2000). Online enrollments are growing at rates faster than traditional HE enrollment. For the first time in years, HE enrollments dropped in number while online enrollment sustained a 9.3% growth rate (Allen & Seaman, 2013). Approximately 6.7 million students nationwide, or one third of HE students, are enrolled online (Allen & Seaman, 2013). HE institutions increasingly value OE. In the last decade, the percentage of educational administrators considering OE as a long-term strategy and acknowledging the institutional importance of online education has grown from a minority to nearly 70% (Allen & Seaman, 2013). OE owes its success to economic advantages, a growing numbers of tech-savvy students, measurable outcomes, emerging technology, and educational innovation (Miller, 2014). Perceived advantages to OE extend to SWE.

Early discussions about OE in HE concerned the efficacy of online instruction compared with traditional face-to-face formats. The bulk of research over several decades has found no significant differences in learning outcomes between online and traditional educational methodologies (Bowen, 2013; Neuhauser, 2002). In fact, some research points to small or moderate advantage to OE using objective measures of student outcomes (Miller, 2014). OE research confirms similar equivalency between distance and traditional course outcomes (Banks & Faul, 2007; Beaulaurier, 2005; Cummings, Foels, & Chaffin, 2013; Haga & Heitkamp, 2000; Pardasani, Goldkind, Heyman, & Cross-Denny, 2012). Evidence supporting OE has moved debate from questioning OE to exploring its accepted role (Gillingham, 2009).

The incorporation of OE into SWE has evolved unevenly through cautious experimentation. OE in SWE has taken different forms as technology improves and comfort zones expand. Beginning efforts used OE as peripheral supplements to face-to-face instruction in blended learning models. SWE has used online methodologies including wikis (Allwardt, 2011), WebCT (Aguirre & Mitschke, 2011), videoconferencing (Berger, Stein, & Mullin, 2009), discussion forums (Bye, Smith, & Rallis, 2009), and social media (Kilpeläinen, Pääkkönen, & Sankala, 2011). These instructional strategies led to increasing engagement of social work in OE.

Researchers have consistently verified the success of OE in SWE. Social workers demonstrate technological skills and comfort with technology (Dedman & Palmer, 2011; Hash & Tower, 2010; Levine & Chapparro, 2007; Webber, Currin, Groves, Hay, & Fernando, 2010). Social workers use technology to communicate with clients, engage in consultation, identify community resources for the purpose of referrals, research best practices, engage in community building, and a host of other purposes (NASW, 2005). These findings indicate outcomes for OE spanning technological proficiency, communication demonstrations, research applications, and resource coordination. Additionally, clients use the internet to research social work services, participate in self-help groups, develop social networks, and learn more about presenting needs (Finn, 1999; Perron, Taylor, Glass, & Margerum-Leys, 2010; Waldman & Rafferty, 2008). Such developments in online activity have led to greater incorporation of OE in SWE.

Accreditation

Accreditation has been a natural outgrowth of OE in SWE. The Council on Social Work Education (CSWE) is the SWE accreditation body in the U.S. CSWE (2015) has accredited at least seven BSW programs using distance education in various forms. Additions to the list of accredited online MSW programs continue to rise; 35 are currently identified by CSWE (2015). CSWE uses the same criteria for accrediting traditional, blended, and OE. Clearly, OE is gaining increasing acceptance.

Broadening OE in SWE brings associated benefits. Blackmon (2013) noted greater online accessibility for nontraditional students and advocated that SWE stay technologically current to remain viable. The accessibility of OE has opened doors in HE for nontraditional students. OE shows higher rates of minority, non-traditional, and graduate students (U.S. Department of Education, 2011). Some describe this phenomenon as empowering (Horwath & Shardlow, 2000) but others critique OE as diluted and mass-produced (Collins, 2008).

Field Education

Even those lauding OE's potential acknowledge challenges. Field education presents one dilemma for the development of OE, including MOOCs. Field education provides socialization into the profession as well as the development of knowledge, skills, and appropriate professional judgment (Earls Larrison & Korr, 2013). Field education is the "signature pedagogy" of SWE that integrates classroom theory and community practice (CSWE, 2013). SWE's slow adaptation to technology may stem from the importance of human connection (Dalton, 2001; Siebert & Spaulding-Givens, 2006; Simpson, Williams, & Segall, 2007). Critics fear that interpersonal communication is lost in OE (Haga & Heitkamp, 2000). Other perspectives support the ability for positive online interaction, admittedly through strategies that differ from face-to-face methods (Brown, 2013; deWaard et al., 2011).

The growth of OE in SWE has produced research on the intersection of fieldwork and technology. Researchers found field instructors favorable to Internet tools (Berg-Weger, Rochman, Rosenthal, Sporleder, & Birkenmaier, 2007; Dedman & Palmer, 2011). Likewise, Hash and Tower (2010) confirmed that most social work students do not encounter technological barriers to OE. Research investigating OE and development of practice skills has revealed significant findings. The benefits of OE include collaborative learning, peer support, and technological skill development (Jones, 2010; Kilpeläinen et al., 2011).

