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The individual effects of workplace bullying: Experiences from Namibia

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ABSTRACT

Workplace bullying is known to have detrimental implications for employees, ranging from psychological to physical harm. Bullying in the workplace has a negative influence on organisational and individual performance, which has a knock-on effect on the workplace environment. A call out was conducted using LinkedIn to those who have experienced workplace bullying in Namibia. Using purposive sampling, twelve participants in Windhoek Namibia heeded to the call and were interviewed, an in depth analysis using an interpretive technique, and data were analysed using the content analysis technique. Themes which emerged from coping with workplace bullying were psychological, social, physical and mental fatigue and work performance. anxiety, feeling anxious, feeling edgy, frustration, weight loss, feeling tired, irritated, stress, sleep disturbances, fear, headaches, inability to concentrate, unhappiness, lost confidence in self were the as the individual effects of workplace bullying. The present study contributed to the workplace bullying research by sharing how workplace bullying is experienced in Windhoek Namibia. Studies such as this are key in informing policy in Namibia related to toxicity in the workplace. The researchers recommend inhouse constant mental wellbeing checks; work-life balance strategies, and cost analyses of employee absenteeism and reduced productivity due to workplace bullying.

Introduction

Workplace bullying has been shown to have negative impact on employees, encompassing a range of consequences from psychological distress to physical harm (Dhiman, 2021). The phenomenon of workplace bullying has been linked to a decline in both mental and physical health (Verkuil et al., 2015; Conway et al., 2012). Moreover, workplace bullying exerts a harmful influence on both organisational and individual performance, subsequently affecting the overall workplace environment (Devonish, 2013).

Individuals subjected to bullying in the workplace frequently exhibit a range of distressing symptoms, including insomnia, diminished appetite, nausea, headaches, and heightened emotions such as anger, unease, and vulnerability. They may also experience a decline in self-esteem and confidence, alongside feelings of fear, concern, and worry (Einarsen & Mikklesen, 2003; Magee et al., 2017). Einarsen and Mikklesen (2003) elucidate that workplace bullying can lead to mental repercussions such as depression, anxiety, stress disorder, and various other psychological disorders. Employees subjected to bullying exhibit markedly elevated levels of irritation and anxiety, alongside heightened instances of depression, diminished self-esteem, and stress-related disorders, as evidenced by the findings of Bowling and Beehr (2006).

According to Dhiman (2021), the repercussions of bullying and stress may lead to the victim experiencing physical ailments, including cardiovascular disease, musculoskeletal issues, and various other health disorders. Magee et al. (2017) assert that psychological side effects such as low self-esteem, nervousness, irritation, and fear can manifest physically as psychosomatic disorders, including loss of appetite, sleeplessness, headaches, stomach cramps or pains, anger, and difficulties in concentration.

Workplace bullying influences not only the individual perpetrating it but also the organisation as a whole, as it obstructs effective group communication and fosters a hostile work environment (Cuniff & Mostert, 2012). Dhiman (2021) argues that bullying adversely affects the organisational culture, resulting in outcomes that are neither advantageous nor conducive to well-being. Magee et al. 2017 suggest that the occurrence of workplace bullying correlates with heightened absenteeism, strain, and employee turnover, which adversely affects the organisation through escalated costs, potential damage to its reputation, and diminished productivity and motivation. This situation arises from the reality that an employee or employees are grappling with diminished self-esteem, resulting in inadequate customer care or service and an increase in mistakes. Consequently, individuals subjected to bullying in the workplace report diminished job satisfaction and a heightened sense of insecurity regarding their employment (Glambek et al., 2014; Neilsen & Einarsen, 2012). Furthermore, conflict within the workplace engenders adverse emotional responses, consequently diminishing work engagement by eroding employees' motivation and vitality in their professional endeavours (Crowford et al., 2010). Workplace bullying costs significant financial consequences for both the organisation and the individual involved. The purpose of the

study was to investigate the type of effects resulting from the experiences of Namibian employees who were bullied.

Workplace bullying

Leymann (1996) characterises workplace bullying as a protracted conflict that occurs with regularity, wherein the victims find themselves unable to mount a defence owing to the imbalanced power dynamics between themselves and the aggressor. Consequently, bullying encompasses the intention to inflict harm, the execution of harmful actions, an imbalance of power, a recurrent aggressor, and a feeling of subjugation (Akella, 2016). Instead of embracing a definition characterised by depravity and severity, the researchers chose an integrative approach that encompasses both perspectives as the working definition for workplace bullying. By definition, bullying is a persistent and recurring behaviour. Bullying thus affects the person and the organisation both directly and indirectly.

Psychosomatic symptoms

Brill et al. (2001) consider psychosomatic symptoms to be clinical manifestations that lack any underlying organic pathology. To put it differently, these are bodily manifestations that do not have a medical basis, arising instead from psychological distress (Li et al., 2019; Torchyan et al., 2022). The symptoms identified in the study are being recognised for their potential to contribute to disease stemming from stress encountered in workplace settings. Bullying victims have been found to exhibit significantly higher rates of depression and psychosomatic symptoms (Fekkes et al., 2004).

Who is the workplace bully?

Einarsen et al. (1994) outline managers and supervisors as the perpetrators of bullying. Power dynamics constitute a significant factor in bullying (De Cieri et al., 2019; Horton, 2020). It is essential to recognise that workplace bullying is not limited to managers and supervisors. Negative workplace behaviour, along with an imbalance of formal or informal authority among individuals, (Salin & Hoel, 2020). Formal power pertains to the disparities in authority between a manager and a subordinate, whereas informal power concerns the differences in influence among employees at the same hierarchical level, where one individual possesses greater social leverage or sway over colleagues within the organisation. Dhiman (2021) summarises a bully as a coworker, supervisor, subordinate, or employer. Many bullies perceive their behaviour as situational and intrapersonal, thus viewing it as justifiable and necessary (Oade, 2009). The prior discussion demonstrates that no ambiguous traits exist for identifying a bully. Li et al. (2019) shed light on the structure of occupations and how bullying exposure is related to how work is regarded. Bullying is recognised as an issue within both the education and healthcare sectors; however, it can manifest in any profession, irrespective of rank or economic status (Erwandi et al., 2021). Thus, a deeper understanding of

the inherent complexity of power dynamics in bullying and their implications for individuals is necessary.

Types of workplace bullying

The improper allocation of tasks, unrealistic timelines, and the withholding vital information, are compounded by more personal behaviours, including verbal abuse, excessive or unjust criticism, and the dissemination of falsehoods (Caponecchia, et al., 2020). Niedl (1996); Nielsen (2020) posits that bullying ought to be understood through subjective constructs, emphasising the perceptions of the victim or target. The actions in question are characterised by their repetitive, hostile, humiliating, and intimidating nature, specifically directed at the individual in question. Nevertheless, the primary notion of bullying ought to be understood as subjective bullying, given that differences in power become more evident from the perspective of those who endure it (Einarsen et al., 2003). Objective bullying pertains to circumstances where there exists unequivocal observable evidence or declarations from external parties indicating that bullying is occurring. The responses of individuals who experience bullying can be categorised into three distinct types: assertiveness, avoidance, and the pursuit of formal assistance. As research on workplace bullying and harassment progresses, there is an increasing acknowledgement that a critical examination of power dynamics and cultural contexts, along with their persistence, is essential for effectively addressing bullying in professional environments (Mannix-McNamara, 2021).

Contemporary and classic workplace bullying

Due to the severity and complexities of bullying, Erwandi et al. (2021), note that bullying has become one of the issues in the field of Occupational Health and Safety. Within the workplace, bullying is a counterproductive behaviour and there are no specific laws that prohibit workplace bullying. Workplace bullying is considered both as direct and indirect behaviour on a spectrum of violence, which is not necessarily any type of misconduct or violence (Fielden et al., 2020). Workplace bullying comes in a wide variety of behaviours, which include public humiliation and criticism, verbal abuse, intimidation, spreading rumours, ignoring people for a long period of time, social exclusion, impartial deadlines, separation threats, shifting opinions, allocating menial task to the individual being bullied, applications for leaves are denied, dismissal, openly flaunting power and status, mocking and professional elimination (Cunniff & Mosert, 2012; Akella, 2016; Fielden et al., 2020). Thus, bullying encompasses mistreatment ranging from verbal hostility to acts of social exclusion (Einarsen, 1999).

The interest of capitalist owners (profit) set up the social and technological frameworks (Akella, 2016), thus the organisation employ control strategies (Edward, 1980). The control approaches insured that there would be little labour process opposition (Burawoy, 1982). Control strategies became increasingly indirect, hegemonic, and devious throughout time (Akella, 2003). As a result, workplace bullying revolves around

direct control.

Theory X posits that employees possess an intrinsic avoidance to work, exhibit laziness, and tend to shirk responsibility, thereby requiring management to guide, compel, or even coerce them into fulfilling their duties (Akella, 2016; Robbins et al., 2016). This managerial perspective posits that the utilisation of bullying or coercive strategies could be implemented to attain organisational objectives. Nevertheless, when examined through the lens of power theory, inadequate organisational reactions to workplace bullying frequently stem from a reductionist, functionalist interpretation of power, which perceives it merely as a hierarchical tool for enforcing adherence (Hodgins et al., 2020). This limited perspective fails to account for the intricate, interconnected, and systemic dimensions of power, resulting in inadequate or superficial solutions to the issue of bullying.

Workplace bullying is mostly observed from direct and authoritarian management style and is a control tactic (Akella, 2016). Another cause for the presence of workplace bullying is the concealment of less competent employees' shortcomings (Dhiman, 2021). Bullying is used to eliminate competitors and reduce competitiveness at work. Furthermore, Oade (2009) noticed that bullying happens when employees are not emotionally mature, lack interpersonal and intrapersonal skills, are less competent at handling professional obligations, and hence undermine colleagues rather than dealing with their job challenges. Park et al. (2021). also emphasise that bullying goes undetected, which further complicates dealing with it.

Absenteeism

One of the negative consequences of bullying is absenteeism, or neglecting to report to work on time (Taibi et al., 2022). It is a major source of lost productivity (Johns, 2006). Factors influencing workplace absenteeism include poor mental health, low job satisfaction, restricted job autonomy, inadequate leadership, and physical health (Hoel et al., 2020). Although not thoroughly explored, there is evidence that workplace bullying correlates to absenteeism (Nielsen & Einarsen, 2012). If a person is unmotivated at work, the likelihood of voluntary absenteeism increases; on the other hand, if a person is motivated at work, the likelihood of voluntary absenteeism decreases (Magee et al., 2017).

One way that workplace bullying affects absenteeism is through health impairment (Neilson & Eriksen, 2004). Bullying in the workplace has been connected to psychological difficulties such as depression, anxiety, and sleep disturbances (Fielden et al., 2020; Magee et al., 2017). However according to Magee et al. (2017), psychological difficulties manifest physically as psychosomatic illnesses such as sleeplessness, loss of appetite, irritability, and headaches. Magee et al. (2017) anticipated that workplace bullying will increase absenteeism by interfering with an individual's ability to attend work.

Organisational environment

Bullying has an impact on the organisational environment, productivity, and innovativeness inside the organization (Rai & Angrawal, 2018; Mage et al., 2017). Increased absenteeism, conflict, and employee turnover impacted the organization's image by degrading it and raising organisational costs (Magee et al. 2017). Organisational expenditures have risen in response to a growing need for employee support initiatives; however, this has coincided with a decrease in productivity and motivation, attributed to lower self-esteem. Implications for the organisation include poor customer service and errors brought on by rapid choices. Additional consequences of employment, as noted by Quine (2002), encompass reduced levels of satisfaction and commitment in the workplace, which manifest in poor performance (Jex, 2002).

Rai and Agrawal (2018) examined how bullying affects creative behaviour. They revealed that workplace bullying affects workplace creativity because people adopt a passive approach, resulting in the concealment of data issues, ideas, and points of view linked to the organisation (Brinsfield, 2012). The company's reputation, is harmed its image and making future employee recruitment and retention more difficult (Jex, 2002; Magee et al., 2017).

Psychological effects

Workplace bullying endangers the psychological well-being of the employee or individual being bullied (Vatia, 2001). Workplace bullying includes harassment ranging from verbal antagonism to social isolation or becoming the department's laughingstock (Einarsen, 1999). Such instances of maltreatment or verbal hostility can be unpleasant, destabilising, and very stressful, making the one being bullied feel as though their sense of belonging is under attack and their psychological needs are being challenged or compromised (Fielden et al., 2020).

Threats to psychological needs cause the one being harassed to become more stressed (Einarsen & Raknes, 1997). Furthermore, victims of bullying exhibit higher levels of anxiety and irritability than non-bullied individuals (Einarsen et al., 2003). Bullying may also cause melancholy, low self-esteem, stress disorders, sleep disruptions, fear, anxiousness, and susceptibility, as well as psychosomatic problems including insomnia, lack of appetite, stomach pains, headaches, difficulty to focus, wrath, and disruption in family life (Magee et al., 2017; Bowling & Beehr, 2006).

Stressors, according to the cognitive activation hypothesis of stress, induce cognitive activation and physiological reactions such as increased sympathetic nervous system activity and hormone alterations, which result in psychological responses

such as stress, rumination, and poor detachment (Ursin & Eriksen, 2004). Although it is not detrimental in the short term, continuing bullying can damage the psychological health and well-being of the one being bullied, resulting in health disorders such as depression, anxiety, sleep difficulties, and migraines (Fielden et al., 2020; Magee et al., 2017; Neilsen & Einarsen, 2012).

Physiological effects

Magee et al. (2017), further add psychological health difficulties, in addition to the previously mentioned psychosomatic symptoms such as sleeplessness, loss of appetite, wrath, and headaches, can manifest physically.

Prolonged arousal can harm the body and the individual in the long run (Magee et al., 2017). Peoples stress reaction is common and not obsolete; Ursin and Eriksen (2010) argues that it is a necessary response and alert since it only elevates arousal in a potentially dangerous environment, and that it is essential for little and major difficulties in everyday life. Prolonged stress reactions, on the other hand, provide a risk of disease and illness if they are prolonged (Ursin & Eriksen, 2007). Decreased social life, professional life, and sickness, since persons with prolonged cognitive activity have health issues such as muscular discomfort, mood changes, headaches, exhaustion, anxiety, and gloomy thoughts that interfere with everyday living (Ursin & Eriksen, 2010). Dhiman (2021), concludes that workplace bullying causes mental stress, unproductivity, the loss of skilled resources, and affects the targeted individual's self-esteem. Persons who were bullied have greater stress levels than those who were not. As per the cognitive activation hypothesis of stress, cognitive pressures such as anxiety and rumination lead to poor health (Ursin & Eriksen, 2004). The target of workplace bullying focuses on determining how to combat the bullying, which is a sort of rumination, and it impacts their productivity, decreases job satisfaction, and extracts psychosomatic, physical, physiological, and psychological reactions (Quine, 2002; Sheehan & Griffiths, 2011).

As workplace bullying consists of continual verbal and nonverbal antagonism and hostility for a long length of time inside the job, it can lead an individual into a mediocre position, leaving them to be the victim of social exploit, resulting in emotions of powerlessness and dread (Magee et al., 2017). This gives them the impression that they have little control over how they deal with the bully, which adds to their sense of powerlessness. Furthermore, the expectation of the outcome has been connected to anxiety and despair (Ursin & Eriksen, 2007).

Methods

In this study, the interpretive technique was employed to

comprehend and interpret what the participants were thinking or meaning (Kivunja & Kuyini 2017). In other words, the participants understood the subject and issue, as well as how they interact with their environment. Furthermore, the interpretivist point of view opposes the concept of a unified subjective reality. Instead, they accept a socially created point of view on a variety of facts (Rehman & Alharthi, 2016). Rehman and Alharthi, (2016) go on to say that people engage with one another and with society, and that they attach meaning to and recognise a wide range of social phenomena.

This study employs a qualitative approach (Goldkuhl, 2012). As a result, this study used a qualitative data gathering technique, allowing for a more in-depth knowledge of the psychological consequences of workplace bullying and how participants experience it. Women (n=8) and men (n=4) who had been bullied at work were targeted. Since there were no defined organisational goals or an emphasis on the public or private sectors, all participants were permanently employed. Workplace bullying is not frequent in organisations, due to lack of reporting. As a result, focusing on varied organisations allows for a more comprehensive understanding of individuals' experiences. The chosen population is information-rich and hence provides the necessary data (Cresswell, 2008).

To better understand the effects of bullying in the workplace, the researchers interviewed people who had been bullied at work or were being bullied. The primary goal of the study was to conduct interviews with these individuals to ascertain the impact of workplace bullying on their overall well-being. Participants were drawn from both the private and public sectors. The researchers implemented purposeful sampling alongside snowball sampling techniques, leveraging word of mouth and telephonic outreach to identify and engage potential participants.

The participants were assured their personal information, such as names and places of employment, would be kept private and would not be published or included in the research. Participation was voluntary and participants understood they could stop the interview at any time with no repercussions and could refuse to answer any of the questions. The sample for the study consisted of 12 participants, the vast majority of which were women (n=8). From the call, all 12 participants who responded were interviewed. The subjects ranged in age from 25 to 50 years. 11 of the 12 patients examined had previous experiences with bullying, and 1 was experiencing bullying at the time of the interview.

Data analysis

Qualitative data serves a crucial purpose as it gives context for obtaining important information. In-depth interviews were

performed, and the data acquired from the participants were analysed using Braun and Clarke's (2006) six phases of analysis (familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report). The Otter transcribing tool was used to convert the spoken material into written form. Since all transcriptions were verbatim records of what the participants said, any errors in the transcription were manually corrected.

The written information was then reviewed over and over again to become acquainted. Following initial data familiarisation, the initial codes were produced by highlighting phrases or words and then coming up with labels or codes to characterise the content. During the coding process, a coding book and coding framework were used to ensure the data's trustworthiness.

Following the coding, trends were identified among the codes, and grouping began as they were sorted into the appropriate themes. Labels and other visual representations were employed to assist categorise various codes into distinct themes. Finally, the themes were given names and checked to verify they were helpful and correct.

Measures of ensuring data integrity

The study was conducted in a manner that adhered to ethical standards throughout its entirety. All participants granted informed consent. All authors declare that they possess no conflicting interests. Moreover, to substantiate the dependability of the findings, the codes were systematically categorised into themes, and direct quotations were employed in the presentation of the data outcomes. Moreover, a coding book and a coding framework were utilised throughout the coding process to ensure the trustworthiness of the data.

The researchers sought to answer the following research question.

What are the individual effects of workplace bullying and how do the targets of bullying experience it?

Results

Participants encountered the adverse effects associated with bullying. Their experiences included an assortment of obstacles, including decreased appetite, feelings of frustration, anger, anxiety, familial conflict, and trouble sleeping. Table 1, summaries the psychological effects as well as the participants who had similar experiences or psychological effects.

