# From spaces of sexual violence to sites of networked resistance: Re-imagining mobile and social media technologies

**Laurel Hart**

**Claudia Mitchell**

*To date, much of the work on mobile and social media in the context of sexual violence has focused on its threats and harmful effects, particularly in relation to cyber-bullying and other forms of online harassment. But what if we think of such technologies as technologies of non-violence? In this article we make a case for exploring this work in rural South Africa, where, in spite of some challenges of access, the availability of technology is increasing the number of possible ways of addressing sexual violence. Building on what we offer as a primer of technologies currently available, we consider the implications of this work for researchers (especially those in education), interested in how technology can help to address sexual violence.*

**Keywords:** cellphones, technologies of non-violence, rurality, sexual violence, Mobile apps, social networks, information and communication technologies

## Introduction

> *Few would argue that online social networking spaces such as Facebook, Google+, Blogs (Wordpress, Blogger) and micro-blogs like Twitter and Tumblr do not form an important part of newly configured and imagined publics today, and are being used to dissent, protest and organize. Even though access may still be limited in many African contexts, it is growing at a rapid rate because of improvements in infrastructure, the arrival of wireless access technologies, lower tariffs, and particularly mobile technologies.*
>
> *(Mugo & Antonites, 2014: 30)*

Speaking of the ways in which social media can create a space for women to connect with each other and express their sexuality, Mugo and Antonites highlight the use of

**Laurel Hart**
**Concordia University, Canada**
**Department of Art Education**
laurel.hart@gmail.com

**Claudia Mitchell**
**McGill University, Canada**
claudia.mitchell@mcgill.ca
**514 398 4527 ext. 09990**

weblogs such as HollaAfrica and African Women's Bedrooms that serve as community spaces for the co-creation of knowledge, particularly in the context of homophobia. This work is significant because it contests the widely held notion of social media as being solely about threat and harmful effects, while acknowledging cyber-bullying and online violence as key concerns that the vast and growing body of literature on this subject makes clear (see Wasserman, 2011). While there are numerous cases from around the world of the ways in which cellphone cyber-bullying, for example, is seen as synonymous, in a sense, with sexual violence, the horrific case of a group of seven boys and men from Soweto who repeatedly raped a mentally disabled girl, filmed the rape with their cellphones and posted it on YouTube is particularly disturbing (Smith, 2012). We refer to this case because of its high media profile in South Africa, and acknowledge the tensions inherent in seeking to find alternative uses of this technology. Thus, we ask whether the very medium that can be harmful, can also be a tool for protection and, ultimately, social change. In *The Technology of Nonviolence*, Bock (2012) explores the ways in which technologies can be associated with advocacy and social action, citing such instances as the uses of technology in the Arab Spring movement. The work serves to frame a growing global movement in which social media might be examined as a way of combating sexual violence. Drawing on Bock (2012), we use the term "technologies of non-violence", while acknowledging that many of the technologies we introduce are multi-use and are being applied towards or re-purposed for non-violent ends.

We are interested in exploring the potential contribution of social media and mobile technologies to addressing sexual violence as a specific instance of "technologies of non-violence" as well as the challenges, particularly in rural settings in South Africa. Sexual violence is a critical issue in many parts of sub-Saharan Africa, including South Africa. Indeed, as has been noted in a number of participatory visual studies with girls and young women, there is an everyday relentlessness to sexual violence, including date rape, male teachers forcing female students to have sex, incest, and intimate partner violence (Moletsane, Mitchell, Smith & Chisholm, 2008).

While there is a growing body of work that looks at the uses of mobile technologies and social media to address sexual violence, to date little of this work has taken place in rural and under-resourced settings. What are the possibilities inherent in thinking about this work in deeply rural areas of South Africa? How might addressing critical issues surrounding social and digital media in relation to sexual violence in rural spaces contribute to what Balfour, Mitchell and Moletsane (2011) refer to as a generative theory of rurality? How should those working in educational research be taking up the issues? To answer these questions, we begin by drawing attention to the emergence of a strong youth voice that is speaking out about social media in sub-Saharan Africa, particularly in the context of education. To start with, we offer a primer on the devices, applications and technologies being used in South Africa and globally. We present these in order to assess the appropriateness of a "technologies of non-violence" framework in relation to sexual violence, to present new possibilities for

adapting this work to rural settings in South Africa, and to consider the implications of this work for educational researchers.