Tuite and McLlean (2013) found online support critical for alleviating isolation with students in field. Online practice courses have provided feedback and practicum supervision to students accompanied by improved student skills (Coe & Elliot, 1999; Coe & Youn, 2008; Rautenbach & Black-Hughes, 2012; Siebert & Spaulding-Givens, 2006; Zeman & Swanke, 2008). Online instruction may diversify teaching through global interaction, increasing cultural awareness (Carter-Anand & Clarke, 2009; Rautenbach & Black-Hughes, 2012). Findings of negative student reactions to OE are sparse. Allwardt (2011) is an exception that described BSW student complaints on wiki use including

reluctance for the method, time-management concerns, and group collaboration difficulties. The bulk of research demonstrates the successful integration of fieldwork with OE. Evidence shows that OE presents several advantages compared to face-to-face methodologies, including increased collaboration, globalized exposure, and accessibility.

The MOOC format shares similarity to many features in established OE. Connectivist MOOCs (c-MOOCs) are a type of MOOC using participant input to drive course direction. The hallmarks of c-MOOCs are autonomy, diversity, openness, and interactivity (Rodriguez, 2012; Tschofen & Mackness, 2012). These characteristics relate directly to aspects of online instruction that support field work and practice skill development.

Economic Concerns in HE

Complementing curricular advantages in OE are financial benefits. HE is in a financial crisis. The costs of maintaining a campus have skyrocketed while funding has decreased (McGuinness, 2011). The State University of New York, for instance, lost \$700 million in state support over a 4-year period (Smith, 2013). Students bear the brunt of skyrocketing costs. Tuition increases continue with tuition charges exceeding actual costs for institutions (Bowen, 2013). Many students graduate with educational debt. The Institute for College Access and Success (2012) estimated that 66% of 2011 graduates have about \$26,600 of debt. Debt can negatively affect social workers, who are often paid low starting salaries (NASW, 2006).

Educators and policymakers seek alternative methods of course delivery to enable institutions to remain operable and contain student costs. Understanding cost factors in educational delivery is complex, and there is no definitive answer for OE implementation costs. Some critics point to increased costs associated with OE (Miller, 2014). In contrast, some universities consider OE a way to offset budget cuts (Mildenberg, 2013). Stakeholders in HE, including social welfare educators, are looking to OE models to address financial strains. MOOCs are a recent development in consideration for meeting such HE goals. The role of MOOCs in HE remains unclear, but the potential for MOOCs to teach large numbers of participants and increase social work conceptual mastery warrants attention.

MOOCs are an emergent HE development. The interest in MOOCs has engendered excitement and speculation in HE. Reactions have ranged from indifference to projections that MOOCs will forever change the market. Baggaley (2013) captured this uncertainty:

In the years to come, the MOOC may be hailed as an educational redeemer, or as an ugly symptom of the general educational slide. If [the MOOC] is ultimately disgraced, will the universities and colleges of the world pass the buck... [or if] it is a triumph, will fingers be pointed at the early MOOC enthusiasts for another reason—for pulling the rug from under the feet of the original [OE] institutions, and destroying their market? (p. 374)

Institutional participation in MOOCs is limited. Currently, less than 3% of HE institutions offer a MOOC, less than 10% are planning a MOOC, and 33% do not plan to participate in MOOCs (Allen & Seaman, 2013). Over 50% of institutions remain undecided

regarding MOOC participation (Allen & Seaman, 2013). Institutional caution toward developing trends is not unique to MOOCs. Despite the success of OE over two decades of instruction, some faculty continue to question it (Miller, 2014). Reliance on any one measure of MOOC evaluation is flawed. Honest evaluation of potential MOOC contribution requires comprehensive assessment of the benefits, challenges, and relevance to SWE.

MOOC Benefits

MOOCs present many advantages which draw attention to their future promise. MOOCs provide a range of synchronous and asynchronous interaction for adult learners seeking scheduling flexibility from educational institutions. Adult learners expect that educational programs fit the demands of their busy lives and desire increased options in education. Individualized learning is another related advantage. Within a single course, MOOCs typically offer a variety of resources and learning methods that students may select for strength-based application (Skiba, 2012). Social engagement, self-direction, and collaborative learning are MOOC traits that attract learners though greater self-selection than traditional courses (deWaard et al., 2011; Skiba, 2012). MOOC participation may also generate student interest for traditional courses (Cerf, 2013), as 75% of students taking a free online course later enrolled in an additional course (Foster, 2013). Curiously, students have not pursued offers of low-cost transfer credit for MOOC courses (Kolowich, 2013). Many current MOOC students are professionals who already hold degrees, and course credit may not be as valuable to these students (Kolowich, 2013).