Table 1 Frequency of psychological effects

Common Psychological effects of bullying	Participants that experienced them
Anxiety, feeling anxious, feeling edgy	Kate, Patrick, Brendon
Frustration	Alice, Sandra, Magdalene
Weight loss	Kasey
Feeling tired	Patrick, Kasey
Irritated	Marry, Timothy
Stress	Patrick, Kasey
Sleep disturbances	Marry, Brandon, Alice, Kate, Timothy, Debra, Kasey
Fear	Kasey
Headaches	Debra
Inability to concentrate	Brandon
Not happy	Patrick
Lost confidence in self	Kate
Anger	Marry, Kate
Loss of appetite	Debra, Sandra, Elena, Kasey

In the presentation of the results, direct quotes from interviews are used. Table 2 provides examples of codes representing the effects of bullying on the individual, their description and representative quotes from interviews.

From the research question, the individual effects of workplace bullying identified, the themes which emerged were categorised *psychological or physiological effects, social effects, and physical effects* all which affected work performance.

Psychological effects

Kate, Patrick, Debra, and Mary described how bullying had affected their work and home life. Kate alluded that to date she still experienced anxiety as she has developed insomnia post the experience of workplace bullying. Patrick added on how workplace bullying has made him paranoid as he the event and the aggressor made him stressed.

“Anxiety. I still struggle with anxiety till today. Uhm, Yeah, I had a lot of anxiety. I’m still working through the anxiety as we speak. Sleepless nights. I don’t sleep. You can go for two days, you know, you’re just you’re just there you don’t sleep. You’re always edgy, you’re always nervous around uhm your boss. Yeah, the anxiety and just the sleeping disorder, was basically what I experienced.” (Kate)

“Sometime, sometimes i would feel stressed and then uh, a bit anxious, and you think of what will happen next, because you know, when you’re looking for a job, you have to work according. Sometimes I will feel anxious but mostly I was stressed most of the time.” (Patrick).

Debra’s eating patterns were disrupted as she went extreme by either eating a lot or not at all. Insomnia was another development for her and she adopted isolation as a survival strategy. Marry also shared how bullying made her emotionally irrational as she would transfer the anger to her students by snapping at them even when they are not at fault.

“I uhm started getting headaches, I a tend to want to

sleep a lot, I just want to be left alone. Uhm I don’t eat, and sometimes it’s the opposite way, when I want to sleep a lot then there’s a time I just stay awake. But mostly I just want to be left alone yeah. That is how I deal with...(hand gestures).” (Debra).

“If a learner does a simple mistake, I would snap like get angry and shout at the child even if at. And deep inside me I know that the child is not at fault and even if the child was at fault, that is not how I’d normally react. But because of how I was feeling emotionally, I’d react that way.” (Marry).

The experience of workplace bullying presents a significant threat to the psychological well-being of the participants involved, resulting in a reduced sense of belonging and compromised psychological needs. The situation was further exacerbated by victimisation based on race and tribe. Kasey articulated her experiences of being marginalised in professional opportunities due to her lack of affiliation with the favoured group, which has adversely affected her career advancement.

“Uhm, yes that one what a lot. Uhm, tribalism and racism was the most that I experienced. Because uhm, you will find that now for a certain tribe there was favouritism and for certain tribes, they don’t favour you at all.” (Kasey).

Magdalene encountered similar exclusionary conduct as Debra, arising from her racial differences and facing indirect attacks. The exclusion became more pronounced when her colleague, who was serving as the acting head of the department, directed another acting head to deny her study loan application.

“I think it was more...I suspected things that I felt like there was a bit of, you know exclusion, you know, when even if it has to do with my direct work, this person would not talk to me, but we’ll go around and go seek for whatever. So, this for the first time was more direct to me. You’re refusing to sign.” (Debra).

“Point I think I remember, there was another one. We were in a meeting in the boardroom. There was a complaint and I would call it a light complaint about the quality of my work. And this person is not my supervisor. No, we Yes, though, we work together in the same department, but our responsibilities are very different from each other. This person just out burst, you know, started saying on how ill the municipality has become, uh, not talking to me directly, but trying to influence everyone you know, to

at least maybe gang up on me, that you know, I'm not doing my job. However, but then he was ignored until I confronted him. And then again, he kept quiet for 30 minutes or at least until the meeting was ended. So yeah, that's when I started picking up something like something is not right with this person." (Magdalene).

Social effect

Kate and Mary both experienced disturbances in their family life. Bullying from the workplace spills over to the house and affects employee intimate relationships with spouses and children.

"Uhm...I developed an attitude where I was always angry. I was always uhm edgy. It affected my relationship with my partner, with my friends, with my son. I was always angry, always in a bad mood. And it with my partner, all I ever spoke about was how bad it was. That was the topic of the day, every single day. Uhm, oh, this happened at work, this happened at work, and you know, we started drifting apart because of that." (Kate).

Marry also had more arguments with her husband because the bully was her husband's friend. She experienced an intense feeling of alienation within her own home, as she found herself unable to share her experiences candidly, given that her husband had aligned himself with the aggressor. This exacerbates the sense of humiliation experienced, as if the individual's partner is oblivious to the unfolding events, prompting a profound questioning of one's own sanity.

"That this specific person like became it just like it's been, it's a name that even we even decided not to mention that name in our house anymore, because every time you know when I'm trying to tell him that this is how I feel about this person. He doesn't see any wrong in it.", "And the fact that they are friends, it was just hard for me to tell him about it. And now what made it worse, like what I could not even tell him anymore is the fact that this other specific individual will come to the other person's house. Then you tell this person that I don't like it when you go to the other house and even go there to meet this other person. And it brings a whole different argument." (Mary).

Physical and mental fatigue

Physical and mental fatigue were experienced by Patrick and Kasey. Patrick felt overworked, he was not happy at all to be in that environment as it drained him. Fatigue affected the meaningfulness of his work.

"At first, physically I thought it did not affect me. The

only thing that I felt like I was a bit more like overworked a bit. I was feeling more like overworked; I think is a mental thing that made me to get connected to the physical part of being tired. Also, the environment in which I was, I was not feeling like happy, so mostly awake here and there, but in a way, physically not that much." (Patrick).

Kasey lost weight due to fatigue experienced at work. The feeling of unhappiness was given as the main reason to the experiences of mental and physical fatigue.

"Uhhhh... Okay maybe the Workload and knowing that you are uhm knowing that you are not happy. it affected me negatively like I was always tired, weight loss, all that. Ya, so it affected me both physically and emotionally." (Kasey.)

Work performance

Patrick, Timothy, and Kasey articulated that the phenomenon of workplace bullying significantly hindered their capacity to adhere to deadlines, culminating in poor customer service and a heightened likelihood of errors, as a considerable portion of their energy was diverted towards managing the bullying. Kasey observed that operating in high-pressure environments significantly increased the likelihood of mistakes, resulting in diminished productivity and wasted resources, as tasks frequently required repetition to attain the intended outcome or standard of quality. As a result, workplace bullying significantly undermines the quality of work and adversely impacts the self-esteem of individuals who are affected.

"No, it affected in a way that I was always late with my reporting. And I always have to go and re-do the collection of data which was very strenuous on the... on the on the other colleagues that are involved in in, in collecting data. But I just had to do it again. So this... it affected I was always delayed. I was always behind with my work just because... of this kind of behaviors". (Timothy).

"My performance to some extent, but not that much, because there are things that are supposed to do, meaning when he calls me I stop, I drop those things. So it degraded a bit , so I do the things that he thinks are important while leaving the other work, carried forward for tomorrow, something like that. So the performance was slightly because I did not meet my targets. I fell a little bit short of my target." (Patrick).

"Working under pressure there is like, there is a very high possibility of uh mistakes, making many mistakes." (Kasey)

I will never recommend someone to work here

Lastly, due to participants experiences, the participants were asked if they would ever recommend the organisation to other individuals. What they have to say about the organisation, affects the reputation of the organisation, as well as their ability to obtain new employees and keep the current employees. Kate shared the effects of not doing a background check when one selects an employer and she was living with the consequences.

“No. I would be setting up; I would set a friend or family or a stranger into a disaster. I would not do that. It’s not to say that I am bad mouthing the company. But it seems like there is the culture that they had since the inception. I regret not doing thorough research on it before I joined. I regret that and unfortunately the damage is already done.” “So, the answer will be a fat, no, I would not recommend to anyone.” (Kate)

On the other hand, Kasey response was, a yes, he would recommend the organisation to someone, only if certain people are removed from the organisation. He explained that it’s not the organisation itself, but rather the individuals within the organisation. He added that there is a lot to earn and many benefits that come from his previous organisation. Alice and Patrick held a similar answer to his which focused on skill building.

Discussion

Magee et al. (2017); Taibi et al. (2022) indicated that increased absenteeism, strain, and manpower turnover affected the image of the organisation in terms of tarnishing it and increased organisational costs. These assertions resonate with the experiences by participants from Namibia. As evident from Kate who strongly felt that she would not recommend people to work at her current employer.

Kates assertions that she will not recommend anyone to work in her organisation is in line with Jex, (2002); Magee et al., (2017) who speak of reputational damage to the organisation. This affects attraction of competent employees. The study adds to the gap in knowledge in relation to workplace bullying in the Namibian context. Study findings affirm Erwandi et al. (2021), as workplace bullying needs to be incorporated into Occupational Health and Safety in Namibia.

It is evident from the themes which emerged that workplace bullying has psychological consequences. Moreover, the results indicated that there are significant negative consequences to workplace bullying that can range from psychological to physical effects as stated by Dhiman (2021). Identifying the consequences of bullying appropriate action

can be taken to proactively address the issues around bullying. Moreover, workplace bullying programs can be developed to equip employees with effective behaviours that can be used to decrease bullying. The results of the study concur with Magee et al. (2017) who found that the side effects of bullying can be irritation, fear, nervousness which could manifest themselves as psychosomatic disorders such as a loss of appetite, sleeplessness and the inability to concentrate. In addition, Einarsen and Mikklesen (2003) who found that mental effects of bullying can range from anxiety, depression and other mental disorders. Participants reported feeling anxiety, stress, having sleepless nights and loss of appetite, which concur with findings from Einarsen and Mikklesen (2003) and Magee et al. (2017). Moreover, a few participants reported having reduced self-esteem and or self-worth. This needs to be further explored within the Namibian context to enhance the understating thereof.

The most common reported psychological consequences were sleepless nights (6 participants), loss of appetite (4 participants) and frustration (3 participants). Two participants reported disturbance within their family life which included increased arguing with the spouse and a drifting relationship with children. This indicated that problems at work can affect family life, thus disrupting the social support system that is meant to support individuals going through bullying, thus possibly worsening the effects of being bullied.

However, in adopting the study findings it is important to note that even though participants felt the above effects and symptoms of the disorders, majority of participants were not diagnosed with any of the disorders and only one participant sought professional psychological help. Other participants used their close social network, such as friends and family to cope with the stressor (or bullying).

Debra and Kasey attributed their experience of bullying to culture or tribalism. They stated that they noticed a difference in treatment when compared to other colleagues of a different culture or tribe. This is a unique find and is a key thorn for organisations in Namibia to combat. Racial and ethnic differences were identified as being involved in bullying experiences. Another area affected by bullying as reported by respondents was the social impact the bullying had on participants, as some reported problems at home that were directly related to the bullying. Problems within their social support system came as a result of the respondents being angry and irritated- as they would take it out on those closest to them unintentionally. These results of the study showed that workplace bullying also affects the organisational culture and environment within the organisation. Findings from Crawford et al. (2010) indicate workplace conflict triggers negative emotions which leads to lower work engagement by

undermining employees motivation and energy at work. Participants report doing the bare minimum and lacking motivation to put in more effort into their work.

The bullying behaviours reported by participants correlate with the findings of Cunniff and Mosert, (2012); Akella, (2016) and Fielden et al. (2020) who stated that bullying behaviours include public humiliation and criticism, verbal abuse, intimidation, spreading rumours, ignoring people for a long period of time, social exclusion, impartial deadlines, separation threats, shifting opinions, allocating menial task to the individual being bullied, applications for leaves are denied, dismissal, openly flaunting power and status, mocking and professional elimination. Study findings affirm that bullying is attributed to aggressive leadership style, which was result oriented. While another participant reported being socially isolated as she was the only member of her tribe within a workplace. These highlights bullying behaviours across tribal and racial lines. Based on the findings of this research, the reasons attributed to bullying align with Dhiman (2021), who stated that less talented individuals often use bullying as a camouflage for their own shortcomings and as a means to eliminate competition. As noted by Akella (2003), the techniques of control within professional environments have evolved to be more indirect, hegemonic, and insidious, thereby rendering workplace bullying an extension of control frequently defined by obvious manipulation.

Power proximity is a major player in the bullying relationship, the results indicated that the bully was both co-workers and supervisors or managers. According to Einarsen et al. (1994), managers and supervisor are seen as the bullies. However, the results also concur with Dhiman (2021) that workplace bullying can come from co-workers. Some participants reported bullying from their co-workers, while others reported bullying from their managers or those in high positions.

In the context of workplace bullying, significant concerns emerge regarding the psychological ramifications for those subjected to such treatment. Moreover, the lack of established policies and effective communication channels within numerous organisations to tackle and mitigate different forms of bullying serves to reinforce and entrench the issue.

In this study, we found that the psychological consequences experienced by employees in their organisations, are no different from the psychological consequences experienced by other in a different context and studies (Brill et al., 2001; Fekkes et al., 2004; Li et al., 2019; Torchyan et al., 2022). The present study of psychological impact or consequences of workplace bullying, contributes to better understanding and awareness of the experiences of those who have went through and are being bullied. The study also identifies

bullying behaviours that would in turn help identify the bullies within the organisation.

Recommendations

The researchers recommend mental wellbeing checks for employees. Most employees are falling sick and organisations are losing a lot of productive time as a result of mental health. Workplace bullying if combated creates a functional work environment. Consulting mental health specialists is key for employees to ensure they do not bottle up destructive emotions. The workplace environment plays a role in facilitating or reducing workplace bullying behaviour. With appropriate structures in place to fight it, it can be reduced, therefore reducing the negative psychological effects experienced by those being bullied. The overall impact of bullying on the individual needs to be documented as organisation strive for wellbeing in the workplace.

Implications for future research

The organisational implications of workplace bullying needs to be explored. A mixed method approach can be vital as the voice of the researcher is fundamental in informing policy. The costs (financial and social) of toxic organisational environments needs to be extensively within Namibia to inform organisational policies. The cost of bullying considering the financial strain and the loss in productive time needs to be explored.

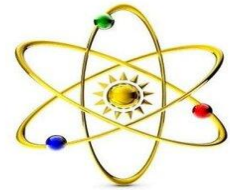
The bullied shared their experiences, the effects to the individual were identified. The study also adds to the definition of bullying as, there was a discrepancy in their understanding of the construct of bullying. Which the researchers did not invalidate despite the discrepancy, most of the participants who shared their stories reflected an awareness towards the definition of bullying.

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Original Research Article

THE LIVED EXPERIENCES OF STUDENTS IN REGARD TO THEIR MENTAL HEALTH AT THE UNIVERSITY OF NAMIBIA

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ABSTRACT

This paper enlists the findings of the Qualitative research study conducted on students at the University of Namibia. This study is concerned with the lived experiences of students registered at the University of Namibia, in regards to their mental health. The study aimed at exploring the mental health issues faced by students at the University of Namibia, investigating how students cope with their mental health challenges as well as the institutional support available at the University of Namibia to promote student's mental health. This study adapted the phenomenological design and used a qualitative research approach to yield insights around the experiences of students at the University of Namibia. The participants on whom the study was conducted on were 10 students, including 4 significant informants, specifically a lecturer, an SRC, Dean of Students as well as a Social Worker. The study comprised of exploratory and thematic analysis. The findings were categorized into codes. The codes developed from the results were stress, COVID-19, negative encounters with lecturers, codes on their coping mechanisms as well as the institutional support available to them. Some participants portrayed symptoms of depression, anxiety and stress that affect their mental wellbeing, leading to poor academic performance.

1. INTRODUCTION

Unrelenting afflictions experienced in life dictate how a person's mental health is affected; how they respond to them and therefore the actions that follow. As expressed by Lanese (2019), mental health is the "overall emotional, psychological and social wellbeing that impacts how we think, feel and behave". It may be argued that only a few people have knowledge on how

severely poor mental health, particularly on students can affect them as well as many other systems. Thus, the researcher was concerned with exploring the mental health issues faced by students attending the University of Namibia (UNAM). This facilitated probing how students cope with their mental health challenges. Furthermore, to investigate and evaluate the institutional support available at UNAM campus'

that promote student's mental health.

The mental health of students deteriorates to an extent that they are no longer productive or able to perform daily tasks. Zivin, Eisenberg, Gollust & Golberstein (2009) mention that "most of students who have problems do not receive any therapeutic or counselling services". This study aims to examine the experiences of students at the University of Namibia in relation to mental health. The present study acclimated the phenomenological research design and utilized a qualitative research approach to yield insights around the experiences of students at the University of Namibia. The sample of the present study consisted of mainly students, including 4 key informants, from the University of Namibia in the Khomas region.

A qualitative research design was utilized and may be described as an approach that "involves collecting and analysing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences" 14 (Bhandari, 2020). An analysis of the data was conducted through exploratory and thematic analysis. The key objective of the study is to explore the lived experiences of students in regards to mental health. This necessitates the urgency to help students realize the importance of maintaining good mental health and prevent chances of suicide, depression and drop-out rates.

2. MATERIALS AND METHODS

The present study utilized the phenomenological design and adapted a qualitative research approach that generated insight around the concepts of the lived experiences students at the University of Namibia display in terms of issues with their mental health. This design allows researchers to capture the narrative around the experiences of people to get a holistic view around what they experience as they describe and narrate those events. Furthermore, Bhandari (2020) observes that it can be used to collect in-depth insights into a problem or help generate new ideas.

Giorgi and Giorgi (2003) base their understanding that the goal of the phenomenological approach is to describe the meaning of the lived experiences by the people who lived it of which the way to analyze the data is to focus on what participants said while describing the phenomenon. This allowed the researcher to understand how the mental health state of students was greatly affected by academic pressures.

The target population for the present study comprised of students from the second year onwards registered at the University of Namibia for the 2021 academic year. The students were selected from various departments

from the respective faculties at the University of Namibia. The interviews were conducted on a total number of ten (10) students from the entire population with additional four (4) key informants. The key informants included one lecturer, a social worker, one of the Dean of Students, and one member from the Student Representative Council from the University of Namibia. The participants are ideal for this study because they have both been exposed to academic pressures as well as how demanding it can be.

The researcher selected three (3) participants to represent the sample size, two students and a lecturer. These three (3) participants selected as a sample were the population on which the pre-test was conducted. This study comprised of (n=14) participants representing the entire population on whom the researcher gathered data from. Of these, ten (10) were the students and four (4) were the key informants. Due to the nature and scope of the study, the purposive sampling method was utilized. This involved identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell & Plano, 2011).

