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Articles

ATHENS INSTITUTE FOR EDUCATION AND RESEARCH
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The current issue is the fourth of the seventh volume of the *Athens Journal of Health and Medical Sciences* (AJHMS), published by the **Health & Medical Sciences Division of ATINER.**

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- **Dr. Vickie Hughes**, Director, Health & Medical Sciences Division, ATINER & Assistant Professor, School of Nursing, Johns Hopkins University, USA.

Important Dates

- Abstract Submission: **23 November 2020**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **24 May 2021**

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Important Dates

- Abstract Submission: **4 January 2020**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **5 April 2021**

Academic Member Responsible for the Conference

- **Dr. Vickie Hughes**, Director, Health & Medical Sciences Research Division, ATINER & Assistant Professor, School of Nursing, Johns Hopkins University, USA.
- **Dr. Carol Anne Chamley**, Head, Nursing Research Unit & Associate Professor, School of Health and Social Care, London South Bank University UK.
- **Dr. Andriana Margariti**, Head, Medicine Research Unit, ATINER & Lecturer, Centre for Experimental Medicine, Queen's University Belfast, U.K.

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Trouble-making, Transformation, and Tradition: A Transcultural Review of Nurse Leaders' Perspectives in the Republic of Ireland

By Victoria Hughes[*], Kimberly Priode[±] & Jennifer Wenzel[‡]

The purpose of this study was to understand nurse leadership development within the Irish context. Limited literature is published related to nursing leadership development within small island countries. Explorative semi structured interviews, underpinned by a phenomenology philosophy, were conducted to understand the ascribed meaning of nurse leadership development experiences within the Irish context. The major themes from this study included: leadership strategies, political acumen, cultural influence, and gender norms. The Republic of Ireland nurse leaders used participatory leadership styles, assertive communication, and political acumen to influence the advancement of national policies, nursing education and advanced practice opportunities.

Keywords: *Nursing leadership development, nurse leaders, professional success, Ireland*

Introduction

Development of nurse leaders is increasingly important with the growing complexity of health care practice environments. Researchers have long recognized that in studying social phenomenon, such as leadership, one must consider the setting in which leadership is practiced (Alvesson and Sveningsson 2003). Examining the past can help us understand the present and even the future. Little information has been published on the leadership development of nurses within small island countries. This study will examine the lived experiences of nurse leaders from the Republic of Ireland. Ireland, which is located between the United Kingdom and the Atlantic Ocean, is divided into Northern Ireland and the Republic of Ireland. The two areas of Ireland have been separated for nearly 100 years, beginning with the Irish War of Independence (1991–1921) from the British state. Northern Ireland is predominately Protestant Christian, but the Republic of Ireland is mainly Catholic Christian religion (Scroope 2007).

According to a report submitted to the Minister for Health and Children in 1998, three major influences shaped nursing as a profession in Ireland: the religious orders of nursing sisters, scientific progression in prevention and treatment of disease, and the life and writings of Florence Nightingale (Commission on Nursing 1998). Proper training of nurses was initiated following the 1879 *Report*

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on Nursing Arrangements in the Dublin Hospitals Receiving Aid from the Dublin Hospital Sunday Fund. The Dublin Hospitals Commission of 1887 implemented the recommendations from the 1879 Report in all voluntary hospitals in Dublin (Fealy 2005). The first cadre of lady hospital superintendents was elite women, who by virtue of their social circumstances and achievements in reforming nursing, became the first leaders of modern nursing in Ireland. Most of these leaders were educated gentlewomen, who received training in the reformed Anglican voluntary hospitals in England, and were daughters of doctors, military officers or gentlemen (Fealy 2005). The first general nursing training schools in Ireland were officially established in 1923 (Leydon 1973).

In 1950 the Nurses Act established the Nursing Board to replace both the General Nursing Counsel of Ireland and the Central Midwives Board and to govern the education and registration of basic nursing programs (Leydon 1973). In 1997, the Commission on Nursing by the Minister of health was established and recognized nursing's contribution to Irish health (O'Dwyer 2007). The Commission on Nursing (1998) recommended the establishment of a National Council for the Professional Development of Nursing and Midwifery, as an independent statutory body, to give guidance and direction in relation to the development of specialist nursing and midwifery post-registration educational programs offered to nurses and midwives in response to the context of anticipated changes in health services (Commission on Nursing 1998). The commission justified the need for the National Council to respond to a constant state of technological, social and economic changes in Ireland and internationally (Commission on Nursing 1998). In 2002, the first Irish pre-licensure nursing degree programs were introduced in universities and colleges. The first cohort of nurse graduates entered the Irish hospital workforce in 2006 (O'Dwyer 2007). During the past 10–20 years of fluctuating financial, political and social changes in Ireland, the nursing profession has adapted, transitioned, and evolved to meet the healthcare needs. In the context of the constantly changing healthcare system in Ireland, nurse leaders were invited to share their views and the experiences that contributed to their growth as leaders.

Methods

Explorative semi structured interviews, underpinned by a phenomenology philosophy (Teherani et al. 2015), were conducted to understand the ascribed meaning of nurse leadership development experiences within the Irish context. Van Manen (1990) posits that we learn from being immersed within the lived experiences shared by others creating opportunities to understand and learn from them. These lived experiences include the inquiry and focus of a process that contributes to nursing practice through the lens of culture (van Manen 1990).

Procedure

As part of a larger Johns Hopkins University IRB approved study exploring European leadership development in four island countries, four Irish nurses employed as leaders in academic, administrative, and advanced clinical roles were interviewed regarding their leadership development. The primary investigator used semi structured, guided interviews with participants to explore and understand their views on leadership development within the Irish culture.

Sample

Purposeful sampling was used to identify four nurse leaders. A nurse leader in Ireland provided an email introduction from primary investigator to nurses serving in clinical, administrative and academic leadership roles. The nurse leaders expressed email consent to be interviewed and later verbal and written consent to participate in the study. All of the interviews took place in Dublin, Ireland at locations chosen by the participants. Three nurse leaders were interviewed in person and one nurse leader was interviewed via telephone.

Data Analysis

This was accomplished by the following: (1) collecting data with the raw data from notes on interview survey, (2) coding and classification, (3) identifying recurrent themes in this study by two expert researchers with the creation of coding trees to illuminate how interpretative themes of leadership were developed within the nursing culture of the Irish, and (4) identifying major themes and recommendations lifted from the context of the coding trees.

The development and utilization of the coding tree from the raw data presented on written transcripts provided a high level of structure. All three authors are experienced qualitative researchers. Each researcher constructed their individual coding tree signifying personal interpretation. The coding process included the task of identifying common words and phrases with the first coding selection signified as the first coding column on the coding tree. The first coding process reflected responses from the participants reaching saturation. Denzin and Lincoln (2018) described the credibility of illuminating the common theme of qualitative inquiry by formulating the saturation of the findings (Denzin and Lincoln 2018). In this study, saturation was accomplished for each theme as each participant was found to have similar responses.

The second axial coding process included these common words and phrases to be linked which allowed themes to emerge and represented by the second coding column on the coding tree. The final coding process, reflected by the third column on the coding tree, included these common themes to be broadly interpreted and sanctioned. As a final review, signifying constant individual and collaborative comparison (Cruz and Higginbottom 2013), each researcher reviewed individual coding trees for further interpretation and confirmation, then

the individual coding trees were shared. Final themes were realized after collaboration between the researchers. Only one disagreement occurred between researchers on the completion of themes for this research. With further review of raw data and discussion about the themes, final agreement was reached. Consensus was based upon a renaming of the theme.

Important for determining validity for any qualitative inquiry is the establishment of rigor or trustworthiness (Creswell and Poth 2018). The rigor for this study was enhanced by constant comparison between two expert researchers familiar with the process. Creswell and Poth (2018) emphasize the importance of an audit trail to establish rigor (Creswell and Poth 2018). The audit trail for this study was established by including written survey notes, the development of a coding tree, both individually and collaboratively, and confirmation of selected themes in the software, Nvivo. Morse (2015) argued that the use of prolonged engagement should be used to establish rigor in qualitative studies (Morse 2015). The expertise of the research interviewers for this study includes the many years of service in leadership positions within both military and civilian settings. Both research interviewers have experienced backgrounds with managerial positions and leadership roles affording their ability to understand, represent, and evaluate leadership development. Prolonged engagement also occurred by the researcher in this study personally interviewing the Irish nurses using an interview guide with the same credible research questions.

Findings

Table 1. *Irish Nurse Leader Themes and Subthemes*

Broad Theme: Leadership Strategies	•**Subthemes** •Inspiration •Influence •Individuals Consideration •Intellectual Growth •Transformatng Nursing
Broad Theme: Political Acumen	•Subthemes •Connection •Reputation/Integrity •Strategies to Influence
Broad Theme: Cultural Influence	•**Subtheme** •Traditional •International influence •Humor
Broad Theme: Gender Norms	•**Subthemes** •Communication Style •Traditional Female Role •Changing Strategies to Succeed in Leadership Role

The major themes expressed through the lens of highlighting lived experiences from this study include: *leadership strategies, political acumen, cultural influence, and gender norms* (Table 1).

Leadership Strategies

The Irish nurses in this study described how they created change within their roles while developing leadership qualities. Participants identified strategies such as role model, establishing a vision, genuine concern for followers, continued professional development, and innovation. For quote citations, P will stand for participant and Q will stand for corresponding question. Examples of being a role model are listed below:

> *"Start off as you need to be. Be the person that you want to be. Do not try to tip toe around people. You have to draw a line. You are no longer the friend but the leader" (P3, Q10).*
> *"Establish what you want. When you know what you want then can negotiate better. It is not about you. Do not take it personally. Stay patient focused and don't down play your influence as a nurse" (P1, Q10).*
> *"Be brave; be bold; trust instincts; be true to self; and connect and collaborate. Don't be afraid to take calculated risk" (P2, Q10).*
> *"Solve problems as they come. Bounce back from the problem and ask for solutions so that people can think on their own" (P3, Q10).*

The Irish nurse leaders discussed the importance of inspiring others. Establishing a clear vision was seen as an important strategy for inspiring others as evidenced by the statements below:

> *"A leader has a vision. (I) evolved as a leader. I saw the need to make changes. I pursued further education to lead the change needed in academic level" (P4, Q1). " (You) need to be a vision maker" (P4, Q4).*
> *"The buck stops with me. I am the voice for nursing (to help create the) strategic vision for next 3 years. (This is) unique for the nursing board" (P3, Q7).*
> *"Because I wanted to make a difference and I was capable. I could influence" (P2, Q1).*

Many of the Irish nurse leaders described a genuine concern for the development of their followers.

> *"Good leaders need to work hard and not be afraid to let others share the credit…a good leader does not produce a climate of fear but of respect" (P4, Final Comments).*
> *"Solve problems as they come. Bounce back the problem and ask for solutions so that people think on their own" (P3, Q10).*

Several of the participants focused on a leadership need to continue to grow, develop, and innovate.

> *"I pursued further education to lead the change needed" (P4, Q1).*

"Felt stifled in job and needed to take on more responsibility. When I first took on the role I did not feel qualified. I went back to do post graduate degree and often worked solo in the clinic. I decided that I needed more knowledge so patients got the best care" (P1, Q1).

The Irish leaders realized that developing as leaders did not occur without the help of others. These leaders described some of the strategies that helped them continue to develop and find a pathway to effective leadership.

"Learned to listen more. (I) tried to get a handle on what did management want and discovered that I needed to be part of the team" (P1, Q7).
"Need people to open doors and need people to support and not chop head off" (P4, Q4).
"Coaching received at a senior level was very beneficial; mentor and a coach in a leadership program really helped prepare and get through difficult situations" (P3, Final).

Political Acumen

The participants described the importance of political acumen as a strategy to implement change and progress the quality of patient care. Comments ranged from personal experiences of facing political barriers with little preparation to learning new improved strategies of managing the barriers within an already established political landscape.

"Still about who you know in Ireland; the connections are your inroad; important to do your homework first or it can end before it starts. Learn to listen better and convince others well" (P1, Q5).
"Learn about politics and how to get things done; recognize your values because they will be challenged and easy to trade out on them; learn conflict resolution skills" (P4, Q10).
"Good reputation needed for opportunities; personality style; need to have a combined hard and soft side; need straight speaking (direct) with political acumen; know how to make a pitch to the group without aggression or undermining individuals" (P4, Q5).
"Government role needs long term goals and influence of political perspective. Would have to really understand the Minister's view and influence of policies and plans" (P2, Q7).

Cultural Influence

Aspects of the Irish culture are interwoven throughout participant data. Clearly, culture has a major influence on the nurse leaders' assertiveness when assuming the new role of leadership. One participant commented, *"Culturally nurses are not very assertive in Ireland. Culturally nursing is "nice girls"; if bright want to do medicine. An important part of work is giving voice to marginalized group" (P4, Final Comments).* Irish nurses were described as having a *"special relationship with patients. Irish patients place a huge amount of belief and trust in*

the care they get from nurses. (We have a) social contract of the care that we deliver and public funded. Nurses are in service" (P2, Q5). Some believed that it was not within their comfort zone as a nurse to speak up or speak out about an issue. They were afraid of being seen as, *"rude or disrespectful" (P1, Q6).* These participants commented on Irish culture and its impact on nursing, as well as changes over time. One participant observed, *"20 years ago silo culture in Ireland. (It) has changed. (Irish nurses have) adapted to more cultures and (other nurses) working abroad" (P3, Q4).*

Participants commented on how cultural aspects impact perspective on the nurse as a leader and nursing as a profession. One participant stated, *"Irish sense of humor not always understood outside the culture" (P3, Q5).* Another participant stated, *"Irish very quick as a nation to dismiss and criticize health system. (They) see the glass as half empty (and are) quick to complain" (P2, Q6).* In order to be effective, *"(you) need an insider and outsider ability to critic and make changes. (You need to) be a trouble maker in a way that you are invited back for a solution. (It is important to) demonstrate authenticity, honesty, and respect" (P4, Q6).*

Gender Norms

Gender norms among the leadership roles for these nurses were easily realized as a theme in this study. Power struggles for females in this study, such as leadership role occupancy and power motivation proved to include a learning curve for them as much as it was about learning the process of becoming a leader of which they had no prior training. This study parallels the findings of Schuh et al. (2014), in which females were found to be underrepresented in leadership roles with little to no convergence of leadership occupancy or motivation (Schuh et al. 2014). For example, the evolving social structure of the Irish culture afforded little to no preparation for females to obtain leadership roles and many felt ill prepared even with some training for the role. The nurse leaders often reported a lack of orientation or any type of leadership training prior to moving into the role. Some participants described strategies for transitioning from a "female" nursing role to a "male" leadership role.