## Setting the stage: Youth, social activism, and social media in the Global South

Features of globalisation and the strength of youth culture have put social media in the spotlight in rural areas of the Global South, as we see in the burgeoning body of work illustrating how social media has become successful in mobilising citizens, including rural young people in developing areas, towards social change. The literature points to the role of social media sites in empowering people living in under-resourced areas by giving them a voice and a platform that allows them to participate in social life (Edouard & Edouard, 2012; Iwilade, 2013; Valenzuela, Arriagada & Scherman, 2012; Wasserman, 2011). Social media becomes a type of social capital for rural youth as they build social networks that facilitate the spread of news and information as well as provide a space for organising collective action towards political and social change, as exemplified by Scherman's (2012) study identifying Facebook and Twitter as key features of a successful environmental protest in a rural setting. As Bennett (2008) observes, "Having grown up with digital media, young people may be especially drawn to these collective experiences [created by social media] and the new forms of citizenship they entail" (cited in Valenzuela et al., 2012: 3013). Wasserman (2011) notes that the emergence of social media in the Global South has been seen to provide avenues for e-democracy among youth, and mobile phones have enabled the use of SMS (text messaging) and social networks that can provide a platform on which political information can be made available to citizens during elections.

Social media has been used in rural contexts in sub-Saharan Africa to convey health information as we see in apps that remind AIDS patients to take their ARVs, and provide emotional support to AIDS orphans (Thupayagale-Tshweneagae, Nkosi, Moleki & Human, 2014). Increasingly, public health organisations are using Facebook and Twitter to connect youth to information on sexual and reproductive health, and on HIV (Edouard and Edouard, 2012). Another innovative application of mobile technologies is the use of Google SMS to provide access to accurate information on sexual and reproductive health to youth, as well as the location of nearby health clinics and services (Hellström, 2010)

An understudied area is the consideration of technologies and their application in addressing sexual violence although there is an emerging body of work that we draw on. Somulu (2007), for example, looks at the potential for social media to serve victims of violence in a number of different ways. Victims of sexual violence often experience social isolation because of feelings of shame, fear and/or regret; in such instances social media allows for new lines of communication among peers, providing various outlets for self-expression and collaboration among victims. Blogging may support the voices of women, providing them with the tools to connect with others, and allowing them to share experiences such as sexual harassment

(Somolu, 2007). Such initiatives help to build a community of young women who are demanding social change, and they encourage social action by allowing users to share links to information on campaigns for women's gender rights, for instance. Many organisations are also implementing projects that use information and communication technologies (ICTs) as a way of improving young African women's circumstances. For example, the UmNyango Project uses SMS technology to access information and report incidents of violence against women in some rural areas of South Africa (Somolu, 2007). Organisations such as WOUGNET have used mobile technology for advocacy against gender violence, as in 2008 when text messages were sent out to raise awareness for women's day celebrations, and to organise peaceful demonstrations against sexual violence (Ngolobe, 2010). Essof (2009) recommends harnessing ICTs towards preventing violence against women, highlighting several South African initiatives while www.TakeBackTheTech.net provides resources and program links. New digital media have also presented new avenues for engaging youth in sexual health promotion, and risk reduction in relation to issues like sexual violence and intimate partner violence (Guse et al., 2012). What is needed, however, is a consideration of the uses, challenges and benefits of technology in rural contexts in which both isolation and intimacy may be factors, and where, at the same time, there may be fewer protection services.

## Towards a *technologies of non-violence* framework for addressing sexual violence in rural contexts

Here we develop a framework for understanding how digital technologies can be used (and misused) in combating violence. This section provides a primer of the strengths and limitations of selected technologies. As we argue here, an in-depth understanding of the forms of technologies, including their ownership, safety features, previous failures, and issues of sustainability can help to minimise the risk of user/participant harassment and harm, and will allow us to imagine creative applications, maintain constant, watchful awareness of abuses or gaps, and be alerted when problems arise in the user community. With rural South Africa as the focus, we are interested in what is known about sexual violence in rural contexts, but also what is known about available technologies. Paradoxically, at the very time that we are moving towards a world that is ever more virtual, we are reminded of the significance of the literal spatiality in rural settings. As Balfour et al. (2011) observe: "One of the most noticeable features of rural life is the time it takes to move from place to place in space" (p. 30). It is critical to take account of place and space in relation to the various forms of sexual violence (intimate partner violence, sexual harassment on the road, gang rape, online predators, transactional sex, school-related gender-based violence, and so on), recognising that an appropriate technology for addressing intimate partner violence, for example, may not be the same as an appropriate technology for addressing sexual harassment on a remote rural road.

# Features of technology in relation to differing contexts for sexual violence

We consider three features of technology that are particularly relevant to combating sexual violence in rural settings: following Palmer (2012) we specify (1) intimacy; and (2) mobility and the ways that particular/engaged mobile technologies (such as cellphones) function as multi-modal sensors, multi-form communication devices, and high quality receivers. We additionally examine the feature of (3) user data gathering as presented by Kuzma (2011).