The entire research study undertook of both a non-physical and physical setting. From the process of attaining participants to gathering data and having it analyzed, this was all conducted online, face to face and telephonic platforms. This enabled the researcher to observe reactions as well as non-verbal cues from the participants as the researcher posed the questions to them. The study took on a purposive random sampling method to gather data by selecting at random students registered from second year onwards within the various faculties. This type of sampling is often used when working with diverse people to allow one access to various opinions. It ensured that there was no bias or discrimination that would have aided in yielding inaccurate results.

Due to the nature and scope of the present study a pilot study needed to be conducted in order to determine the feasibility of the research study. The researcher utilized open-ended surveys as a tool for pretesting and semistructured face to face and telephonic interview guides for the actual data collection. A pre-test "involves administering the interview to a group of individuals that have similar characteristics to the target study population, and in a manner that replicates how the data collection session will be introduced and what type of study materials will be administered" (Hurst et al., 2015). The pre-test survey was done in a manner closely

similar to the actual study from gathering participants, collecting data up to the final steps of analyzing the data. This was necessary to determine if the research design and methodology were appropriate for the research study and would produce accurate and reliable results beneficial to the study. The researcher conducted a pilot study on a total of three participants. This process was identical to that of the actual study in how participants were gathered, collecting the data as well 16 as how it was analyzed.

As highlighted above, the research undertook semi-structured telephonic and face to face interviews and analyzed the data by emulating the steps for qualitative data analysis. The researcher conducted the pilot study on the participants chosen to determine if the methodology, tools and research design was appropriate and feasible without loopholes that may have led to data misinterpretation and/or mistakes. The interviews consisted of different questions for the different population types. For example, the interview questions for the students varied from the ones of the key informants. The researcher conducted the interview on the sample population and analyzed data using the steps for data analysis in qualitative research. The purpose of this was to ensure that the questions, instruments and data analysis tool were of standard and yielded accurate, reliable and representative data when conducting the actual study. The basis to conduct the actual study was dependent on responses and accuracy of data the tools produced. The pre-test was conducted ethically to ensure that no harm was caused due to failure to properly conduct the study and act with professionalism.

The choice of a telephonic and face to face interview with the participants was an ideal research instrument. Due to the COVID-19 pandemic, it has impacted several aspects of life, including academia, institutions and policies in place. By placing preconceived ideas aside, the researcher conducted the interviews and asked participants about their experiences as well as to narrate if they have experienced mental health issues and encourage them to describe those moments, their feelings and thoughts as well as what they have done in such situations. The researcher probed further to determine if it was a recurring incident. This instrument was necessary because it allowed participants to express themselves and describe their experiences copiously, thus, resulting in the research having access to raw data and first-hand information that aided in the purpose of this study.

This research study comprised of both exploratory and thematic analysis. Exploratory analysis entails gaining new insights, discovering ideas to increase knowledge about a particular phenomenon. Thematic analysis “is a qualitative data analysis method that involves reading

through a data set (such as transcripts from in depth interviews or focus groups), and identifying patterns in meaning across the data” (Braun & Clarke, 2006). It helped the researcher “generate new insights and concepts derived from data (Braun & Clarke, 2006). The research had its basis on thematic and content analysis. The researcher identified common responses and patterns within the data and explored those areas. Based on the permission from participants, the researcher recorded the interviews and transcribed them, listened and re-listened to them and then grouped into themes. Thereafter, data was compiled, compared and conclusions were drawn out.

Most types of qualitative data analysis share the same five steps (Bhandari, 2020). Preparing and organizing the data which means transcribing the interviews, reviewing it and examining it for patterns or repeated ideas that may unfold (Bhandari, 2020). In qualitative analysis, the researcher goes through each participant’s responses and attaches codes to the data and creates new codes to add to your system, if necessary, especially when there are recurring themes. Thereafter, the researcher links the codes together into cohesive themes. To conclude the data, it is important that the researcher review and revise themes in order to compose narrative (Braun & Clarke, 2006). This process was adopted by the researcher to collect and analyze the data collected. As a means to add significance to the study, analyzing the data was done in a way that was ethical and with absolute honesty

3. RESULTS

This section consists of the demographic information of participants, themes and codes that were allocated as well as what they present in the data and quotations from participants supporting those themes.

TABLE 1. DEMOGRAPHIC DATA AND CHARACTERISTICS OF STUDENTS

(a) Age	(b) Relationship Status	(c) Accommodation Style	(d) Campus	(e) Level of Study	
18-23 Years	7 Single	10 Renting	5 Oshakati	3 Second Year	2
24-29 Years	3 Married	0 Hostel	2 Ogongo	2 Third Year	1
			Hilikepunye Pohamba	4	
30 above	0 Divorced	0 Living with Family	3 JEDS	1 Fourth Year	7
	0 Other				

According to the data represented in Table 1, part (a), the majority (7) of participants were in the age category of 18-23 years of age during the time of research and only three (3) participants who were within the age category of 24-29 during the time of

research. In regards to the relationship status (b), all the participants reported that they were single with none of them married or divorced during the time research was conducted. As evident in the data presentation in Table 1 above, participant’s accommodation style (c) shows that majority (5) of the participants were renting, with three participants (3) living with family and two participants (2) residing in the hostel. Furthermore, column (d) demonstrated in Table 1 represents the various UNAM campuses, where the participants were registered, during the period the research was conducted, establishes that most (4) of the participants were registered at the Hifikepunye Pohamba UNAM campus. Second majority (3) of the participants were registered at the Oshakati UNAM campus, two (2) participants registered at the Ogongo UNAM campus and one (1) participant registered at the Jose Eduardo dos Santos UNAM Campus. Lastly, part (e) of Table 1 indicates the level of study of the participants which indicates that the majority (7) of participants were fourth year students, with two (2) second year students and one (1) third year student.

Overall, Table 1 represents the data collected of the students who were interviewed according to their age, relationship status, accommodation style, campus registered at as well as their current level of study during the time research was conducted.

TABLE 2. DEMOGRAPHIC DATA AND CHARACTERISTICS OF KEY INFORMANTS

1. Job Title/Occupation	2. Campus	3. Position
Lecturer	Main Campus	Lecturer for Security and Strategic Studies
Dean of Students	Main Campus	Academic Councillor
Student Representative Council	Main Campus	Secretary for Community Development and Gender Affairs
Social Worker	Main Campus	Student Councillor

Table 2 indicates the demographic data of the key informants. The researcher interviewed a social worker, student representative council, a member of the dean of students as well as a lecturer. All key informants were registered at the UNAM main campus during the time research was conducted. As indicated in the Table 2, Part (3), the lecturer teaches security and strategic studies. As represented in Table 2, the dean of students held the position of academic councillor at the time research was conducted. The student representative council held the position of secretary for community development and gender affairs at the time of the research with the social worker holding the position of student councillor. In total these were the key informants that provided information that aided in the purpose of the research.

4. LIVED EXPERIENCES

4.1 STRESS

From the data collected, the researcher identified stress as a factor that affected students caused by experiences with school or personal related stress. The participants all indicated issues that led to stress such as finances, pressures from school, insufficient time allocated to read through study material and notes and events that occurred in their lives that has impacted them. Participant 10 stated that she stresses because she feels she is “given too much work to do ... I feel like sometimes it’s just too much to handle”. On the other hand, participant 6 stated that she is stressed by emotional/personal issues more than she is about academics. Participant 2 also stated that “it’s not easy managing how I am trying to shape my life and how things are piled up” indicating that he struggles to find a balance between school and personal life.

Financial burdens also weigh a load on students as participant 1 indicated that financial problems affect her academics due to the passing of her father which resulted in a decrease in academic performance and good financial standing. Participant 8 stated that students often aren’t able to attend classes due to financial constraints where they don’t have money to buy data or ‘AWEH’. Participant 3 described the difficulty of finances for students as they “don’t have money to come to school every day”.

Participants indicated that there was insufficient time allocated to read through course material and notes before assessments. Participant 6 stated that “notes are sent to a group at once and it’s a lot, you just go through due to a test upcoming but does not learn anything” and that there are too many assignments that need to be completed and so many tests in one day. Participant 3 feels the work from school is too much to handle because sometimes they get too many assignments to complete at once. Participant 2 stated that “if time is not enough, students panic and tend to do things rashly and does not really do them the right way”.

Most of the participants specified that something that occurred in their life has affected them and their academics either positively or negatively. Participant 10 stated that because she got pregnant, it changed her and resulted in her overthinking a lot with school on the side and family on the other. She also feels traumatized by something that has affected her and her academics. Participant 8 indicated that were a few things that positively affected her but is traumatized by a spiritual occurrence in her life. Participant 6 stated that she is emotionally affected by negative childhood treatment and the

discouraging words of her mother towards her failed grades.

4.2. CORONA VIRUS

The aspects of life have been impacted both negatively and positively by most, including students and their academics. Most of the participants stated that COVID-19 affected their learning negatively. From what participants have stated, it appears that with the impact of the Corona Virus, lectures are done online, students do not have electricity in rural areas, they don't have computers or laptops to attend online lectures as well as the TN Mobile cards are not working properly in those remote areas.

Participant 10 stated that it has been a challenge because "you don't get to interact with your lecturers in person". Participant 10 also believes "things were not explained in detail, you were just given notes to read through and ask questions, if you have which sometimes you don't even have because you don't understand at all". Participant 1 stated that "some lecturers don't teach at all". Participant 9 feels like the COVID-19 situation has changed the definition of learning as "people don't learn anymore". Key informant 2 believes that for students living in remote areas, they have been affected as well due to lack of electricity at home to charge laptops or phone to complete assignments and attend classes.

Participant 6 feels she is not really learning and hope they are writing exams online because it's not fair to write face-to-face exams for things done online. Participants 4 stated that "writing exams is harder now because when studying, the things weren't taught in class, sometimes lecturers just drop the notes and you have to study on your own which is difficult but you just have to study and understand everything so that you can pass".

4.3 LECTURERS

Participants indicated that lecturers were also one of the reasons why they had negative experiences that affected their mental health. Their responses indicated that lecturers do not give feedback or respond to their emails on time and they give students negative remarks and do not approach students very well. Participants stated that some lecturers are not serious when delivering study materials and they send notes to students for them to study on their own. Participants indicated that they feel lecturers give too much and unnecessary work and that they are not lenient.

Key Informant 1 stated that lectures "will teach you these things but it's the things that will never come in the examination". Key Informant 4 stated that "they do

things and say things without knowing how it would impact the students". Participant 10 stated that "lecturers should stop this thing of 'you students are going to fail' because already as a student you are on pressure and then when you hear your lecturer say that, it puts your hopes down completely. Participant 6 stated that lecturers are the cause of her academic stress because they like doing everything at once, sometimes you complain but they say "no, that is not my fault, I just want my work done".

5. COPING MECHANISMS

Participants responded to various ways of dealing with their academic stress or issues that posed a threat to their mental health whether personal or school related. Most of the participants indicated that they had a relationship with God, the read books, arts and crafts, watched YouTube videos/movies or series. Some of the participants would listen to music, exercise, singing and dancing, had a support system, engaged in sporting activities, slept and became fond of positive thinking and self-organization. Some participants would ask help from people or spend their time on social media.

Participant 10 believes that religion is very important as it is a part of a sense of belonging. Participant 9 stated that she sleeps when stressed/overwhelmed, eat, watch YouTube videos to motivate her and encourages her to move on. Participant 6 stated that she turns to God to pray when she has breakdowns

6. INSTITUTIONAL SUPPORT

When asked about the institutional challenges they experience, participants responded that the University of Namibia has inadequate services and not many programs available. Participants also indicated that they have challenges with online learning/unfamiliarity with Moodle/e-learning and that the connectivity cards (TN Mobile) are not effective or have enough data bundles. Participants also mentioned that the University only responds to students when they demand for action and that there is no support from the University to help students experiencing challenges.

Participant 8 feels that the University does not have programs to help students ease their academic load. In response to a question of there being programs in place to help students ease their academic load, key informant 1 stated that "I'm not aware of that but perhaps there should be programs". Participant 7 stated that the system usually has errors, marks that go missing or are

entered incorrectly. Participant 2 believes that the University “should develop user friendly techniques of administering information to students”. Key informant 4 stated that “UNAM is a mess” and that the university should fix this “boring, stupid system that they brought” and teach lecturers how to work with students to help them.

7. DISCUSSIONS

According to data collected, it is evident that aspects of student life has been affected that has hindered them from performing well academically. Some students indicated that they had a few instances when they were unable to concentrate due to mental health related challenges such as when they experienced stressful situations resulting from financial issues, academic pressure and personal problems. Participants indicated that they experienced an event that had either a negative or positive impact on them and their academics. This event has also had significant effect on their mental well-being as some have indicated that they are traumatized or consider the event as traumatizing. Psychological distress of participants was a result of stress from financial issues, personal and school related stress as well as the pressure they receive from family and friends to succeed in their academics. The researcher believes that students experience a vast number of negative effects as compared to the few positive effects that come on a time-to-time basis in relation to their physical, emotional, mental and academic well-being. According to figures among the responses of participants regarding suicide ideation and attempted suicide, the factors that prompted it was issues with family members, difficulties stemming from failed modules, mental health related challenges such as stress and coexisting mental illnesses such as depression and anxiety.

During the time the research study was conducted, participants indicated that they had areas in their lives where they thought about committing suicide were close to fulfilling the act. The reasons stated were mostly due to personal issues and academic challenges. Various mental illnesses were discovered which participants stated to have experienced, displayed symptoms of as well as what key informants have observed among the student population. Participants on who the study was conducted on displayed symptoms of mental illnesses such as depression and anxiety and mental health related issues such as stress that stood as a contributing factor in psychological distress and impairment in proper functioning leading to poor academic performance. Participants’ sleep and eating patterns were affected due to personal problems such as issues at home, a load of tasks they had to complete and insomnia.

Participants would complain that because the work and

stress is too much, they wouldn’t be able to eat well or sleep trying to juggle all the responsibilities. Most of the participants indicated that stress was due to academics such as a failing grade, things were too much to handle and lecturers who would not be supportive to them which in some cases led to emotional breakdowns. Some participants felt they were drained physically and emotionally and lost their appetite. This is a growing concern which should be taken seriously if this number should begin to decrease in the coming years. Suicide ideation was a result of pressure from past trauma, low academic performance, symptoms of an existing mental illness and lack of a support system. All participants indicated to have contemplated suicide. Some participants were able to identify suicide ideation within themselves and others identified it in their close friends who either did commit suicide or attempted to do so.

Three participants had symptoms of depression while three participants indicated they had depressive episodes such as not getting out of bed because they were unmotivated, disconnected from family and friends and the amount of stress that weighed heavy on them. Other participants either had no clear signs or had minor symptoms of depression.

Some participants were able to identify those members of their family who had mental illnesses and acknowledged that it was a generational occurrence. However, most of the participants stated they did not think they had a mental illness. Even though students are most likely to fall into depression, it is hard for the researcher to conclude that due to that statement, other students do not have depression. Based on responses from a key informant, the month of October is where there is a high number of psychological distress because students migrate closer to exams and when their CA marks are not up to standard, they fear that it is already too late falling into hopelessness, suicide ideation and anxiety which leads to depression. Most of the participants did not portray any signs or symptoms of panic attacks but minor anxiety when they would worry about a certain module, their marks as well as if they would qualify for examination. Some participants indicated a history of headaches; others reported they barely have headaches or that they only got headaches from stressing about school or the amount of work to complete.

Most of the participants indicated they barely had mood swings, and those who did were experiencing personal related stress. All the

participants indicated to have had at least, one stressful moment that affected them to a certain extent. These stressors were caused by academic responsibility and pressure, personal related issues such as relationships, problems at home with family as well as institutional related such as problems with the system and lecturers who do not respond to students needs and challenges on time. The COVID-19 pandemic has also caused students to stress as they were unable to get access to resources and material due to the regulations in place and decrease in performance due to a transition from face-to-face teaching to the online teaching. Based on the responses from participants, they have adopted healthy coping mechanisms as well as have good support systems. Participants indicated that they engage in exercise, watch encouraging videos on YouTube and sleep.

The researcher believes that due to the many challenges that the participants indicated to experience, it has been their support system and coping strategies that have kept them afloat amidst of their academic challenges. The participants indicated that they felt there weren't any programs or support from the University to help address their needs and mental health challenges. Most of the participants stated that they have a family member as their support system while a few stated they had a close friend. As mentioned above, the following factors that led to participants resorting to their coping mechanisms. These factors include significant life changes such as the COVID-19 pandemic, family, relationship issues, financial challenges and academic pressure. This study has allowed the researcher to believe that when students are overwhelmed with school work, they can easily fall into psychological distress and find difficulty in completing their tasks. Also, with significant mental health deterioration, students can quickly develop mental illnesses or have a mental illness which was dormant to be triggered and may lead to further mental health deterioration, low academic and personal performance.

The University of Namibia has various programs that run from beginning of an academic year to the end of one. However, participants feel there are insufficient programs that address the emotional and mental health of students. Most of the participants encouraged that the University should implement more programs that allow for students to openly talk and discuss their challenges with relevant parties, have awareness of mental illnesses affecting the academics of students as well as support from the University when faced with a heavy work load. This allowed students to be sensitized about various issues that affect them, understand that mental illness does not symbolize craziness including the idea of feeling hopeless when facing a difficulty.

8. RECOMMENDATIONS

Based on the findings of this study, the researcher has compiled recommendations for future reference and studies that will be undertaken in this nature. These recommendations serve as basis for improvement and enhancement of services and resources available to the student population to improve their mental health.

The recommendations are to the following role players:

8.1 STUDENTS:

Students need to be more organized, plan in advance, anticipate upcoming assignments, talk to SRCs or leaders on campus to refer you to someone you can talk to. Students should be committed to their school work and attend forums and educational events hosted by the University. Students should engage in planning and scheduling to ensure that they finish their work on time. Students should not be ignorant but consider those in the capacity to help them in their challenges and ask for help/direction wherever needed. Students should not procrastinate and avoid work but should aim to get things done on time. Students should talk to someone when experiencing academic pressures to avoid suicide and mental illnesses as a result of a high workload. Students should prioritize and put effort into their work to be able to submit quality academic work.

8.2 THE UNIVERSITY OF NAMIBIA:

8.2.1 Directorate of Students Affairs: The University of Namibia should put more programs in place that cater to the needs of students to ensure that issues with their mental health do not affect their academics. The University should create mental health clubs where students can engage in discussion aimed at improving their mental health, academics as well as addressing challenges students may be experiencing. The University should introduce forums that allow students especially first year students to familiarize themselves with various parts and departments around the campus and which facilities cater to which needs and so forth.

The University should invest in helping students such as buying computers, scanners etc. The University should improve their management and accountability/availability to student needs. The University should have policies in place that speak to students needs and address their challenges as well as activities that targets improving psychological, emotional and mental health related difficulties that impede students well-functioning and academic performance. The University should

be involved in conducting research on a more professional level means to determine student experience and improve services as well as student's mental health status. The University needs to involve students to get first-hand information about their experiences and challenges faced in order to know which areas to deal with. This can be achieved by having surveys on student portals that they would fill in stating what challenges they have or recommendation for improvement.