> *"All of the clinical nurse managers were religious women who were feminist and they pushed me for a degree; 1st woman with first degree with hospital support and teaching qualifications; need people to open doors and need people to support and not chop head off" (P4, Q4).*
> *"Nurse leaders taking on male attributes; more aggressive and more ego "I" values rather than participative values; politically engaged more aggressive; when not aggressive takes longer for value to be recognized" (P4, Final Comments).*

Discussion

The historical influences on the development of nursing from religious order sisters and Florence Nightingale in the Republic of Ireland can be seen in the discussion and themes of cultural influences and gender differences. However, the

advances in medical treatment and prevention provided opportunities for nurses to take on more independent practice roles within the healthcare system. Strong nurse leaders within the Republic of Ireland identified these opportunities and took action utilizing strategies such as participatory leadership style, assertive communication, and political acumen to influence the advancement of national policies, nursing education and advanced practice opportunities. Some examples of nurse leadership successes include being a founding member of national organizations, developing one of the first master in nursing programs, and creating safe nurse staffing and clinical protocols. These leaders opened doors for other nurses to have greater influence on enacting leadership roles. Nurse leaders worked to develop frameworks, such as the one developed by the National Council for the Professional Development of Nursing and Midwifery, to enact advance practice leadership roles (Higgins et al. 2014). Furthermore, the advanced practice nurses became members of local and national committees where they were able to shape healthcare reform and further develop nursing as a profession (Higgins et al. 2014). The impact of the leaders' actions was transformative in Ireland.

Even though these nurse leaders had a great impact on the progression of nursing within the Republic of Ireland, the female representation in Ireland in leadership roles appears to be lower than other countries. According to the Irish Management Institute (2018), female representation on boards of indexed companies in Ireland (13%) lags far behind the other European countries with the United Kingdom at 28.4%, Sweden at 36.1%, and Italy at 33% (Irish Management Institute 2018). In fact, women make up 16.3% of the Chief Executive Officers globally (Irish Management Institute 2018). One of the inhibitors for women moving into executive leadership position in the study was identified as women being less vocal (Higgins et al. 2014), which is one of the aspects of a lack of assertiveness in communication. Although the Irish Management Institute (2018) recognized that women generally have more of the qualities needed to be effective leaders, mentoring, coaching and sponsorship are strategies proposed to help women navigate through inhibitors found within the leadership development system (Irish Management Institute 2018). Some of the barriers for nurses moving into leadership roles within the United States and Europe may be related to some of these same gender norms. Utilizing political acumen within the cultural context to place nurses within national and international healthcare committees might be a viable strategy for other developed nations seeking to increase the influence of nursing as a profession.

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Understanding the Seriousness of 'Self' Identity and Changing Process of HIV among Zambian School Teachers Living with Antiretroviral Therapy (ART)

By Sanny Mulubale[*]

Identity is often told through socially positioned narratives that take a biographical approach. Biomedical studies, though, tend to portray the 'self' of people with chronic illnesses from the physiological and clinical perspectives of effective diagnosis, treatment and care. Such perspectives may not provide adequate models for people with chronic illnesses to theorize, perform and live selfhood. The aim of this paper is to explore ways through which HIV positive teachers position themselves in their representations of life on ART, and important framings of identity that emerge. Semi-structured interviews with 41 HIV positive teachers (20 women and 21 men) in Zambia aged between 25–55 were conducted in an attempt to explore narrated sense of 'self' for individuals with HIV and on antiretroviral therapy (ART). A thematic analytical approach on different issues was employed. The ART practices around HIV were associated with, for instance, positionings within a supportive biomedical citizen-state contract around HIV treatment, in relation to de/professionalisation, in relation to 'accepting' or resisting lifelong medication. Positionality of the self -identity of living with this treatable though not curable virus, showed some high level of convoluted sense of being and representations of everyday lives on ART. The overall argument here is that identity issues among HIV positive teachers in Zambia appear to be influenced by the importance of community-based health care, by past experiences and present events, and by ongoing uncertainties about their desired futures. Further, the results show that ART is transforming and not removing HIV stigma related issues. Fragmentation and entanglements of identity under contemporary biomedicine and biopolitics seem to shape how HIV citizens live and self-identify. The research uncovers the need for enhanced social support and community-based health care systems in Zambia which will change attitudes and improve self-esteem for people living with HIV, such as the participants of this study.

Keywords: *acceptance, ART, identity, HIV, social, stigma, teachers, Zambia*

Introduction

From a health perspective, there is an increasing belief that people who receive treatment can live perfect lives or return to their 'normal' previous roles, even though the individual's entire life pattern may offer degrees of increasing incapacitation, pain and deterioration (Pallesen 2014). This experience of diminishing health related quality of life in turn creates a new form of identity from the previous state of health, with wider psychosocial implications in the context of identity and health interact in complex and changing ways, and especially through long-term health conditions.

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The core research question for this paper is: How do HIV positive teachers position themselves in their representations of life on ART, and what are the implications of these framings of identity that emerge?

The collective level of societal influence and the agency of an individual such as a teacher, depends on personal health and capabilities. It is now particularly important for the research focus to shift towards more qualitative (rather than quantitative) empirical explorations, in order to describe in depth and understand how people living on medication are finding the meanings of their chronic health condition.

However, research on the impact of chronic illnesses has mainly dealt with how specific disease conditions have been hampered by some health measures or the performance of activities of everyday living, rather than being framed within the context of identity. Studies suggest that people undergoing treatment do establish new forms of identity associated with the disease (Larsen 2016: 70, Gois et al. 2012: 34). Generally, the central ethical component in any biomedical model is the clinical diagnostic search for abnormalities, without any consideration of the medical implications for social, political and economic normality. As Nye (2003: 120) suggests, 'diagnosis [in medicine] defines the boundary of the normal', but these boundaries are malleable and subject to socially constructed interpretations. This implies that medicalisation shapes how individuals and groups make sense of institutionalised practices within socio-political structures. Thus, the process of laying down the boundaries of pathology and norms in bodies and behaviour is a social construction, albeit influenced by medical discourse and determinism (Turner 2000).

Identity involves claims, beliefs and processes about and of personal and social cohesion that inspire action (Mulubale 2017). The context of the research on identity described in this paper is the affirmations of group or individual particularities and desires for belonging, power and recognition (Parker 2005, Woodward 2003) that occur alongside chronic illness. Any potential fixed sense of identity, tied to specific states of health, illness and disease, is disrupted by chronic illness, which also produces more fluid notions of the self (Mulubale 2019a). This study will focus on identity because we are interested in the way in which structured roles can render the self-vulnerable, socially and professionally, in conditions of chronic illness.

The above understanding of identity is related to stigma and self-perception, though not key concepts of this study these need to be described. On one hand, stigma is the as applied here signify the ways that shape how friends, health workers or communities treat people living with HIV (Flowers et al. 2006). On the other hand, the theory of self-perceptions is utilised in the context of knowing how participants understood themselves first as individuals living with HIV and on ART, second as teachers with social networks that shape roles, attitudes and expressions which can also be influenced by external spill-over effects (Dagli-Hernandez et al. 2016). The theory of self-perception is connected to stigma because it influences the manner in which people understand themselves, their identity and others.

As earlier indicated, this study is on Zambian teachers who are living with HIV. Why Zambia and why HIV positive teachers? Zambia is used here because the country is part of the Sub-Saharan region, which has the highest rate of people living with HIV and on ART. Also, because Zambia represents about 4% of the world's people receiving antiretroviral therapy (UNAIDS 2015). Justification for working with/in Zambia is around the difficult of HIV 'citizenship' and development implications of a largely managed HIV epidemic in low/middle income countries such as Zambia – which has been unclear in literature and contradictory in scholarly debates. At present Zambian teachers as a target population of this study offer an illustrative analytical framework because they constitute an interesting but also complex group with diverse needs and privileges. With regard to working with teachers, though there is 'conceptual' justifications, interest in this sample also draws from teachers being a risk group which was highly hit by HIV pandemic in the 1990s and middle 2000 – due to enjoyment of a level of social status, mobility and school deployment away from spouses (Kelly 2000, Carmody 2004).

The multiplicity of identity in biomedical processes leads to the categorisation of populations. For instance, being HIV positive can lead to a clustering of personal feelings of self-esteem and social co-constructions of identity that emanate from spaces such as schools for Zambian teachers on ART (Cast and Burke 2003, Munachaka 2006, Flowers 2010). In politics, the dynamic consequence of shared societal values is capable of inducing another sense of nationality called 'ethnic citizenship', whereas in biopolitics it can generate what we refer to here as therapeutic citizenship (Nguyen 2008), as discussed later. The notion of biopolitical identity and its linkage to various forms of citizenship is twofold: first, the transition from awareness of individual illness to health consciousness; second, the move from a specific disease to the formation of a group membership based on similar treatment regimens (Collyer 2015). In this view, identity is both a process and an outcome of deeply felt personal illness and public health records that give meaning to biopolitical and social life (Wahlberg and Rose 2015, Whyte 2015, Nakata 2013).

The extent to which an HIV-citizened person can develop either a positive or a negative attitude towards their own identity is shaped by resisting the normalisation of HIV amidst effective ART. That is why addressing people based on their biological condition in some communities is seen as stigmatising, discriminatory, shameful and undesirable in the search for social harmony and mental wellness.

Using a social identity perspective, this paper unpacks the elements that shape narratives of selfhood among individuals diagnosed with HIV in Zambia. The foregrounding in this study of this concept – identity – makes up a significant part of this article's theoretical framing and analytical approach.

Having situated the central concept above, the next section will start by describing the methods and justifying their application in conducting and analysis of this study. Second, the findings of the research are explicated using a thematic approach. Third, a discussion of the findings is given arguing that HIV

representations are an identity issue which brings together a sense of difference but also offer new possibilities for better and healthy lives.

Methods

Research Strategy and Design

Qualitative approaches of research strategy were followed in this study. This study employed a broadly descriptive design for fieldwork, which involved semi-structured interviews to access current representations of living on ART and with HIV in Zambia. The choice of a descriptive qualitative design was rooted in the need to elicit detailed and wide-ranging data about the little-investigated and little-understood effects, across people's lives, of living long-term with HIV and ART in the global South, specifically in the context of maintaining professional employment at the same time. This descriptive process was achieved by being non-judgemental and non-interventionist in obtaining data, and being as comprehensive and close to participant representations as possible in data analysis, which started with micro elements thematic analysis (Braun and Clarke 2013, Bryman 2016). This study is qualitative and uses a descriptive design, as it empirically engaged Zambian teachers' representations of their experiences of HIV.

Participant Recruitment

Participants were also selected on the basis of their being in work and living at home but not physically frail. It is important to note that the demographic categories – gender, age, teaching years, qualifications and location (Table 1) – were all collected at the end of the interview, so that these categories were not foregrounded to participants as significant for the research, at a time when researcher had no means of knowing their significance, if any.

Study Population

The tabulation of the sampled population is as follows: Forty-one HIV positive teachers (21 men and 20 women) aged between 25 and 55 who were from both urban and rural localities. Most of these had served as teachers for average number of 5 years and more. Sixteen had a diploma education qualification. Also, 16 had late diagnosis, mostly when they were very ill and are now on continuous ART therapy. Thirteen participants have been on ART for 10 and more years. Also, there were 24 participants who had late diagnosis of HIV but continue to live health lives, hence ART is increasing longevity and health. Table 1 shows some demographics of the participants.

Table 1. *Demographic Characteristics*

Gender	**Age**				**Location**		**Education**			**Years of taking ART**			**Diagnosis period**	
	>20	>30	>40	>50	Urban	Rural	Cert.	Dip.	Deg.	>1	>10	>20	Early	Late
Men (n=21)	2	9	9	1	12	9	2	16	3	16	2	3	5	16
Women (n=20)	0	8	11	1	8	12	0	20	0	12	4	4	12	8

Collection and Analysis of Data

Fieldwork for this research was done between May and September 2017 under a commonwealth scholarship programme. The researcher is a Zambian scholar who at the time of working on this study was living in London. Semi-structured interviews that were used in this study lasted between 30 and 60 minutes with 41 HIV positive teachers from different localities of Southern and Western Zambia. The interviews were all conducted in English, which is the official language and medium of instruction used by teachers in Zambia. Questions in this research were open-ended but not too broad around key topics such as physical, psychosocial and material aspects of life on ART. These questions moved from the general to the specific, so as to strengthen arguments with not only information but also examples. The open question asked at the end gave the informants a chance to reflect, thereby (in)validating (most) ideas by participants previously discussed and perhaps addressing topics not focused on in the interview structure.

Coding transcripts in NVivo involved creation of categories derived from initial theoretical framing. Thus, the coding process was guided by the conceptual framework of identity. From the codes, the processing data moved to generation of themes which were supported by emblematic extracts from within the coded transcripts.

A combination of inductive and deductive approaches was used, to allow the themes to be determined by the data itself as well as initial theoretical frame. Aspects of the interpretation operated through distinct themes of interest with theoretical considerations of identity shaping all these different areas. The deductive analysis was guided by theory, in step six of Table 2, while the inductive approach was shaped by the interview topics, especially around steps three and four shown in Table 2. In the findings both theory and interview topics to some extent merged in the discursive section as to support key themes of the analysis. Therefore, findings are accounted for and results presented separately from discussions of the process of analysis.

Table 2. *Six Steps in the Analytical Procedure*

1	Transcribing of audio interviews
2	Transferring softcopies of transcripts into NVivo software
3	Creating codes in NVivo based on responses from interviewees
4	Looking for specific dominate categories that informed themes
5	Moving codes into categories
6	Generating themes that aligned with quotes, theory, literature and statements across the data

Thematic analysis of data was used in this study. This was primarily because it is a highly flexible framework of analysis (Braun and Clarke 2006: 78). The aim of this research was to identify patterns of meaning through six steps analytical procedure shown in Table 2. This process allowed for a complex and more diverse approach of understanding this study's qualitative data (Braun and Clarke 2013).

Ethical Consideration

Gaining ethical approval for this study involved submitting an application to ethics research committee of the University of East London. The researcher's role was to uphold confidentiality, anonymise responses as well as let the participants speak freely, to talk about their experiences with someone they were meeting for the first time. Full acknowledgement and adherence to the University of East London's code of research practice before and after being cleared to conduct this study, was ensured by the researcher. For example, any personal identifying information was removed from the data and quotes used here have pseudonyms. The ethics approval reference number for this study by the committee is *exp 1617 09*.

Study Limitation

The process of doing this study had some limitations. In the field, and due to the secrecy that surrounds HIV and living a positive life, some participants were very reluctant to sign the consent form before knowing the kind of questions they were going to be asked, and so they insisted on interviewing first then consenting later – such a contradiction. Two-woman interviewees did not feel comfortable with being audio-recorded; thus the researcher had to take down key points, with the limitation of not having the transcript to go back through what they had shared during the course of the whole interview. The research also does not claim to be representative of all HIV positive teachers in Zambia. They are accounts of individuals who willingly participated in this research. Therefore, caution in the interpretation of results and analyses must be considered.

Results

When responding to how they handled any effects of being HIV positive, the need to take ART and experiences of ART, most interviewees reflected on the principal reasons for their desire for survival and to live a long life. When they were asked about their life motivation; which related to how they dealt with their diagnosis and why they wanted to stay alive, the majority of participants' responses described their senses of survival which were based on aspects of relations with others (family and friends), occupational factors (teaching), educational advancement (going for further studies) and aspirations (desire for a better life in economic terms).

