sw&s | Social Work and Society International Online Journal

A photovoice study on the perceptions among unemployed youth of information technology in Mamelodi, South Africa

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1 Background

South Africa is one of the countries in the world grappling with a high rate of unemployment. In March 2016 Statistics SA reported that the country's unemployment rate has increased to 26.2% which is its highest since 2005 (Masiteng, 2016). According to Merten (2016), young people in South Africa between the ages of 15 to 24 make up the bulk of the unemployment number. Unemployment is caused by several factors including lack of skills and inadequate education.

Mamelodi is a densely populated community in the north-east of the City of Tshwane (Pretoria) and is the 7th biggest township in South Africa (Business Tech, 2016). Townships originated from urban Apartheid practices. The challenges of Mamelodi include a high school drop-out rate, low matric pass-rate and low university attendance (The Mamelodi Initiative, 2014). Like many other townships, Mamelodi has high levels of youth unemployment. Even though the youth are unemployed, they still have access to technology and as such are able to use the information and services provided to better their lives (Duncan, 2013). Policymakers in South Africa have admitted that the solution to the country's unemployment can be solved by creating entrepreneurs instead of more job-seekers. Technology is a valuable tool that will achieve this (Pather, 2014). According to Marchant, Stevens, and Hennessy (2014) and Rotman (2013), IT advancement is touted as one of the causes of unemployment.

In this study, the researchers investigated and gained insight into the mindset of the unemployed youth in Mamelodi regarding their understanding of information technology. The interest in this topic is to understand how the unemployed youth view technology, its impact on their lives as well as the degree and the way in which they use it.

Photovoice will be used as a research method where participants document their experiences about their world through images (Bragg, 2012). It serves as a voice to populations whose voices may not be heard in some research experiences and gives them the opportunities to relate their experiences through a series of images captured with a camera. (Harkness & Stallworth, 2013). Photovoice enables researchers to have access to a wider population. It is, therefore go beyond the classic survey and will encourage the creativity and experiences of the unemployed youth (Griep, Baillien, Ysebaert, & De Witte, 2015).

Research Questions

The aim of this research is to gain insights into how unemployed youth in Mamelodi perceive information technology. To do this, the following research questions will be addressed:

- What do the unemployed youth in Mamelodi understand under the concept "information technology"?
- What type of information technology does the unemployed youth have access to?
- What is the extent to which the unemployed youth in Mamelodi use information technology?
- How do the unemployed youth in Mamelodi comprehend information technology influencing their lives?
- What are the factors that would lead to unemployed youth using information technology effectively to gain employment?

2 Photovoice and lifeworld orientation

The research interest is oriented towards the reality of life and the everyday life of the target group, the interpretation of their living conditions, their difficulties and their resources. In this context, Thiersch (1992) in particular coined the concept of lifeworld orientation, which refers "to the forms of coping with and processing problems in the lifeworld of the addressees, to a certain extent to the rules of the game in which the specifications, themes and structures resulting from the social situation, the biographically shaped life experiences and the normative demands are dealt with" (Thiersch 1992 p.12; translation by the author).

Photovoice as a method of qualitative social research can be used to make the addressees' world visible from their perspective and thus - in a systemic-constructivist understanding - to depict and analyse the respective subjective construction of reality (Kraus 2002). In this sense, people document their experiences about the world around them through images taken by cameras (Bragg, 2012).

- Photovoice was developed by Wang & Burris (1997) and had three objectives:
- "to enable people to reflect their community's strength and concerns";
- "to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs" and
- "to reach policymakers".

It is a method where community members take pictures in their community and collectively analyse the issues that the images represent (Strawn & Monama, 2012). It also enables knowledge sharing and deliberations about important issues (Joubert, 2012).

The power of Photovoice is to give participants the ability to convey their own personal experiences and perspectives of their lifeworld, unlike other research methods which pre-empt participants' responses and limit their input (Griep, et al., 2015). Julien et al. (2013) advocate that images are a better way of portraying a community than verbal or written description

alone; photographers are rooted in their communities and they are best placed to represent it through a series of images. With Photovoice, researchers get the insiders' perspective on a particular subject matter which can lead to new knowledge and insights (Nykiforuk, Vallianatos & Nieuwendyk, 2011; Sutton-Brown, 2014).

Julien et al. (2013) explain that involving participants in data analysis empowers them to take control of the project through the use of tangible photographs as the scope and depth of the discussion is richer. Allowing participants to identify themes and codify the information to highlight what they want to bring forward to the policy-maker is a critical aspect of Photovoice methodology.