### Intimacy

The term intimacy or "ambient virtual co-presence" (Ito & Okabe, 2005: 7) here refers to the degree to which users share and receive detailed personal information through social media and mobile applications. As Ibrahim notes, such applications create an environment conducive to sharing information by rewarding users through positive social feedback (such as likes, comments, expanding networks), and improved social status: "[p]ersonal information and private comments on a public platform then become a form of social capital which people trade and exchange to build new ties and to invite different types of gaze and spectatorship" (2008: 246). As MacEntee (2014) found in her work in rural KwaZulu-Natal, the eagerness of young girls to own cellphones demonstrates how important these devices are in enabling social capital. Social media technologies might constitute a key site in which users could warn each other about potential predators and dangerous places, explore personal and collective experiences of violence, and discuss possible actions and solutions. While online spaces of exchange and communities of support and social capital can result, we must also be alert to the possibility of abuse of such information. Bullying through social networks is common while more extreme examples include the unauthorised exchange of nude images, and the filming and sharing of videos of someone being raped, as occurred at Jules High School in Johannesburg (Brodie, 2011).

### Mobility

The mobile nature of portable technologies such as cellphones enables the use of various sensory tools such as SMS, voice phone, camera, audio/video recording, and GPS to connect with (and be contacted by) people and organisations in order for information to be shared or recorded. What can be thought of as the device's portable ever presence (Ito & Okabe, 2005) complements the mobility patterns of girls and young women who are travelling around, being on the road, and generally being in domestic or public spaces. In the case of urban settings, mobility may mean that girls and young women face dangers on the streets (from strangers as well as partners), hence the use of initiatives such as Harassmap (www.harassmap.org). A reality of rural spaces in many parts of sub-Saharan Africa (including South Africa) is that there are different dangers from those found in urban contexts. Girls and women have to walk across fields and along open roads to carry out chores such as

fetching water from a public area at dusk or to gain access to public transport. They have to negotiate particular zones of potential concealment like roadside trees or culverts. Recent work in the area of HIV and AIDS and the ways in which taxi drivers in rural areas offer lifts and food to girls (in exchange for sex) highlights the risk factors for girls and young women in public (and often rural) spaces (Hallman et al., 2013). While technologies such as www.harassmap.org enable women to map, share, and locate places of safety and risk, we need to think about how to prevent perpetrators from becoming aware that they are being monitored lest they become even more violent.

### User data

User data is a crucial issue because of the intimate, often immediate, and mobile nature of social media usage. For researchers and activists, the ability to access user data in immediate or real time and on location presents the possibility for innovative new forms of scholarship and timely sharing of important information (Raento, Oulasvirta & Eagle, 2009; Hart, 2013). User data is collected by applications in order to enable interpersonal information transfer, thereby making possible virtual spaces and communities. User data is also used for advertising; further concerns lie in how the information is then used, stored, shared, and for what purposes. As a study in rural Uganda revealed, many women reported that the phone they used belonged to their husband (Burrell, 2010). Similarly, preliminary fieldwork on cellphone use by young people in several rural schools in South Africa revealed that mobile phones may be shared so the privacy factor is of concern.[1] Privacy concerns can limit phone access, since rural village life "is marked by the delicacy of social relations" (Burrell, 2010: 239). User data, privacy, and modes of access, particularly in the context of intimate partner violence, should therefore be features that are factored into how (or if) ICTs can be used to combat violence.

# Creating categories for studying and evaluating technologies of non-violence

## Knowledge networks for education, knowledge sharing and alternative media

Forms of knowledge networks vary. Knowledge networks in the form of government or independently led social justice initiatives might deliver potentially life-saving health information to marginalised populations (www.aponjon.com.bd), thereby addressing health crises resulting from social inequality and systemic violence. Other organisations or individuals might employ technology towards the creation of a social media-based community that collects and shares local knowledge on Facebook, Twitter or other networked platforms.

In mapping out the category of knowledge networks, we subdivide the networks into (a) independent/alternative media/education initiatives and (b) collective

knowledge communities. The first form of knowledge networks are typically run by an individual or organisation for the purpose of education and information distribution. This could take the form of an individual "content curator" (Pache, 2011: 19) posting on a blog or Twitter account, or a Facebook group operated by a not-for-profit organisation that curates and redistributes content based on organisational goals as an alternative media service. These same education/media focused platforms can then adapt, potentially, to become the foundational technological support for victims of violence, and for anti-violence protests because of the established communication network of knowledgeable individuals. A notable example is the Arab Spring movement that demonstrated how technology can educate, and promote nonviolence during times of social transformation (Bock, 2012).