Otherness of Living on ART and with HIV

HIV and ART resulted in feelings of otherness for the majority of participants. Because awareness of being HIV positive constantly came into the mind, and was mentioned by 10 (24%) participants as making them think they were different. Many informants described how having a virus in their body made them develop a sense of otherness, as reflected in the comments by Mweemba:

> Mweemba (Man, 39): I feel different knowing that I am not leading a normal life. I know that there are some abnormalities in my life, so it makes me different. It is within me. A normal life is where I don't have to think at this particular time I have to take medication, I don't have to worry about taking alcohol, I don't have to worry. And of course, we are talking about the length of my life. Who knows what it would be if I was not in the state I am today. Talking of social life, one or two things I have refrained from. Beer drinking and just the way I interact with the outside. Of course, not to convey the message that this is my status. I have not told the general public my status.

It is interesting that participants described their actions and experiences of living with HIV and on ART so extensively in terms of people who are HIV negative. Although individuals made decisions and had the freedom of self-care (i.e., taking medication, avoiding risk behaviour and not missing doctors' appointments), it is the HIV negative individuals' stigmatising and socially isolating reactions regarding their condition that mattered.

HIV redefines psychosocial configurations in interpersonal relations and communities. For six participants, not having any family support had some negative effects on their mental and physical health. For example, absence of material support such as food led to some participants not having adequate meals which resulted in frail and visible side effects of taking medication without a balanced diet. Similarly, lack of family support can be associated with participants' own difficulties in acceptance, as found by Bond et al. (2016).

The use of 'we' by several participants in their responses refers to HIV social identity and group solidarity, which demonstrates that cooperative societies existed even before free ART access programmes. Contrarily, Mutukwa's words below clearly highlight the social complexity of interacting with others when one is on ART and living with HIV, from the local to the national and transnational. The quote below further illustrates how HIV status marginalises and stigmatises individuals.

> Mutukwa (Man, 39): Once people know that I am on ART, it becomes a problem. Let me give you an example. I might be in a group and pass a comment about a beautiful woman. If people know my status, they might remind me and say, 'you are HIV positive and so you are not supposed to think of sleeping with her'. If I ask such a person who told them that I was on treatment, they might say, 'I am just joking'. That would embarrass me, and I would know that people are talking about me. I think Zambia is not like other countries, actually the whole of Africa is still a problem when it comes to disclosure. If I disclosed my status to someone, they would tell other people about me, and I would be stigmatised. They would not even want to

> share cups with me. […] I am not imagining [these things] are happening. I hear people telling each other that they should not give someone a cup because they are HIV positive. I have seen people being stigmatised. […] If I disclosed my status to someone, they would tell other people about me, and I would be stigmatised. They would not even want to share a cup with me.

Based on the extract above, HIV status is still a basis for marginalisation and stigmatisation for individuals or groups. It can be argued here that HIV disclosure is not a one-time event, but a process affected by medical factors and social relations. It seems time and physical place too can enhance feelings of stigma and experiences of discrimination. Self-reconstruction and non-disclosure in order to conform in various spaces were necessary for the majority of participants. Non-disclosure is part of stigma management of an HIV status, especially at work place, as reflected in Mbaeta's remark:

> Mbaeta (Woman, 33): I do not trust some people. I think it will affect my work, because there are certain people who would tease me or something like that, and I would lose concentration at work. The problem is, we don't disclose to anyone. But there are two teachers who are also on ART who are very friendly, and we talk and chat.

The quote above reflects the difficulty of group solidarities due to anticipated stigma, and the possibility of socialising based on being on ART. For example, teachers generally project themselves as role models in society, yet being HIV positive is associated with stigma and self-stigma, breaking communal or social moral norms, and generating guilt about behaviourally acquired HIV, as noted by Sumbwa:

> Sumbwa (Man, 39): Sometimes I am bothered. Because when I go to get medication sometimes, I don't feel welcome at the health centre. Sometimes when I go to the health centre, I get exposed to a lot of people, and some of the health practitioners do not understand me as a civil servant. This is because some of these people that give us medicine are just caregivers from the community. Sometimes they do not handle us very well. I get delayed by the volunteers because they do not understand that I need to get to work.

Encounters with HIV's otherness start at the hospital, as noted in the quote above. Being seen in open queues of those receiving ART drugs at the hospital, and needing time to get back to teach, adds to both the sociality and (de)professionalisation narratives about living on ART. Additionally, being served by volunteers during hospital appointments was pejoratively described here (and by other participants), as most of these community health workers do not have full medical or nursing training. Sumbwa presented them as non-professionals who were judging the lives of professionals, whom HIV had led them to deprofessionalise.

Both the continuous nature of treatment programmes and the need for social support generate distinct forms of identities. For example, we notice in the findings that at the start of ART, several participants who had adapted fast to the

treatment had had people who helped them through the transition to taking their medicine on a daily basis. Mudenda put family support first, despite prioritising religion:

> Mudenda (Woman, 39): I have selected some members of the family who have to talk with me over the same problem. If I happen to complain, they come and start interacting with me. But mostly I do get my bible and read. And telling my conscious that cannot reverse this situation, but I just have to move forward.

The quote above shows that seeking support from family is significant. Thus, peer groups - consisting of people living with HIV and from clinics by service users - can be alternative in the absence of family support. The need for acceptance from others was high, especially in the early stages of diagnosis when they were coming to terms with their status. In this regard, these results further support the idea that presentation of the self and identity manifestations in HIV is more relational than personal, as also found by Bond (2010) and Whyte (2014: 17).

HIV and ART Affects Social Bonds

The act of concealing and revealing the 'HIV self' is an aspect of stigma management manifested through social identities (Goffman 1963). To gain control over their health condition, participants demonstrated that they needed to monitor themselves in all groups and situations. However, uncertainty over how to manage a long-term medical condition also led to forging resilience through disclosure techniques that were useful, even in workplaces. Disclosing an HIV status to others gave participants a sense of control over their HIV and ART. Consider Sitondo's remark:

> Sitondo (Man, 42): My District Education Board Secretary told me to say these ARVs are just like food, so it is from that angle actually that I take ARVs as food. He used to tell me that food, you see, we take it on a daily basis, so there is no way one can feel stigmatised by self or others for taking food. So, it is that in that sense that I take ARVs as food. Even when I used to go for collection of medicine, I used to hide, but this time I just go openly. […] Because it is psychological. […] If I don't disclose and people start knowing about it, I would feel bad if I hear people talking about it. So, when people talk about it when I have told them, then it does not become an issue. So, it reduces its power on me. Actually, disclosure is a strategy, unless maybe you have a hidden agenda, that if I disclose women are going to run away, but I am already married, so I am not worried of that.

The above remark shows daily acts grounded in ART and directed towards an HIV identity – here, involving a workplace superior providing supportive advice – exercised in a workplace environment.

In order to avoid some external barriers to outwardly embracing an HIV image, co-construction of the self within social collective experiences is inevitable. It is during the reimaging process of self-identity that patients are able to normalise and socialise. The process of constructing a shared HIV image is situational, as

illustrated by Sitondo above. HIV positive teachers experience ART through solidarities and alliances.

Even though it is often done cautiously, the identification of individuals to talk to about an HIV positive condition is empowering. HIV solidarity among participants is about individual premonitions of disclosure. Hence, at the centre of HIV solidarity in the context of identity is trust, acceptance, and being aware that taking ART is not to be differentiated as a problem of others, as found by Bell et al. (2016).

It was clear that being HIV positive involved a lot of psychosocial issues that one needed to confront, and most of these were concerned with relationships. The extent to which participants felt and acted with courage was described in terms of social relations, as Likando put it:

> Likando (Man, 28): I was uplifted and encouraged to learn that I wasn't the only one who was on this kind of medication. When I first learnt about my status, I thought I would die soon. But when my family members and friends, those that had lived for a long time, told me that they have been on the treatment for many years, I realised I would also live long.

It can be seen in Likando's statement that self-identity among participants was at least partially informed by external social forces.

In the data, responses about life motivations or sense of need to stay alive were based on self-representations which differed across interviews. Self-imaging was reported in the light of HIV treatment by 15 participants, who retained a sense of self as largely being shaped by their biomedical condition. However, six described and related their self-image to relations but also attached their professional life of teaching to it. Only 11 directly mirrored narratives of themselves through relationships to family, children and others. More than half of the participants spoke of their personality and hobbies when they described themselves, for example as being humble, forgiving and playing sports. Only one participant was not sure how to describe themselves. Some of the above findings contradict minority of participants' views of identity being shaped by social networks.

What stands out in the above data is that representations of self-identity were equally shaped by external social forces and personal life conditions which may include one's profession as viewed by others and the role it plays in society. However, being a teacher was important to some, in spite of their HIV status. For instance, Pumulo (Man, 48) described himself in terms of being a father as well as a teacher, without bringing his health issue into the picture.

Responses about self-descriptions led me to ask further questions about being and feeling different due to ART requirements. It was striking to note that the majority of participants agreed that they were different from others who were not HIV positive. Only 17% of respondents said they were not different, but they gave reasons that would distinguish an HIV positive person as different.

Participants demonstrated that one was different from his or her previous life before diagnosis, and not the same as an HIV negative person, because of such factors as the following: stigma, spousal abuse, self-awareness of having an

incurable blood-borne virus, weak relationships and losing friendships, fear of ART side effects and death, extra care for a heathy life, as well as psychological changes associated with HIV status.

From the above, it can be noted that awareness of being HIV positive constantly came into the mind, and was mentioned by 10 (24%) participants as making them think they were different. Many informants described how having a virus in their body made them develop a sense of otherness which affected their social relations in either a positive or negative way.

These results reveal two divergent views. The first is that most of the interviewees tried not to see themselves in a different way from those who were HIV negative; second, they acknowledged that owing to ART their lives had a quite different approach from those who were not positive. In this regard, the findings suggest that factors that informants said were reasons for feeling and being different were related to biomedical and mental issues. Overall, it was this sense of being aware that one had a virus – 'something in the body' (in a comment from Nalu, woman, 31) – that impressed as the cause of uniqueness in relation to both one's former self and other people in one's communities, including in the school as a workplace.

Discussion

HIV Identity: Its Constructions and Life Altering Effects

It has earlier been noted that changes in behavioural patterns are associated with ART practices that have been socialised. Social identity changes take place within individual and collective social dimensions of interaction as mediated by medical factors in a given space and time (Tucker and Goodings 2018). Similarly, findings on self-descriptions suggest that medicating bodies is the basis of an HIV identity, self-concept and esteem, created mainly through clinical diagnostic categories of either physical or mental health issues, as shown by Tucker (2009, 2010).

Both negative and positive experiences at hospital reinforce an HIV identity. Self-identity in HIV is driven by medical factors played out through social relations. For example, daily ART management, state control of pandemic policies, and long-term provision of healthcare services make HIV chronic living intersect with community, as shown by Wahlberg and Rose (2015). Findings, such as fear of death and health uncertainty form part of living with HIV that reveal ART as having an identity effect on collective living with a chronic health condition.

The findings on social support reflect a biomedically driven story of identity. Although differently described, the social, political and physical 'health' of participants shared the same basis in living with HIV. Participants generally agreed that their free ART was a right, which also affirmed a framing of social identity driven by HIV. Although HIV identities appear medically fixed, they shift based on social and health fluctuations. For example, the subjectivities involved in

revealing a biosocial image informed by ART could possibly interfere with the way participants carried out their work.

Subjectivities involved in ART experiences can lead to testimonies of a shared identity narrative through medicalisation for possible support and integration. Thus, self-imaging for several participants was predicated on the psychological and social effects of being on ART, which mainly attracted shame and isolation, similarly to findings of Ho and Goh (2017). Also, being 'normal' is questionable for some participants due to their daily therapy to supress HIV and comparing the state of their bodies before the start of their ART, and also in terms of life without HIV. There is tension in syncing social and medical identities. From the findings, it can be maintained that those who succeed in maintaining relationships after an HIV diagnosis have to some extent disclosed and freely incorporated their HIV status in their social networks.

HIV identity provides an initial step to normalisation through disclosure. To receive support, a certain form of social identity needs to be established, recognised, and not integrated into mainstream cultural identity, which goes beyond family and friends to include the workplace and the whole community. Fear of being labelled 'different' and wanting to fit into the social fabric prohibits disclosure and predisposes some participants to self-exclusion.

From the quote above, being HIV positive and on ART can be associated with an internalised form of identity that can be revealed for group inclusion and even exclusion. It was this uncertainty that caused some participants to craft double identities: an HIV image embraced in private, and a professional public-facing image. However, the distinctiveness of populations such as those with HIV can be a basis for recognition through difference from the rest of a given nation.

In this regard, the notion of nationhood finds interpretation in HIV identities through support structures and the sense of belonging created by HIV citizenship. For example, reference to collective ownership of HIV through language, by use of words such as 'we' or 'us' in several interviews, resonates with how identity can be constructed around illness and used as a form of social world that represents a specific group. The need and usefulness of identifying someone for support by participants in their medicalisation process is fundamental for HIV identity.

Identity as a concept holds that differences among people are not only about class, race, gender and place, but also other factors, such as professional status and health condition, determine the degree to which individuals associate with groups and social cooperative formations (Harfitt 2015: 8). The interconnection between the socio-political and the pursuit of personal well-being can be attained through interactions from a health and illness point of view.

In the data from this study, there is a connection between participants' representations of their health condition and their framing of their social relations. The process of transitioning into ART is associated with various forms of representation, but representations of HIV identity outcomes differ based on gender. Eleven men in the sample said they had found it hard to socialise after HIV diagnosis, while women had easily extended social clusters with fellow women, especially those who were also on ART, as also found by Whyte (2014).

Therefore, emphasis on gender as the basis for social group formation and inclusion is high among women participants.

Decisions to collect HIV drugs from a more distant district hospital show the social relations of HIV stigma operating, even in this treatment era (Bonnington et al. 2017). Not wanting to be known to be on ART by neighbours forced some participants to seek treatment in faraway hospitals where they were not resident and not known.

For the majority of participants, identifying some individuals as supportive, and telling them about their diagnosis, helped with adhering to ART and promoting good health practices. Continuous active involvement in social networks of family and friends was key in enabling some participants to test, start treatment and manage a life that was reliant on ART – including through group programmes and peer support. The use of the term 'member' of an HIV sociality is more appropriate than 'client' of an HIV service (Whyte 2014), because 'membership' as opposed to 'clientship' helpfully highlights not only service dependence or utilisation but also important personal relations; the normalising effect of recognising oneself as a member of that sociality.

In the statement above, a sense of normalcy when diagnosed with HIV is situated as an identity and social interaction issue. The normalcy of 'staying healthy' with HIV which implies avoiding opportunistic diseases and adhering to good behavioural practices as well as medication, and the awareness of having a virus, have some underlying intensely social, profession and/or asocial features.