Photovoice can also be used as a complement to the usual interview or survey methods. The addition of Photovoice can produce richer data than interviews would on their own (Guell & Ogilvie, 2015; Kelly, 2017). In a study to understand the commuting experiences of residents, Guell and Ogilvie (2015) used both interviews and Photovoice. Interviews were conducted first, and the researchers found that the feedback concentrated on one aspect of the participants' commuting experiences such as the practicalities and inconveniences of commuting. In this part of the research, the participants included photos that depict the enjoyable side of their commute. Although one would question the differences in outcomes of the two methods, the argument is that the inclusion of images created a new way for participants to view their commute thus resulting in a multidimensional view of the topic.

3 Relationship between youth unemployment and technology

3.1 Youth unemployment in South Africa

According to Yu (2013), the high unemployment rate among youth is one of the most pressing socio-economic problems of South Africa. Looking back to youth unemployment between the years 2004 and 2011, Van Aardt (2012) finds that the unemployment rate among young people between the age of 15 and 34 years is increasing. This trend is continuing as reported by Statistics South Africa; the unemployment rate of young people between the ages of 15 to 24 years is 54.5% as at the first quarter of 2016 which is a 4.2% increase year on year (StatsSA, 2016). Urban unemployment is caused by a number of reasons. These include lack of economic development, the migration of rural youth to urban areas, a mismatch of skills, quality of education and inadequate skills to search for employment (Mago, 2014; Van Aardt, 2012; Cloete, 2015). According to Yu (2013), unemployment is made worse because the pace of increase in employment opportunities is not keeping up with the increase of the labour force. Unemployment among the youth is mainly due to structural employment (Van Aardt, 2012), which is the economy's inability to absorb the total labour force regardless of the business cycle (Cloete, 2015).

Unemployment has negative consequences such as increases in poverty, crime, depression, suicide and substance abuse (Mago, 2014; Mtsweni & Burge III, 2014). Additionally, youth unemployment slows down economic growth and is a debilitating experience that hinders the youth's ability to lead productive lives (Durant & Powell, 2015). The impact of slow economic growth is seen and felt daily in South Africa. There is no debate that poverty, crime and substance abuse are on the rise in most townships (BusinessTech, 2017; eNCA, 2017; Williams D., 2017). This makes it imperative for the government and private sector to find solutions to increasing youth unemployment.

3.2 Information technology

Mostly information technology (IT) is associated with computers and the internet. In addition to that it has also to do with the management - i.e. acquiring, processing, presenting, storage and retrieval - of information such as vocal, pictorial, textual and numeric through a set of tools. This description will be used as the definition of IT in this research and information technology and technology will be used interchangeably.

According to Ktoridou and Eteokleous-Grigoriou (2011), the technology eliminates the limitations of time and space while increasing flexibility and accessibility to learning and development. It offers the opportunity to reduce social (Joseph & Andrew, 2006; McQuaid et al., 2010; Sithole et al., 2013) and economic (Sithole et al., 2013; Duncan, 2013) inequalities. It is also seen as a tool that facilitates engagement between unemployed people and the government (Sithole et al., 2013). Thackeray & Hunter (2010) propose that young people can use technology as a tool to participate in socio-political matters where they can bring issues, they are passionate about to the attention of society and political leaders.

A relatively new way in which technology can minimise unemployment is through crowdsourcing and microwork (Mtsweni & Burge III, 2014). According to Mtsweni and Burge III (2014), microwork is the outsourcing of labour: intensive, sometimes tedious and repetitive work to unemployed people who are able and willing to do it through digital media (computer or mobile phone). Although these jobs are short-term, the ability to take up more than one job and get paid for it can help in minimising the scourge of unemployment (Mtsweni & Burge III, 2014).

In addition to reducing inequality and unemployment, technology in the form of social media has also been found to reduce the chances of social exclusion (Fieseler, Meckel, & Muller, 2014). Furthermore, social networking contributes to the increased conviction to continue searching for employment (Fieseler et al., 2014).

The other benefit of technology for the unemployed youth is that technology enables a cost-effective and convenient manner for them to interact with the government without incurring additional costs (Wang & Shih, 2009; Wangpipatwong, Chutimaskul, & Papasratorn, 2008). It is also seen as a tool that encourages the youth to participate in civic matters through the creation and implementation of economic and social advancement policies (Fernandes et al., 2007). The government's goal with e-government is to improve information literacy (Newmann, Biedrzycki, & Baum, 2010) and eliminate inequality caused by the lack of technology use (Wang & Shih, 2009). It is important to note that mobile phones play a role in improving access to and use of information (Aker & Mbiti, 2010).