The second form of knowledge networks—collective knowledge communities—seeks to create networks of people, and promote collective, democratic knowledge formation (or information sharing). Collective knowledge communities can be created around a cause, a location, an interest or other issue. Such communities usually exist on social media and organise through the use of tags related to the issue or place, and pre-existing personal networks and community groups.[2] They are spaces of collective knowledge-sharing and social creation which might serve as deliberative spaces in which critical discourse might be freely engaged with (Dahlberg, 2007) leading to an interrogation of the systemic nature of violence. A good example of a media focused feminist activist community can be seen in the work of Women Action Media (WAM, www.womenactionmedia.org). WAM has an active presence across many social media platforms including Pinterest, Twitter, and Facebook, and is an example of the employment of cross platform technologies to create an active community of knowledge creation and interpersonal connection. Lewis, Hussen and Van Vuuren's analysis of what they call the Confessions Movement mostly amongst young women across several South African universities highlights a sense of community. They note that "[f]or young women, especially, this forum has provided a crucial space for testimonies of abuse". They further observe that

> *[i]n many ways, then, the widespread use of social media amongst many young women—whether platforms are set up for them or serve broader purposes—creates opportunities for their expression about 'personal' and daily communications that more traditional forms of mobilizing and action tend to neglect. And opportunities for such frank communication about the everyday can offer crucial routes into consciousness-raising and transformative politics among South African women"* (2013: 52).

Individuals and groups also organise social media campaigns using tags—searchable keywords that serve as metadata and are prefaced with a #. Tag-based media campaigns can take place across platforms (e.g. Facebook, Twitter) and cross-device (e.g. smartphone, computer), or be localised to a single device and platform. Instagram, for example, is a social media photography application that can be operated fully only on a mobile device, and that requires users to upload a photo with their tag and/or comment. Public Interest Registry (2014) provides a list of some effective tags

to promote social change; for example #charity draws attention to an organisation, while #changemakers promotes people and their ideas, and #crowdfunding draws attention to collaborative funding opportunities. Tags are commonly used to unite users of a group, or to promote knowledge sharing around an issue, (#childmarriage, #rapeculture), an event such as a conference (#mobilities13), a place, or a campaign (#bringbackourgirls).

## Networks for safety

Location-based intervention initiatives are often designed to address safety and to link people (or crowd-sourced information) in specific places. These networks of resistance are a global phenomenon as we see in a variety of recent initiatives (see Skalli, 2014), such as harassmap.org which uses crowd-sourced data from online reporting and SMS to then map stories of instances of sexual harassment throughout Egypt. Similarly Hollaback! (www.ihollaback.org) uses a mobile app and the internet to create street harassment reporting databases in 36 countries including South Africa. Another app, Circle of 6, incorporates education on relationship safety, GPS location tracking, advice from six trusted personal guardians, and a panic button linked to a support organisation of choice. Recently, Circle of 6 released a New Delhi version of the app that addresses local needs, language and cultural relevancy, following the public outcry after a fatal gang rape of a young woman (Goodyear, 2013). Many years earlier, the Aphrodite project (http://theaphroditeproject.tv/) made use of US military inspired technologies to create platform sandals for street workers who could alert local support organisations of their location should they be in danger. Similarly, Autonets, local autonomy networks, designed by Micha Cardenas and Ben Klunker (http://autonets.org/about/) are wearable and fashionable devices designed as anti-capitalist ways of enabling autonomous organisation for members of marginalised communities so that members might help protect one another from violence.

## Forms of technologies used for non-violence

Technologies used for non-violence can range broadly, and their accessibility, cost, and ownership is similarly wide-ranging. The technology could be independently created DIY, corporately owned or housed, or the product of a not-for-profit organisation. The forms of technologies employed for non-violence are diverse, ranging from those GPS platform sandals with an audible alarm system, hidden compartment and updatable blog interface for street workers to post and search for information about problem clients in order to protect themselves and others (http://www.sexygpsshoes.com/), to call centres and automated educational health text messaging systems (www.aponjon.com.bd), and smartphone apps designed to geo-locate places where violence occurs (www.hrassmap.org). Other possibilities include the use of popular internet media content (such as memes) in social media applications to educate through humour, art, and emotion about violence-enabling social constructs; user-generated media such as YouTube videos and cellphilms produced and distributed with cellphones (see Mitchell & De Lange, 2013); and

Instagram photo feeds with accompanying comments and discussion forums. It is worth noting that completely different technological devices can serve similar purposes. Likewise, similar technological devices can be used in extremely dissimilar ways that may represent diverse theoretical and political needs and beliefs as can be seen in the smartphone app, Circle of 6 (http://www.circleof6app.com/) and the technology-embedded platform sandals (http://theaphroditeproject.tv/).