Two things can be noted from the findings. First, it is necessary to have a *mind* (not just a body) that conforms to what society prescribes as normal in order to be considered 'healthy' and not 'ill'. Second, illness is defined by the collective actions of society that specify 'normal', and any deviation from that is deemed as 'illness'. Also, for most participants being or feeling 'normal' through ART is not only a biomedical issue, but also psychological and social aspects which entail absence of mental, physical and relations discomfort.

Identifying others who are also living on ART initiates the process of socialising for individuals and in groups. HIV identities are strengthened by location and gender demographic factors. Reflecting on the self as being different and/or similar to other citizens begins with an awareness of being HIV positive and knowing members in the locality who are on ART, especially through the hospital. Therefore, at the centre of the formation of social groups and the development of kinship ties based on HIV is location, which provides physical spaces for interaction around the diagnosis. The gender dimension of sociality is seen in women's cooperative responses to individuals in a school. Although woman participants associated in groups for recognition, men interacted cooperatively due to biosociality, albeit mainly in secret.

Social class has a direct effect on how HIV identities manifest themselves, as participants formed a sense of self-identity around their diagnosis through their status, economically and socially. There is an association between participants' middle-class status and aspects of social actions that relate to behavioural changes and good health practices. This class-related finding, and its connection to health, is similar to results found by Marmot (2015). HIV medicalisation affects the

immediate social relations of people living on ART and others. This finding on HIV teachers' solidarities has not been explicitly covered in existing research.

Being on ART is and can be used as a criterion for the struggle for acknowledgement, inclusion and respect by those living an HIV positive life, such as teachers in schools. The underlying effects of medicalisation among professions, such as teachers, which continue to limit their abilities to fulfil their role in embodied capital investment by improving acute health problems yet ignoring chronic health difficulties such as iatrogenic disease, bodily pain and constrained socialisation as well as restricted involvement in any physical intensive work, would still lead to a huge demand for private and public interventions to sustain social and economic reproductive activities (Mulubale 2019b).

In addition, improvements as well as crises in a person's and a population's health often have the greatest effects on socio-economically vulnerable groups, such as teachers, who have low wages and are under public scrutiny in society (Brentlinger 2018). Healthy individuals also contribute to the good health of those around them, because they do not become disease burdens, but instead look after others (Marmot 2015, Sachs 2002).

The demands of ART and social reclusiveness are connected. HIV disclosure is to a large extent a source of group formation through mutual recognition by those who are also HIV positive. Additionally, identity aspects in HIV reveal that the institutional setting and social relations of living on ART play a critical role in the disparity of outcomes in relationships, professional networks and competencies, as shown by Whyte (2015).

HIV communities can be established and sustained by an overarching political structure that creates a sense of nationhood. Findings on support suggest that ART has some organising effect, through self-help strategies and larger group strategies; for example, those who are HIV positive may systematise themselves as being one people. This finding that – they are 'one' in the opinions of participants – differs from other studies (Lock and Nguyen 2018, Camlin 2017) that found a more individualised than collective sense of HIV identity and care.

Identity formation is a continuous and not a fixed process in HIV, due to ART demands as well as fluctuating health statuses. The results of this study show that social life is changed after an HIV diagnosis and throughout treatment for most participants. These changes involve reduced peer interaction, reordering of social activities due to being confined, reductions in the size of friend networks, and intensification of close relationships with others who are also on ART. The physical health of participants was a basis for social life changes and the reorganisation of networks of peer groups and allies to include medical aspects, as also found by Whyte (2014).

From the above, it can be contended that HIV identities remain socially situational, institutionally absent and medically subject. Most of the HIV otherness factors identified in this section are related to participants' ART experiences in the past, present and future. When living with HIV, people carry the past with them, and become concerned about themselves in the present and also their future selves. Biological differences related to an HIV diagnosis are essential in the social connections of therapeutic citizenship in the long term (Mulubale 2019a).

ART Transforming but not Removing Stigma

This study found that disclosure was not a one-time event, but a continuous process that was problematic. The theme of stigma and acceptance in the findings relates to issues around disclosure. There are two things that emerge on this topic. The first is that only seven participants who were not thereby seeking support disclosed voluntarily, indicating the situational process of disclosure. Second is the idea that those who feared to be stigmatised disclosed only involuntarily due to circumstances, and also that they had high levels of self-stigma through anticipation of negative disclosure outcomes. This finding on involuntary disclosure seems not to have been explored in previous studies, whereas the results on voluntary disclosure are similar to findings by Bond et al. (2016) and Lyimo (2013: 102).

This study found that stigma in HIV care and treatment has only changed but has not been eradicated, as found by Bonnington et al. (2017). It found, though, that ART was said to have largely eliminated appearance factors associated with stigma by improving physical health.

Explicit questions about disclosure led to responses about the importance of opening up to family, friends and medical personnel, and factors that played into the decision to do so. This finding suggests that people who are HIV positive are now able to consider and predict successfully the effects of family disclosure, as shown by Camlin (2017) and Van der Sanden et al. (2016). In the absence of anticipated social acceptance, participants reported travelling to distant hospitals and always hiding their ART pills, as shown by Elwell's (2016) study. Responses on spousal disclosure were one-sided, as women but not men reported disclosing their HIV status to heterosexual partners, a finding which other studies (Bond 2010, Henning and Khanna 2016) do not mention.

Disclosure made it possible for participants to join HIV communities and created a sense of belonging, as described by Camlin (2017: 4–5). It also appeared that participants who were public about their HIV status had limited adherence difficulties, for instance having the possibility of getting reminders from others to take medication, as found by Bernays et al. (2016) and Kim et al. (2017). Also, disclosure was a strategy for avoiding gossip and embarrassment and having peace of mind, as also shown by Bell et al. (2016) and Bond (2010). Self-isolation due to HIV shame was reported as a key reason for non-disclosure, depression and social withdrawal, similar to findings by Ho and Goh (2017), Hutchinson and Dhairyawan (2018), Vincent et al. (2017) and Wong et al. (2017). These results are distinctive, because they show disclosure as a process and not a one-off event. It is this continuum of disclosure that makes participants anxious about their status, making it an internal and mental health issue that can either be beneficial or be associated with a lack of self-confidence and acceptance of living on ART.

The majority of participants described poor interactions with health workers during ART drug refills as a stigma issue that starts in hospitals – a striking finding at this point in the epidemic.

Conclusion

Identity in ART practices are entangled in social elements of HIV through such factors as stigma. The findings have shown that social difficulties associated with HIV cannot be eradicated by ART effectiveness only. The medicine cannot be the only basis to 'normalise' HIV chronicity, without considering its high mortality legacies and treatment exceptionality in African nations. Hence, the decolonisation of knowledge on identities that relate to HIV here is embedded in the relationality of HIV management, through references to an awareness of interdependence and integral relationships amongst participants in the community of which they have become part. This relationality is about the search for balance and harmony while living on ART and with HIV.

The act of (dis)entangling the psychosocial factors within the HIV community signifies the process of decolonising real (space), imaginary (power) and symbolic (knowledge) attachments to ART (Mignolo and Walsh 2018, Masing 2018). That is why HIV identity narratives, as framed here, refutes the perception that HIV experiences are universal. The findings show that normalisation of ART has a Western origin which describes the global but neglects the local elements that are relevantly attached to ART adherence successes. This study recommends that attention should be given on the importance of undoing medical narratives of HIV normalcy and totalising claims about ART legacies or practices based on pharmaceutical knowledge underpinned by biopolitics and geopolitics.

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What Multi-Level Solutions Can Simultaneously Promote Zambian Mine Workers' Health and Benefits to Mining Companies?

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Employers have long recognized the importance of promoting employee health, as it contributes to an organization's overall success, both in keeping employees productive and in maintaining a higher level of employee retention. Particularly in high-hazard industries, such as the mining industry, employer-sponsored medical services for employees are essential. Despite this crucial role of employee health in successful business enterprises, there is a lack of in-depth published research considering employee health issues from the employees' perspective. Research into healthcare issues in Africa and the African mining industry, with an emphasis on its employees, helps to fill this gap and to identify key factors in fostering better employee health – particularly the health of mine workers – worldwide. Our study research focuses on the Konkola Copper Mines (KCM) in Zambia, Africa, surveying 285 KCM employees and nine management staff in 2016. The study identified the following factors that make company-sponsored healthcare services important both to KCM and to its employees: employee financial protection, employee health and productivity, employee retention, and employee morale. Our findings affirm that multi-level solutions – including strategies that better engage different participants in healthcare services delivery – will more successfully promote both mine workers' health and also greater mining company profits through a reduction in human resource costs. These multi-level strategies can include employer commitment to increasing the quality of company-sponsored healthcare, removing inefficiencies in healthcare delivery and procurement of services, increasing investment in medical equipment, increasing employee and union buy-in, banking and earmarking employee contributions for their more specific healthcare needs, and attracting commercial healthcare sponsorship and pharmaceutical co-branding.

Keywords: *occupational health and safety, health promotion, mining industry, Zambia*

Introduction

Employee health is a multi-layered concern, impacted by a myriad of intertwined social, economic, cultural, political, and environmental influences, perspectives, and priorities. In light of ecological models, promotion of employee health is most effective when these interwoven but often competing issues are targeted simultaneously. Yet, "multilevel interventions that better incorporate social, institutional, and policy approaches to health promotion, have gone largely unheeded" (Golden and Earp 2012: 368). In particular, Zambia has been experiencing high rates of malaria and non-communicable diseases (NCDs) of the

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circulatory system recently, with significant consequences on mortality. In fact, it was estimated that NCDs contributed to 29% of all mortality in Zambia during 2016, while communicable diseases along with maternal, perinatal, and nutritional conditions accounted for 61% of all mortality during that same period (WHO 2018). Over the past 15 years, some newly formed, struggling mining companies in Zambia have been forced to reduce or even abandon social services and amenities, including company-run healthcare facilities for employees. Other mining healthcare facilities have undergone management buyouts, further reducing the direct commitment of their former mining company sponsors.

Many factors contribute to mining companies' indifference to continued operation of these healthcare facilities, including the lack of interest of foreign investors in running health services; poor copper prices on the international market; and increasing costs, particularly operational costs, in the mining industry (World Factbook 2020, Hairong and Sautman 2013). The Zambian mining industry in particular faces challenges in maintaining an aging infrastructure, most notably in healthcare facilities, where demand for modernized equipment, facilities, and services are on the rise. In addition, retaining highly qualified healthcare professionals has posed a formidable financial challenge (Ministry of Health Zambia and EQUINET 2018, Nkombo and Abubakar 2002).

In high-hazard industries such as the mining industry, employer-sponsored medical services are essential to employees, who may have few other feasible alternatives for much-needed general and industry-specific treatments, therapies, medications, rehabilitation, and preventatives. Employer investment in employee healthcare is shown to garner employee satisfaction and employee commitment/ goodwill toward the employer, generally regarded as positives for attracting new employees in often-difficult labor markets (Hendriksen et al. 2016). Nevertheless, beyond these types of studies and conclusions from the employers' perspective, there is a decided lack of published, in-depth research considering employee healthcare issues from the employees' perspective, specifically in the Zambian mining industry. Our 2016 research and survey conclusions fill this gap, investigating various factors that make employee healthcare services important to employees and prospective employees, leading also to benefits for mining company employers. Our research also provides KCM's medical management team and teams in similar organizations with factors to consider when they evaluate which strategies most effectively promote workers' health, so that they can more effectively implement improvements.

Literature Review

Mining Safety and Health

The Zambian mining sector can improve mine workers' health and safety most effectively by treating operational risk management as a full-fledged function within their organizations, while benchmarking advanced operational control methods (Muchemwa and Karim 2017). This coordinated approach requires a

commitment from senior management that safety management programs will be administered effectively and efficiently. To mitigate hazards and the concomitant risks, mining company management should increase employee participation in risk management activities and improve safety training practices (Muchemwa and Karim 2017). Although a wide variety of intervention measures can improve workers' health and safety, a specific targeted intervention method seems to be more effective in reducing coal mining accidents (Tong et al. 2019).

Drawing on an array of historical evidence, Walters and Quinlan (2019) point out that a resistance-model of mobilization can help explain coal miners' motivations for seeking voices on occupational health and safety (OHS) matters. Yet, as an OHS system is bureaucratized, mineworkers lose voices on safety issues. Hence, Stewart et al. (2019) propose a broader conceptualization of OHS, which enables the understanding of its environment in new, wide-ranging practical and political dimensions. In addition to an improved conceptualization of OHS, to protect workers and minimize worker injuries and deaths, mining companies must comprehend how best to comply with high OHS standards, and what methodologies actually work best in practice. A multi-faceted, multi-level health and safety climate survey tool can improve the understanding of OHS outcomes (Parker et al. 2017, Nyström et al. 2018).

To address a greatly elevated mortality rate for former miners in South Africa, Bloch et al. (2018) called for coordinated, cooperative action involving not only the for-profit mining sector, but also governments and nonprofit organizations. Osewe (2015) proposed various forms of issue-focused partnerships to promote the mining sector's adherence to higher health and safety standards. By successfully leveraging these partnerships, researchers argue that the mining industry ultimately would gain, by employing and retaining healthier, more productive workers.

Employee Healthcare

The net gain for industrial employers from improved employee healthcare has been well documented. For example, a recent study of a South African mining company with a high prevalence of HIV in its workforce revealed that the benefits from antiretroviral therapy programs far outweighed the costs. Those benefits included reducing employees' need to use company-sponsored healthcare and also avoiding productivity losses due to worker illness, absenteeism, and turnover (Meyer-Rath et al. 2015). Another benefit for industrial employers from providing health services for employees is that management ensures employees have ready access to more reliable healthcare, to earlier diagnosis, and to timely treatment. This ready access makes it possible for employees to return to work earlier, due to speedier recoveries, again avoiding productivity losses (Ammendolia et al. 2016, Reddick and Coggburn 2007). Michaels and Greene (2013) also confirm that worksite wellness programs promote employee health, helping to reduce an organization's direct and indirect healthcare costs. For example, in another case study of the horticulture industry in Kenya, Kaol and Wambalaba (2011) found

that besides running its own clinic, Homegrown subsidized meals and health services at a total cost of about Kshs 137 million.

Businesses have realized that by failing to invest in employee healthcare leads to substantially higher indirect costs, such as employee absenteeism, lost productivity from added sick days, and even the loss of qualified labor (Troy 2016). Affirming this cost-benefit analysis, a recent study by US companies disclosed that poor employee health cost a whopping 200 to 300% more in the indirect costs than the companies expended in the direct costs of providing better employee health benefits (Porter et al. 2008). Therefore, the overwhelming empirical evidence demonstrates that, despite the significant upfront, ongoing expenditures to provide improved employee healthcare, employers should prefer to maintain employee healthcare plans and even increase benefits, rather than curtailing them or terminating them altogether and incurring substantially greater costs.