Affordability is one of the reasons that is cited as a barrier to technology usage. A study by Duncan (2013) into the affordability and use of mobile phones in Grahamstown East, found that unemployed youth use SMS, personalised "please call me" messages and missed calls as a primary method of communication. Voice calls are the last resort of communication because most of the time the unemployed youth cannot afford to make them when they need to (Duncan, 2013). Duncan (2013) concluded that the unaffordability of airtime places limitations on the extent to which the unemployed youth can use technology to empower themselves.

Gonzales (2016) cites the inability to stay connected as another challenge among low-income earners who have managed to obtain access to technology through second-hand devices but

experience interrupted service due to limited funds to stay connected to the internet or breakdown of their devices which they cannot immediately repair. This burden of owning and maintaining technology discouraged low-income earners from adopting technology (Gonzales, 2016). Similarly, Hyde-Clarke (2013) learned that even though informal traders run their business using smartphones, they use free services such as "please call me" to get hold of customers or preferred to use text-based communication (Blackberry messenger or Whatsapp) rather than voice calls which are more expensive. To this end, in South Africa, the government is trying to play its role by giving those who don't own technology, access to it through multi-purpose community centres that are kitted up with computers and internet access and a degree of human resources to provide support to the users (Conradie, 1998; Sikhakhane et al., 2005). This attempt may be inadequate due to less skills to use technology which affects the confidence of job seekers and prolongs the low usage of technology among the unemployed (McQuaid et al., 2010). The lack of English literacy and trust are also barriers to technology utilisation by people from low-income households (Newman et al., 2012).

3.3 The impact of technology on employment

Technology advancement has both a negative and positive impact on employment. According to Aker and Mbiti (2010), mobile phones have created new jobs that address the demand for mobile-related services. The increase in network coverage and number of handsets and mobile operators have generated new employment opportunities to service the market (Aker & Mbiti, 2010). On the one hand, mobile phones have also created opportunities for self-employment such as distributing airtime, repairing mobile phones and selling accessories (Aker & Mbiti, 2010). On the other hand, social networking websites (SNW) and job search websites are other methods that people use to find employment (Nikolaou, 2014). Technology creates a platform where people can widen their job search outside the traditional tools such as newspapers, career days etc. (Nikolaou, 2014).

The negative impact is that technology can cause humans to be redundant in some jobs (Marchant, et al., 2014). Rotman (2013) noted that advances in technology have been destroying jobs quicker than it has been creating them. Routine jobs such as clerical work and professional services are being replaced by machine learning, mining of big data and improved analytics (Arthur, 2011; Rotman, 2013). On a daily basis, organisations are finding ways of automating and digitising processes, which will enable them to do many things at a faster pace with fewer people (Arthur, 2011; Rotman, 2013). Ford (2013) alludes to the fact that technology has, in some instances wiped out entire industries and sectors of employment. However, Ford (2013) also notes that in sectors that were disrupted by technology, workers have the opportunity to upskill themselves to benefit from new industries that are created by technology. The question is, where does that leave the unemployed youth who have not even had the opportunity to work and gain work experience.

4 Methodology and research process

With this in mind, the Photovoice method was chosen because it will enable the "possibility of perceiving the world from the viewpoint of the people who lead lives that are different from those traditionally in control of the means of imaging the world" (Wang & Burris, 1997). In this mixed-method study, the qualitative aspect will be used to explain and understand the subject in depth. The qualitative aspect of this study that will be used will be Photovoice to understand the concept of information technology from the real-life experiences of the unemployed youth. The advantage of qualitative methods like Photovoice

is to provide solid information based on real-life experiences of people and to explain behaviour in a greater context. (Palinkas, et al., 2015).

Through the provision of cameras, the youth will be given the freedom to take photographs that represent technology to them, and this will be from their point of view thus making them subject matter experts of their lives and experiences (Foster-Fishman, et al., 2005). By taking photographs, the youth may also capture images that would be difficult to explain when using only one research method (Griep, et al., 2015). Lastly, the opportunity to reflect and discuss the images will lead to co-creation of new knowledge and understanding.

The study is aimed at unemployed youth in Mamelodi between the ages of 18 and 24 years who have completed high school but are unemployed due to various reasons. These young people are in the process of empowering themselves to improve their chances of employment by taking part in the various initiatives that are being offered at the Stanza Bopape Community Health and Development Centre in Mamelodi. This centre was founded as a result of poverty in Mamelodi and runs programmes that empower and strengthen people to become active citizens (Stanza Bopape Community Centre, 2017).