HE institutions have found benefits from MOOC participation. The massive enrollments in MOOC courses provide advantages over traditional OE. MOOCs generate enormous amounts of data on student participation and interaction. This characteristic allows unique research application to the MOOC classroom and makes MOOCs a natural testing ground for online pedagogy (Allen & Seaman, 2013). Educators may assess experimental or pedagogical interventions with large numbers of students in the time-efficient run of a single course (Cooper & Sahami, 2013). Institutions have also used new instructional models incorporating MOOCs. “Flipped classrooms” require students to access MOOC content prior to class lectures, increasing subject familiarity (Cooper & Sahami, 2013, p. 30). This practice saves time and allows in-class instruction to focus on priority needs. MOOCs also offer the possibility of cost reduction for both institutions and students. The ability to generate courses shared across institutions through collaborative delivery aids educational institutions while free access directly benefits students.

The role of MOOCs in social justice is relevant to the mission of social workers. Each MOOC has the potential for reaching hundreds of thousands of students globally. Any person with an Internet connection could access SWE via a MOOC. MOOCs are a suggested solution to disparities preventing access to high quality education in many areas of the world (Hyman, 2012). Expanding access to SWE via MOOCs could help ensure that those involved in social welfare and social justice throughout the world have a baseline SWE. This could have significant impact for social justice workers in developing or underdeveloped economies. Planned funding structures could ensure economically advantaged constituencies offset the costs of MOOCs to ensure free content for the

financially disadvantaged. This is an opportunity for SWE in developed nations to fulfill a social justice mission. Social justice and other MOOC benefits offset challenges acknowledged in the emerging instructional format.

MOOC Challenges

MOOC development is not without its skeptics. The harshest MOOC critics describe the MOOC learning process as mass communication that has abandoned educational principles in a simplistic, impersonal, and potentially disorganized manner (Baggaley, 2013). Low retention rates may confirm difficulties in the MOOC learning environment. Tens of thousands of students often enroll in a single MOOC, but less than 10% of students actually complete courses (Calderwood, 2013; Daniel, 2012). Universities weighing course completion, graduation rates, and federal student loan requirements must seriously consider such consequences. Additionally, MOOCs may cater to more advanced or informal learners with abilities to navigate the self-directed learning inherent in MOOC design (Calderwood, 2013; Fini, 2009; Rodriguez, 2012).

MOOC critics also challenge the assumptions of accessibility and the promises of democratic idealism achieved through global participation in MOOCs. Hopes for broad international participation may be tempered by findings that demonstrate an overwhelming rate of participation by developed nations (Rodriguez, 2012). Likewise, Rhoads, Berdan, and Toven-Lindsey (2013) provided provocative discussion highlighting the role of power through information management of MOOC content. These authors cautioned that MOOCs could easily become a tool fostering increasing reliance of undeveloped nations on developed nations' cultural imperatives (Rhoads, et al., 2013). Others have agreed that MOOCs have detrimental potential to advance elitist forms of knowledge control (Portmess, 2013). As the wealthiest nations enter the MOOC market, subversion of undeveloped national perspectives could be an unintentional consequence.

MOOCs face a number of inherent difficulties. Technical problems, such as the ones that forced Georgia Tech to abort a MOOC course, intensify with massive enrollments (Kolowich, 2013). Evaluation of student work in MOOCs also poses difficulties. Universities may struggle to verify student identity (Hyman, 2012) or eliminate plagiarism (Cooper & Sahami, 2013). Some disciplines, like social work, use subjective assessments that make MOOC grading difficult. For example, it is difficult to quantify practice skills or subjective judgment.

The financial viability of MOOCs is a primary concern, even for enthusiasts of the technology. A single course may require 100 hours to develop, cost upwards of \$50,000, and need 10 hours of management per week while running (Foster, 2013; Kolowich, 2013). Massive enrollments are a perceived value of MOOCs, but free participation presents a quandary. Educators have not agreed on ways to capitalize such interest into monetary gains (Cusumano, 2013; Dellarocas & Van Alstyne, 2013; Hyman, 2012).

In addition, educators have found a range of philosophical problems with MOOCs. Despite the financial uncertainties of MOOCs, the potential for economic gain from mass enrollments has prompted some analysts to suggest that monetary gain has trumped educational quality (Aguaded-Gómez, 2013; Vardi, 2012). Educators cite additional

philosophical objections to MOOCs, such as a perception that MOOCs discourage critical thinking and stifle engaged learning (Kolowich, 2013) despite online potential to improve these educational goals (Miller, 2014). Even more, there are concerns that free HE devalues education (Cusumano, 2013). Finally, MOOCs might become so popular that smaller colleges, unable to compete, would be shouldered out of the educational market, leading to large-scale educational monopolies (Cusumano, 2013; Kolowich, 2013). These concerns temper enthusiasm for MOOC participation.

MOOCs in Social Work

The long-term success of MOOCs remains unknown. The potential of MOOCs and their current influence on HE necessitates objective evaluation by the social work profession regarding potential MOOC participation. Collaboration and a variety of instructional methods provide options to tailor student learning, while the low cost of MOOCs offers low-risk opportunities for students to explore interests. Institutional advantages occur in pedagogical assessment, supplemental resources, and cost savings. Standardized courses and global access support social justice goals pertinent to SWE. These benefits have earned MOOCs significant attention in HE. Still, challenges remain.