Additionally, by directly providing healthcare or managing self-funded plans rather than utilizing third-party healthcare vendors, an organization can dramatically reduce its healthcare costs. The savings stem from fewer administrative costs and better control over healthcare expenditures, avoiding higher outsourcing fees. Moreover, by being closer to the employees and their jobs, an organization can have a far better understanding of employee health patterns, which, in turn, enables the organization to implement appropriate, specific, and more effective preventive and rehabilitative programs. In addition, by having readily available healthcare information, an organization is empowered with a better understanding of actual employee healthcare costs; an organization may better control cash flows, as healthcare payments are made on better-diagnosed, verifiable employee illnesses and injuries (Eyestone et al. 2014, Self-Insurance Institute of America 2009). As an even further benefit, employer-based health coverage protects employees from the financial exposure associated with high medical treatment costs or catastrophic health conditions (Blumberg et al. 2012).

Health Interventions

Improving the quality of health care and service delivery adds value to organizations, as it facilitates better health outcomes for organizational investments (Parker et al. 2017, HRET 2015). According to the systematic view of work organizations, employee health is closely tied to organizational effectiveness. Building a healthy organizational culture is critical to promoting organizational effectiveness and employee health (Di Fabio 2017, Grawitch and Ballard 2016, Sadia 2016). However, creating a culture of health takes passionate, persistent, and persuasive leadership. Effective leadership, healthy behavior, and spirituality achieve more positive results for employees and, ultimately, for their organizations (Son and South-Winter 2018, Dixon-Fyle et al. 2012).

The moral hazard theory argues that when people bear a higher health cost burden, they more deliberately and drastically seek healthcare cost savings (Gould 2013). This quest for savings often is counterproductive and more costly because

an employee's failure to obtain healthcare can lead to greater negatives for the employee and for the organization, including a lengthier and more expensive treatment period, more lost time from work, and possibly disability or even death. Thus, multi-pronged organizational interventions should be aimed at promoting a culture of employee health and safety in multi-dimensional healthcare settings (Gray et al. 2019, Tong et al. 2019). Interventions that adequately embed multi-level worksite wellness programs can improve employee health and work performance (Hendriksen et al. 2016, Bakker and Demerouti 2018).

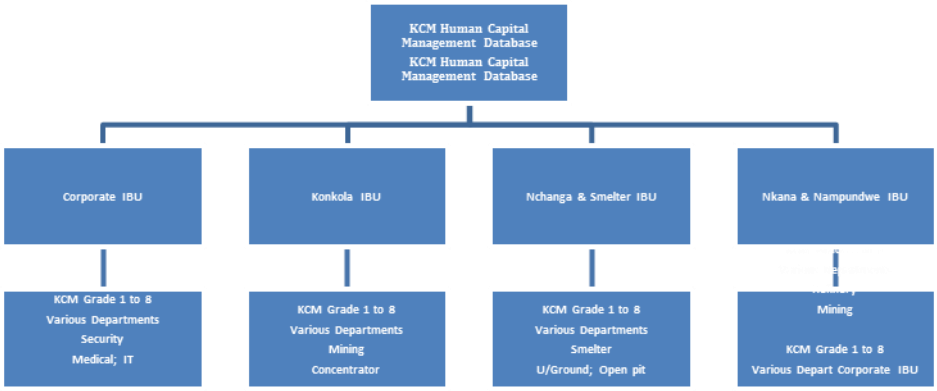
Another significant advantage of employer-based healthcare services is that they reflect positively on the organization's image and social responsibility, not only by addressing employee healthcare needs but also by demonstrating a tangible commitment to the employees' communities. Healthcare services can be a medium for building community trust and better stakeholder engagement, by demonstrating that organizations are developmental and social partners interested in enhancing the welfare of the communities that surround their operations (Murphy 2015). For this reason, mining companies should forge a long-term partnership with their communities and local health authorities, to reduce the burden of disease and illness on those organizations (Osewe 2015). In addition, mining companies should realize that, by investing in public health in surrounding communities, they garner long-term benefits, such as sourcing healthy employees (Troy 2016, Ministry of Health Zambia and EQUINET 2018).

Methodology

We used the descriptive study design to address employer-based health services for mining workers (Prowle and Harradine 2015, HRET 2015). The survey was conducted among KCM employees who were based in the towns of Chingola, Kitwe, and Chililabombwe in Zambia over a two-month period (i.e., from June to July 2016). The KCM company had a workforce population of approximately 7,000 employees in 2016. The study targeted employees at all levels, including senior KCM management (KCM grade 5 to 8) and general KCM employees (KCM grade 1 to 4).

Clustered stratified random sampling techniques were used to obtain a representative sample of the KCM employees, as illustrated in Figure 1. The clustering units were based on the integrated business units (IBUs) or geographical location of where the employees work from. Employees in the respective IBUs were further stratified based on their KCM grade by the proportion (%) of that grade in the entire KCM population and for that IBU. A sample size of 300 employees and 10 management staff in KCM was used for study, based on calculations done from a sampling size table: 95% confidence level and a 5% margin of error and a population size of 7,000.

Figure 1. *Sampling Technique*



Out of a sample size of 300, 285 employees were able to participate in the survey. By gender, participating KCM employees in the five IBUs were 208 males (73%) and 77 females (27%). Most of the KCM survey respondents were from Nchanga IBU which is the largest KCM IBU. The mean age of survey respondents was 40 years old, and most of the survey respondents were between the ages of 31 and 35 years old (20.4%). Survey respondents who were 25 years old or younger had worked for the company for five years or less, whereas the majority of survey respondents over 55 years old had worked for the company for six to 10 years.

For the reliability of survey data, we employed two pretested structured questionnaires, which were self-administered among employees in the various IBUs. Research assistances aided employees requiring translation of the survey questions. Senior KCM management involved in the supervision of medical services also completed self-administered questionnaires. These questionnaires were pilot-tested, to improve both the wording of the survey questions and the overall flow of the survey. Weaknesses were addressed and modifications made, to improve the survey questionnaire before final administration. Data was entered and analyzed for descriptive statistics, using IBM SPSS statistics and Stata statistical software.

Results

Over 62% of the employees who participated in the survey were union workers (KCM 1 to 4). Most of these employees were 45 years of age or younger and had worked for six to 10 years for the organization.

Table 1. *Factors Attributed to the Importance of Medical Services among Employees*

Factor	Rating (%)				
	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**
Provides financial protection	41.5	44.4	5.93	5.6	2.6
Contributes to family members staying healthy	37.8	50.6	5.8	2.6	3.7
Contributes to employees staying healthy	41.7	48.9	4.7	2.5	2.2
Helps employees remain productive	41.3	47.1	7.3	2.9	1.4
Employees choosing to stay or remain in employment with KCM	25.6	39.1	15.3	15.7	4.4
Contributes to employee morale and satisfaction	22.3	46.9	16.8	11.0	2.9
Health Services are easy to reach, utilize; there is no concern to seek other health services	16.8	38.8	15.0	23.8	5.5
KCM medical services are the most valued employee benefits	18.8	37.2	21.7	19.1	3.2
KCM medical services was an important factor in selecting KCM as an employer	13.9	37.9	19.3	25	3.9
KCM is better off financially by not providing employee medical services	3.5	6.3	7.4	43.7	39.1
KCM can perform better in terms of operations and production without the medical services	2.5	3.9	7.1	38.9	47.7

As Table 1 describes, a large proportion of survey respondents considered the following as the most important attributes of KCM medical services, based on the order of the highest combined rating of agreement ("agree" and "strongly agree"):

- staying healthy (90.6%),
- being productive (88.4%),
- maintaining the health of family members (88.4%), and
- assuring financial protection (85.9%).

Table 2. *Importance of KCM Medical Services to KCM Organization*

Factor	**Rating (%)**				
	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**
Financial protection to employees	78	22	0	0	0
Success and performance of the organization	78	22	0	0	0
Employees staying healthy	67	33	0	0	0
Productivity or performance	67	33	0	0	0
Employee retention	11	56	22	11	0
Improving employee morale and satisfaction	0	75	25	0	0
Reducing employee absenteeism	11	67	11	11	0
Attracting new and skilled/highly qualified employees	11	44	22	22	0
More cost effective for the organization to provide medical services	22	67	11	0	0
Medical services are among the most valued employee services	22	56	22	0	0
Plays an important role in KCM's corporate image and social responsibility activities	56	44	0	0	0
KCM will be better off financially by not providing employee health services	0	11	11	44	33
KCM can perform better in terms of operations & production without the medical services	0	0	0	44	56

Other factors that survey respondents rated highly, were contributions of the medical services to employee morale and satisfaction (69.2%) and selection of KCM as an employer based on KCM medical services (51.8%).

Figure 2. *Importance of Medical Services to KCM as an Organization*

1. Compliance with mining regulations: Healthcare services contribute to the Company's compliance with regulatory standards, e.g., First Aid, periodic health monitoring.
2. Source of revenue: By providing healthcare services to the community, to other companies, and to other mines, the Medical Services Department can generate revenue.
3. Reduces costs of employee medical expenses: Holistic/comprehensive medical services to employees and their dependents, along with preventive healthcare services to employees, dependants, and residents of communities in which KCM operates, all contribute to a lower disease burden, helping the Company substantially reduce ancillary health-related costs.
4. Company cares about its workforce: By providing healthcare services, the Company shows that it cares for its employees, demonstrating that they are an important, valued part of the Company.
5. Improves productivity: By working to keep employees healthy, the Medical Services Department fosters significantly better employee workplace attendance and helps sustain higher levels of employee productivity. Also, directly monitoring employee health allows the Company to deal with workplace safety concerns and outbreaks of disease more quickly and effectively.
6. Healthy workforce: Through regular medical check-ups and screening, the Medical Services Department can detect employees' chronic or developing medical conditions earlier, before they become more severe, creating tremendous cost savings for the Company.
7. First Aid, Occupational Health, and Public Health sections of the Medical Services Department: Crucial for the smooth running of mining operations, The Medical Services Department handles both urgent and routine medical issues, as well as providing an advisory role to the Company in setting policy and in revising operations to cope with larger medical issues.
8. Reliable access to medical services: The Medical Services Department provides employees readily available access to quick, reliable medical care, especially in emergencies and in mining injury cases, which often present immediate, specialized, and especially demanding medical issues. A well-run Department also reduces employees' concerns about long queues for emergency services, lengthy delays for routine medical services, and crowded wards.
9. Corporate Social Responsibility: The Medical Services Department enhance and promote corporate social responsibility activities, giving the Company a better public profile and better esteem among employees, regulators, and the public alike.

As confirmed in Table 2, areas in which all management respondents indicated agreement ("agree" or "strongly agree") that company-sponsored medical services were important included five specific benefits: provision of financial protection, organizational success and performance, employee health maintenance, employee productivity (all four at the top of the Table), and enhancement of KCM's corporate image and social responsibility (near the bottom of the Table). Management respondents also rated the following factors highly, based on the order of the highest combined rating of agreement ("agree" and "strongly agree"): more cost effectiveness by directly providing medical services (89.0%), reduction of employee absenteeism (78.0%), and being the most valued employee services (78.0%). Management respondents gave similar responses to those of employees that, without medical services to employees, the KCM company would not perform better financially or logistically in operations and production. Management respondents highlighted the importance of the KCM company medical services to the KCM organization, as shown in Table 2.

Table 3. *Employee Satisfaction with Medical Services*

	Rating (N)				
	Very Good	**Good**	**Average**	**Poor**	**Very Poor**
KCM Grade					
KCM1	3	1	2	2	0
KCM2	7	8	7	3	2
KCM3	6	17	23	6	4
KCM4	3	31	38	4	7
KCM5	14	27	47	3	5
KCM6	1	1	3	0	0
KCM7	0	1	0	0	0
KCM8	0	1	0	0	0
% of Total	11.9%	31.2%	43.9%	6.7%	6.3%
Gender					
Male	27	61	88	17	15
Female	7	28	37	2	3
IBU					
Nchanga	13	40	54	6	4
Konkola	13	36	47	8	6
Nchanga Smelter	2	7	8	2	3
Nkana	1	3	12	2	2
Corporate	5	3	4	1	4
Management Ratings on employee satisfaction with medical services		44.4%	44.4%	11.1%	

Management respondents provided further insight as to why they believed medical services were important to the KCM organization, from legal, financial, and organizational perspectives, set forth in Figure 2.

By providing medical services to employees, KCM not only meets its legal and social responsibilities, but also gains multi-level financial benefits through increased productivity, reduced medical expenses, and additional generated revenues. Despite the obvious importance and value of employee health services, employee satisfaction levels with the services were disappointingly low. Only 44% of the employees surveyed rated the medical services delivered as "average," as noted in Table 3. This satisfaction level was notable across the various categories of employees, gender, and IBUs – except for corporate/management employees who were more inclined to rate their satisfaction as "good" or "very good."

Table 4. *Management Responses on Changes Required to Sustain the KCM Medical Services*

Changes that can Contribute to the Sustainability of the KCM Medical Services				
Address Inefficiencies	**Employee Contributions**	**Healthcare Human Resource Investment**	**Fresh Re-investment**	**Commercial-ization**
Procurement processes Eliminate wastage and leakages of resources in the department Billing Reduce waiting time Service delivery Maintenance of infrastructure	Introduce a policy for employees to contribute to medical services	Invest in the training of healthcare workers (HCWs) Address retention of healthcare workers Recruitment of healthcare workers Address motivation, recognition and conditions of service of HCWs	Investment in modern medical equipment, diagnostic equipment and infrastructure	Financial and commercial autonomy Re-branding and enhanced marketing of the services Partnerships with other organisations Expansion of the scope of services

As displayed in Table 4, investing in healthcare workers in the medical department at KCM is critical – both to improve the service quality and to enhance the sustainability of KCM's medical services program. Management respondents offered diverse suggestions on what changes would enable the Medical Services Department to become more self-sustainable, including addressing the Medical Services Department's inefficiencies, introducing employee financial contributions, investing in human resources, financing new medical equipment, and commercializing the Department's operations, especially by forming new partnerships. As a global funding suggestion, management respondents submitted that KCM finance its medical services program based on a recommended per capita healthcare funding standard, encompassing employees, dependents, retired employees with their dependents, and former miners entitled to medical services for life due to work-related injuries.

Discussion

This study confirmed that medical services are vitally important both to KCM as an organization and to its employees. Significant factors revealed during the study – such as, employee financial protection, employee health and productivity, employee retention, and employee morale – are the same factors identified in literature (Willmer et al. 2018, Troy 2016, Conference Board of Canada 2014). These same factors also are noted as contributing to the organization's overall

success. As also revealed in our study, financial protection is a key benefit of employee health services, serving to reduce the risk of runaway expense from a catastrophic health event or condition, known to lead to impoverishment among employees (Koyi 2019). By minimizing employee concerns in seeking healthcare services for their families and for themselves, an organization again can realize employee productivity increases by allowing employees to focus on their work – another substantial collateral benefit for the organization (Ammendolia et al. 2016, Meyer-Rath et al. 2015, Chuma et al. 2013). Further, organizations have come to realize that by failing to invest in employee healthcare, they become liable to bear many indirect, less obvious costs arising from poor employee health (Troy 2016, Eyestone et al. 2014, Porter et al. 2008). Our study's parallel results corroborated that, despite the upfront expenditures involved, investment in employee healthcare is more cost-effective overall for organizations generally and particularly for organizations, such as KCM, in high-hazard industries.