Disposable cameras were given to 22 participants and data bundles to use a mobile phone to one participant. On a date that was agreed upon by the researcher and the participants, Photovoice reflection sessions were held at the University of Pretoria's Mamelodi campus. Twelve participants attended the reflection sessions. They were divided into two groups. For further analysis of the photos, Wang & Burris (1997) recommend the following steps:

- Select five photographs that most accurately reflect their experiences;
- Contextualize each of the selected photographs by explaining what they mean to them; and
- Codify the photographs by sorting them according to themes and theories.

In order to have effective conversations with the groups, two reflection sessions were held. A session lasted approximately two hours. Each began with a debrief, where the researcher asked the participants about their experience with taking pictures, the challenges they had during the process, and how they dealt with them. After the debrief, the researcher asked each participant to select five pictures they would like to discuss. The discussion was based on a pre-determined semi-structured interview.

5 Findings

The primary aim of this study was to examine the understanding of technology by unemployed youth in Mamelodi using the Photovoice method. Figure 1 shows the images as well as the frequency of appearance among photos taken by the group.

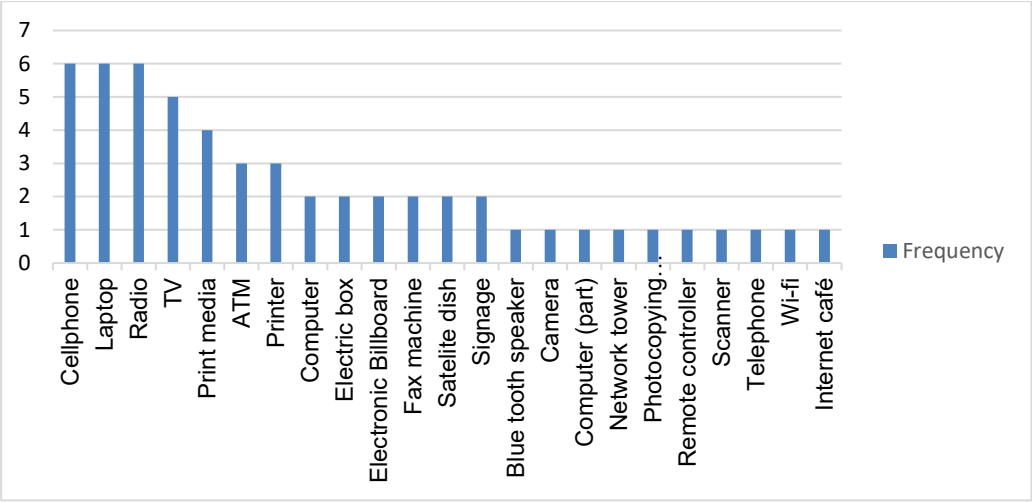

Figure 1: Images that represent technology to the study participants

During the photo-discussion of access to IT, three themes were evident. The first one is the type of IT they have access to, which is depicted above. What is surprising is what a lot of them deem as IT. Print media which was depicted in images of letters, posters and magazines is considered to be IT. For instance a participant took a photograph of a billboard and indicated:

> For me, a billboard is IT because they used technology such as a printer to produce their message. They used laptop or computer to produce it. Along the journey, they used information technology. They used electricity and without electricity the billboard would not exist.

When probed further on why these images are IT, it became apparent through the explanations that their perception of IT is anything that provides information.

5.1 Access to "old" information technology

Observing the pictures, it is evident that the participants predominantly have access to what can be considered as "old" IT. A majority of the participants owned prepaid mobile smartphones with sim cards from different network providers. Among the pictures taken, only cell phones and laptops are "modern" information technologies. The majority of the pictures taken were televisions, radios, scanners and printers and although these information technologies have been modernised, the pictures reflect the older versions of these ITs. An example is an old radio

Where the participant reflected:

> I use it to listen to news, so that I can be engaged more about what is happening to our world, what is happening in our country, politics, soccer, entertainment"

The majority of the participants either have limited or no access. Fifty per cent of those with access; have it through friends, relatives or internet cafes.

5.2 The extent of IT use

70% of the participants mentioned that they use technology for entertainment purposes. The entertainment aspect includes listening to sports, music or community stories on the radio; watching sports on TV and watching their favourite TV shows on TV and cell phones.

50% of the participants mentioned that they use technology to find employment. They do this by sending their CVs to family and friends to assist them in finding employment; searching for more information on the internet about vacancies they were either told or read about.