Objections to MOOC participation include philosophical and concrete arguments. MOOC instruction may circumvent critical thinking with a reliance on simplistic student evaluation. Elitism may be an inadvertent result of top-down instruction that marginalizes underdeveloped nations' cultural perspectives. Low retention rates and specialized learning modalities may limit full participation to a less ambitious enrollment pool than initially projected. Lastly, MOOC financial sustainability remains a valid concern along with apprehension toward market saturation. Assessment of MOOCs for SWE requires understanding the complexity of MOOCs.

It is clear that MOOCs are evolving in methodology and application. The potential of MOOCs to advance SWE remains untested and without significant discipline contribution in this emergent format. Recognition of MOOC challenges is generating proposed solutions, and some educators regard MOOCs in SWE as a positive trend (Kurzman, 2013). Further, SWE is beginning to venture into MOOC development. For example, "The Social Context of Mental Health and Illness" is a MOOC course offered through Coursera ("MOOC List," 2014). It connects conceptions of mental illness to CSWE core competencies addressing diversity, human rights, and policy (CSWE, 2008).

Other possibilities exist for MOOCs in SWE. Using MOOCs, students enrolled in an introductory course at multiple institutions might participate in a single MOOC offered by one institution. Educators could offer a required foundation course (e.g., HBSE) to students in all accredited social work programs. Theoretical courses, like HBSE, lend themselves to MOOC adaptation and, ultimately, the standardization of a knowledge base among many social work students. MOOCs will force stakeholders in SWE to re-think volume. Why are 20, 30, or 100 students in a course section superior to 10,000 students (or 100,000 for that matter)? Can an online-mediated course with such large enrollments deliver content as effectively as other online options or face-to-face encounters?

Discussion and Recommendations

Certainly, questions on MOOC use in SWE will continue, but this dialogue is an important contribution to development. HE is in flux, and SWE must adapt. University budgets are being drastically slashed, and academic departments are required to serve more students with fewer resources. This reality is likely to continue. SWE must adapt its educational offerings in order to survive, as well as to ensure that students are learning the skills needed for practice.

SWE have been slow to warm to OE. Historical tensions have contributed to polarities in SWE that cast influence on current trends. Early controversies included conflicts between macro and micro practice, disputes over professionalization, and the disagreement over community or university settings for SWE. Today, SWE is cautiously approaching greater acceptance of OE methods as research supports OE efficacy. Methods to support fieldwork and skill development have proven possible for OE. Technological development has introduced new methods for educating social workers, enhancing practice, and continuing practice development that SWE needs to evaluate.

The reluctance of SWE to embrace OE has meant that social work has not participated in the development of new OE technology like MOOCs. SWE is at disadvantage without participation in emerging OE. MOOCs have potential to contribute positively to HE, and it is likely that MOOCs will have significant impact in HE in the next decade. SWE has not adequately assessed how MOOCs can help alleviate diminished institutional resources.

Failing to adapt MOOCs and other OE technologies would be a loss for SWE. One of these losses will be in the arena of attracting students. Students come to the classroom expecting to use emerging technology, including OE technologies. Some students have this expectation because they use technology in every area of their lives, while others may want to be engaged with technology because they lead complex lives. MOOCs help these students fit their education around their lives. If SWE does not adapt, student enrollments may suffer.

There are also losses within the area of state and other institutional funding. Public institutions of higher learning are being forced to do more with less. Serving more students to meet the bottom line is a reality. MOOCs, while free to varying degrees, do have development and maintenance costs. Most successful MOOCs have a course instructor, a team of teaching assistants, and technical support professionals, but these costs could be spread across multiple institutions. One solution would be for institutions to share a portion of the instructor cost per each enrolled student. For example, an institution enrolling 100 students would pay a greater portion of the instructor costs than an institution enrolling 50 students. However, there may be a potential long-term cost savings. While such an arrangement would mean that individual faculty members give up a degree of control over content delivery, such an arrangement could help ensure students receive a consistent knowledge base. The disadvantages of standardization may be offset by better public protection when states have greater certainty of consistent learning within shared MOOCs.

Recommendations

There are sound reasons for SWE to use the MOOC platform. Some educators are already engaging in the discussion on MOOC emergence, but the implementation of MOOCs in SWE has not yet transpired. SWE has much to lose by failing to embrace MOOCs. SWE is already behind the curve. Below are recommendations for how faculty and other stakeholders can more actively get involved in MOOC development:

- (1) *Identify funding initiatives that would support the development of social work MOOCs.* Like other OE, MOOCs require significant resources. Faculty cannot develop MOOCs without significant investment from their universities and other funding organizations. Like other OE, developing MOOCs requires substantive expertise as well as technology support (Schoech, 2000). Faculty should be supported in the development of MOOCs through financial incentives (e.g., course releases or other grant support) and technical support. MOOC development is not likely if faculty are expected to maintain typical teaching loads and to rely upon the university helpdesk for support.
- (2) *Further assess MOOC course development needs in collaboration with other colleges/universities.* The scope of MOOCs requires additional resources and planning beyond a traditional online format to accommodate extremely large enrollments. As MOOCs require significant substantive and technical expertise, administrators should pursue collaborations among colleges and universities. Collaborations allow institutions to gain the benefits of MOOCs while sharing costs to provide them. Institutional MOOC benefits extend beyond advantages for tuition-paying students to preparing large numbers of at-risk students to succeed and providing free course content to promote interest in a field to the general population. Departments and schools of social work should first begin conversations about what practice, policy, and/or research courses could potentially be developed together as a MOOC. For example, educators could share a human behavior or policy course among 10 or more institutions. Under the current model, classes of 20 or 30 are often taught within the same geographic region (and often by the same contingent instructor). This is significant duplication of effort. The CSWE or another stakeholder could spearhead an effort to share development and delivery costs among institutions.
- (3) *Inform other social work educators about the benefits of MOOCs.* Much of the resistance to MOOCs may be stemming from fear about what faculty members have to lose by adopting MOOCs. The faculty may worry that MOOCs will make their jobs obsolete or that MOOCs will result in “farming out” SWE positions to contingent faculty. These are real concerns. Yet, to some degree, this is already happening. Faculty members can best maintain their place in SWE by adapting to new roles. There will always be need for faculty members to supervise students in field, as this can never be fully replicated online.
- (4) *Consider the diversity that MOOCs bring to SWE.* A MOOC that is shared across universities, across rural and urban contexts, and across global

boundaries has considerable advantage for students. Imagine a diversity course shared between a university in rural Alabama, Chicago, San Francisco, and Bangkok. Students and faculty alike would benefit from the diverse perspectives that such arrangements would afford. This would yield an experiential education component that would be difficult to replicate even in field placement. Sharing MOOCs across borders would expose students to meaningful and lasting relationships that might spur a growth of interest in international social work. It might be a way of providing globalized content to students who would not otherwise seek out global opportunities.

- (5) *Determine the role of MOOCs' social work educational provision through practical strategies.* There are multiple possibilities for practical application of the MOOC course format to SWE. Current students and participants from across the globe are sources for potential large MOOC enrollments. Certainly, challenges in financial sustainability, student self-directed learning capabilities, and practice skill considerations affect MOOC implementation in social work. Tailoring MOOCs to specific course content addresses several of these issues. Policy, HBSE, and elective courses may prove more appropriate than teaching practice skills, although future developments do not preclude MOOC fieldwork contributions. MOOCs may be most appropriate for either advanced learners or novice learners with additional supports to facilitate navigating the MOOC environment. CSWE guidelines for recognizing a social work student, implicit curriculum, and credit for MOOC coursework remain future determinations. SWE is likely to benefit most from an integrated approach to MOOCs alongside online and face-to-face educational options.
- (6) *Conduct empirical research on the effectiveness of MOOCs and other emerging learning technologies.* The contribution of SWE to MOOC content requires simultaneous evaluation efforts. Some of the reluctance to MOOCs may be questions about effectiveness. SWE should be at the forefront of empirically testing whether MOOCs have similar (or better) learning outcomes, including course grades and practice skills. SWE should also examine student and faculty satisfaction with this new technology. MOOCs can offer better scheduling options for adult learners and will likely result in increased student satisfaction. Faculty members may also experience increased satisfaction through the larger impact of reaching thousands, instead of hundreds, of students.

Summary

MOOCs represent an important emerging trend in HE. Long-standing tensions in SWE have complicated social work's participation in the emergent MOOC process. The training and education of social workers involves specialized knowledge and practice affecting educational methodologies. Assessment of MOOC capabilities provides evidence that social work participation in MOOCs is likely to have positive impact. MOOCs appear to be an important solution to address economic and adult learning expectations in the coming decade. The time is right for SWE to begin engaging in MOOC development and to

continue actively pursuing OE.