It is interesting to note that, despite the employee health services being vitally important, employee satisfaction levels with those in-house services rated only average, at best. This lack of satisfaction may have several root causes, but two reparable ones are obvious. First, the employee dissatisfaction may reflect that the delivery of medical services is below employee expectations, particularly in comparison to the delivery by private providers. Second, employee dissatisfaction may reflect inefficiencies in delivery of the medical services, caused at least in part by budgetary constraints/inadequate funding.

Accordingly, because mining company budgets are increasingly stretched, in order to improve employee satisfaction with medical services KCM needs to focus on value in healthcare service delivery. KCM needs make greater efforts to raise employee satisfaction levels by having healthcare professionals thoroughly examine the existing healthcare structure to locate and remove inefficiencies, thus increasing the quality of the services provided while maintaining the department's existing resources. KCM should consider better scheduling for the medical service department, to make service delivery more convenient for employees. KCM also should consider a reallocation of funds, to direct more monies to those healthcare needs/services that employees need and value most.

Regardless of the specific methodology for improvement, better health outcomes and improved efficiency generally are key components in lowering healthcare costs. Rather than simply slashing the budget or adopting harsh and impracticable cost-reduction initiatives, obtaining better value from the existing expenditures likely will be more successful (Conference Board of Canada 2014, WHO 2010). Addressing organizational effectiveness and inefficiencies in healthcare delivery not only contributes to lowering healthcare costs, but also improves the service delivery and performance. Inefficiencies in procurement practices and underutilization of information technology specifically were noted to be major inefficiencies in KCM's Medical Services Department.

In addition, purposeful expansion of the certain aspects of healthcare service delivery may come even with company cost-cutting, by broadening funding sources beyond company resources. Attracting commercial healthcare sponsorship and/or pharmaceutical co-branding could expand the company's healthcare

budget; reduce costs to the company, employees, and their families; co-sponsor and/or introduce new and existing needed services; and increase program goodwill, raising employee satisfaction levels overall.

In terms of managing its most important asset – the workforce – an organization benefits from providing healthcare services to employees, including through the retention of able, trained, healthy employees, as our study reveals. Both from a financial and an operational perspective, organizations perform better by investing in employee health services. But, sustaining those medical services requires addressing inefficiencies, re-investing in healthcare equipment and workers, and obtaining employee buy-ins, including through financial contributions.

Earmarking employee contributions is an innovative way of sourcing healthcare financing. For an organization such as KCM to undertake this model of healthcare financing, there needs considerable trust among employer, union leaders, and employees alike, so that funds, once collected, are properly utilized for their intended healthcare services purpose. Skillful bargaining, proper documentation, and thorough program oversight are necessary to secure cooperation from unions, a critical component in successfully implementing and maintaining mandatory employee contributions to help fund company healthcare. Unions have a powerful, influential role when it comes to addressing employee health benefits (Thornton 2017, Chuma et al. 2013, WHO 2013). In fact, as management respondents recognized, without union endorsement and validation, substantial novel employee policies either will fail to be implemented or will wither a short time after implementation. Accordingly, this distinctive form of financing for company healthcare services requires an on-going, trust-based company engagement with employee unions and their leadership.

Conclusion

Organizations such as KCM are making an important investment in their employees and businesses by providing company-sponsored healthcare services. Findings from numerous observations and studies, including ours, shed light on the close associations between organizational and financial investment in employee healthcare services and employee satisfaction. Moreover, consistent data supports the benefits of multi-level strategies for promoting the worker health, particularly in demanding industries such as mining (Martin et. al 2016). It is recommended that organizations should promote employee health through a culture of health and complementary activities, including wellness programs, disease management programs, and screening and prevention programs for chronic diseases. Implementing these activities and human behavior-based strategies helps establish and encourage a culture of health among workers, empowering employees to be more cognizant of and engaged in their health and lifestyle decisions. In turn, this implementation offers employers direct and indirect benefits, such as healthier employees with fewer health complications, reduced numbers of employee

hospital admissions, and lower future healthcare costs overall (Son and South-Winter 2018, Haas et al. 2016).

In addition to providing the aforementioned programs and activities, it is recommended that mining companies form partnerships with healthcare authorities in Africa, to provide adequate treatment programs for diseases prevalent in mining workers (e.g., tuberculosis). Further, mining companies in Africa should comply fully with occupational health and safety standards. Unfortunately, enforcing mining company compliance with these standards has remained a critical challenge (Osewe 2015).

Many Sub-Saharan African countries are increasingly seeking to impose lower out-of-pocket payments for workers, while striving towards domestic mandatory pre-payment financing within contributory health insurance schemes (McIntyre et al. 2018). The WHO (2010) recommends that organizations should be encouraged to utilize pre-payment models, because they are more efficient and equitable. Various models have been developed in which a proportion of contributions towards life insurance and retirement plans are put aside as savings, accruing interest over time and generating a fund that can finance both an employee's current healthcare needs and that employee's retirement healthcare costs (National Insurance Services of Wisconsin 2012). KCM may explore and analyze these models to develop a stable system of healthcare financing for its retirees and ex-miners, who currently have a five-year access to free healthcare (Muchemwa and Karim 2017). Our research suggests implementing pre-payment employee medical plans is a viable funding option.

Our study was limited to a single mining company in Zambia, which seems to provide thorough, but largely anecdotal data. It is recommended that this same study be conducted in several mines within the region to ascertain whether our findings will be verified further and yield even more compelling evidence supporting our recommendations. Furthermore, it would also be worthwhile to investigate the reasons that mine workers most often resist making financial contributions towards their healthcare services.

Bearing these limitations in mind, the results of our study bring a basic understanding of the multi-level strategies most beneficial for promoting the health of mining industry workers in Zambia. Clearly, more needs to be done to raise the levels of employee satisfaction with the healthcare services actually being delivered. Organizations, such as KCM, that have made similar surveys should consider follow-up studies of both employee satisfaction and management satisfaction with the company healthcare programs and with the healthcare services being delivered by those programs. These studies can work not merely as a ratings system, but, far more importantly, to provide data for a realistic evaluation of the efficacy of the system, of the appropriateness of its overall funding levels, and of the proper distribution of those funds within the system. With these studies at regular intervals, an organization can more thoroughly evaluate the system to determine its effectiveness, can consider whether alternatives would be more efficacious, and can adapt the system to meet the changing needs of the workforce.

Despite privatization of the Zambian mining industry over 20 years ago, there remains relatively limited information on its employee healthcare services, further

suggesting that additional, in-depth studies are necessary. These additional studies would be greatly instructive, particularly considering the broad, valuable insights gained from our seemingly anecdotal data. The context of other studies, both of the mining industry and other industries, should provide many common principles and recommendations – principles and recommendations that can apply not only to the Zambian mining industry, not only to the mining industry as a whole, not only to other high-hazard industries, but also to industry globally.

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The Assessment of Socio-Psychological Effects of COVID-19 on Turkish People

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In this study, it was aimed to measure the socio-psychological effects of the COVID-19 on Turkish people, and the scale was developed by the researchers. The study is limited between 24.03.2020 and 29.03.2020. The universe of the study, which included Turkey's population, is 15 year and older people. The study was carried out on 652 people. The data obtained from the questionnaires were investigated with SPSS (Statistical Package for Social Sciences) program and Lisrel. Mann-Whitney U, Kruskal-Wallis H test, and analysis of simple linear regression was performed. Confirmatory factor analysis (CFA) was applied with the Lisrel program. The validity (KMO = 0.867/p = 0.000) and reliability analysis (α = 0.863) results of the scale are rather high. Looking to dimension scores, it was observed that the anxiety dimension had the highest score (x = 38.3; sd = 7.29) and followed by the sociopolitical impact dimension (x = 18.7; sd = 4.04). The lowest mean dimension is the psychosocial impact dimension ($\bar{x}$ = 14.4; sd = 5.48). According to the correlation analysis, it was a positively found relationship between anxiety and psychosocial impact, economic anxiety, and sociopolitical impact; a positive relationship between economic anxiety and sociopolitical effect with psychosocial impact; a positive relationship between economic anxiety and sociopolitical impact. The regression model established between all other dimensions was found significant (p < 0.05). It was found a significant difference between the dimensions of the scale with personal and occupational variables (p < 0.05).

Keywords: *COVID-19, pandemic, perception, mental health, Turkey*

Introduction

Background

Pandemics are one of the biggest disasters in which human beings have been desperate for centuries. People primarily lived together and established social relations after moving to the built-in layout. Human needs had in a way compelled people to live together. Therefore, individuals had in both social and physical interactions with their sexes. This interaction forced people to act responsibly towards each other. Particularly in pandemic diseases, that an individual living together in the community is sick, has become an important situation that concerns not only the individual but also all society. A social individual interacts with other people and the environment. The necessity of this interaction is that human beings act together against such great threats. Nowadays, while planning space travels,

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when talking about the irradiation of matter, humankind is abruptly threatened by a killer virus that can only be seen under an electron microscope. In the short-term, the enemy of humankind is an invisible killer.

The World Health Organization (WHO) has defined the pandemic as "the emergence of a disease that mankind has never seen before, the spread of the disease among humans and the spread of the disease simply and constantly among humans" (Sirman 2020). In this context, it can be said that the COVID-19 is a pandemic, as it is accepted by the WHO.

The COVID-19, belonging to the coronavirus family, which emerged in Wuhan, China in December 2019 and causes a pandemic worldwide, occupies the first place on the world agenda. The COVID-19 has been one of the fastest-growing coronavirus pandemics in the past two decades (Kagan et al. 2020). Large pandemics have occurred, by all means, in the world's history, but the COVID-19 has been more effective than the other known pandemic in terms of its spreading rate and the extent of its impact. In 8–9 months, it has caused negative results that will reach nearly to a halt in life in the world. The world, which has become a small village with globalization and has almost all borders disappeared, has been separated again and countries have had to retreat to their shells. It has occurred a pandemic affecting adversely almost all sectors, from the economy to tourism, from the health sector to the transportation sector.

Important Pandemics in the History

Some important pandemics in the world history have left their mark. Of these, although the Athens Outbreak (426–429 BC) is not the first known epidemic in history, it is known as the first pandemic, in which documents have proven the accuracy of which. Another one, Antoninus Pandemic (1665–180 BC), which is still known as smallpox, was a major epidemic that ravaged the Roman State. Justinianus Pandemic (541–750 BC), which is also known as the Black Death, was a pandemic that was the reason of death in most of Europe and Far East Asia. According to records, approximately 50 million people were dead because of the Black Death worldwide (Sirman 2020).

Spanish flu (1917–1918) is a major pandemic that is the reason dead of over 50 million people in about a year. The Camp Funston was a major pandemic that military infirmary was not enough and turned into an infirmary the hangar (Sirman 2020). This flu pandemic, which is also known as the flu of 1918, is one of the severest pandemics of recent history (Temel 2015). The cause of this pandemic is an H1N1 virus with bird-derived genes. Although there is no universal consensus on where the virus originated from, it is known that it swept the world from 1918–1919 (Centers for Disease Control and Prevention 2020a).

One of the biggest pandemics that humanity faced recently was Swine Flu (April 17, 2009). A new Influenza A (H1N1) type appeared in Mexico and the USA in March and April 2009. This unfamiliar type of virus has spread to many regions and countries in a quick time. It was accepted as a pandemic by the World Health Organization on June 11, 2009 (Şanlı 2010).

Middle East Respiratory Syndrome coronavirus (MERS-CoV), which is another important epidemic, emerged on June 13, 2012, in Jeddah, Saudi Arabia. It was seen in a 60-year-old Saudi patient with a history of fever, cough, sputum, and shortness of breath (Zaki et al. 2012). As of December 2018, 2279 MERS cases were reported 806 deaths worldwide. Most of these cases (38.5% case-mortality rate, with 1901 cases) were reported from Saudi Arabia. No significant difference or change was observed in terms of demographic and epidemiological characteristics of the cases between 2013 and 2018. The risky age group for secondary cases is 30–39. Considering the number of deaths, it is higher in the 50–59 age group for primary cases and in the 70–79 age group for secondary cases (World Health Organization 2019).

It is necessary to look at the chronology of coronavirus pandemics that are also the subject of this study. Coronaviruses (2003–) consist of an extensive family. We see that the first outbreak is a pandemic that known in public as the SARS virus. SARS-Coronavirus, which causes severe acute respiratory failure, is a coronavirus first seen in China in February, 2003. Different groups of coronaviruses are available. These are group 1 and group 2 coronaviruses. It contains viruses that are mostly seen in mammals. SARS-CoV-2 virus is a sub-group of the coronavirus family that needs a host to live and reproduce (Yücel and Görmez 2019).

The COVID-19 and Development Process

The COVID-19, which has become a terrible problem all over the world, is spreading faster every day (Musinguzi and Asamoah 2020). On March 11, 2020, the WHO declared the COVID-19 as a pandemic. There is no proper treatment for the COVID-19 in Medical Science and the number of people affected is increasing every day (Majumder et al. 2020). As of September 6, 2020, over 26 million people worldwide were infected with SARS-CoV-2 virus, and nearly 900 thousand people have died because of the COVID-19. The number of cases in Turkey is around 300 thousand (World Health Organization 2020). From what we have seen around us, there is panic and fear in people. With the COVID-19, fear is triggered throughout the community and timely understanding of the psychological state of society becomes important (Xiang et al. 2020, Hall and Chapman 2008). But society's awareness of the disease could potentially reduce the size of the pandemic. At the same time, the awareness of people can slow the spread of the pandemic and lower the eventual incidence (Funk et al. 2009). The most important pillar of this awareness is social isolation. Social isolation means distancing or stopping interpersonal interaction to slow down a very contagious spread. Social isolation is to stay people, partially or completely, away from work, transportation and other activities that may increase social contact and spread. For example, in Wuhan City, where the pandemic first occurred, over 10 million people stayed in their homes and complied with social isolation measures (Musinguzi and Asamoah 2020). Transmission from one person to another is seriously rapid for the SARS-CoV-2 virus. This situation has caused panic in the society, so nearly all schools and colleges around the world have been closed and their social meetings

have been canceled. Individuals should prevent the spread of the virus by constantly washing their hands again, using personal protective equipment (masks) to protect their health. Thus, they should reduce risk factors (Majumder et al. 2020).

If we talk about the socio-psychological effects of the COVID-19, everyone's reactions to stressful situations may be varied. How the person responds to the pandemic varies depending on his/her past, personal characteristics, and the society in which they live. Elderly people who have a higher risk for the COVID-19 and those with chronic diseases, children and junior people, healthcare professionals, people with mental problems may feel more anxiety and concern in the situation. People experience intensive emotions during the pandemic process such as fear and anxiety, changes in sleep and eating, difficulty concentrating, increased use of alcohol, tobacco, or other medicines, frustration, financing concerns (Centers for Disease Control and Prevention 2020b, Brooks et al. 2020, De Roo et al. 1998).