## Mobile phones and safety and security

Increasingly, mobile phones are becoming an essential means of communication for many, while also providing access to critical services. Mobile phone technologies are perceived by women as being supportive of their freedom and connectedness (GSM Association, 2010) in that they are beneficial to their personal and social mobility, as well as to their safety. There are various SMS-programs and non-internet-based phone platforms that incorporate mobile phone technologies for non-violence. One example is the text and voicemail-based mobile phone project MAMA Aponjon (Bock, 2012; IRIN, 2014). Aponjon, which means Dear One (aponjon.com.bd) is an automated system designed to send text and voice messages with potentially life-saving medical advice to pregnant women in rural Bangladesh, where rates of child marriage, gender inequity, maternal mortality, domestic and sexual violence are high (UNICEF, 2010). Another example of a phone-based initiative is Rave Alert, a cross-device software that allows users on a mobile phone (as well as on a computer or smartphone) to alert their network through phone and social media platforms in the event of an emergency (http://www.ravemobilesafety.com/rave-alert/). A Cape Town-based project headed by RLabs, working with various international non-profit organisations offers mobile support services through the use of JamiX technology (through Mxit and Gtalk) to provide mobile-based chat advice and support service in relation to HIV and AIDS, substance abuse, abuse, and depression ( http://www.rlabs.org/what-we-do/community-work-and-services/).

Although mobile phones are often associated with autonomy, access and personal safety, they can also be associated with harassment, stalking, and control, often by an intimate partner or family member; Essof (2009) provides a detailed account of the means by which these occur in South Africa and in 11 other countries of the Global South. As Hertlein and Blumer observe, "Through technology, a gateway to emotional, physical, and relational control via constant monitoring of one's partner is easily and readily accessible" (2013: 193).

Southworth et al. term this "intimate partner technology stalking" (2007: 835). Some mobile practices connect users to unknown individuals such as the practice of *gesfaia*. (random number dialling), where, in order to make "phone friends" (Jorgensen, 2014: 4), the caller and receiver engage in anonymous intimacy over the phone, a practice which is often frowned upon as promoting infidelity and possibly contributing to harassment.

# Non-internet based networks: Innovative applications of technologies of and for non-violence

Non-internet based networks are a key means of activating technologies in under-resourced areas where infrastructure or economic factors limit Internet access. Typically, offline networks are less reliant on capitalist/corporate or government structures and may be run independently or by members within a specific community or organisation. Thus the sustainability, security, and presence of the technology may correlate with the individuals running it. Offline networks are often established in places where online connection is difficult to access, or where online connections could represent a danger by exposing the identity of users. Offline networks are useful in circumstances in which users face the risk of harassment, or other harmful social ramifications resulting from online association with an issue or cause. The possibility remains that devices and data may fall into the hands of an individual with harmful intentions, or they may be physically intercepted while in transit. Sneakernet is one offline network that is set up through the use of portable computing devices such as Raspberry pi, a USB key, or SD card (a memory card often used in cameras) and a router in order to create a local physical network where content can be created and shared.[3] It is then connected to an outlying community through the physical carrying of devices on foot between communities, collecting users' digital content (that have been created using offline digital devices), and bringing downloadable, shareable internet content to remote communities. Beary and Chopra (2013) use Sneakernet in a girls' education initiative in rural Tajikistan.

### *Smartphones and their applications*

Several social media smartphone applications designed specifically to address violence, Hollaback!, Harassmap, and Circle of 6 have already been mentioned, while Pan (2012) further identifies the apps Not Your Baby, and Guardly. The built-in capabilities of smartphones and apps supporting the creation of media content, cross-platform sharing, rapid distribution and ease of access can also be used to address violence. Popular apps in South Africa include Facebook, Mxit, Twitter and WhatsApp (World Wide Worx, 2014). Camera and video capacities enable the creation of citizen media in the forms of photography, video/cellphilms, and audio content, and allow for editing and distribution through social media, or from person to person. These capacities can also be used for witnessing and recording (including GPS location), and can be re-purposed towards non-violence. Local Autonomy Networks (http://autonets.org) recommends modifying Foursquare settings in order to create private location alert systems for friends and personal networks (http://autonets.org).

There are both advantages and disadvantages to using smart phones and also to their applications in addressing violence. When we are dealing with freely available and popular company-owned mobile applications, we need to remember that there is the ever-present issue of data in applications being legally recorded and maintained by companies and located in other countries, and then made accessible to marketers

and governments (J Castro, personal communication, December, 2013), as well as being vulnerable to being lost, stolen and used in unauthorised ways. Constantly changing user conditions, company ownership, and international laws which have yet to catch up to the digital world mean that user data stored in applications can be accessed by numerous entities, based on the judgments of multiple parties. Despite worldwide concerns over privacy and the protection of freedom (Jónsdóttir, 2013), currently most of the world's social media user data remains unencrypted (Soghoian, 2013). The extent of this was highlighted by the revelations of Edward Snowden regarding privacy breaches perpetrated by American government agencies.[4] The interconnectedness of apps, devices and user usage further intensifies the amount of detailed user data contained within social media applications. The ever growing monopolistic ownership of many social media companies by a single company, as in the case of Facebook, can result in sudden policy change. A particularly disturbing case of illegal uses of user data from interconnected applications was *Girls Around Me*, in which data was collected from Facebook and Foursquare users to create a real-time app that showed where women were (complete with photos and information gleaned from their Facebook profiles) in an individual's local environment; it was dubbed with alternative names such as the stalking app (Stebner, 2012).[5]