References

- Aguaded-Gómez, J. I. (2013). The MOOC revolution: A new form of education from the technological paradigm? *Comunicar*, 21(41), 7-8. Retrieved from <http://dx.doi.org/10.3916/C41-2013-a1>
- Aguilar, G., Brown, K., & Cowan, A. (1997). Advanced standing revisited: A national survey of advanced standing policies and programs. *Journal of Social Work Education*, 33(1), 59-73.
- Aguirre, R. T., & Mitschke, D. B. (2011). Enhancing learning and learner satisfaction through the use of WebCT in social work education. *Social Work Education*, 30(7), 847-860.
- Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. Retrieved from: <http://www.onlinelearningsurvey.com/reports/changingcourse.pdf>
- Allwardt, D. E. (2011). Writing with wikis: A cautionary tale of technology in the classroom. *Journal of Social Work Education*, 47(3), 597-605.
- Baggaley, J. (2013). MOOC rampant. *Distance Education*, 34(3), 368-378.
- Banks, A. C., & Faul, A. C. (2007). Reduction of face-to-face contact hours in foundation research courses: Impact on students' knowledge gained and course satisfaction. *Social Work Education*, 26(8), 780-793.
- Beaulaurier, R. L. (2005). Integrating computer content into social work curricula: A model for planning. *Journal of Teaching in Social Work*, 25(1/2), 153-172.
- Berger, R., Stein, L., & Mullin, J. B. (2009). Videoconferencing: A viable teaching strategy for social work education? *Social Work Education*, 28(5), 476-487.
- Berg-Weger, M., Rochman, E., Rosenthal, P., Sporleder, B., & Birkenmaier, J. (2007). A multi-program collaboration in field education. *Social Work Education*, 26(1), 20-34.
- Blackmon, B. (2013). Social work and online education with all deliberate speed. *Journal of Evidence-Based Social Work*, 10(5), 509-521.
- Bowen, W. G. (2013). *Higher education in the digital age*. Princeton, NJ: Princeton University.
- Brown, A. S. (2013). Q&A: George Siemens. *American Society of Mechanical Engineers*, 135, 24.
- Bye, L., Smith, S., & Rallis, H. M. (2009). Reflection using an online discussion forum: Impact on student learning and satisfaction. *Social Work Education*, 28(8), 841-855.
- Calderwood, B. (2013). Developments: MOOCs: Examining the tsunami. *Journal of Developmental Education*, 36(3), 38-40.

- Carter-Anand, J., & Clarke, K. (2009). Crossing borders through cyberspace: A discussion of a social work education electronic exchange pilot project across the Atlantic. *Social Work Education, 28*(6), 583-597.
- Cerf, V. G. (2013). Growing the ACM family. *Communications of the ACM, 56*(2), 7.
- Clark, D. (2013, April 16). MOOCs: Taxonomy of 8 types of MOOC. Donald Clark Plan B Blog. Publicado, 16, 04-13. Retrieved from <http://donaldclarkplanb.blogspot.co.uk/2013/04/moocs-taxonomy-of-8-types-of-mooc.html>
- Coe, J. A. R., & Elliott, D. (1999). An evaluation of teaching direct practice courses in a distance education program for rural settings. *Journal of Social Work Education, 35*(3), 353-365.
- Coe, J. A. R., & Youn, E. J. (2008). Past, present, and future trends in teaching clinical skills through web-based learning environments. *Journal of Social Work Education, 44*(2), 95-116.
- Collins, S. (2008). Open and distance learning in qualifying social work education in Britain and the USA: Celebrating diversity and difference? *Social Work Education, 27*(4), 422-439. doi:10.1080/02615470701379792
- Cooper, S., & Sahami, M. (2013). Reflections on Stanford's MOOCs. *Communications of the ACM, 56*(2), 28-30.
- Council on Social Work Education [CSWE]. (2008). *2008 Educational Policy and Accreditation Standards*. Retrieved from <http://www.cswe.org/Accreditation/2008EPASDescription.aspx>
- CSWE. (2013). *Council on field instruction*. Retrieved from <http://www.cswe.org/cms/15538.aspx>
- CSWE. (2015). *Distance education offerings by accredited programs*. Retrieved from <http://www.cswe.org/Accreditation/Information/DistanceEducation.asp>
- Coursera. (2013). *About Coursera*. Retrieved from <https://www.coursera.org/about>
- Cummings, S. M., Foels, L., & Chaffin, K. M. (2013). Comparative analysis of distance education and classroom-based formats for a clinical social work practice course. *Social Work Education, 32*(1), 68-80.
- Cusumano, M. A. (2013). Are the costs of “free” too high in online education? *Communications of the ACM, 56*(4), 26-28.
- Dalton, B. (2001). Distance education: A multidimensional evaluation. *Journal of Technology in Human Services, 18*(3/4), 101-115.
- Daniel, J. (2012). Making sense of MOOCs: Musings in a maze of myth, paradox and possibility. *Journal of Interactive Media in Education, 3*, 1-20. doi:10.5334/2012-18
- Dedman, D. E., & Palmer, L. B. (2011). Field instructors and online training: An exploratory survey. *Journal of Social Work Education, 47*(1), 151-161.