The University needs to implement more recreational activities that allow students to 'blow off steam' in a healthier as compared to resorting to drugs and alcohol. Social workers and school councillors should conduct group related activities to decrease chances of suicide or experiencing mental health related challenges and dealing with it without proper and professional treatment. The University should take action into ensuring that they create awareness on programs and facilities available to students that help them with their academic and mental challenges and departments where these students can receive proper help and assistance. These programs should aim at exploring the various mental illnesses that students may display such as schizophrenia, bipolar, depression and many others. The University should also address the need to raise awareness of student councilors such as psychologists or social workers available on campus who students can be referred to when seeking psychosocial or academic assistance. Departments and faculties should engage with lecturers and address the negative manner in which they approach students.

The University should enlist people that students are able to talk to about their problems and challenges on a more personal level or have councilors step down from being too formal with students and become more approachable and relating to students enabling the students to be more open about their challenges and mental illnesses. The Student Representative Council (SRC) should have a program in place that address the immediate need of students that strengthen their well-functioning as well as the mental health of students. SRCs should be take up the concerns of students with either the management of UNAM, a specific department or personally with lecturers when addressing a need or challenge students may have. The SRC should identify students that are experiencing challenges and take it up with relevant departments to address those issues.

8.2.2 Registrar's Office: The University should fix the grading system that have often led to students' marks to go missing, errors and inability for students to have a smooth registration process. The University should work on improving internet connectivity and providing excellent Wi-Fi and network due to the fact most of student's activities are done online and require proper

connection to internet to fulfil their academic responsibilities. The connectivity fees being charged are too high for students to not be able to access the internet, thus, it is imperative that the data bundle is increased or that the connection is strengthened. Equipment such as projectors, projecting screen, mics and speakers should be fixed to avoid difficulty students experience of not being able to hear lecturers speak when in a class with many students.

8.2.3 Finance Office: The fact that students pay hefty sums of money for tuition, it is unfair that the university charge them for proof of registration as well as academic records. Therefore, the University should waive the fees allocated to provide students with academic records or proof of registration.

8.2.4 Center for Innovation in Learning and Teaching (CILT): The University should set up discussion forums on the Moodle platforms/portals where students can discuss various areas that are posing threat to their academics or challenges, they are facing which can be taken up with the management board of UNAM to implement and address accordingly. The forums would also help students be mentally prepared and assess their challenges and readiness for academia.

8.2.5 Library: The University should ensure that all the books and academic material that students require are readily available in the library.

8.3 ACADEMICS (LECTURERS):

Lecturers should be more lenient especially when students have high workloads and a busy schedule to complete on that specific day/time. Engage in proper communication with students. Respond to emails and phone calls. Lecturers should be in their offices according to the time indicated for consultation so that they are able to assist students with the concerns raised. Lecturers should not direct personal stress onto students as it is of an unfair nature to do so, therefore, lecturers ought to be professionally responsive.

Lecturers should consider the opinions of students before they give tests or assignments and give students suitable submission dates for assessment which will allow students a chance to manage their tasks better. Lecturers should also consider the fact that some things are beyond the control of students before attempting to fail a student when a task is not completed.

Due to the COVID-19 pandemic, lecturers should be more understanding to students who do not

have the resources to complete a certain task. In practical situations, lecturers should teach students in their natural settings for them to understand things better, especially for courses such as nursing etc.

During the period lecturers release the students Continuous Assessment marks, lecturers should avoid giving last minute tests and assignments that put pressure on students and result in a low grade and minimal chance of qualifying for examination. This would ensure that students do not endure psychological distress which would lead to the development of mental illnesses or triggering an underlying mental health illness.

Lecturers should engage more with their students to understand how they perform, their learning styles as well as give support to students when they face an academic difficulty.

8.4 OTHER ACADEMIC INSTITUTIONS:

Other tertiary institutions should consider implementing services that cater towards addressing the needs of students and their challenges to prevent the increase of mental health related issues or the development of mental illnesses. These institutions should also conduct similar research studies on their student population to discover what challenges their students are facing and ways to address those impediments.

9. CONCLUSION

This study adapted a phenomenological design and qualitative approach to highlight the narrative pertaining to the experiences of the student population registered at the University of Namibia. In order to determine what challenges, they encounter in terms of their mental health. Overall, the researcher is of the inclination that the conditions experienced by students registered at the University of Namibia are not favorable to students' mental health and their academic growth. Students experience many hardships being a student, together with the difficulty from their personal life, it becomes even harder for an individual to function under those circumstances. With the absence of programs that allow students to explore their challenges and find ways to address them, it creates an ongoing struggle for students to perform well academically and personally.

This research study paved the way for students to become more aware of their experiences and how they lead to mental health challenges. It also allowed the researcher to identify loopholes within the management of the University of Namibia. Overall, this research study has been able to uncover the little things that were often not considered important but had a drastic impact on not only students but how lecturers and key staff at the University of Namibia conduct their academic work.

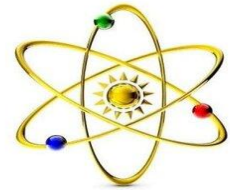
The researcher was able to accomplish the objectives of this study which were to identify and explore the mental health issues faced by students at the University of Namibia of which in this case are stress, mental illness such as depression, anxiety, and COVID-19 related difficulties. The researcher has also investigated how students cope with their mental health challenges which were identified that some students use sleep, music and exercise, to mention a few, as a means of coping with their challenges. Furthermore, the findings indicate that the institutional support available at UNAM to promote student's mental health is somewhat the bare minimum as to what should be of standard. Social work is geared towards improving the lives of individual experiencing social and personal ills and educating them on different ways they can enhance themselves.

10. ACKNOWLEDGEMENTS

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Original Research Article

Positive psychology research within the workplace in Namibia: Findings and prospects for the future

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ABSTRACT

The field of Psychology has been criticised as being overly focused on pathology and less on the positive aspects of human functioning. Positive psychology research assesses what is going well and try to find ways to learn from those phenomena to enhance positive functioning amongst human beings. Making use of a desk study review, this study discusses research related to Positive psychology conducted in Namibia related to the world of work. This study focused on research work published during 2009-2019 within different industries ranging from education, health and social services, governmental institutions, service industry and the mining sector. Recommendations span from enhancing the positive human qualities, identifying factors that work against positive functioning, enhancing the working environment, improving healthy styles of leadership and developing the overall well-being of the organisation. This study aims to consolidate what has been researched within the Namibian context, taking stock and guiding the future approaches and focus within the field of Positive psychology. There is limited research within the field of Positive psychology and even less within the Namibian context. This study aims to reduce that gap within knowledge and within the field of psychology.

1. Introduction

Positive psychology is a sub-discipline of psychology related to identifying and developing factors that enhance the well-being and thriving of individuals, organisations and communities (Seligman & Csikszentmihalyi, 2000). Positive organisational behaviour (POB) and positive organisational scholarship (POS) focus on the study and application of positive human strengths and psychological capacities to enhance organisational performance (Cameron & Spreitzer, 2012). Positive Organisational

Psychology (POP) is the scientific study focusing on positive experiences and traits of individuals within the workplace and positive organisations (Donaldson & Ko, 2010). POP and POS/POB aim to enhance the effectiveness and quality of life of employees within organisations. The literature discussed focuses on positive psychology research within Namibian organisations.

Namibia's economy is mainly driven by tourism, agriculture, the mining and fishing industries. According to the Namibian Statistics Agency (2017),

the unemployment rate in 2016 was estimated at 34% with female unemployment being higher than male unemployment. Gender roles and levels of education may negatively influence female employment (Bhorat, 2007). The girl-child may be required to attend to domestic chores in and around the house while the boy-child is allowed to attend school. Males are regarded as breadwinners; thus, being required to find a job. Female roles include staying at home, looking after the children and doing domestic chores (Bhorat, 2007). Namibia has a high-income disparity with 10% of the population receiving 51.8% of the total income share. The GDP per capita of Namibia was recorded at 6 013.3 US\$ in 2017. It was reported that in 2016, 66.5% of the employed population was employed in the informal employment sector (Namibia Statistics Agency, 2017).

2. Methodology

This study made use of a scoping review, focusing on studies published within the field of Positive psychology. Making use of a scoping review this study was able to identify the nature and extend of literature within Positive Psychology in Namibia. Only literature published in English was included in this review. The study focused on research published between 2009-2019 which included masters and PhD thesis/dissertations, articles published nationally and internationally. Literature were sources from the University of Namibia institutional repository and journal data basis.

Search terms included positive psychology and variables focused on in the literature such as psychological conditions, organisational citizenship behaviour, organisational commitment, psychological empowerment, job satisfaction, basic psychological needs satisfaction, job resources, organisational support, authentic leadership, work engagement, coping, psychological capital, organisational climate, satisfaction of life, organisational justice, work-life balance and psychological well-being. The 21 studies were conducted in the different sectors/industries such as education, health and social services, governmental institutions, service industry and the mining sector. Thematic analysis was used to develop themes and organise the data according to industry and thematic area.

3. Discussion of literature

3.1 Positive psychology research in Namibian workplaces

In this section, positive psychology research that focused on the education sector, health and social services, governmental institutions, service industry and mining sector in Namibia are discussed. Positive psychology variables are often investigated in combination with negative job outcomes or attitudes.

3.2 Positive psychology research related to the education sector

3.2.1 Primary and secondary education

Victor (2011) indicated that the Namibian education system is flawed and needs to be investigated thoroughly to ensure that all stakeholders can contribute. A holistic approach is the only way to remedy the situation. Teachers are often blamed when learners underperform at school (Victor, 2011). Smith (2018) reported that about 50 000 grade 10 and 12 learners failed in 2017. At the same time, the education system experienced budget cuts during the 2017/2018 financial year (Shapwanale, 2018). These monies are used to pay for operational costs, to buy textbooks and teaching materials. Finances assist the Ministry to recruit, train and develop teachers to ensure quality delivery of education. The Ministry of Education, Arts and Culture announced its new targets for 2018 focusing on higher primary school intake and university admission that was about double the current targets (Shapwanale, 2018). These opportunities can be celebrated, considering the impact of apartheid and colonial rule, but may at the same time cause concern. During apartheid in Namibia, not all Namibians had access to schooling and the government is trying to provide access to all Namibians. Setting higher targets require the needed resources to facilitate these changes. Education is regarded as the greatest equaliser and the gateway to economic and social independence, but the enablers of education are scarce in Namibia (Pieters & Auanga, 2018). Despite these challenges, Namibia is doing better than countries like Tanzania and Malawi, where an even higher number of children do not go to school, experience poor infrastructure, experience a lack of qualified teachers and limited resources (UNESCO, 2016). Regardless, the challenges within primary and secondary education need to be addressed to enhance the possibility of tertiary education and economic success in Namibia.

Teacher attrition is occurring throughout the world and Namibia is no exception (retirement, death, resignation or relocation) (Janik, 2013). He investigated the relationship between work-role fit, psychological conditions, work engagement, organisational citizenship behaviour and turnover intention. Psychological conditions consist of psychological meaningfulness, psychological availability and psychological safety (Kahn, 1990). Psychological meaningfulness is defined as the meaning attached to doing one's job, how important the job is to the people they serve and how balanced the input and outcomes are (physical, emotional and cognitive). Psychological availability focuses on the perceived skills and abilities of employees in relation to the expectations of their work. Psychological safety deals with the degree to which employees feel safe to make mistakes or express themselves without fear of being ridiculed or embarrassed at work (Kahn, 1990). Janik (2013) found a negative relationship between

psychological meaningfulness, psychological safety and psychological availability; and turnover intention. Turnover intention on the other hand is defined as employees' intention to leave their current work and not to remain part of the organisation (Mensele & Coetzee, 2014). Work-role fit, which also forms part of the study, is defined as the degree to which the job characteristics match the skills and abilities of an employee or how the values of the employee match those of the organisation (May, Gilson, & Harter, 2004). Janik (2013) found that when teachers experience a greater work-role fit, teachers identify with the educational institution and perform more activities beyond the expectations of their employment contract (OCB) instead of leaving the teaching sector. Organisational citizenship behaviour (OCB) is defined as the extra-role behaviour that employees engage in which does not form part of their job description (Spector & Fox, 2010). Janik (2013) found that organisational citizenship behaviour related positively to work engagement. Work engagement can be defined as an affective, positive work-related state consisting of vigour (mental resilience and energy), dedication (enthusiasm, pride) and absorption (fully concentrated, taken in by work activity) (Bakker, Schaufeli, Leiter, & Taris, 2008). Adding on to the findings of Janik (2013), Morin (2008) found that meaningful work influenced commitment and mental health of employees in Canada. Organisations that provide employees with the required resources and a healthy working environment are likely to harness the highest performance of employees.

Marques and Janik (2016) conducted a study on teachers to assess how job factors (work engagement, organisational commitment) and psychological states (psychological availability, meaningfulness, psychological availability, autonomy) influence the OCB of teachers in Namibia. Teachers who are equipped with the needed skills and abilities and experience meaning, are likely to experience organisational commitment and work towards the goals and objectives of the school (work engagement) (Marques & Janik, 2016). Organisational commitment is defined as the way employees identify with the organisation (Lok, Westwood, & Crawford, 2005). Organisational commitment is characterised by normative, continuance and affective commitment (Meyer, Allen, & Smith, 1993). Normative commitment refers to commitment towards the organisation because of perceived obligation to stay because of sacrifices undergone by the organisation for the employee. Continuance commitment deals with the commitment of employees due to the fear of losing the benefits related to being a member of the organisation. Affective commitment is the psychological identification with the organisation and the desire to stay and work towards the goals of the organisation (Meyer et al., 1993). Organisational commitment, work engagement and positive psychological states predicted organisational citizenship behaviour of primary school teachers in Namibia (Marques & Janik, 2016). Extra-role behaviour may influence the performance of teachers and the

grades of learners.

Pieters and Auanga (2018) conducted a study to investigate how organisational commitment, organisational justice, and psychological conditions impact work engagement of teachers in Namibia. Organisational justice is employees' evaluation of fairness within the organisation (Greenberg, 2011). Organisational justice comprises of distributive (fairness related to distribution of rewards and punishment); procedural (procedures being followed and applied fairly and consistently); informational (information used to make these decisions), and interpersonal justice (interaction with people even when they have not complied with organisation policies). Teachers who are committed towards the institution (school) are likely to want to work towards the goals of the institution (Pieters & Auanga, 2018). Pieters and Auanga (2018) found that teachers would become committed towards an institution that practises organisational justice and where teachers and supervisors experience healthy interactions. Teachers would identify with an institution when they experience meaning and are equipped with the needed resources, skills and abilities to execute their jobs (Pieters & Auanga, 2018). Normative commitment, psychological meaningfulness and psychological availability predicted teachers' dedication. Psychological meaningfulness and psychological availability predicted absorption of teachers (Pieters & Auanga, 2018). This study highlighted the importance of doing a job that is meaningful and important. Psychological resources mitigate the impact of limited job resources, organisational changes, enhance teachers' commitment and encourage hard work.

3.2.2 Tertiary education

Tertiary institutions are constantly evolving and trying to compete with national and international institutions. The education system in South Africa, neighbours to Namibia, has been changed to allow access to university for more students; however, students drop out of tertiary institutions because of financial, social and health problems (Chetty & Pather, 2015). While conducting research on academics in Namibia, Pieters (2016b) found that psychological empowerment had a positive relationship with job satisfaction related to autonomy, social (working relationships), advancement and intrinsic job satisfaction. Psychological empowerment is characterised by meaning (importance of a goal), competence (feeling of accomplishment after skilful execution of work duties), self-determination (being able to guide and decide about your work activities) and impact (ability to influence outcomes at work) (Thomas & Velthouse, 1990). Psychological empowerment is shaped by the working environment (Thomas & Velthouse, 1990), and psychological empowerment influences productivity and the job attitudes of employees (Bhatnagar, 2007). Job satisfaction can be defined as an employee's overall evaluation of his/her

job. This evaluation can be positive or negative (Judge & Kammeyer-Mueller, 2012). Job satisfaction can be influenced by extrinsic (pay, benefits, working conditions) and intrinsic factors (skill utilisation, autonomy, meaning). Satisfaction with advancement opportunities and social relations are significant predictors of affective commitment of university staff (Pieters, 2016b).

It was found that when university employees are working in a healthy and conducive working environment, they are likely to become more committed towards the university, engage in their work roles, prefer to stay at the university and experience fewer negative health outcomes (Marques, 2013). A healthy work environment had a negative relationship with turnover intention and general ill-health dimensions (somatic symptoms, anxiety, and social dysfunction) of university staff. Job resources that contribute to a healthy environment may help retain scarce academic resources (i.e., staff) especially when lecturing staff resign, move to other tertiary institutions or organisations within Namibia and outside the country (Marques, 2013). The brain drain (turnover) has been evident in many African countries.

It is important to keep academic staff members engaged to retain them (Pieters, 2018b). Committed employees in tertiary education are likely to contribute to the success and profits of the institution (Pieters, 2018b). The satisfaction of basic psychological needs (autonomy, relatedness and competence), affective and normative commitment has a positive relation with work engagement of academic staff (Pieters, 2018b). Affective and normative commitment predicted vigour, absorption and dedication of academic staff (Pieters, 2018b). Adding on to the study of Pieters (2018b), Arshadi (2010) found that need satisfaction had a positive relationship with work motivation and performance for employees in Iran. Employees who experience basic psychological need satisfaction are likely to want to remain committed to a university (Pieters, 2018b). Basic psychological needs, affective and normative commitment, job embeddedness, work engagement have a negative relationship with turnover intention (Pieters, 2018b). Job embeddedness is defined as the web of influences that impacts employee's decision to stay at the organisation (Holtom & Inderrieden, 2006). Job embeddedness is characterised by links (relationships), fit (match between skills/abilities and work expectations) and sacrifices (losses related to leaving). When employees identify with the university, experience pride and importance in the work they do, are allowed to influence decision-making and experience benefits (material and psychological) when working, they are more likely to want to remain at the university (Pieters, 2018b).

To summarise the findings within the education sector, the fit of teachers influences their psychological meaningfulness, levels of commitment and engagement (Janik, 2013). Salaries and benefits, opportunities for advancement, lack of autonomy, relatedness, and

working environment negatively impact the health and intention to stay of employees in the education sector (Marques, 2013; Pieters, 2016b; Pieters, 2018b). These challenges place significant pressure on the education system of Namibia; however, this seems to be an even more daunting reality for many other African countries. Implementing these interventions can improve the working environment, job attitudes of educators and performance of learners or students.

This concludes the research related to the education sector; the next section will discuss research within the health and social services industry.

3.3 Positive psychology research within the health and social services industry

The Namibian health sector is divided into public and private health care facilities. Approximately 85% of the population rely on public health care that is affordable and accessible (Brockmeyer, 2012). Although these services are accessible within Namibia, delivery of healthcare services has been criticised regularly. Poor access to medical care, lack of resources, poor infrastructure and lack of human resources are a greater concern for countries like Angola (WHO, 2018). It was noted by Van Der Doef, Mbazzi and Verhoeven (2012) that nursing is a taxing profession. Nurses experience burnout and anxiety thereby increasing their levels of absenteeism (Mudaly & Nkosi, 2015). Nurses resort to harmful coping mechanisms that include suicide, self-injury and self-poisoning (medication) (Hawton et al., 2002).