## Conclusion

Because of the growing presence of ICT technologies, infrastructural development, and cellphone ownership in South Africa, we conclude that it would be a mistake to ignore the rich possibilities for using mobile and social media in rural South Africa in order to address sexual violence. In our self-confessed cyber-optimism, we concur with Wasserman about the need to avoid a "naïve celebration of resistance" (2011:10) in relation to popular culture in South Africa. At the same time, we see that the evidence supporting the positive application of technologies for non-violence are numerous and also that the risks bear some resemblance to those faced in offline programs to address violence and sexual violence. Indeed, we must consider how in most circumstances, at-risk participants are already engaged in unguided and potentially compromising uses of mobile and social media applications as they themselves reach out for answers and assistance. Although these various technologies include new risks to girls and young women, their established presence in girls' daily lives, and in the lives of many of us faced with violence, and the continued widespread adoption of these technologies, is reason for education around safety and effective use, and for the development of applications for non-violence. Indeed, given the gender gap in access to and use of information and communication technologies, one means of addressing some of these inherent technological risks is through education in digital literacy, and personal security training for girls and young women in rural areas (Jane, 2013). Such measures include teaching them how to obscure identity online and how to use various techniques to control or confuse shared information as can be seen in the Online Safety Toolkit (http://www.onlinesafetytoolkit.com/). At the same time, concerns should be raised regarding safety measures that are based on the silencing

of women. Expectations that girls and women obscure their identity in order to protect themselves (reminiscent of victim blaming) are symptomatic of a larger systemic problem. At the same time, as Lewis et al. highlight, Facebook, Mxit and Whatsapp may offer possibilities for new alliances, and across different locations: "it is significant that these networks are not dependent on the physical localities that young women share for living or leisure. In this way, social media can offer spaces for association and identification that transcend or challenge prescribed or historically inherited patterns of separation." (2013: 58)

In this article, then, we have begun to lay out a framework for considering some of the key issues attached to addressing sexual violence in rural areas, so that researchers might examine critically the benefits and risks associated with the features of technologies such as Social Networking Services (SNS), along with several of their characteristics including user data gathering, their intimate nature, and mobile ever presence. Although the root causes of sexual violence will not be solved simply by the addition of new technologies, we hope that the promise of this work, located within a framework of technologies of and for non-violence, may inspire the development and testing of new apps and other new software that can respond to rural contexts, and simultaneously lead to a re-imagining of rural spaces that are sites of networked resistance and transformation.

## References

Balfour, R., Mitchell, C. & Moletsane, R. 2011. Understanding rurality in a troubling context: Prospects and challenges. In F. Islam, C. Mitchell, N. de Lange, R. Balfour & M. Combrinck (eds.), *School-university partnerships for educational change in rural South Africa*. Lewiston, NY: The Edwin Mellen Press.

Beary, V. & Chopra, V. 2013. The impact of entrepreneurship education for youth in Khujand, Tajikistan. Paper presented at the Harvard Graduate School of Education Student Research Conference.

Bock, J. 2012. The technology of nonviolence: Social media and violence prevention. Cambridge, MA: The MIT Press.

Brodie, N. 2011. Mean girls get meaner online. *Media and Guardian*. Retrieved on 21 January 2015 from: http://mg.co.za/article/2011-01-21-mean-girls-get-meaner-online

Burrell, J. 2010. Evaluating shared access: Social equality and the circulation of mobile phones in rural Uganda. *Journal of Computer-Mediated Communications*, 15: 230–250.

Dahlberg, L. 2007. The Internet, deliberative democracy, and power: radicalizing the public sphere. *International journal of media and cultural politics*, 3**:** 47–64.

Edouard, E. & Edouard, L. 2012. Application of information and communication technology for scaling up youth sexual and reproductive health. *African Journal of Reproductive Health*, 16(2): 197–205.

Essof, S. 2009. South Africa: Violence against Women and Information Communication Technologies. *Association for Progressive Communications (APC)*. Retrieved on 1 July 2014 from: http://dev.genderit.org/upload/ad6d215b74e2a8613f0cf5416c9f3865/south_africa_APC_WNSP_MDG3_VAW_ICT_ctryrpt_1.pdf

Goodyear, S. 2013. In wake of New Delhi rape, an app to protect against sexual violence gets a makeover for India. Next City. Retrieved on 1 July 2014 from: https://nextcity.org/daily/entry/in-wake-of-new-delhi-rape-an-app-to-protect-against-sexual-violence-undergo.