- Dellarocas, C., & Van Alstyne, M. (2013). Money models for MOOCs. *Communications of the ACM*, 56(8), 25-28. doi:10.1145/2492007.2492017
- deWaard, I., Abajian, S., Gallagher, M. S., Hogue, R., Keskin, N., Koutropoulos, A., & Rodriguez, O. C. (2011). Using mLearning and MOOCs to understand chaos, emergence, and complexity in education. *International Review of Research in Open and Distance Learning*, 12(7), 94-115.
- Earls Larrison, T., & Korr, W. S. (2013). Does social work have a signature pedagogy? *Journal of Social Work Education*, 49(2), 194-206.
- Fini, A. (2009). The technological dimension of a massive open online course: The case of the CCK08 Course Tools. *International Review of Research in Open & Distance Learning*, 10(5), 1-26. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/viewArticle/643>
- Finn, J. (1999). An exploration of helping processes in an online self-help group focusing on issues of disability. *Health & Social Work*, 24(3), 220-231.
- Foster, M. (2013, Spring). The PBK presidents poll. *The American Scholar*, 120.
- Gillingham, P. (2009). Ghosts in the machine: Student participation and grade attainment in a web-assisted social work course. *Social Work Education*, 28(4), 423-435.
- Haga, M., & Heitkamp, T. (2000). Bringing social work education to the prairie. *Journal of Social Work Education*, 36(2), 309-325.
- Hash, K. M., & Tower, L. E. (2010). The development and evaluation of online learning modules to deliver lifespan content in human behavior in social environment courses. *Journal of Human Behavior in the Social Environment*, 20(3), 379-392.
- Head, K. (2014). Are MOOCs the future of general education? *Journal of General Education*, 63(4), 244-255.
- Horwath, J., & Shardlow, S. M. (2000). Empowering learners through open (distance) programmes: An evaluation of a practice teaching programme. *Social Work Education*, 19(2), 111-123. doi:10.1080/02615470050003502
- Hyman, P. (2012). In the year of disruptive education. *Communications of the ACM*, 55(12), 20-22.
- Institute for College Access and Success. (2012). *Student debt and the class of 2011*. Retrieved from <http://files.eric.ed.gov/fulltext/ED537338.pdf>
- Jones, P. (2010). Collaboration at a distance: Using a wiki to create a collaborative learning environment for distance education and on-campus students in a social work course. *Journal of Teaching in Social Work*, 30(2), 225-236.
- Kemp, S. P., Whittaker, J. K., & Tracy, E. M. (1997). *Person-environment practice: The social ecology of interpersonal helping*. New York: Aldine de Gruyter.

- Kilpeläinen, A., Päykkönen, K., & Sankala, J. (2011). The use of social media to improve social work education in remote areas. *Journal of Technology in Human Services*, 29(1), 1-12.
- Kolowich, S. (2013, February 4). Georgia Tech and Coursera try to recover from MOOC stumble. *The Chronicle of Higher Education*, 4. Retrieved from <http://chronicle.com/blogs/wiredcampus/georgia-tech-and-coursera-try-to-recover-from-mooc-stumble/42167>
- Kurzman, P. A. (2013). The evolution of distance learning and OE. *Journal of Teaching in Social Work*, 33(4/5), 331-338.
- Levine, J., & Chaparro, B. S. (2007). Usability study of a distance continuing education website for human service professionals. *Journal of Technology in Human Services*, 25(4), 23-39.
- Lundblad, K. (1995). Jane Addams and social reform: A role model for the 1990s. *Social Work*, 40(5), 661-669.
- Margolin, L. (1997). *Under the cover of kindness: The invention of social work*. Charlottesville, VA: University Press of Virginia.
- McGuinness, A. C. (2011). The states and higher education. In P. J. Altbach, P. J. Gumport, & P. O. Berdahl (Eds.), *American higher education in the twenty-first century* (3rd ed., pp. 131-168). Baltimore, MD: The Johns Hopkins University Press.
- Menon, G. M., & Coe, J. R. (2000). Technology and SWE: Recent empirical studies. *Research on Social Work Practice*, 10(4), 397-399.
- Mildenberg, D. (2013, February 4). Online tuition helps UT-Arlington offset state budget cut. *Bloomberg Business*. Retrieved from <http://www.bloomberg.com/news/2013-02-05/internet-tuition-helps-public-universities-offset-budget-cuts.html>
- Miller, M. (2014). *Minds online: Teaching effectively with technology*. Cambridge: Harvard.
- MOOC List*. (2014). Retrieved from <http://www.mooc-list.com/>
- Morris, R. (2000). Social work's century of evolution as a profession: Choices made, opportunities lost. From the individual and society to the individual. In J. G. Hopps & R. M. Morris (Eds.), *Social work at the millennium: Critical reflections on the future of the profession* (pp. 42-70). New York: Free Press.
- National Association of Social Workers [NASW]. (1995). *Milestones in the development of social work and social welfare, 1950s to present*. Retrieved from http://www.socialworkers.org/profession/centennial/milestones_4.htm
- NASW. (2005). *NASW & ASWB standards for technology and social work practice*. Retrieved from <http://www.socialworkers.org/practice/standards/naswtechnologystandards.pdf>