Among the types of technology that surfaced as the most used to seek employment are laptops, cellular network towers, printers and scanners. A respondent took a picture of a very old cellular phone and indicated:

> With this phone, I get information. When I heard that there are vacancies at the SAPS, I used Facebook and WhatsApp to discuss with my friends to find more information. The phone helps with saving transport money as you get all the information you need without going anywhere.

Similarly, the participant that took a picture of a cellular network tower explained that he lives near one and always has access to WIFI through the city of Tshwane free WIFI service. He uses his cellphone to search for employment. Using technology to look for information was a consistent theme among all participants. The participants mentioned that they use laptops and mobile phones to google information. Participants also mentioned that they are part of various groups on social media which include youth advocacy.

5.3 Impact of technology on the lives

To answer the question, how technology influences their lives, the participants mentioned that technology keeps them informed, simplifies their life, facilitates communication and has the ability to cause harm.In explaining how technology simplifies her life, one participant said that she uses her mobile phone to get information and therefore does not have to go to the community centre where computers are availoable which saves her transport costs.

According to another participant, the ability to send and receive documents simplifies life. In reference to the fax machine, this participant mentioned that she sends her mom her CV and academic certificates to assist her in searching for employment. This view was echoed by another participant about the internet café. In his experience, the internet café is a one-stop-shop. He indicated:

> Internet café makes my life easier because I can browse internet to check what I want then I can print it out by printer machine.

A participant said that with her mobile phone she can "google" whenever she wants to, and she does not have to ask people for assistance. Another mentioned that whenever he requires information and responded:

> I just use my modem to connect to the internet and get the information I need.

Eventually, the topic of facilitating communication emerged i.e. social media platforms. One participant mentioned that WeChat is a platform he uses the most and it gives him access to experts in various fields he's interested in. Whilst WeChat had a positive impact on one, another participant said that her experience with this social networking platform has not been positive. She stated that there are people who have requested sexual favours from her in return for money.

On the negative side, 30% of the participants mentioned that IT could be damaging if it is not controlled.

According to them, unsupervised children watching television can end up watching shows with a high age restriction and that the constant use of mobile telephones distracted them from their daily chores. Lastly, IT has a way of invading privacy as people can get access to information that is not meant for them.

Participants also reflected on the accessibility of technology between the rich and the poor. One participant took a photograph advertising a Sub-Saharan African direct broadcast satellite service. The participant indicated:

> Yes, it improves my life, because at this time we are not economically stable. There are some who are rich and some who are poor. The ones who are poor don't have much information which is found there by the DSTV.

6 Concluding remarks regarding the Photovoice method

Photovoice promotes dialogue with most vulnerable groups to promote critical understanding and action (Sutton-Brown, 2014). The results of such studies not only benefit the participants and the community involved but also contain an explicit agenda for shaping political processes in the sense of social policy making (Uebelhart & Zängl 2017). At the same time, it is enabling and emancipatory for the participants in the study. Through photographs, the participants are able to uncover injustices in society and influence change. Photovoice also offers participants the opportunity to sharpen their critical awareness and develop options for action (Rania et al., 2015). The researcher can therefore immerse in the complex realities of people's lives, concerns and networks (Thiersch 1992).

The Photovoice method has been effective in this research to give the unemployed youth a voice to tell a story about information technology in their lives and community. Their access to technology is limited by the circumstances. The way they use technology is similar to any young person, however, their access and usage are limited. There is a need for community programmes that prioritise unemployed youths' access and use of modern technology and provide them with uninterrupted access. The concerns about the impact of an increase in the digital divide as a result of the Fourth Industrial Revolution there is a responsibility on the government and private sector to ensure that unemployed youth are not left behind. This will create a platform for the government and private sector to prioritise their information technology needs and find ways to fulfil them.

From a research methodological point of view, regarding Photovoice a combination of quantitative and qualitative methods of empirical social research seems to us to be very useful. (Palinkas, et al., 2015).

Lastly, in a Photovoice study, it is essential that researchers pay attention to the ethical concerns raised and plan on how they will be addressed in their research. This is more important in Photovoice because the researcher is working with vulnerable, marginalised and often voiceless communities and as such should take care not to trample on their rights.

Particularly in the context of the profession and discipline of social work, Photovoice can be used as an analysis instrument of living worlds and as an instrument for developing strategies for solving social problems. The method is highly participative in that it consistently involves those affected. Furthermore, through the visual power of the images, it has great potential in the process of social policy making with politicians and in general decision-makers.

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