Like nurses, police officers experience negative job outcomes and engage in life threatening coping mechanisms (McIntosh, 2016). Policing in Africa is characterised by corruption, lack of resources and personnel shortages. As a result, Pieters and Van Der Heerden (2018) investigated the relationship between workload-resources and emotional exhaustion of nurses (n=672) and police officers (n=482) in Namibia. The workload of nurses and police officers result in emotional exhaustion (burnout). Relating these findings to other studies, it was found that job demands influenced emotional exhaustion of health professionals in Macedonia (Mijakoski et al., 2018) and employees in Canada (Van Jaarsveld, Walker, & Skarlicki, 2010). Due to the challenging nature of the job that nurses and police officers do, these employees are prone to emotional exhaustion. Providing nurses and police officers with the needed job resources, organisational support and advancement opportunities, their emotional exhaustion can be reduced (Pieters & Van Heerden, 2018). Crawford, LePine and Rich (2010) noted that job resources mitigate the impact of job demands. Employees can withstand high work demands when the needed resources are available (Crawford et al.,

2010).

It was noted that burnout and subjective health complaints among employees influence suicide ideation. Investigating the impact of job demands-resources, authentic leadership and work engagement on burnout of police officers in Namibia, Pieters and Hasheela (2018) found that job resources, organisational support and advancement opportunities have a negative relationship with emotional exhaustion. Organisations need to understand the long-term gains of investing in employees and enhancing employees' levels of well-being for mutual benefit. It was also noted that job resources, organisational support, advancement opportunities and job security of police officers related positively to their work engagement (Pieters & Hasheela, 2018). It is evident that the health sector and social service employees experience significant job demands and emotional labour. These employees work in an environment that lacks job resources. Pieters and Hasheela (2018) reported a negative relationship between vigour, dedication and absorption with emotional exhaustion of police officers. When leaders are genuine and have the best interest of their followers at heart, followers/employees are less likely to experience emotional exhaustion at work (Pieters & Hasheela, 2018).

Another job where employees may experience high work stress is that of corpse handlers. In a study focusing on corpse handlers in Namibia, Kurz (2018) noted that these employees are prone to stigma from society and experience stress at work. They need to handle gruesome or disfigured bodies, at times those of friends, family members or people they may know. Kurz (2018) focused on assessing the psychological challenges they may experience and the coping strategies they use to mitigate these stressful working experiences. These corpse handlers used different coping mechanisms which include helping others and feeling needed, listening to music, venting, becoming disengaged or accepting their job as valuable and important (Kurz, 2018). Some employees also seek professional help, talk to their supervisors or family members. Other employees cope with these stressors by exercising, having a schedule about work duties or relying on their religious or spiritual beliefs and practices (Kurz, 2018). Not many people have the coping abilities to work as corpse handlers (Kurz, 2018). Providing training may enhance effective coping mechanisms that may be beneficial to mortuaries and the well-being of corpse handlers.

Another profession that exposes employees to trauma is social work. Perstling (2012) conducted research on social workers and their levels of satisfaction with life,

psychological well-being, secondary traumatic stress and eudaimonic dimensions of well-being in Namibia. Sadock and Sadock (2007) indicated that symptoms of post-traumatic stress included intrusion, avoidance and arousal. Intrusion can be explained as having intrusive thoughts, images or dreams about a traumatic event that someone has experienced. Avoidance is when an individual tries to avoid places or triggers that bring back memories or feelings of the traumatic event. Arousal can be regarded as the responses to the traumatic event which were not present before such as anger outburst, decreased concentration or insomnia (Sadock & Sadock, 2007). Perstling (2012) found that intrusion and arousal had a negative relationship with satisfaction with the life of social workers. Diener (2000) defined satisfaction with life as the overall evaluation or judgement of one's life. Dimension of psychological well-being namely, autonomy, environmental mastery, personal growth, purpose, self-acceptance has positive correlations with satisfaction with life (Perstling, 2012). On the other hand, psychological well-being is defined as the subjective evaluation of the cognitive and affective aspects of life. Psychological well-being forms part of the eudaimonic perspective to well-being (Ryff & Keyes, 1995). When people are experiencing meaning in their lives, they are likely to be more satisfied with their lives. Environmental mastery was the only significant predictor of satisfaction with life (Perstling, 2012). This indicates that once employees are able to better master the challenges in the working environment, they experience higher overall levels of satisfaction with life. When social workers are experiencing well-being, they are likely to be more satisfied with their lives (Perstling, 2012). To support the findings by Perstling (2012), Yun, Rhee, Kang, and Sim (2019) confirmed a positive relationship between satisfaction with life and subjective well-being of Korean employees.

This concludes the research conducted on the health industry and some social service sectors. The next section will be focusing on research specifically related to governmental institutions.

3.4 Positive psychology research within governmental institutions

Governmental institutions are regularly criticised for poor performance or lack of quality service. Countries around the world have moved towards privatisation of state-owned enterprises to ensure sufficient supply of goods and services. Amunkete and Rothmann (2015) conducted research on state-owned enterprises in Namibia. These institutions do not function according to expected standards and are burdened by poor performance, mismanagement and corruption. State-owned enterprises in Namibia are regularly questioned

about the quality-of-service delivery and the regular need to be “bailed out” by government. These state-owned enterprises are required to submit regular performance evaluations; however, poor performance remains evident (Amunkete & Rothmann, 2015).

In their research, Amunkete and Rothmann (2015) focused on authentic leadership, psychological capital, job satisfaction and intention to leave of employees within state-owned enterprises. Authentic leadership is defined as a leader’s genuine desire to serve others (followers) through their (the leader’s) passion and compassion (George, 2000). When appointed, the leaders’ focus should not be to enrich themselves. Authentic leadership is comprised of self-awareness, balanced processing, self-regulation and relational transparency (Sekoere, 2015). It has been noted that authentic leadership positively impacts optimism and work engagement of public workers in South Africa (Stander, de Beer, & Stander, 2015). Leaders need to be aware of their own strengths and areas of development and be able to evaluate information effectively before making decisions. Phuthi (2016) noted that the quality of a leader impact the performance of the organisation. Apart from the fact that authentic leadership positively influence work engagement and organisational performance, Munyaka, Boshof, Pietersen, and Snelgar (2017) found that it reduces turnover intention for employees in South Africa. Job satisfaction positively influenced work engagement of employees in South Africa (Sehunoe, Viviers, & Mayer, 2015).

Authentic leadership positively influenced psychological capital in Namibia (Amunkete & Rothmann, 2015). Psychological capital (PsyCap) is the positive psychological state of development. PsyCap consists of hope (motivation to reach goals and creating pathways to achieve goals), optimism (thinking positively about succeeding currently and in the future), self-efficacy (confidence in own ability to effectively complete tasks), and resilience (ability to cope and recover from life challenges and adapt to significant changes) (Luthans, Youseff, & Avolio, 2007). Employees who experience higher levels of psychological capital (self-efficacy, hope and optimism) also experience higher levels of job satisfaction. The quality of leadership within the organisation improves employees’ overall psychological state and ultimately their intention to remain at the organisation (Amunkete & Rothmann, 2015). It was interesting to note that resilience has a positive relationship with turnover intention (Amunkete & Rothmann, 2015). This could indicate that employees that are more resilient are likely to believe that they are able to find better employment elsewhere.

Amunkete (2015) conducted research on state-owned enterprises in Namibia. In his study, he focused on authentic leadership, psychological capital, organisational climate and work engagement. Psychological capital and authentic leadership showed a positive relationship with organisational climate

(Amunkete, 2015). Organisational climate is the perceived support employees get from their colleagues, supervisors and other departments to complete their tasks (Luthans, Norman, Avolio, & Avey, 2008). Organisational climate explained 67% of the variance in work engagement. This indicates that when employees perceive their colleagues, supervisors and other departments to be supportive, they are likely to want to work harder towards achieving organisational success. Psychological capital and authentic leadership have a positive relationship with work engagement (Amunkete, 2015).

Conducting research at a parastatal (i.e., a state-owned enterprise) in Windhoek, Namibia, Mashuna and Pieters (2016) found that when employees experience psychological empowerment, they are more likely to want to remain at the organisation. Organisations should refrain from disempowering practices to enhance psychological empowerment and ultimately retain employees at the organisation (Mashuna & Pieters, 2016).

When institutions can improve the working environment (climate), invest in leadership development, employee training and development, it may influence employees’ levels of work engagement and intention to stay. The next section will discuss research related to non-governmental service providers.

3.5 Positive psychology research within the service industry

Conducting research on primary school teachers and legal professionals in Windhoek, Pieters (2016a) found that job embeddedness negatively influenced employees’ decision to leave the organisation. Lack of healthcare and retirement benefits showed a positive relationship with turnover intention (Pieters, 2016a). This indicates a level of dissatisfaction regarding these benefits. Similar to schools and legal practices, the effectiveness of banks is dependent on the quality of customer service they provide.

Banks require employees that are knowledgeable about the product/services and have positive job attitudes. This will ensure that the bank have a competitive edge over other banks within the region offering similar products/services (Pieters, 2017). For banks to thrive in these competitive environments, it is required that they constantly monitor and evaluate employee job attitudes (Pieters, 2018a). Intrinsic and extrinsic job satisfaction showed a positive relationship with work engagement. Intrinsic job satisfaction was the stronger significant predictor of work engagement in comparison to extrinsic job satisfaction. Intrinsic and extrinsic job satisfaction explained 41% of the variance in work engagement of the banking sector employees in Windhoek (Pieters, 2017). When satisfying these employees intrinsic and extrinsic job satisfaction, these employees may increase their work engagement by 41%. In other studies, in South

Africa, fair compensation (Dhurup & Mahomed, 2013) and money (Visser, Mackenzie, & Marais, 2012) positively influence job satisfaction. Smit, De Beer and Pienaar (2016) found that job insecurity and work stressors negatively predicted job satisfaction of employees in South Africa. Even though intrinsic job satisfaction showed a stronger relationship with work engagement than with extrinsic job satisfaction, Pieters (2017) acknowledged that both intrinsic and extrinsic satisfying factors are important for work engagement (Pieters, 2018a). Ekanjo (2017) found that employees that are satisfied with their job are likely to be more engaged and perform better at work.

Conducting research on banking employees and administrative staff at a tertiary institution in Windhoek, Pieters (2018a) reported that procedural and interpersonal justice predicted intrinsic and extrinsic job satisfaction. On the other hand, interpersonal justice and intrinsic job satisfaction were significant predictors of work energy (work engagement) (Pieters, 2018a). Intrinsic and extrinsic job satisfaction predicted work focus (work engagement). When organisations interact fairly and consistently with employees, they are likely to become satisfied and engaged in their work (Pieters, 2018a). Customer service is vital to the success of banks, tertiary institutions and restaurants.

Apart from providing fresh, delicious and nutritional food, restaurants need to provide quality service to customers to make a profit (Kazimbu & Pieters, 2017). To stay viable, restaurants need to ensure that customers are satisfied with their service to retain customers. Intrinsic and extrinsic job satisfaction showed a positive relation with organisational commitment of waiters in Windhoek, Namibia (Kazimbu & Pieters, 2017). When employees experience satisfaction because of the job itself, advancement opportunities, perceived competence or meaning (intrinsic job satisfaction), they are likely to remain committed to the organisation. Employees that are satisfied with the pay, fringe benefits, working conditions and relations with colleagues (extrinsic job satisfaction) are also likely to remain committed to the organisation (Kazimbu & Pieters, 2017). Intrinsic and extrinsic job satisfaction, organisational commitment has a positive relationship with work engagement (Kazimbu & Pieters, 2017). The positive relationship between commitment and work engagement was found within the service industry of South Africa (Coetzee, Schreuder, & Tladinyane, 2007). Intrinsic job satisfaction and organisational commitment predicted work engagement of waiters in Windhoek (Kazimbu & Pieters, 2017).

Customer service influences customer satisfaction, customer retention and organisational profits. Organisations need to ensure that they know what employees need/want to be satisfied since satisfying the needs of employees enhances their levels of organisational commitment, work engagement and reduces turnover intention. Having satisfied and engaged

employees influences their productivity. The next section will focus on research related to the mining sector.

3.6 Positive psychology research within the mining sector

Rothmann and Baumann (2014) investigated the relationship between work-home interaction, psychological conditions and employee engagement. Work-home interaction is described as the relationship between work and home life and how these separate yet interconnected parts of life impact one another (Greenhaus & Beutell, 1985).

Employees that experience higher levels of psychological availability and meaning are more likely to become engaged in their work. These positive aspects of the work, allow employees to function better at home thereby enhancing their meaningfulness, skills and abilities to cope better with challenges at home (Rothmann & Baumann, 2014). When employees experience challenges at home, it reduces their levels of psychological meaningfulness, psychological availability and employee engagement at work. The spillover effect explains that what happens at work impacts the home-life and vice-versa (Rothmann & Baumann, 2014).

When employees have the required skills and abilities, they would experience a higher level of perceived competence and mastery at work (Rothmann & Baumann, 2014). Experiencing a higher level of competence and mastery, employees are likely to attempt more difficult tasks and experience the eagerness to want to do more work. Employees experiencing meaning in their work and in the roles, they fulfil in a society are likely to experience a higher level of self-efficacy and employee engagement (Rothmann & Baumann, 2014). Geldenhuys, Laba and Venter (2014) also found a positive relationship between psychological meaningfulness and work engagement amongst South African employees.

When employees identify that their work impacts negatively on their home life and vice versa, employees prefer to withdraw from such a job (Damens, 2012). If the work keeps one away from one's home life and the home life negatively impacts one's work life, employees become conflicted in such a relationship. Psychological meaningfulness and psychological availability explained 41.58% of the variance in work engagement of mining employees (Damens, 2012). This means that if the organisation improves on psychological meaningfulness and psychological availability, these mining employees may be more engaged by 41.58%. The next study will focus on retired mining industry employees.

Retirement is an inevitable part of work life and may come with different experiences. Kasuto (2012) conducted a study investigating the relationship between happiness and satisfaction with life of retired mine workers in Namibia. Retired employees struggle with feelings of isolation, loneliness, depression, or suicide especially if limited or improper planning and preparation preceded retirement. Seligman (2002) defined happiness as pleasurable experiences such as job satisfaction, positive well-being, experiencing a meaningful and worthwhile life. Kasuto (2012) found that happiness related positively with satisfaction with life of retired mining employees. The higher the levels of subjective happiness the more satisfied employees are with life.

When organisations and employees try to reduce work-home interference, employees are likely to experience higher psychological conditions and engagement. Based on the research discussed earlier, the subsequent section will discuss the recommendations made by these studies.

4. Recommendations for the workplace

The following recommendations are derived from the literature discussed. Positive psychology outcomes can be beneficial to the employees and organisation. By enhancing the well-being of employees, employees may live longer healthier productive lives and organisations may utilise the skills and abilities of these healthy employees for longer.

To enhance psychological meaningfulness of teachers, the benefits and salaries of teachers need to be re-evaluated (Pieters & Auanga, 2018). Ensuring that employees are satisfied with the exchange for their labour, would mean employees become more satisfied, committed and engaged (Pieters, 2017). Education needs to remain a priority when governments create budgets because of the benefits for citizens and the country. Teachers need opportunities to enhance their skills and abilities (Pieters & Auanga, 2018). Well-trained teachers are likely to attempt more challenging work and once they do more work, they become more competent and willing in the future to do more work (Pieters & Auanga, 2018). Enhancing the engagement levels of teachers will likely improve the pass rates of learners, quality of university intakes, quality of employees, and result in increased productivity, and by extension, the attainment of national development goals of Namibia.

Educational institutions need to ensure that the jobs are designed in such a way that they allow for autonomy, relatedness, skill utilisation, skill variety and feedback (Pieters & Auanga, 2018). Mentoring may help teachers to enhance their skills and

employee engagement levels (Pieters & Auanga, 2018). The working environment needs to be improved to ensure retention of teachers and enhance their work experiences (Janik, 2013). Employees spend most of their lives at work and when the working environment is not conducive, it negatively affects employee performance, absenteeism, ill health and intention to stay. Considering the critical role played by the education sector, there is a need to safeguard the loss of quality teachers and improve the quality of education within Namibia. Namibia has made significant improvements in the education sector; however, teachers expressed dissatisfaction regarding their rewards and recognition, lack of organisational support and feelings of rejection (Janik, 2013). Educators need to seek psychotherapeutic help to reduce their stress levels. Therapy could enhance the quality and effectiveness of education provided to learners (Janik, 2013). Experiencing good relations with colleagues acts as a buffer and resource in dealing better with stressful working conditions (Pieters, 2017).

Universities need to implement policies and procedures that protect and safeguard the well-being of employees at all levels (Marques, 2013). A high level of turnover intention is influenced by a lack of resources followed by lack of supervisory and co-worker support. The university needs to provide the needed resources to avoid losing these employees (Pieters, 2017). Regular monitoring and evaluation of workloads of staff members needs to be undertaken to avoid burnout and poor well-being of staff members.

When employees work in a healthy work environment, they are likely to become engaged in additional duties without expecting additional payments (Marques & Janik, 2016). Pieters (2016b) noted that healthy relations and opportunities for advancement can improve commitment and work engagement (Pieters & Auanga, 2018).

Even though nurses work in a health-conscious profession, they are more aware of the needs of others (patients) and not necessarily their own health. Pieters and Van Heerden (2018) recommended that nurses should take better care of their own health to care of others. Inclusive decision-making may enhance job resources at work (Pieters & Van Heerden, 2018). Police officers and nurses should be provided with short professional development courses (Pieters & Van Heerden, 2018). These may help to update and keep skills relevant to the profession. Police officers and nurses are also encouraged to take up an active and healthy lifestyle, eating healthy foods and getting regular exercise to mitigate the impact of work stress (Pieters & Van Heerden, 2018).

Brand-Labuschagne, Mostert, Rothmann and Rothmann (2012) indicated that certain work could be stressful because of the nature of the job (e.g., danger, violence and crime). Considering the nature of police work, it is suggested that police officers should be educated about stress management, healthy living, healthy coping mechanisms and the importance or value of counselling and attend hardiness training (Pieters & Hasheela, 2018).

Social workers should be supported via workshops that can equip and educate them about secondary traumatic stress and its impact on psychological well-being and satisfaction with life (Perstling, 2012). Employees need to be educated about self-care and the challenges within certain working environments. It is suggested that employees engage in job crafting to navigate the challenges associated with fundamentally challenging working environments. Job crafting entails changing the tasks, relations and perspective about your work (Berg, Dutton, & Wrzesniewski, 2013). This includes changing the way an employee performs certain tasks and engages with colleagues, which may act as a resource. Changing the way one sees one's own work may influence the satisfaction and meaning an employee experiences in the work.