The COVID-19 is also thought to affect the world, socio-economically. In particular, the decline in global demand for oil and natural gas has reduced government revenues and liquidity. International oil prices have reached the cheapest level in the COVID-19 process. At the same time, global and local closures cause declines in the tourism industry and retail industry and lower capital inflows for slow the spread of the virus. These trends interrupt both local and international economic development goals (Oxford Analytica 2020). In addition to economic effects, pandemic diseases (such as the flu) are seen as diseases that will be included in health systems in the future. Many healthcare organizations will need personnel protective equipment to control the pandemic virus (Nancy and Christopher 2007).

This study was conducted to test the psychological, sociological, and economic effects of the COVID-19 on individuals and to develop an original scale in this context. With this study, it was thought to investigate and reduce some socio-psychological negative effects for people in the process of the COVID-19.

Materials and Methods

The Design of the Research

Quantitative data design was used in the study. In this context, a scale was developed by the researchers.

The Universe and the Sample of the Research

The universe of the study is composed of people included in the population of Turkey, who are 15 age and older. According to the Turkish Statistical Institute (2019), there are 63.9 million people in the specified age range. Since the legislation (Turkish Labor Law No. 4857, Regulation on the Principles and Procedures for the Employment of Children and Young Persons) defines the 15–

18 age group as a young worker, the lower age limit of the sampling was determined to be 15 age. Since the universe contains many people, it is impossible to reach the entire of the universe in the study due to reasons such as cost and time limit, so it was preferred to choose a sample from the universe. When the literature is analyzed, it is seen that a sample of 384 people represents a population between 1,000,000–100,000,000 people with a 95% confidence interval and 5% error margin (Yazıcıoğlu and Erdoğan 2004).

Data Collection

To collect data related to the study, the questionnaire method was preferred. The questionnaire used comprises three parts. In the first section, there are 10 questions to determine the personal and professional characteristics of the participants. In the second part of the questionnaire, there are five general questions about the COVID-19. In the last part, there is the COVID-19 Impact Assessment Scale that developed by researchers, comprising 40 items and prepared in a 5-point Likert type (1 = Never agree, 5 = I totally agree).

The COVID-19 Impact Assessment Scale, which consisted of 76 items after literature review, was sent to two academicians and two teachers who were experts in the field before the final form was given, and after some statements were removed and some statements were corrected, the scale became final. The data collection tool created was delivered to the participants using the online survey method and filled in by the participants. The total number of participants surveyed is 670. After the extremes on the scale were removed, the final number of surveys on the scale was 652.

Analysis of Data

Two statistical programs were used in the analysis of data. SPSS 22.0 program was used for exploratory factor analysis (EFA), basic and advanced analysis. Non-parametric test techniques were used in the analysis since the data did not show normal distribution. The Mann-Whitney U test was used for binary comparisons and the Kruskal-Wallis H test was used for comparisons in over two groups. The relationship between dimensions was analyzed by the Spearman correlation test. Simple linear regression analysis was performed to examine the direction and effect of the relationship between dimensions. Lisrel 8.80 program was used for confirmatory factor analysis (CFA).

KMO (Kaiser Mayer Olkin) to test the adequacy of the sample size to determine the suitability of the scale for factor analysis; Bartlett's sphericity test was performed to measure whether the data got the multivariate normal distribution. These test results are given in Table 1.

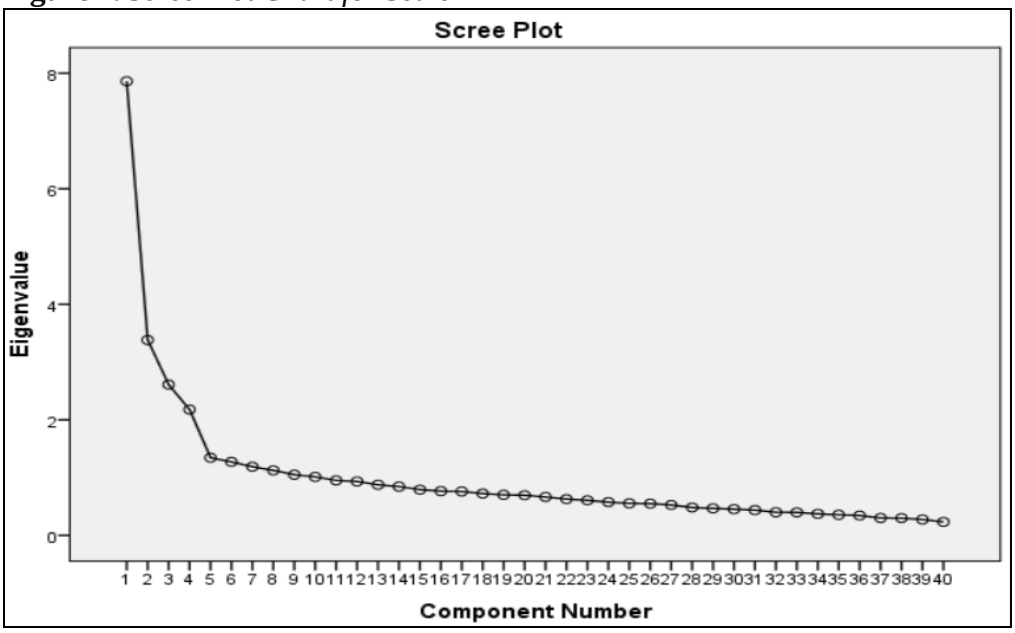
Table 1. *Validity and Reliability Tests of the Scale*

KMO and Bartlett's Test			**Reliability Statistics**	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.849	Cronbach's Alpha	N of Items
Bartlett's Test of Sphericity	Approx. Chi-Square	4,466.774	0.891	40
	df	780		
	Sig.	00.000		

Firstly, the scale prepared was implemented on 24.03.2020 by a web-based source, and validity and reliability analysis was performed with data obtained after approximately six hours. Accordingly, the overall scale of Cronbach's alpha value was 0.891; KMO value 0.849, $p < 0.000$; df 780 and Bartlett sphericity test were found at 4,466.774 and the questionnaire was ended on 29.03.2020 as the results of validity and reliability analysis were acceptable (Karakoç and Dönmez 2014, Field 2002).

The construct validity of the scale was analyzed according to EFA and scree plot values (Figure 1) with data obtained from 652 samples. In this analysis were used expressions greater than 0.40 and Eigenvalue above of 1 for factor loads using the Principal component with Extraction method, and the varimax as the rotation method.

Figure 1. *Scree Plot Chart for Scale*



As shown in Table 2, factor loads vary between 0.427 and 0.760 and consist of five factors and 31 expressions. Scale factors were constructed over the total scores of the items. Expressions 1, 5, 7, 13, 20, 24, 28, 30, and 38 were removed from the draft scale after factor analysis.

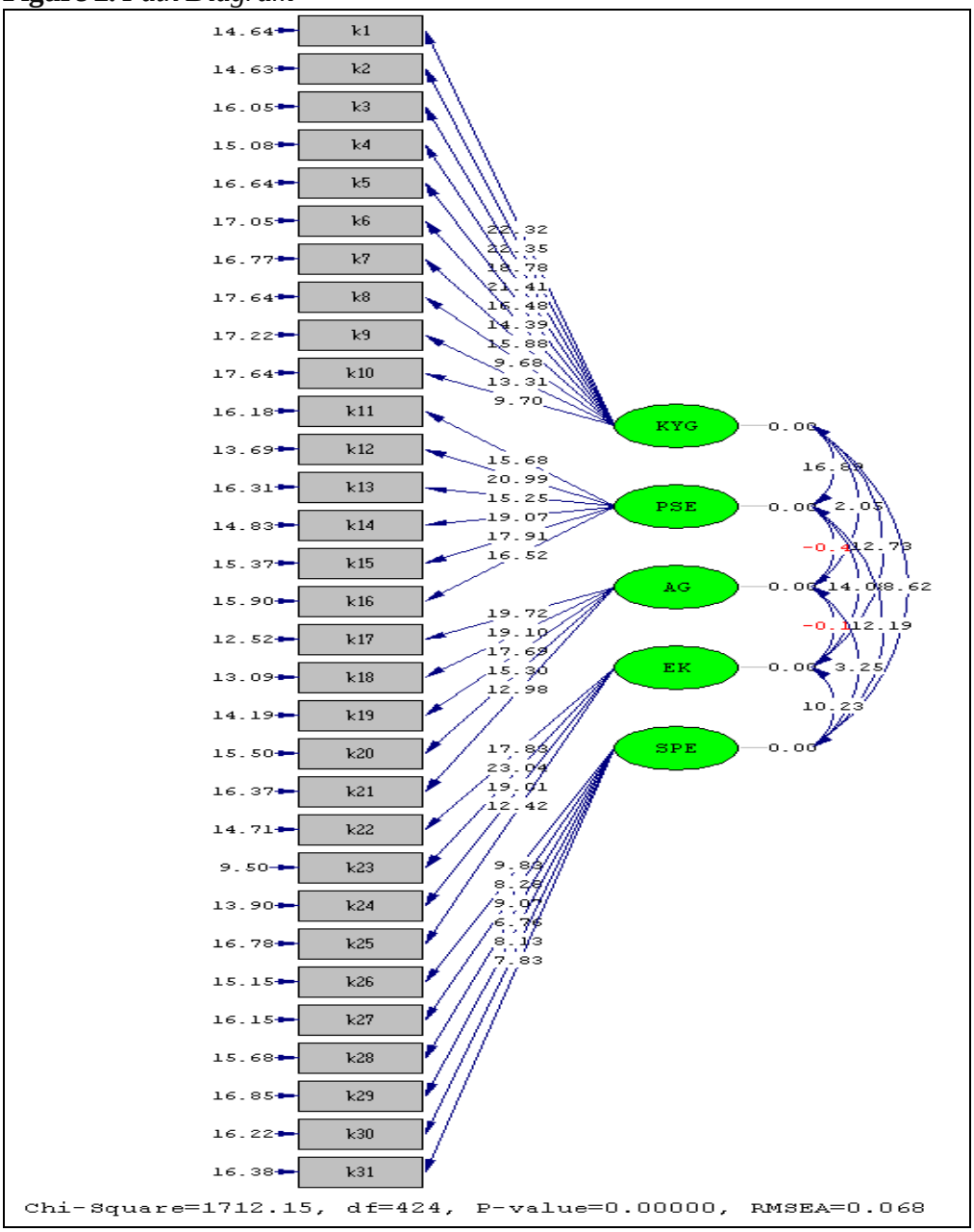
Table 2. *Results of Exploratory Factor Analysis*

Dimension	Rotated Component Matrix[a]					
	Expression No	Component				
		1	2	3	4	5
1. Anxiety	11	0.760				
	12	0.721				
	3	0.694				
	9	0.681				
	10	0.635				
	35	0.586				
	19	0.478				
	6	0.438				
	2	0.437				
	18	0.435				
2. Psychosocial Impact	8		0.738			
	15		0.714			
	4		0.614			
	17		0.610			
	14		0.609			
	16		0.530			
3. Perceived Confidence	40			0.779		
	22			0.764		
	29			0.740		
	23			0.697		
	25			0.629		
4. Economic Anxiety	31				0.750	
	33				0.736	
	34				0.683	
	32				0.570	
5. Sociopolitical Impact	21					0.586
	26					0.580
	37					0.527
	27					0.496
	36					0.466
	39					0.427
Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization[a]						
a. Rotation converged in 8 iterations						

CFA is a type of analysis performed to test whether the structures (dimensions) in the scale show similarity according to EFA result in scale development studies, as it was done to test the similarity of the structures revealed in a previous study (Karagöz 2016). In CFA, hypotheses in a certain factor structure can be tested. Contrary to EFA, it does not calculate factor loads of expressions on the scale. It brings out the goodness-of-fit for the evaluation of the research model (Albright and Park 2009).

CFA was performed for the scale, which was evaluated by EFA and obtained in 5 dimensions, and it was tested whether the model was compatible. The uncovered model is shown in Figure 2. The figure presents a path diagram showing the causal change of variables for the model over other variables. The t values are shown in the results of the first road analysis.

Figure 2. *Path Diagram*



The values generally considered in the fit model are χ^2/DF, GFI, CFI, and RMSEA. According to the information in Table 3, the value of χ^2/df is an acceptable fit to be below 5, the GFI value is 0.85, it is again acceptable, the CFI value is close to acceptable compliance to be 0.93, and RMSEA value is acceptable to be 0.068. Within the framework of the obtained fit indices, it was revealed that the model has an acceptable fit (Karagöz 2016).

Table 3. *Estimates of Goodness-of-Fit Index for Model*

The Criterion of Model Fit	Good Fit	Acceptable Fit	Fit in This Study	Fit
CMIN/SD	$\chi^2/sd \leq 3$	$\chi^2/sd \leq 5$	3.6	Acceptable
Chi-square Fit Test (χ^2) ($p = 0.000$)	$0.05 < p \leq 1$	$0.01 < p \leq 0.05$	0.000	Acceptable
RMSEA	RMSEA ≤ 0.05	RMSEA ≤ 0.08	0.068	Acceptable
NFI	0.95 ≤ NFI	0.90 ≤ NFI	0.90	Acceptable
NNFI	0.95 ≤ NNFI	0.90 ≤ NNFI	0.92	Acceptable
CFI	0.97 ≤ CFI	0.95 ≤ CFI	0.93	Unacceptable
IFI	0.95 ≤ IFI	0.90 ≤ IFI	0.93	Acceptable
RMR	0 < RMR ≤ 0.05	0 < RMR ≤ 0.08	0.094	Unacceptable
SRMR	0 < SRMR ≤ 0.05	0 < SRMR ≤ 0.08	0.069	Acceptable
GFI	0.90 ≤ GFI	0.85 ≤ GFI	0.85	Acceptable
AGFI	0.90 ≤ AGFI	0.85 ≤ AGFI	0.83	Unacceptable

Source: Karagöz 2016.

Results

In this chapter, findings related to the personal and professional characteristics of the participants, the general questions about the COVID-19, and the basic and advanced analysis results regarding the dimensions/variables of the research were examined.

Table 4 presents the findings regarding the personal and professional characteristics of the participants. Accordingly, the majority of the participants (59.0%) are in the 18 to 25 age range. The proportion of female participants (67.3%) is significantly higher than the proportion of male participants (32.7%). The participation of singles (73.0%) is considerably higher than married people (27.0%). The highest participation in terms of education is among those with an associate degree (44.3%). The ratio of those employed in any job (39.4%) and students (40.3%) is very close to each other. Among the participants, the proportion of those with a monthly income status of 1250 TL and below is higher.