- NASW. (2006). *Public comments of the National Association of Social Workers to the Department of Education*. Retrieved from <http://www.socialworkers.org/advocacy/letters/2006/110806.asp>
- NASW. (2013). *Social work history*. Retrieved from <http://www.naswdc.org/pressroom/features/general/history.asp>
- Neuhauser, C. (2002). Learning style and effectiveness of online and face-to-face instruction. *American Journal of Distance Education, 16*(2), 99-113.
- Pardasani, M., Goldkind, L., Heyman, J. C., & Cross-Denny, B. (2012). How much does the distance in distance education matter? Our students speak. *Social Work Education, 31*(4), 406-421.
- Pence, H. E. (2012). When will college truly leave the building: If MOOCs are the answer, what is the question? *Journal of Educational Technology Systems, 41*(1), 25-33.
- Perron, B. E., Taylor, H. O., Glass, J. E., & Margerum-Leys, J. (2010). Information and communication technologies in social work. *Advances in Social Work, 11*(2), 67-81.
- Portmess, L. R. (2013). Mobile knowledge, karma points and digital peers: The tacit epistemology and linguistic representation of MOOCs. *Canadian Journal of Learning and Technology, 39*(2), 1-8.
- Rautenbach, J. V., & Black-Hughes, C. (2012). Bridging the hemispheres through the use of technology: International collaboration in social work training. *Journal of Social Work Education, 48*(4), 797-815.
- Raymond, G., & Atherton, C. R. (1991). Blue smoke and mirrors: The continuum in social work education. *Journal of Social Work Education, 27*, 297-304.
- Reid, P. N., & Edwards, R. (2006). The purpose of a school of social work—An American perspective. *Social Work Education, 25*(5), 461-484.
- Rhoads, R. A., Berdan, J., & Toven-Lindsey, B. (2013). The open courseware movement in higher education: Unmasking power and raising questions about the movement's democratic potential. *Educational Theory, 63*(1), 87-110.
- Rodriguez, C. O. (2012). MOOCs and the AI-Stanford like courses: Two successful and distinct course formats for massive open online courses. *European Journal of Open, Distance and E-Learning*. Retrieved from <http://www.editlib.org/j/ISSN-1027-5207/>
- Saadatmand, M., & Kumpulainen, K. (2014). Participants' perceptions of learning and networking in connectivist MOOCs. *Journal of Online Learning and Teaching, 10*(1), 16-30.
- Sandeen, C. (2013). Integrating MOOCs into traditional higher education: The emerging "MOOC 3.0" era. *Change: The Magazine of Higher Learning, 45*(6), 34-39.
- Siebert, D. C., & Spaulding-Givens, J. (2006). Teaching clinical social work skills entirely online: A case example. *Social Work Education, 25*(1), 78-91.

- Simpson, G. A., Williams, J. C., & Segall, A. B. (2007). Social work education and clinical learning. *Clinical Social Work Journal*, 35(1), 3-14.
- Skiba, D. J. (2012). Disruption in higher education: Massively open online courses (MOOCs). *Nursing Education Perspectives*, 33(6), 416-417.
- Smith, P. H. (2013). SUNY system facing a critical crossroads. *Livingston County News*. Retrieved from <http://thelcn.com/2013/03/22/suny-system-facing-a-critical-crossroads/#sthash.bdrECWPx.dpbs>
- Schoech, D. (2000). Teaching over the Internet: Results of one doctoral course. *Research on Social Work Practice*, 10(4), 467-486.
- Tschofen, C., & Mackness, J. (2012). Connectivism and dimensions of individual experience. *International Review of Research in Open and Distance Learning*, 13(1), 124-143. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/1143/2086>
- Tuite, E., & McLean, L. (2013). Virtual interaction: A real alternative. *European Journal of Social Education*, 24/25, 86-94.
- U.S. Department of Education, National Center for Education Statistics. (2011). *The condition of education 2011* (Report No. NCES 2011-033). Number and percentage of postbaccalaureate students in postsecondary institutions taking distance education courses, by selected characteristics: 2007-08. Retrieved from <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011033>
- Vardi, M. Y. (2012). Will MOOCs destroy academia? *Communications of the ACM*, 55(11), 5.
- Vinton, L. (1999). Should advanced standing programs be abolished? Yes! *Journal of Social Work Education*, 35(1), 7-11.
- Waldman, J., & Rafferty, J. (2008). Technology-supported learning and teaching in social work in the UK: A critical overview of the past, present and possible futures. *Social Work Education*, 27(6), 581-591.
- Webber, M., Currin, L., Groves, N., Hay, D., & Fernando, N. (2010). Social workers can e-learn: Evaluation of a pilot post-qualifying e-learning course in research methods and critical appraisal skills for social workers. *Social Work Education*, 29(1), 48-66.
- Weinbach, R. W. (1999). Should advanced standing programs be abolished? No! *Journal of Social Work Education*, 35(1), 14-17.
- Wenocur, S., & Reisch, M. (2001). *From charity to enterprise: The development of American social work in a market economy*. Urbana, IL: University of Illinois Press.
- Wolk, J., & Wertheimer, M. (1999). Generalist practice vs. case management: An accreditation contradiction. *Journal of Social Work Education*, 35(1), 101-114.
- Zeman, L. D., & Swanke, J. (2008). Integrating social work practice and technology competencies: A case example. *Social Work Education*, 27(6), 601-612.

Author note

Correspondence can be addressed to Dr. Trevor G. Gates, 55 Saint Paul Street, Rochester NY 14604. Email: tgates@brockport.edu