Authentic leadership and psychological capital play a pivotal role in the levels of job satisfaction and intention to leave of employees (Amunkete & Rothmann, 2015). Leadership selection and development programs should identify and select prospective employees that score highly on psychological capital. Considering that psychological capital can be enhanced, organisations need to develop training and wellness programs aimed at enhancing self-efficacy, optimism, hope and resilience (Amunkete & Rothmann, 2015). Improving the quality of leaders and the psychological capital of employees influences job satisfaction and the quality of life of employees (Pieters, 2017). Consequently, organisations would be able to attract and retain the top talent available within the job market (Amunkete & Rothmann, 2015).

Quality leadership (skilled, knowledgeable, healthy interpersonal skills) is important in achieving the goals and objectives of the organisation. Leaders also need to be accountable for their own performance; thus, they should ensure that they perform at their optimum (highest) level. Pieters and Hasheela (2018) noted that leaders need to be educated about their roles and management should be vigilant when selecting leaders.

Enhancing the job satisfaction of employees,

employees would remain committed, work towards achieving the goals of the organisation, improving customer service, customer satisfaction, productivity and customer retention (Kazimbu & Pieters, 2017). Many organisations are providing similar services or products. The job attitudes of the employees are one of the key ingredients that can make the difference in the organisation's profits.

Pieters (2018a) noted that organisations may follow procedures consistently and practice fairness, but when employees are not aware of these procedures, they might still experience organisational injustice. Employees need to be educated on a regular basis about the policies and procedures of the organisation (Pieters, 2018a).

Organisations need to become familiar with the relationship between work-life balance and employee engagement of their employees (Rothmann & Baumann, 2014). Performance management systems need to be implemented since this may also identify how work-home interaction impacts employee engagement (Rothmann & Baumann, 2014).

Implementing these recommendations may improve the health and well-being of employees, enhance their job attitudes and motivation. When organisations attend to the needs of employees, employees are likely to become more committed, engaged and productive in their work. Attending to the reasons why talented Namibians leave the country to work abroad could improve the socio-economic development of the country. The next section proposes some new areas into which research can venture or elaborate on the existing literature.

5. Recommendations for future research within Positive Psychology

A lot of the current research is on self-report survey data. Future studies may consider using multi-source, multi-method data such as in-depth interviews and objective ratings (Amunkete & Rothmann, 2015; Pieters & Van Heerden, 2018). Interviews and group discussions may help when working with groups that are not proficient in English (Pieters & Van Heerden, 2018). It was also recommended that longitudinal studies be conducted to enhance the current body of knowledge (Amunkete, 2015; Perstling, 2012). Considering that current research had a limited scope, it is recommended to make use of larger samples focusing on other work roles, industries and regions within Namibia (Pieters, 2018b). Future research also needs to expand on the understanding of variables within positive psychology (Kurz, 2018). Hendriks et al. (2019) found that most of the research conducted as part of Positive Psychology (1998 to 2017) was on

highly industrialised and democratic countries studying people that are highly educated and earn a high income. Considering that the concepts, theories and variables studied were developed in Western industrialised countries, it would be beneficial for future researchers to try to understand well-being at work from a Namibian perspective. “Namibianising” well-being at work may add to the understanding of these concepts instead of it being regarded, at times, as a distant reality. The Namibian society may have undiscovered knowledge and understanding about well-being that needs investigation.

Based on the recommendations discussed above, it is evident that more research needs to be conducted that relate to other variables that have not been investigated before. It is also evident that more qualitative studies need to be conducted to explore these topics from different perspectives and develop a regional understanding of these variables. If time allows it, longitudinal research should be used to obtain a more representative sample to enable generalisability of the findings but more importantly to assess cause-and-effect relationships.

6. Conclusion

This article started by defining positive psychology before providing some contextual information about Namibia, the workforce and a discussion of research within different industries/sectors of Namibia. This article further summarised different recommendations to help improve and attend to the health and well-being of employees within these industries/sectors. Namibia has made significant progress in terms of education, the service industry, health and social services, safety and security, and the future is full of opportunities. This article concluded by discussing some recommendations for future research within positive psychology and the workplace in Namibia.

Namibia has seen significant growth since independence in many of the industries/sectors. Organisations are investing more in the health and skills development of employees. Governance has improved with more educated and competent leaders employed within government and organisations. Education is more accessible to the nation, and many first-generation university graduates are joining the job market. Considering the benefits and recommendations made within positive psychology research, Namibia can grow and develop even further.

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Original Research Article

Nutritional Value and Antimicrobial Activity of Selected Edible Tubers of Namibia

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ABSTRACT

Indigenous, leafy vegetables have been extensively studied but edible, tuberous vegetables are relatively underexplored in terms of their nutritional and medicinal values. This study aimed to evaluate the macronutrient, total phenolic and flavonoid contents as well as the antioxidant, cytotoxicity, antimicrobial and antibiofilm activities of six edible tubers from Namibia. Proximate analysis revealed that the tubers have a high total carbohydrate and energy content, with the highest values recorded for *Walleria nutans*. The high protein content of 13 g/100 g dry mass recorded for *Coccinea rehmannii*, supports the use of members of this genus as nutritional protein supplements. The best, albeit poor, antimicrobial activity was recorded for the dichloromethane (DCM) extract of *Eulophia hereroensis* with an MIC of 2.5 mg/mL against *Escherichia coli*. Evaluation of the antibiofilm activity against *Staphylococcus aureus* showed that the DCM extract of *Walleria nutans* displayed the best biofilm formation inhibitory activity, whereas *E. hereroensis* exhibited the best biofilm eradication activity. A high total phenolic content and strong antioxidant activity was recorded for the aqueous methanolic extract of *E. hereroensis*, with IC₅₀s of 0.056 ± 0.000 and 0.041 ± 0.003 mg/mL obtained with the DPPH and H₂O₂ scavenging assays, respectively. All tubers showed little to no cytotoxicity with CC₅₀ > 200 µg/mL against the VERO cell line. The macronutrient content, in vitro antioxidant and antimicrobial activities of the selected tuberous vegetables are reported here for the first time. *Eulophia hereroensis* and *W. nutans* showed potential as functional foods and merit an in-depth phytochemical study to isolate and characterize the phenolic compounds and potential antibiofilm agents.

1. Introduction

Positive psychology Of the approximately 23 000 plant species found in the Southern African region, 1740 are

reported to be edible (Welcome & Van Wyk, 2019). Indigenous food plants contribute significantly towards food and nutrition security, especially in

developing countries (Shackleton et al., 2009; Bokelmann et al., 2022), but are relatively underutilized and sometimes erroneously referred to as “poor man’s vegetables” (Legwaila et al., 2011; Masarirambi et al., 2022). Whatsmore, these vegetables are tolerant to drought, poor soils, local pests and offer further appeal by being easily accessible as well as fast-growing, rendering them available for harvesting before the cultivation of staple crops (Sujatha and Renuga, 2013; Kolberg, 2001). Indigenous, leafy vegetables, for example, *Amaranthus thunbergii*, *Cleome gynandra*, and *Chorcorus olitorius* are rich in minerals, carbohydrates, proteins (Legwaila et al., 2011; Afolayan and Jimoh, 2007) and some reportedly display medicinal properties (Kim et al, 2013). On the other hand, indigenous root and tuber vegetables, of which the most commonly consumed are yam, cassava, sweet potatoes and potatoes, are also nutritionally diverse (Lyimo et al., 2007; Maliro,2001) but unlike their leafy counterparts have not been extensively studied.

The ability to produce heat-resistant toxins, to be heat-resistant (Bintsis, 2017) and the development of biofilms, that is, to offer protection against the human hosts’ immune system (Gajewska and Chajęcka-Wierzchowska, 2020), are among the survival strategies developed by some foodborne bacteria. Of concern is the development of antimicrobial resistance, which serves as the key motivator for the continued search for novel plant-based drugs which exert their activity through new mechanisms of action. ESKAPE microorganisms such as *Staphylococcus aureus* and *Klebsiella pneumoniae* are characterized by their ability to form biofilms which, in addition to contributing towards their virulence (Gajewska and Chajęcka-Wierzchowska, 2020), serve as a barrier against most antibiotics and sterilizing agents (Bi et al, 2021). The multifunctional properties of indigenous vegetables, high in natural antioxidants such as phenolics and flavonoids, is further evidence by reports that their consumption has been associated with reduced incidences of diseases like cancer, cardiovascular as well as cerebrovascular diseases (Das et al., 2012; Campos et al, 2006).

The tubers selected for this study (Fig. 1) included: *Brachystelma gymnopodum* and *Fockea angustifolia* (Apocynaceae); *Coccinea rehmannii* and *Trochomeria macrocarpa* (Cucurbitaceae); *Eulophia hereroensis* (Orchidaceae) and *Walleria nutans* (Tecophilaeaceae). These edible tuberous vegetables are frequently consumed by the Jul’hoansi ethnic group of the Khoisan who resides in the Nyae Nyae Conservancy in the Otjozondjupa region of Namibia (Leffers, 2003), and their nutritional, medicinal and phytochemical properties are unexplored. This study was therefore aimed at evaluating the proximate composition,

antimicrobial activity as well as the antibiofilm activity of tuber extracts against *S. aureus*, a foodborne pathogen and prolific biofilm producer. It was further aimed at evaluating the antioxidant and cytotoxic activities, as well as to quantify the phenolic and flavonoid contents of the indigenous tubers.



Figure 1. Indigenous tuberous vegetables selected for the study

2. Materials and Methods

2.1 Reagents and Solvents

This All the reagents and solvents used in the study were of analytical grade. Folin-Ciocalteu’s phenol reagent, 2,2-diphenyl-1-picrylhydrazyl (DPPH), gallic acid, quercetin, ascorbic acid (vitamin C), aluminum chloride, sodium carbonate, sodium nitrite, sodium hydroxide, hydrogen peroxide (30% H₂O₂), iron (III) chloride, dimethyl sulfoxide, were purchased from Sigma-Aldrich (Germany). Cultures of *Candida albicans* ATCC13933, *Escherichia coli* ATCC700928, *Staphylococcus aureus* ATC12600, and *Klebsiella pneumoniae* ATCC10556 as well as the cell lines used for cytotoxicity analysis, Vero (ATCC® CCL-81), and HT-29 (ATCC® HTB-38), were obtained from the American Type Culture Collection (ATCC).

2.2 Collection and Preparation of Plant Material

Fresh plant samples were collected in Tsumkwe (19°35’12.2” S, 20°30’39.9”E) and surrounding villages, in the Otjozondjupa region of Namibia (research/collection permit number: 1941/2014) during January 2016. For each tuber, a sample of the whole plant was collected, pressed and submitted for taxonomic identification at the National Botanical Research Institute (NBRI) of Namibia (National Herbarium of Namibia, WIND ID report number: 2015/372). The tubers were cut into thin discs and placed in a -80°C freezer overnight. The frozen tubers were freeze-dried using a Biobase freeze-dryer, ground to a powder and stored in dark airtight bottles at -4°C in the fridge until needed for analysis.

2.3 Proximate Analysis

Proximate content of the tubers was determined using

standard methods of the Association of Official Analytical Chemists (AOAC, 1999).

2.4 In vitro Antimicrobial Activity

2.4.1 Preparation of tuber extracts for antimicrobial activity testing

Powdered plant material was successively extracted with organic solvents in the order of increasing polarity using a method described by Jeyasselan and his colleagues (2012) with few modifications. Briefly, 100 g of the powdered tuber was soaked in 300 mL hexane and placed on an orbital shaker at room temperature for 48 hours. Filtration of the extract with a double layered muslin cloth was followed by filtration using Whatman No.1 filter paper. The resulting residue was air dried and used for further extraction with dichloromethane (DCM) followed by ethyl acetate, acetone, ethanol and double distilled water using the same procedure. The solvents were evaporated under reduced pressure using a rotary evaporator and the percentage yield of the extracts calculated.

2.4.2 Test Microorganisms and Growth Conditions

The microorganisms used for this study included *Candida albicans* ATCC13933, *Escherichia coli* ATCC700928, *Staphylococcus aureus* ATCC12600, and *Klebsiella pneumoniae* ATCC10556. They were rehydrated in nutrient broth for 48 hours. Stock cultures were prepared and kept at -70°C until needed. The strains were grown in nutrient broth at 37°C. To standardize the inoculum, the culture was grown overnight on an agar plate. One or two colonies were transferred into a test tube containing 6 mL broth and incubated at 37°C.

2.4.3 Agar Disc Diffusion Method

The disc diffusion method used was reported by Pochapshi and colleagues (2011), with few modifications. The extracts were diluted to different concentrations (1 mg/mL to 10 mg/mL), and 10 µL of each concentration was spotted on a disc, allowed to dry at room temperature then placed on a previously inoculated nutrient agar plate. Plates were incubated at 37°C and inhibition zones (IZ) recorded.

2.4.4 Minimum Inhibitory Concentration (MIC)

Agar disc diffusion method was used with different concentrations. The lowest concentration to give a clear zone was determined as the MIC. The test was carried out in triplicate.

2.5 Antibiofilm Assay

2.5.1 Biofilm Inhibition of *S. aureus* by the DCM extracts of *E. hereroensis*, *W. nutans* and *T. macrocarpa*

The DCM extracts of *Eulophia hereroensis*, *Walleria nutans* and *Trochomeria macrocarpa* were tested for biofilm inhibitory activity using a method described by Mutalib and colleagues (2015) with minor modifications. To a sterile 96-well plate, 150 µL of broth and 50 µL were added to each well. An aliquot of 50 µL of the fresh bacterial suspension, adjusted with 0.5 McFarland, was

added to each well. Positive control (bacterial suspension in broth) and negative control (extract in broth) were included. Following incubation at 37°C for 24 h, the content of each well was gently removed by tapping the plates. The wells were washed with 200 µL of sterile distilled water to remove free-floating bacteria. Biofilms formed by adherent cells in plate were stained with 0.1% crystal violet (Sigma-Aldrich) and incubated at room temperature for 30 minutes. Excess stain was rinsed off by thorough washing with distilled water, taking care not to remove the biofilm, and plates were fixed with 200 µL of 70% ethanol. Optical densities (OD₆₃₀) of stained adherent bacteria were measured. Percentage inhibition was then calculated using:

$$\% \text{ inhibition} = \frac{(C - T)}{C} \times 100$$

Where C is the OD of wells with strain and T the OD of wells with strain and test sample. The experiment was performed in triplicate. MBIC₅₀ were calculated using the Graphpad prism software.

2.5.2 Biofilm Reduction/Eradication of *S. Aureus* by the DCM extracts of *E. hereroensis*, *W. nutans* and *T. macrocarpa*

The reduction or removal of biofilm by the DCM extracts of *E. hereroensis*, *W. nutans* and *T. macrocarpa* was analyzed using a method described by Abidi, Sherwani, Bibi and Kazmi (2014) with few modifications. To a sterile 96-well microplate, 200 µL of strain was added and incubated overnight (200 µL of media was also incubated to be used as blank). The plate was washed with distilled water to remove planktonic cells. An aliquot of 200 µL of extract was added to the wells (except for control and blank) and incubated for 15 minutes at room temperature. The plate was again washed to remove planktonic cells. Next, 125 µL of 0.1% crystal violet was added to stain the biofilm and incubated at room temperature for 10 minutes. The excess stain was removed and the stain was stabilized with 200 µL of 95% ethanol and incubated at room temperature for 15 minutes. The solution was transferred to a new 96-well plate and OD was measured at 630 nm. The percentage reduction/removal was calculated from the blank, control and test ODs, using the equation below:

$$\% \text{ reduction} = \frac{(C - B) - (T - B)}{(C - B)} \times 100$$

Where C is the OD of the strain, B the OD of the broth and T the OD of strain + extract. The experiment was performed in triplicate. MBEC₅₀ were calculated using the Graphpad prism software.

2.6 In vitro Antioxidant activity

2.6.1 Extract preparation

Powdered plant material was extracted with 80% aqueous methanol according to the method described by Josipović and coworkers (2016) with few modifications. Briefly, 100 g of each powder was soaked in 300 ml 80% methanol and placed in the shaker at room temperature for 48 hours. They were first filtered with double layered muslin cloth and then through a Whatman No1 filter paper. The solvent was evaporated under reduced

pressure using a rotary evaporator. The percentage yield was calculated for all extracts.

2.6.2 Reducing power assay

The reducing power of tuber extracts was determined according to the procedure described by Saima and coworkers (2013) with few modifications. Various concentrations of 1 mL extracts in deionized water were mixed with phosphate buffer (2.5 mL, 0.2 M, pH 6.6) and potassium ferricyanide (2.5 mL, 1% w/v); the mixture was incubated at 50°C for 20 min. Then 2.5 mL of 10% (w/v) trichloroacetic acid was added and the mixture was centrifuged at 3000 g for 10 min at 5°C. The upper layer of the solution (2.5 mL) was mixed with 2.5 mL of distilled water and ferric chloride solution (0.5 mL, 0.1% w/v), and absorbance was measured at 700 nm.

2.6.3 Free radical scavenging assay

The effect of extracts on the DPPH free radical was determined using the method adopted by Anwar and colleagues (2010) with minor modification. The assay was done in 96-well microplate, where 100 μ L of DPPH prepared in methanol (0.135 mM) was mixed with 100 μ L of different concentrations of extracts solutions. The mixture was left in the dark at room temperature for 30 min. The absorbance was measured at 517 nm. The scavenging ability of the plant extract on DPPH was calculated using the equation:

$$\text{DPPH scavenging activity (\%)} = \frac{A_{\text{control}} - A_{\text{test}}}{A_{\text{control}}} \times 100$$

Where A_{control} is the absorbance of DPPH + methanol; A_{sample} is the absorbance of DPPH radical + sample. Data was reported as IC_{50} .

2.6.4 Hydrogen peroxide (H₂O₂) scavenging assay

The ability of the extracts to scavenge hydrogen peroxide was determined according to the method described by Keser et al. (2012) with few modifications. A solution of hydrogen peroxide (40 mM) was prepared in phosphate buffer saline (pH 7.4). Different concentrations of extracts and ascorbic acid in distilled water (1 mL) were added to a hydrogen peroxide solution (2 mL). Absorbance of hydrogen peroxide at 230 nm was determined 10 minutes later against a blank solution containing the phosphate buffer without hydrogen peroxide. The percentage of hydrogen peroxide scavenging of both extracts and standard compound were calculated:

$$\% \text{ Scavenged} = \frac{A_{\text{control}} - A_{\text{test}}}{A_{\text{control}}} \times 100$$

Where A_{control} is the absorbance of the control and A_{test} is the absorbance of extracts or standards. Data was reported as IC_{50}

2.7 Total phenolic content

Total phenolic content of 80% aqueous methanol extracts was determined using the Folin-Ciocalteu method described by Saeed and coworkers (2012). A 1 mL of sample (1 mg/mL) was mixed with 1 mL of Folin-Ciocalteu's phenol reagent and left to stand at room temperature for 5 minutes. Then 10 mL of a 7% Na₂CO₃

solution was added to the mixture followed by the addition of 13 mL of deionized distilled water and mixed thoroughly. The mixture was kept in the dark for 90 min at room temperature; the absorbance was measured at 750 nm. Gallic acid was used as standard. TPC was determined from the extrapolation of the calibration curve, and was expressed as milligrams of Gallic acid equivalents (GAE) per g of dried sample.