According to the findings of the general questions about the COVID-19, information about the COVID-19 is obtained from TV and internet news sites at the most. The majority of participants (64%) think that the process of combating the COVID-19 is better managed in Turkey than in other countries. Based on this information, it can be said that the policies implemented by the government in the pandemic are effective and solution-oriented. Only 8% of the participants have a chronic disease and only 2.5% of them have been diagnosed COVID-19 to themselves or acquaintances. Close to half of the participants (44.9%) believe that the progression of the COVID-19 will be under control within a time frame of 1 to 3 months. Looking at the point reached, it cannot be said that the pandemic can be fully controlled (Table 5).

Table 4. *Findings related to the Personal and Professional Characteristics of the Participants*

Age Range	**%**	**N**	**Gender**	**%**	**N**	**Education Status**	**%**	**N**	**Employment Status**	**%**	**N**	**Monthly Income Status (TL)**	**%**	**N**
15–17	1.1	7	Female	67.3	439	Primary Education	0.8	5	Working	39.4	257	1–1250	45.9	299
18–25	59.0	385				Secondary Education	7.4	48	Retired	0.5	3	1251–2325	10.6	69
26–35	24.1	157	Male	32.7	213	Associate Degree	44.3	289	Unemployed	16.6	108	2326–3500	12.3	80
36–45	12.7	83				Bachelor Degree	35.1	229	Another	1.1	7	3501–5000	15.2	99
46–55	2.3	15	**Marital Status**	**%**	**N**	Master's Degree	6.0	39	Students	40.3	263	5001–7000	10.0	65
56–65	0.5	3	Married	27.0	176	Doctor's Degree	6.4	42	Housewife	1.5	10	7001 and over	6.1	40
66 and over	0.3	2	Single	73.0	476				Freelancer	0.6	4			

Table 5. *Findings related to General Questions about the COVID-19*

What Resources do you Use Most When Learning About the COVID-19?			**Do you Have Any Chronic Disease?**		
	%	N		%	N
TV	66.4	433	Yes	8	52
Internet News Sites	47.4	309	No	85.6	558
Instagram	37.3	243	I Have No Information	6.4	42
Twitter	35.7	233	**Have You or an Acquaintance Been Diagnosed With COVID-19?**		
Scientific Studies	21.0	137	Yes	2.5	16
Spouse-Friends-Acquaintances	10.4	68	No	97.5	636
YouTube	7.7	50	**How Long in Time do you Believe the Progress of the COVID-19 pandemic will be Under Control?**		
Facebook	6.4	42	Up to 1 Month	8.4	55
Another	2.6	17	From 1 Month to 3 Months	44.9	293
Radio	1.8	12	From 3 Months to 6 Months	27.3	178
Do you Think the Process of Combating the COVID-19 pandemic is Better Managed than Other Countries?			From 6 Months to 1 Year	12.6	82
Yes	64	417	More than 1 year	6.7	44
No	36	235	**Total**		**652**

Table 6 contains the findings regarding the basic and advanced analysis results for the dimensions/variables of the research. According to the findings; there is a moderate relationship between anxiety and psychosocial impact; weak relationship between anxiety and economic anxiety and sociopolitical impact; moderate relationship between psychosocial impact and economic anxiety; a weak relationship between psychosocial effect and sociopolitical effect; weak relationship between economic anxiety and sociopolitical impact.

When we look at the results of simple linear regression analysis between dimensions, the regression model established between the anxiety dimension and all other dimensions was found to be significant.

The value of factor load was taken as 0.40 for factor analysis. Accordingly, nine statements in the draft scale were eliminated. The scale was determined to be very good with a KMO value of 0.867 and explaining 47.298% of the total variance. Cronbach's Alpha (α) coefficient, which determines the level of reliability, was found to be very good with 0.863, and according to these results, it is seen that the scale has an adequate level of reliability.

The highest score that can be collected in the sub-dimensions of the scale is 50, and the lowest score is 4. The lowest score that can be collected in the total dimension is 31, and the highest score is 155. Calculations for the mean were according to the total scores. According to this information, it was observed that the anxiety dimension had the highest score (x = 38.3; sd = 7.29), and followed by the sociopolitical impact dimension (x = 18.7; sd = 4.04). The lowest mean dimension is the psychosocial impact dimension ($\bar{x}$ = 14.4; sd = 5.48).

Table 6. *Findings related to the Basic and Advanced Analysis Results for the Dimensions/Variables of the Study*

No	**COVID-19 Impact Assessment Scale Dimensions**	**1**	**2**	**3**	**4**	**5**
1	**Anxiety**	1	R^2 = 0.256 p = 0.000	R^2 = 0.012 p = 0.004	R^2 = 0.17 p = 0.000	R^2 = 0.10 p = 0.000
2	**Psychosocial Impact**	r = 0.485**	1	R^2 = 0.000 p = 0.893	R^2 = 0.19 p = 0.000	R^2 = 0.15 p = 0.000
3	**Perceived Confidence**	r = 0.076	r = -0.041	1	R^2 = 0.000 p = 0.808	R^2 = 0.02 p = 0.002
4	**Economic Anxiety**	r = 0.380**	r = 0.409**	r = 0.005	1	R^2 = 0.12 p = 0.000
5	**Sociopolitical Impact**	r = 0.267**	r = 0.329**	r = 0.036	r = 0.304**	1
Validity, Reliability and Normality Tests						
Kaiser-Meyer-Olkin (KMO)		0.867/p = 0.000				
Cronbach alpha (α) for sub-dimensions		0.843	0.805	0.789	0.761	0.526
Cronbach alpha (α) for the Scale		0.863				
Shapiro-Wilk for Normality		0.000	0.000	0.000	0.000	0.000
Descriptive Variables	Average	38.3	14.4	17.1	14.6	18.7
	Standard deviation	7.29	5.48	4.23	3.78	4.04
	Minimum	10	6	5	4	6
	Maximum	50	30	25	20	30
Personal and Occupational Variables	Age	0.690	0.131	0.010*	0.001**	0.498
	Gender	0.001**	0.072	0.302	0.378	0.538
	Marital Status	0.310	0.043*	0.540	0.001	0.762
	Education Status	0.710	0.010*	0.001**	0.001**	0.002**
	Employment Status	0.402	0.862	0.033*	0.007**	0.328
	Monthly Income Status (TL)	0.013*	0.006**	0.031*	0.001**	0.377

*p < 0.05; **p < 0.01; r = correlation coefficient; α = reliability coefficient

According to the analysis results conducted in terms of personal and professional variables; there is a significant difference in terms of gender ($p = 0.001$) and monthly income status ($p = 0.013$) in the anxiety dimension. There is a significant difference in terms of marital status ($p = 0.043$), educational status ($p = 0.010$) and monthly income status ($p = 0.006$) in psychosocial the impact dimension. There is a significant difference in terms of age ($p = 0.010$), educational status ($p = 0.001$), employment status ($p = 0.033$) and monthly income status ($p = 0.031$) in the trust dimension. There is a significant difference in terms of age ($p = 0.001$), educational status ($p = 0.001$), employment status ($p = 0.007$) and monthly income status ($p = 0.001$) in the economic anxiety dimension. There is a significant difference in the sociopolitical impact dimension in terms of educational status ($p = 0.001$).

Discussion

In this study, it was aimed to measure the socio-psychological effects of the COVID-19 on Turkish people, and the scale was developed by the researchers. The draft scale preparing for developing a scale consisted of 40 items. Both EFA and CFA for the scale conducted. Nine items were eliminated from the draft scale. And the last version was created. The scale was named as "The COVID-19 Impact Assessment Scale." The scale was determined to be very good with a KMO value of 0.867. Cronbach's Alpha (α) coefficient was found to be very good with 0.863, and according to these results, it is seen that the scale has an adequate level of reliability.

Considering the findings obtained from the research; it was revealed that the participants obtained the most information about the COVID-19 from TV and then from internet news sites. In a study of COVID-19, participants indicated information sources like the internet with 93.5% (Wang et al. 2020). The proportion of those who think that the process of fighting the COVID-19 in Turkey is better managed than in other countries is quite high (64%). Very few (about 8%) of the participants have a chronic disease. At least 22 million people have one or more chronic diseases, according to the Ministry of Health data (Ministry of Health of Turkey 2008). It can be said that the reason for this low rate in this study was the high number of young participants. The proportion of those diagnosed with COVID-19 for themselves or their acquaintances is very low (2.5%). Nearly half of the respondents (44.9%) believe that the progression of the COVID-19 will be controlled within a period from 1 month to 3 months.

When the studies on pandemic seen in the past years are examined, it was found in a study conducted on SARS disease in 2005 that 20% of the participants are concerned about their economic situation, and 27% have financial stress (Lau et al. 2005). In a study conducted on the Ebola pandemic by Van Bortel et al. (2016), it was found that the pandemic reduced economic efficiency and caused the social system to fail. In this study, it was observed that the sociopolitical impact dimension ($x = 18.7$; $sd = 4.04$) was after the anxiety dimension ($\bar{x} = 38.3$; $sd = 7.29$; 76.6%). In the comparative analysis in this study, it was found significant

differences except for gender and marital status. It can be said that it is similar to other studies.

In another study conducted on COVID-19, 53.8% of the respondents interpret the psychological effect of the pandemic as moderate or severe, one day after WHO declared the pandemic emergency (Wang et al. 2020). A similar study on H5N1 (avian flu) in 2007 shows that the public is not convinced that local authorities are well-prepared for the pandemic (Lau et al. 2007). In this study, the average of the sociopolitical effect dimension was found to be low when compared to other dimensions.

In 2006, in a study conducted on how the mental health of 549 employees who were exposed to the SARS epidemic of a hospital in Beijing was affected, it was found that 10% of the participants experienced a high level of post-traumatic stress since the SARS pandemic (Wu et al. 2009). Another study on the psychological state of 129 people quarantined because of the SARS pandemic in Canada found a high degree of psychological distress. It was observed post-traumatic stress disorder in 28.9% of these people, and depression symptoms in 31.2% of those (Hawryluck et al. 2004). In the study of the SARS pandemic, fear, loneliness, boredom, anger, and the fear of infecting the disease to the staff, family members, and friends were detected (Maunder et al. 2003). In this study, the average of psychosocial impact dimension was found at the lowest level when compared to other dimensions.

In a study conducted on the SARS outbreak, fear, loneliness, boredom, anger, and the fear of infecting the disease to the staff, family members, and friends were detected (Yücel and Görmez 2019). In another study conducted on SARS disease in 2005, it was found that 36.3% of the participants felt emotionally disturbed because of SARS. 48.4% of whom think their mental health was serious and moderately deteriorated due to the SARS outbreak. 11.5% of the participants stated that they have difficulty falling asleep and sleeping comfortably for SARS-related thoughts. When the participants' situation before and during the SARS outbreak was compared, 4.2% of their family members were those who needed psychological and psychiatric services. 37.2% of whom reported that their social lives had become worse, and 20.1% reported difficulty concentrating on their work (Lau et al. 2005).

In a study conducted on the effects of the Ebola epidemic by Van Bortel et al. (2016), while the short-term effects of the epidemic in people were fear, anxiety, guilt, frustration, anger, and helplessness, the long-term effects were observed as trauma, mental health problems, along with witnessing the death of others. Fear, anxiety, isolation, mourning, social and cultural life were disrupted in the short-term effects on the social level, and it was observed as loss of confidence and grief in the long-term effects. While the international short-term effects of the pandemic were fear, anxiety, and trauma, the long-term effects were observed as long-term mental health problems and discrimination. In this study, it was observed that the anxiety dimension ($\bar{x}$ = 38.3; ss = 7.29; 76.6%) had the highest score. It can be said that this result supports the other study.

As a result of this study; multidisciplinary mental health teams (psychiatrists, psychiatric nurses, clinical psychologists, and other mental health workers)

established should provide psychological support to reduce the anxiety level of patients and health workers at the regional and national levels. To deal with feelings of uncertainty and fear, clear communication should be provided regular and accurate updates about the COVID-19 to both healthcare professionals and patients. Both patients and their relatives should be provided with current information on treatment plans, progress reports, and health status. Low-income people must be supported, economically and fiscally. Policies should be developed in almost every field to increase the perceived level of trust even more.

Limitations of the Study

Since the research is prepared and distributed online, people who do not use the internet and cannot reach the web link of the survey are among the limitations of the research. Besides, research is limited to the date of 24.03.2020 to 29.03.2020.

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Annex 1. *COVID-19 Impact Assessment Scale*

No	Items
1	I have information about the COVID-19.
2	Even hearing the name of the COVID-19 bothers me.
3	The health problems that may occur with the COVID-19 cause concern in me.
4	I have had sleep problems since I heard the name of the COVID-19.
5	I generally feel uneasy since the COVID-19 started in our country.
6	Since the COVID-19 was seen in our country, I have isolated myself, socially.
7	I have a fear of death because of the COVID-19.
8	I am having trouble eating because of the fear of death in the COVID-19.
9	Even the thought of getting sick because of the COVID-19 worries me.
10	The COVID-19 worries me because of the fear of transmitting the disease to others.
11	The COVID-19 worries me as it is an uncertain situation.
12	The COVID-19 worries me as it's a new situation.
13	Since the COVID-19 and deaths appeared in our country, I have difficulty in collect my attention.
14	I have been more angry and nervous since the COVID-19 and deaths appeared in our country.
15	Since the COVID-19 and deaths appeared in our country, problems in my "family life" have increased.
16	Since the COVID-19 and deaths appeared in our country, problems in my business life have increased.
17	Since the COVID-19 and deaths appeared in our country, problems in my social environment have increased.
18	I can easily say "no" to those who want to meet from my social circle.
19	I would be concerned that even if this pandemic is over, there could still be a disease.
20	I think traditional treatment methods work in the fight against the COVID-19.
21	I don't think modern drugs influence the COVID-19.
22	Health facilities in our country have sufficient infrastructure to combat the COVID-19.
23	City hospitals will assume an important burden in the fight against the COVID-19.
24	Healthcare professionals work devotedly to the fight against the COVID-19.
25	News of the media organs about the COVID-19 is informative.
26	The posts about the COVID-19 in social media are insufficient.
27	Problems or deficiencies that may arise in the fight against the COVID-19 can be a political material.
28	When developed the vaccine for the COVID-19, I would not hesitate to get vaccinated.
29	I believe that the COVID-19 process is transparently conducted.
30	I don't think hospitals will need medical staff.
31	My economic situation affected because of the COVID-19, negatively.
32	I think the COVID-19 will negatively affect the country's economy.
33	Economic anxiety affects me as much as sickness anxiety.
34	Even the possibility of an economic crisis because of the COVID-19 worries about losing my job.
35	Even if I take my precaution, it makes me uneasy that one of my family goes out.
36	I think the level of social impact is low in the spread of the COVID-19.
37	I think the COVID-19 is a biological weapon.
38	I have enough information about what treatment process will be applied after catching the COVID-19.
39	People's responsibilities are insufficient to prevent the spread of the COVID-19.
40	I think that the health policies on the COVID-19 are sufficient.

Note: Items 1, 5, 7, 13, 20, 24, 28, 30, and 38 were removed from the scale after conducted exploratory factor analysis.