Groupe Speciale Mobile Association 2010. *Women and mobile: A global opportunity*. London: Groupe Speciale Mobile Association.

Guse, K., Levine, D., Martins, S., Lira, A., Gaarde, J., Westmorland, W & Gilliam, M. 2012. Interventions using new digital media to improve adolescent sexual health: A systemic review. *Journal of Adolescent Health*, 51: 535–543.

Hallman, K., Kenworthy, N., Diers, J., Swan, N & Devnarain, B. 2013. The contracting world of girls at puberty: Violence and gender-divergent access to the public sphere among adolescents in South Africa. *Population Council Working Paper*. No. 25.

Hart, L. 2013. Instant analysis: Mobile photography as a research method. *Canadian Art Teacher*, 12(1): 24–27.

IRIN 2014. Text and voice messages help close Bangladesh health gap. IRIN: Humanitarian news and analysis. Retrieved on 1 July 2014 from: http://www.irinnews.org/printreport.aspx?reportid=100286.

Hellström, J. 2010. *The innovative use of mobile applications in East Africa*. Stockholm: Sida.

Hertlein, K. & Blumer, M. 2013. *The Couple and Family Technology Framework: Intimate Relationships in a Digital Age*. New York: Routledge.

Ito, M. & Okabe, D. 2005. Technosocial Situations: Emergent Structurings of Mobile Email Use. In M. Ito & D. Okabe (eds.), *Personal, portable, pedestrian: Mobile phones in Japanese life*. Cambridge, MA: The MIT Press.

Jane, N. 2013. *Huge Gender Gap Exists Online: UN Report.* [Web log post]. Retrieved on 8 October 2013 from: http://women2.com/2013/10/08/huge-gender-gap-exists-online-un-report/

Ibrahim, Y. 2008. The new risk communities: Social networking sites and risk. *International Journal of Media & Cultural Politic*s, 4(2): 245–253.

Iwilade, A. 2013. Crisis as opportunity: Youth, social media and the renegotiation of power in Africa. *Journal of Youth Studies*, 16(8): 1054–1068.

Jónsdóttir, B. 2013. Innovation in 21st Century lawmaking. Paper presented at the Participatory Condition, an International Colloquium, McGill University, Montreal, Canada. 15 November.

Jorgensen, D. 2014. "Gesfaia: Mobile phones, Phone Friends, and anonymous intimacy in contemporary Papua New Guinea." Paper presented at the Meeting of the Canadian Anthropological Society (CASCA), York University, Toronto, Canada. April.

Kuzma, J. 2011. Empirical study of privacy issues among social networking sites. *Journal of International Commercial Law & Technology*, 6(2): 74–85.

Lewis, D., Hussen, T. & van Vuuren, M. 2013. Exploring new media technologies among young South African Women. *Feminist Africa*, 18: 43–64.

MacEntee, K. 2014. Using cellphones to discuss cellphones, sex, risk, and female heterosexuality in and around schools in rural South Africa. Paper presented at the American Education Research Association conference. Philadelphia, PA. April 4–8.

Mitchell, C. & De Lange, N. 2013. What can a teacher do with a cellphone? Using participatory visual research to speak back in addressing HIV&AIDS. *SA Journal of Education*, 44(4):1–13.

Mobile Alliance for Maternal Action (MAMA) 2014. *Half a Million Bangladeshi Moms Now Benefitting from Health Messages to Their Mobile Phones as MAMA Celebrates Significant Milestone*. Retrieved on 26 May 2014 from http://www.mobilemamaalliance.org/node/756#sthash.WKJa4xtK.dpuf

Moletsane, R., Mitchell, C., Smith, A. & Chisholm, L. 2008. *Methodologies for mapping a Southern African girlhood in the age of AIDS*. Rotterdam: Sense.

Mugo, K. & Antonites, C. 2014. #FillThisSpaceIfYou'reAnAfricanWoman. *Agenda: Empowering Women for Gender Equity*, 28(1): 29–36.

Ngolobe, B. 2010. Women in Uganda: Mobile activism for networking and advocacy. In S Ekine (ed.), *SMS Uprising: Mobile Phone Activism in Africa*. Nairobi: Pambazuka Press.

Pache, C. 2011. Content curators: The DJs of the web. *Journal of digital research & publishing*. Retrieved on 1 July 2014 from: http://ses.library.usyd.edu.au/bitstream/2123/8137/1/DRPJournal_5pm_S2_2011.pdf

Palmer, D. 2012. iPhone photography: Mediating visions of social space. In L Hjorth, J. Burgess & I Richardson (eds.), *Studying Mobile Media: Cultural Technologies, Mobile Communications and the iPhone*, New York: Routledge.