2.8 Total flavonoid content

Total flavonoid content was determined using the aluminium chloride colorimetric method described by Josipović and colleagues (2016). A solution of 1 mg/mL of extract was prepared for the test. To 1 mL of extract, 4 mL of distilled water and 0.3 mL of 5 % sodium nitrite solution was added. After 5 minutes, 0.3 mL of 10% aluminum chloride was added. After 6 minutes, 2 mL of 1 M sodium hydroxide was added. Finally, volume was adjusted to 10 mL with distilled water, mixed well and the absorbance was measured at 510 nm. Quercetin was used as standard. TFC was determined from the extrapolation of the calibration curve, and was expressed as milligrams of quercetin equivalents (QE) per g of dried sample

Total phenolic (TPC) and flavonoid (TFC) contents were determined using gallic acid and quercetin standard curves, respectively, and a formula described by Kalita et al (2013).

2.9 Cytotoxicity

2.9.1 Cell culture

Vero (ATCC® CCL-81), and HT-29 (ATCC® HTB-38) cells were obtained from the American Type Culture Collection (ATCC). They were delivered on dry ice then placed in -80°C freezer prior to assay. The cells were maintained in Minimum Essential Medium, with Earle's salts (MEM) with 10% FBS, and antibiotic mixture under defined conditions of temperature at 37°C, 95% humidity and 5% CO₂.

2.9.2 Cell viability assay

Confluent cells were treated with trypsin and collected, counted and diluted to 1x10⁴ cells/mL for analysis. The MTT assay protocol used was reported by Kapewangolo (2015).

To a 96-well plate, 100 μ L of 10% media was added. Exactly 100 μ L of the test samples were added to row B and a serial dilution was done to the rest of the rows. The first row (A) was left for the blank (containing media only) and for cells without treatment. To the wells, 100 μ L of cells was added, and then plate incubated at 37°C, 5% CO₂ for 72 hours. After incubation, 20 μ L of MTT was added (in the dark) and plate was incubated at room temperature for 2 hours. To the plate, 50 μ L of MTT solubilizing reagent was added to dissolve the formazan, left to stand for 15 min and absorption read at 550 nm. The percentage cell viability was calculated using following formula

$$\%Cell\ viability = \frac{Optical\ density\ of\ compound}{optical\ density\ of\ control} \times 100$$

Cells were treated at 1×10^4 cells/mL with compound concentrations ranging from 3.125 to 200 $\mu\text{g/mL}$ for the test sample and 0.3125 to 20 $\mu\text{g/mL}$ for the positive control, auranofin.

2.10 Statistical Analysis

All data were collected in triplicate and reported as means with \pm standard deviation (SD). $MBIC_{50}$ and $MBEC_{50}$ were calculated for the antibiofilm activity of the extracts. IC_{50} and CC_{50} were determined and reported for antioxidant and cytotoxic activities, respectively.

3. Results and Discussion

3.1 Proximate Analysis

Table 2: Proximate content of the indigenous tubers under investigation

PROXIMATE (%)	<i>B. gymnopodium</i>	<i>F. angustifolia</i>	<i>C. rehmannii</i>	<i>T. macrocarpa</i>	<i>E. hereroensis</i>	<i>W. nutans</i>
Dry matter (% FW)	7 \pm 1.02	14 \pm 0.7	8 \pm 0.31	3 \pm 0.91	17 \pm 1.12	19 \pm 2.1
Ash (g/100 g DW)	5.7 \pm 1.0	8.1 \pm 0.09	4 \pm 0.32	12 \pm 0.09	13 \pm 1.25	2.5 \pm 0.04
Crude protein (g/100g DW)	5.24 \pm 0.42	13 \pm 1.03	7.1 \pm 1.05	6.4 \pm 0.19	9.6 \pm 1.53	3.9 \pm 0.08
Crude fat (g/100 g DW)	0.8 \pm 0.001	0.4 \pm 0.003	0.5 \pm 0.003	3.2 \pm 0.04	0.8 \pm 0.001	1.0 \pm 0.005
Total carbohydrate (g/100 g DW)	88 \pm 1.35	78 \pm 2.32	88 \pm 0.85	78 \pm 0.33	77 \pm 1.23	93 \pm 1.42
Energy (kcal/100 g DW)	380.0	367.6	384.9	366.4	353.6	396.6

Mean values (n = 3) with \pm standard deviation. FW = fresh weight. DW = dry weight. *B. gymnopodium* (BG), *F. angustifolia* (FA), *C. rehmannii* (CR), *T. macrocarpa* (TM), *E. hereroensis* (EH) and *W. nutans* (WN)

Table 1, outlines the proximate content and energy value of the tubers under study. Root and tuber plants are known to have a low protein content, ranging from 1 to 2% of dry mass (Chandrasekara and Kumar, 2016). This study recorded a high protein content for *C. rehmannii* (13 \pm 1.03%), *T. macrocarpa* (9.6 \pm 1.53%) and *E. hereroensis* (7.1 \pm 1.05%), which evidenced the potential of these tubers to serve as protein supplements for the management of kwashiorkor, a disease caused by severe protein malnutrition (Schönfeldt and Hall, 2012). Also noted, is the high total carbohydrate content recorded for the tubers, with values ranging from 77 to 93 g/100 g dry weight, and for which *W. nutans* deserve special mention.

3.3 Antimicrobial Activity

As shown in table 2, all the solvent extracts of *C. rehmannii* and *F. angustifolia* were devoid of antimicrobial activity. The DCM extracts of the remaining tubers, with the exception of *B. gymnopodium*, showed poor to moderate activity against the four strains, with *E. hereroensis* exhibiting the best activity with an MIC of 2.5 mg/mL against *E. coli* and 5 mg/mL against *K. pneumoniae*. These results are supported by previous reports on the activity displayed by the hydroethanolic root extract of *E. hereroensis* against *K. pneumoniae* (Chinsamy, 2012). The results obtained further indicated, that all water extracts were devoid of activity against the different strains, which is in support of previous reports on the lack of antimicrobial activity of water extracts, albeit it the solvent of choice for the preparation of herbal formulations (Igbinosa et al, 2009; Javale and Sabnis, 2009).

Based on the antimicrobial activity profile of the DCM extracts (Table 2), the minimum biofilm inhibitory

Table 1 Antimicrobial activity of the solvent extracts for the different tubers

Sample	Solvent	Inhibition zone (mm)				Minimum inhibition concentration (mg/mL)			
		<i>E. coli</i>	<i>C. albicans</i>	<i>K. pneumoniae</i>	<i>S. aureus</i>	<i>E. coli</i>	<i>C. albicans</i>	<i>K. pneumoniae</i>	<i>S. aureus</i>
<i>B. gymnopodium</i>	Hexane	-	-	-	-	-	-	-	-
	DCM	-	-	-	-	-	-	-	-
	Ethyl acetate	5.5 (\pm 0.7)	5.5 (\pm 0.7)	-	-	10	10	-	-
	Acetone	-	-	-	-	-	-	-	-
	Ethanol	-	-	-	-	-	-	-	-
<i>E. hereroensis</i>	Hexane	-	-	-	-	-	-	-	-
	DCM	10.5 (\pm 0.7)	9.0 (\pm 0.7)	10.0 (\pm 0.0)	12.5 (\pm 1.4)	2.5	10	5	10
	Ethyl acetate	8.5 (\pm 2.1)	6.5 (\pm 0.7)	7.0 (\pm 0.0)	10.5 (\pm 1.4)	10	10	10	10
	Acetone	7.5 (\pm 0.7)	5.5 (\pm 0.7)	5.5 (\pm 0.7)	7.0 (\pm 0.7)	10	10	10	10
	Ethanol	-	-	-	-	-	-	-	-
<i>T. macrocarpa</i>	Hexane	-	-	-	-	-	-	-	-
	DCM	7.5 (\pm 0.7)	8.5 (\pm 2.1)	6.5 (\pm 0.7)	11.5 (\pm 1.4)	5	10	10	10
	Ethyl acetate	-	-	-	-	-	-	-	-
	Acetone	-	-	-	-	-	-	-	-
	Ethanol	-	-	-	-	-	-	-	-
<i>W. nutans</i>	Hexane	-	-	-	-	-	-	-	-
	DCM	7.0 (\pm 0.00)	5.5 (\pm 0.7)	5.5 (\pm 0.7)	11.5 (\pm 1.4)	10	10	10	10
	Ethyl acetate	5.5 (\pm 0.7)	-	-	-	10	-	-	-
	Acetone	5.5 (\pm 0.7)	5.5 (\pm 0.7)	5.5 (\pm 0.00)	-	10	10	10	-
	Ethanol	-	-	-	-	-	-	-	-

concentration ($MBIC_{50}$) and minimum biofilm eradication concentration ($MBEC_{50}$) of the DCM extracts of *W. nutans*, *E. hereroensis*, *T. macrocarpa* (Table 3), was recorded. The biofilm inhibition/eradication activity of the extracts showed a dosage dependent action. *Eulophia hereroensis* displayed the best eradication activity against the preformed biofilm, while *W. nutans* exhibited the best biofilm inhibitory activity and could serve as a potential source of antibiofilm agents. The biofilm formation ability of microorganisms has been implicated in the development of antibiotic resistance and can prolong or complicate the treatment of life-threatening bacterial infections (Marić and Vraneš, 2007). Of note is the renewed interest directed towards plant extracts as a source of potential antibiofilm drugs (Nogueira et al, 2017)

Table 3: Biofilm activity of three tuber extracts against *S. aureus*

Sample	$MBIC_{50}$ and $MBEC_{50}$ (mg/mL)	
	Biofilm inhibition	Biofilm reduction
EH	1.960 \pm 0.040	0.785 \pm 0.023
TM	>5	8.347 \pm 0.786
WN	1.348 \pm 0.224	2.463 \pm 0.170

3.4 Antioxidant activity

The antioxidant activity of the 80% aqueous methanol extract of the tubers is reported here for the first time, and was evaluated using the DPPH free radical scavenging, hydrogen peroxide scavenging, and reducing power assays. As shown in figure 2, the reducing power of the extracts is dose-dependent with the best activity recorded for the extract of *T. macrocarpa*. The extracts showed potential as antioxidants, with *C. rehmannii*, *E. hereroensis* and *W. nutans* displaying almost equipotent activity at the different concentrations tested.

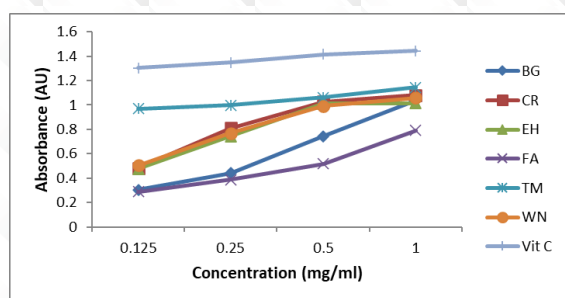


Figure 2 The reducing power of the 80% aqueous methanol extracts of the indigenous tubers under study

For both the hydrogen peroxide and DPPH scavenging assays, the activity of the tuber extracts demonstrated a concentration-dependent response (Table 4). The IC₅₀ value obtained with the DPPH assay ranged from 0.033±0.001 mg/mL to 0.232 ±0.001 mg/mL, indicating strong antioxidant activity. The best activity was observed for *B. gymnopodum* with an IC₅₀ of 0.033 mg/mL followed by *C. rehmannii* and *E. hereroensis*, which displayed almost equipotent activity, with IC₅₀s of 0.054 ±0.001 and 0.056 ±0.0003, respectively.

Table 4 IC₅₀ values obtained with the DPPH and H₂O₂ scavenging assays as well as the total phenolic and flavonoid contents for the six tubers

Sample	IC ₅₀ (mg/mL)		TPC µg GAE/g dry sample	TFC µg QE/g dry sample
	DPPH scavenging assay	H ₂ O ₂ scavenging assay		
<i>B. gymnopodum</i>	0.033 ±0.001	0.219 ±0.011	1626±12.47	431±6.90
<i>C. rehmannii</i>	0.054 ±0.001	0.122 ±0.002	520±1.35	174±1.35
<i>E. hereroensis</i>	0.056 ±0.0003	0.041 ±0.002	3822±7.05	527±29.87
<i>F. angustifolia</i>	0.066 ±0.001	0.086 ±0.016	3334±1.26	457±7.05
<i>T. macrocarpa</i>	0.073 ±0.001	0.080 ±0.0002	761±6.90	321±1.26
<i>W. nutans</i>	0.232 ±0.001	0.092 ±0.003	570±29.87	460±12.47

Although hydrogen peroxide is considered a weak oxidizing agent, it has the ability to deactivate enzymes through oxidation of their thiol groups (Keser et al, 2012). *Eulophia hereroensis* showed the best scavenging activity with an IC₅₀ of 0.041±0.002 mg/mL followed by *T. macrocarpa* with an IC₅₀ of 0.080±0.0002 mg/mL. Most of these different tubers showed promising antioxidant activity with IC₅₀ values less than the reference value of 100 µg/mL according to Jadid and colleagues (Jahid et al, 2017).

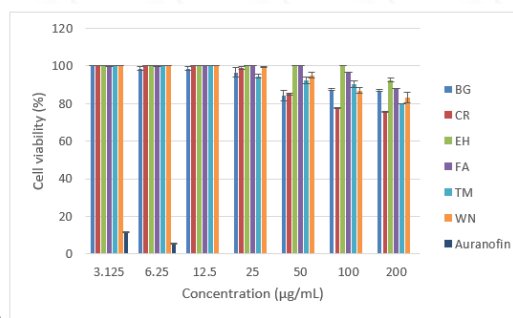
3.5 Phenolic Content

Phenolic compounds represent a universal class of phytochemicals, and their dietary intake offer a range of health benefits, including the prevention of chronic diseases (Das et al., 2012; Campos et al, 2006). *Eulophia hereroensis* showed the highest TPC and TFC with values of 3822 µg GAE/g dry sample and 527 µg QE/g dry sample, respectively (Table 4).

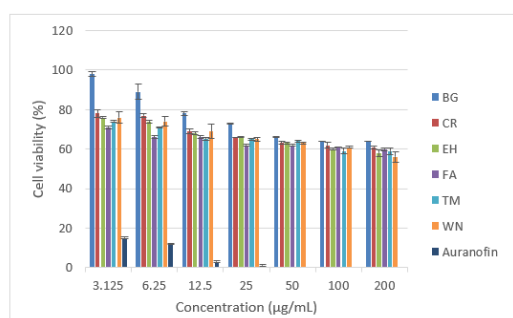
3.6 Cytotoxicity Testing

The toxicity effect of the crude 80% methanol extracts was evaluated using the MTT assay with auranofin as positive control. Cell viability of the extracts were reported. Figures 3 show the effect of the extracts on two cell lines, Vero African green monkey kidney cell line (ATCC®CCL-81™) and a human colorectal

adenocarcinoma cell line, HT-29 (ATCC®HTB-38™).



(a)



(b)

Figure 3 Cytotoxic activity of tuber extracts against (a) Vero and HT-29 cell lines.

The extracts demonstrated a dose-dependent response with a 50% cytotoxic concentration (CC₅₀) value > 200 µg/mL. Auranofin was used as a standard control and exhibited a CC₅₀ value of < 3.125 µg/mL.

According to the American National Cancer Institute (NCI), a CC₅₀ < 30 µg/mL for crude extracts can be considered cytotoxic (Talib and Mahasneh, 2010), therefore, as shown in figure 3(a), the hydromethanolic extracts of all the tubers are non-toxic. Figure 3(b) showed, that extracts of *E. hereroensis* and *W. nutans* gave a high cell decline with viabilities of 58±1.77% and 56±2.83%, respectively, which revealed their potential to serve as cancer-protective agents, as reported for most plant-based foods with good antioxidant activities (Raffoul et al, 2012).

4. Conclusions

The findings of this study revealed that the tubers of *E. hereroensis* and *W. nutans* are sources of macronutrients and potential antimicrobials, demonstrating their dual purpose as food and medicine. This study singled out three tubers, namely *B. gymnopodum*, *E. hereroensis* and *W. nutans* for further analysis to characterize the dietary phenolic compounds and antibiofilm agents, as well as to expand screening in other cancer models, for example, cervical and breast cancers.

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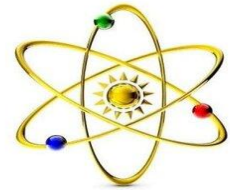
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Abbreviations

BG	<i>Brachystelma gymnopodum</i>
CC ₅₀	50% Cytotoxic Concentration
CR	<i>Coccinea rehmannii</i>
DCM	Dichloromethane
DPPH	1,1-diphenyl-2-picrylhydrazyl
EH	<i>Eulophia hereroensis</i>
ESKAPE	<i>Enterococcus faecium; Staphylococcus aureus; Klebsiella pneumoniae; Acinetobacter baumannii; Pseudomonas aeruginosa and Enterobacter spp</i>
FA	<i>Fockea angustifolia</i>
GAE	gallic acid equivalents
H ₂ O ₂	hydrogen peroxide
IZ	inhibition zones
IC ₅₀	50% inhibitory concentration
MBEC ₅₀	Minimum concentration that eradicates 50% of biofilm
MBIC ₅₀	Minimum concentration that inhibits biofilm formation by 50%
MIC	Minimum inhibitory concentration
MTT	3-(4, 5-dimethyl thiazolyl)-2,5-diphenyl-tetrazolium bromide
NCI	National Cancer Institute
NCRST	National Commission on Research and Science and Technology
NRF	National Research Foundation
QE	quercetin equivalents
SABINA	Southern African Biochemistry and Informatics for Natural Products
TFC	Total flavonoid content
TM	<i>Trochomeria macrocarpa</i>
TPC	Total phenolic content
WN	<i>Walleria nutans</i>



Original Research Article

An Exploring the post-Independence experiences of the Namibian Children of the Liberation Struggle: A qualitative study

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ABSTRACT

The Independence of Namibia signified the end of the struggle against colonialism. A voluntary repatriation of approximately 50 000 exiled Namibians, including children born and/or raised in exile, back to Namibia happened as from 1989. These children are called the Children of the Liberation Struggle (CLS). The CLS demonstrations with several demands made headlines in the media for the past few years. Many Namibians often label the CLS as deviant and unproductive. The perceived demanding behaviour of a group of CLS in Namibia prompts one to consider possible reasons for their behaviour. An understanding of what drives behaviour can assist in meaning-making of the behaviour. The purpose of this study was thus to explore the experiences of the CLS since returning “home” and to stimulate minds for considering the role of such experiences on human behavior. A qualitative approach was employed and in-depth interviews were conducted with 10 employed CLS in the Khomas region from two generations. Interviews were transcribed and the data was categorised and analysed according to thematic analysis. Excitement and disappointment with the homecoming experience, feeling unsafe during and after repatriation, being separated from biological parents and siblings, adjustment difficulties, lack of psychological support, seeking education opportunities, experiencing deficient distribution of government assistance, having to endure negative labelling and finding solace in other CLS are some of the post-Independence experiences that the CLS report. The study recommends psychological interventions in the form of therapeutic group sessions for employed and unemployed CLS as well as an awareness campaign amongst Namibians to understand what the CLS endured prior to as well as after Independence.