Pan, J. 2012. 6 Safety apps every student should download. *Mashable*. Retrieved on 26 September 2012 from: http://mashable.com/2012/09/26/safety-apps-for-students/#gallery/6-safety-apps-every-student-should-download/50d33650b589e40263004cbd

Poitras, L. 2014. *Citizenfour.* (Film documentary). USA.

Public Interest Registry (PIR) 2014. *50 hashtags to spark social change*. Retrieved on 27 January 2014 from: http://pir.org/50-hashtags-to-spark-social-change/

Raento, M., Oulasvirta, A. & Eagle, N. 2009. Smartphones an emerging tool for social scientists. *Sociological methods & research*, 37(3): 426–454.

Skalli, L. 2014. Young women and social media against harassment in North Africa. *The Journal of North African Studies*, 19(2): 244–258.

Smith, D. 2012, South Africa searches soul over alleged rape of disabled 17-year-old girl. *The Guardian*, 19 April. Retrieved on 4 March 2015 from: http://www.theguardian.com/world/2012/apr/19/south-africa-alleged-rape-disabled

Soghoian, C. 2013. The malware industrial complex. Paper presented at the Participatory Condition, an International Colloquium, McGill University, Montreal, Canada. 15 November 15.

Somolu, O. 2007. 'Telling our own stories': African women blogging for social change. *Gender and Development*, 15(3): 477–489.

Southworth, C., Finn, J., Dawson, S., Fraser, C. & Tucker, S. 2007. Intimate partner violence, technology and stalking. *Violence Against Women*, 13(8): 842–856.

Stebner, B. 2012. The 'let's stalk women' app: Creepy 'Girls Around Me' app pulls data from Facebook and Foursquare to find women in the area. *Daily Mail*. 31 March. Retrieved on 14 October 2013 from: http://www.dailymail.co.uk/news/article-2123225/The-lets-stalk-women-app-Creepy-Girls-Around-Me-app-pulls-data-Facebook-Foursquare-women-area.html)

Steinert, R. 2013. *How to build, deploy, and sync ground servers into the Sneakernet using Raspberry Pi*. [Weblog post]. Retrieved on 25 June 2014 http://bell-dev.blogspot.ca/2013/01/fresh-off-press-bell-ground-server.html

Thupayagale-Tshweneagae, G., Nkosi, Z., Moleki, M. & Human, S. 2014. The use of mobile phone technology as an assistive tool for emotional support of adolescents orphaned by AIDS in South Africa. *African Journal for Physical, Health Education, Recreation and Dance*, 2(2): 698–709. Retrieved on 3 July 2014 from: http://reference.sabinet.co.za/webx/access/electronic_journals/ajpherd/ajpherd_v20_n2_2_a9.pdf

UNICEF 2010. *Women and Girls in Bangladesh*. Retrieved on 20 June 2014 from: http://www.unicef.org/bangladesh/Women_and_girls_in_Bangladesh.pdf

Valenzuela, S., Arriagada, A. & Scherman A. 2012. The social media basis of youth protest behavior: The case of Chile. *Journal of Communication*, 62: 299–314.

Wasserman, H. 2011, Mobile phones, popular media, and everyday African democracy: Transmissions and transgressions. *Popular Communication: The International Journal of Media and Culture*, 9: 46–158.

World Wide Worx 2014. *South African social media landscape 2014: Executive summary*. Retrieved on 5 January 2015 from: http://www.worldwideworx.com/wp-content/uploads/2013/10/Exec-Summary-Social-Media-2014.pdf

## Endnotes

1. This fieldwork, part of a University of KwaZulu-Natal Focus Area study, "Through the eyes of women teachers: Indigenous knowledge systems and teaching in rural schools in the age of AIDS": (R. Moletsane, C. Mitchell & N. De Lange), took place in February, 2013.

2. In her dissertation, (tentatively entitled: "Through her mind's eye: Women's views of urban life explored through informal arts education in on and offline social media photography communities") Hart discusses her use of Instagram and Facebook to create a community for networked cultural creation. A similar model could be developed to help combat violence against women.

3. MIT and the Open Learning Exchange (including researchers from the Ole Ghana project) have provided instructions for "How to Build, Deploy, and Sync Ground Servers into the Sneakernet using Raspberry Pis," the estimated total cost for which is $US 170.00 (Steinert, 2013).

4. Laura Poitras's documentary film, Citizenfour (2014), offers a comprehensive account of Edward Snowden and the NSA spying scandal.

5. Although there are numerous areas of concern in relation to apps and online technologies, it is also true that companies like Google have some of the strongest security measures in place, and that these apps are widely in use and remain free and accessible to users because of the high value of user data (Jónsdóttir, 2013).