1. Introduction

Namibia has a colonial past which stretches from the late 18th century until 21 March 1990 when it gained independence (Dierks, 2002). Namibians resisted their colonisers from 1884 until 1919 (during the German colonial rule) and again from 1919 until 1990 (during South African rule) (Shiningayamwe, 2013). In 1957, Namibians launched the Owamboland People’s Congress (OPC) (Dierks, 2002), which later became the South West African People’s Organisation (SWAPO). According to Moore (n.d), SWAPO participated in diplomatic mobilization and engaged in an armed struggle through its 1966 founded military wing, the People’s Liberation Army of Namibia (PLAN), until 1989. During this time, most of the SWAPO leadership and many Namibians went into exile to participate in the liberation struggle or just to flee the oppressive South African colonial regime in Namibia (Moore, n.d), thus becoming refugees. Refugees are people who leave their country due to a well-founded fear that they may be persecuted due to reasons such as race, religion, and/or affiliation to a specific political or social group (UNHCR, 2007). With the permission of respective neighbouring countries such as Tanzania, Angola and Zambia, SWAPO set up refugee camps for civilians, as well as military bases for PLAN fighters (Krause & Kaplan, 2017; Nghiwete, 2010; Williams, 2009). The camp in Cassinga (Angola), the Namibia Health and Education Centre (NHEC) in Kwanza-Sul (Angola), as well as the camps Old Farm (Zambia) and Nyango (Zambia) were such refugee camps (Krause & Kaplan, 2017).

The Independence of Namibia on 21 March 1990 signified the end of the struggle against colonialism. A voluntary repatriation of approximately 40 000 - 50 000 exiled Namibian people, including children born and/or raised in exile, back to Namibia happened as from 1989 (Preston, 1997; Wallace & Kinahan, 2011). These children who were born and/or raised in exile are referred to as the Children of the Liberation Struggle (CLS). In Namibia, the CLS fall under the mandate of the Namibian Ministry of Youth, National Service, Sport and Culture (MYNSSC). In 2008, as per cabinet decision no. 17 \16.09.002, the MYNSSC (2008) stated that the CLS are children of veterans [veterans as defined in the Veterans Act which is Act no. 2 of 2008 (Parliament of the Republic of Namibia, 2008)], inclusive of exiled children, who until 21 March 1990 were under the age of 18 years. Thus, in this research study, CLS is the term used to refer to the children of veterans, including exiled children of veterans, who were under the age of 18 years before Independence, although they are now adults.

Since 2008, CLS demonstrations and demands for jobs and national documents from government have been making headlines in the media (Shiningayamwe et al.,

2014). Due to their demands and their protests, many Namibians often label the CLS as deviant and unproductive (Shivangulula, 2012) and call them ‘struggle children’, ‘exile kids’, ‘returnees children’, or ‘SWAPO kids’ (lipumbu, 2009; Nghiwete, 2009). Nonetheless, the perceived demanding behaviour of a group of CLS in Namibia prompts one to consider possible reasons for such behaviour. An understanding of what drives behaviour can assist in meaning-making of behaviour whilst determining strategies to modify behaviour into more acceptable, appropriate and productive conduct (Parker, 2002) and thus indirectly assisting the CLS to achieve their goals. For example, past trauma which remains unresolved can have a detrimental effect on current and future behaviour (Van der Kolk, 2003). The CLS experienced traumatic events such as witnessing horrific sights, being attacked by the enemy and hearing artillery (Kaxuxuena & Janik, 2020). Shiningayamwe et al. (2014) found in a study with the CLS that they faced social and economic challenges in Namibia after Independence. This study thus focusses on the post-Independence experiences of the CLS in an attempt to make better sense of their current behaviour.

2. Materials and Methods

The Namibian Exile Kids Association (NEKA) classifies the Namibian CLS in three generations (B. Nakaambo, personal communication, March 11, 2016). The first generation of CLS were born between 1972 and 1978, the second generation between 1979 and 1986 and the third generation between 1987 and 1989/90. The population of CLS in Namibia is estimated at approximately 20,000 (R. V. Nghiwete, 2010), distributed all over Namibia. CLS who were employed and could speak English, from the Khomas region, were recruited to participate in this study. Only employed CLS were interviewed due to safety concerns amid ongoing protest demonstrations of the unemployed CLS. The researchers selected research participants from the first and second generation of the CLS as they were old enough in exile to have a recollection of events and experiences (Table 1).

Table 1: The gender, generation, refugee camp and country raised in, and country of birth of participants

Participant no	Gender	Generation	Refugee camp and country raised	Country of birth	Age of arrival in Namibia	Current age of participants
1	Male	First	Kwanza - Sul (Angola) and Nyango (Zambia)	Angola	13	39
2	Female	Second	Kwanza - Sul (Angola)	Angola	10	38
3	Female	Second	Kwanza - Sul (Angola)	Angola	8	36
4	Male	Second	Kwanza - Sul (Angola)	Angola	8	36
5	Female	First	Kwanza - Sul (Angola) and Nyango (Zambia)	Namibia	12	40
6	Female	Second	Kwanza - Sul (Angola)	Angola	7	35
7	Female	Second	Nyango (Zambia)	Zambia	5	33
8	Female	First	Kwanza - Sul (Angola) and Nyango (Zambia)	Zambia	13	40
9	Female	First	Kwanza - Sul (Angola) and Nyango (Zambia)	Zambia	14	40
10	Male	First	Kwanza - Sul (Angola) and Nyango (Zambia)	Tanzania	13	41

An interview guide was developed by the researchers

and used as the main instrument of data collection. Questions like “What challenges did you experience as a CLS in Namibia after repatriation?”, “What opportunities did you receive as a result of being a CLS in Namibia after repatriation?” and “What are you facing now as a CLS?” were posed to the participants.

The sampling process commenced via NEKA with the design of a register of potential participants. NEKA linked the researchers to the potential participants by informing the potential participants of the research study and enquiring about their interest in participating. After potential participants granted permission to NEKA, they were contacted telephonically by the researchers. Consenting participants were scheduled for an individual interview of about 45 minutes. The interviews were digitally recorded whilst conducted at the People’s Education, Assistance, and Counselling for Empowerment (PEACE) Centre in Windhoek. The PEACE Centre was established “to develop and provide appropriate psycho-social services for victims of trauma, including the victims of organised violence, such as war” (PEACE Centre, 2005, p. 1). Ethical clearance for this study was obtained from the University of Namibia (FHSS/252). The researchers were aware that participation in this study might re-traumatise participants. All the participants were therefore debriefed by the researchers, who are clinical psychologists.

The recorded data were transcribed by the researchers based on the steps described by Braun and Clarke (2006). The data were coded with the aid of the qualitative data analysis instrument ATLAS.ti, 7th version (Scientific Software Development GmbH, 2013). After the initial coding, the data were sorted into potential themes by creating mind-maps. The relationship between codes and between different levels of themes was considered and sub-themes were also identified. The discovered themes and sub-themes were then defined and named to derive the final themes and subthemes for the analysis.

3. Results and Discussion

Eight main themes with some sub-themes were formulated regarding post-Independence experiences of the CLS as depicted in Table 2.

Table 2 Post-independence themes and sub-themes

Main themes	Sub-themes
1 Homecoming	Excited versus disappointed
2 Safety	Felt unsafe during repatriation
3 Separation	Lived with relatives Separated from siblings
4 Adjustment difficulties	Cultural differences Sense of belonging Relationship with parents Unmet expectations Poor school performance
5 Counselling support	Counselling services Dysfunctional home Sought counselling Persistent nightmares
6 Privileges/opportunities	Assistance received. Parental/family support Smooth school entry No school Exclusion
7 Inspiration	Lived difficult experiences
8 Connectedness	Common story Negative comments towards CLS

Homecoming

Most of the participants expressed that they felt excitement with the prospect of repatriating back to Namibia. On arrival in Namibia, participants had positive and negative impressions. Those who arrived in Windhoek before they progressed to the northern part of the country reported to have felt positive about what they saw. Some participants expressed disappointment about the north of Namibia:

[Arrived in the northern part of the country] I was excited. I mean the way they used to talk about Namibia is the way we talk about heaven right now... So at the end of the day I was excited to come to Namibia the land of milk and honey and gold but as time went on it became more of a disappointment because I felt like life was hard you know. (Male, 36 years old, participant 4)

In a study done by Kropiwnicki (2014) on South African second-generation exiles who were born and/or spent their formative years in exile, it was discovered that “myths of homecoming” were constructed due to their parents’ narrated memories and hopes of a new South Africa. These myths heightened expectations of the experience of homecoming. Thus, the romanticisation of homecoming could have produced a feeling of misfit between what the CLS expected and what they actually found in Namibia. Studies about the experiences of South African returnees also indicate a feeling of estrangement and poor fit with mainstream society after return (Enloe & Lewin, 1987; Sahin, 1990). The experience of misfit between person and environment (Kristof-Brown et al., 2005) can lead to behavioural-, physiological-, and psychological strain which can culminate into increased morbidity and mortality (Caplan, 1987). The misfit between anticipation and reality could have led to disillusionment amongst some of the CLS. Disillusionment is the gap between what is and what ought to be (Block, 2010). For some of the CLS, “what is” might mean joblessness, severe financial constraints and lack of opportunities versus living well

in the “land of milk and honey”. Disillusionment carries feelings of regret, capitulation, and hopelessness with an accompanying inability to puzzle out what can be done in order to make things better (Niehuis et al., 2001). It was also found that re-entering own ground after a prolonged period of absence can be deeply disorienting more so than entering a host country (Adler, 1981). Having been changed by the experiences in the host country and at the same time not having experienced daily life in the home country, can be deeply alienating to returnees (Hammond, 1999; Skinner, 1998; Steyn & Grant, 2007). People in the home country might also expect of the returnees to adapt immediately, which exerts more stress on the returnees (Steyn & Grant, 2007).

Safety

Some of the participants in this study disclosed to have *felt unsafe in Namibia during and after the repatriation process*:

Because I remember when we were at the centre at Döbra there were quite a couple of ‘Boers’ [white people] around.... they were just in the neighbourhood.... we were also informed that we have to be careful because now we are in the country, we are about to get Independence but you will never know your enemy because we were actually surrounded by so many enemies, you know. (Male, 41 years old, participant 11)

It should be kept in mind that Namibians fled the country and went into exile elsewhere because of harsh and discriminatory conditions implemented by the apartheid government of South Africa, which was/is associated with white people. Returnees to Namibia found white people (boers) in the country, which could elevate feelings of unsafety, and prevent returnees from becoming embedded into society. Embeddedness has to do with how individuals find a place in society, how they define this place, whether they get a sense of belonging and what their possibilities of participation in society are (Ruben et al., 2009). Psychosocial embeddedness deals with identity formation, feeling at home, feeling safe and psychologically well (Ruben et al., 2009). Returning to a perceived unsafe space, returnees might have struggled to feel psychosocially embedded. Eisenbruch (1997) mentions that the prospect of returning home can invoke multiple anxieties in refugee youth, such as rekindled uprootedness, mismatched skillsets and also the risk to become reverse refugees in their country of origin (Zetter, 1999). Cassarino (2004) and Gmelch (1980) question the possibility of returning refugees to feel physically and psychologically safe if they in the first place fled the country due to unsafe circumstances.

Separation

Most of the participants remember how they looked forward to meet with their biological parents and living with them in Namibia. However, critical life circumstances such as a parent’s ill health, lack of employment and parents having remarried did often not permit happy reunification. Thus, many first and second generation CLS *lived with relatives* for some three years and longer in Namibia before they were reunified with their biological parent(s), while others never stayed with their biological relatives and only visited them. Many of the CLS thus continued experiencing instability and movement from house to house, which was a repetition of the exile experience for some of the returnee CLS:

...when we came to Namibia... I lived with that lady [caretaker in exile] for about two or three months if not more. I think my father came to get me from that house... he came to get me from that house and he took me to my uncle’s house where I lived for almost 4 years. He left me there, at my uncle’s house, and then he went to work as a soldier now in Namibia... I came to live with my mom in 94 [1994]. (Female, 33 years old, participant 8)

As documented by Leinaweaver (2014), kinship fostering is common in several traditional societies where children may live with relatives in order for them to ascribe to better opportunities in life. However, the delayed reunification with biological next of kin or lack of it may have led to feeling abandoned, and possibly experiencing feelings like hopelessness and anger (Sherr et al., 2017). Siblings and half siblings grew up together in exile looking after and protecting each other when their parents were absent. After arriving in Namibia, the different biological parents/relatives fetched their children from the various reception centres and this resulted in *half siblings being separated*:

...her parents did not come and fetch her from Mweshipandeka [school]. But she did know where I lived so she would come and visit me at our village.... She [participant’s mother] just said, no I can’t take [paternal sister’s name mentioned] until her parents come for her, or until I’ve spoken to them because maybe they are still coming. But years went by and they were still just there. They were then taken from there and brought to PPS. As for [maternal half-sister’s name mentioned], her paternal family was in Ondangwa, they were the ones who took her...we were separated, I went with my mother, and [maternal half-sister’s name mentioned] went to her father, and [paternal

sister's name mentioned] remained there. But I didn't feel good about it that my sister remained while I went. I also wanted to be where my sister was... (Female, 40 years old, participant 10)

Ample of evidence exists about the guiding and protective influence that siblings can have on one another (Gass et al., 2007; Jenkins, et al., 1989; Steward, 1983). For example, it was found that in the absence of parents, siblings may serve as a valuable source for the provision of security, comfort and psychological support whereas the break of the sibling bond through involuntary separation can have serious lifelong emotional consequences (Gong et al., 2009).

Adjustment difficulties

Participants of both generations mentioned how they had to adjust to the many cultural differences after repatriation. The different ways of going about things due to *cultural differences* were experienced as a shock to some participants:

So the major problem was trying to fit in this new culture, and it was not just one culture but many cultures. And it was this culture of our tradition, of Oshiwambo, and then there's this culture of when I am now here in Windhoek, so there was a lot of adjustments. (Female, 40 years old, participant 5)

Although researchers like Leung et al. (2008) found that exposure to different cultures can increase individual creativity, Ward et al. (2001) caution that the *multicultural* experience is a double-edged sword. According to Ward et al. (2001), individuals who encounter a foreign environment may experience culture shock. Culture shock is the psychological disorientation that people experience when they suddenly enter radically different cultural environments to live and work in (Eschbach et al., 2001). Depression, anxiety and helplessness often accompany culture shock, which, when becoming worse, sees to increased psychological disorientation, causing difficulties in the ability to make decisions or solve problems. Adaptation is then bad with poor interpersonal relations and consequently increased alienation (Bocher, 2003; Ferraro, 2006).

A few participants recounted that they grew up in Namibia, after repatriation, seeking where they *belonged*:

I think also that transition of always moving from family to family, and different people looking after you, and different rules. It also has an effect on you because as a child you know you feel like you want to belong. I think I had difficulty to really place myself in a

situation and feel like I belong there....Cause it felt like it was still just going to be a transition. Like something else was going to happen and I was going to have to move on or something...like for the next level. It's like there's no stability. (Female, 33 years old, participant 8)

A sense of belonging is that feeling of personal involvement in a system, and of being an integral and indispensable part of that system (Anant, 1966). The person will feel valued, needed and accepted and will have a great fit experience i.e. feeling that her/his personal characteristics complement the system (Hagerty et al., 1992). Human beings have an innate need for belongingness (Maslow, 1943; 1954). Sargent et al. (2002) found that a sense of belonging contributes greatly to the feeling of overall well-being. Werner et al. (2017) emphasise that citizenship refers to a person's legal relationship with a state whilst belonging denotes a person's emotional attachment to a place.

With regard to their *relationships with their parents*, participants whose biological fathers were still alive during the time of repatriation reported to have met them again in Namibia. The participants related that during the years in exile, they did not have ample of contact with their fathers as most of the adult males were either actively engaging in combat or were abroad for further studies. Some of the participants also reported that they could at last live with their mothers in Namibia for the first time when they were 10 years and older. They reported their relationships with their parents to have been challenging:

In 93 [1993] that's when I started living with her... My relationship with my mom was completely not what I expected. It was difficult, it was painful. We could not, I don't know if it was acceptance or maybe I expected too much from her, or she, I don't know, but it was abusive, physically and mentally.... from her side.... (Female, 36 years old, participant 3)

A prolonged separation between parents and children due to migration can have a disrupting effect on the parent-child relationship (Zhao et al., 2018). The loss of or the separation from a parent or a primary caregiver is one of the worst experiences a child can have. Such a separation leaves children vulnerable, which renders them at risk of exposure to additional types of adverse childhood experiences (Manyema & Richter, 2019). Left-behind children are often exposed to non-traditional family structures which can become a risk factor for the development of future psychopathology in these children (Cohen & Brook, 1987). Young children who do not/did not have a relationship with at least one devoted parent/caregiver can display an

array of developmental deficits like retarded physical and cognitive development, aggressiveness, dependency anxiety, social maladjustment, affectionless psychopathy, depression and delinquency (Bowlby, 1940; Malekpour, 2007).

In an independent Namibia, some participants' expectations of love, care and protection from parents, particularly their mothers, were not met:

...when I was in exile, I actually thought, you know, my mom went to study, we are going to have a good life. So I didn't really feel bad for that because I believed she was sacrificing for me... Only when I came back, that disappointment, that not meeting that expectation. That's what killed. ...that's what kept me going all the difficult times...and things are even worse. So I think that's why I find it so hard to even forgive her more because the expectation, the hope that I had in our relationship was even more than what transpired. (Female, 36 years old, participant 3)

The experience of *unmet expectations* is similar to the experience of chronic stress with the accompanying chronic negative psychological effect (Wheaton, 1999). Disappointment and regret are often the emotional products of unfulfilled expectations, which can escalate into depression (Lecci et al., 1994). The psychological result of the experience of unmet expectations is often depression (Irving & Montes, 2009; Taris et al., 2006).

Participants from the first generation of CLS mentioned *poor school performance* as a challenge after repatriation to Namibia:

Imagine you don't have much support and stuff; you can't even discuss this at home because the parents just expect you to go to school and get A's.... So it was just at a point where you don't feel supported. I remember one time when my dad was asking, 'so you didn't do well?'(...) At a point where I think I wanted to kill myself. And ja [yes], I remember, I don't talk about it... I think it's just everything go on your shoulders and you carry it for so long and then it's just like you are tired, so I think I went and drunk some chemical or something then I end up in hospital. And I think it was my first year of high school. (Female, 40 years old, participant 5)

Thomas and Collier (1997) found that young people who experienced interrupted schooling and traumatic events can be expected to take 10 years and longer to come cognitively and academically on par with their peers who did not endure these debilitating

circumstances. Thlabano and Schweitzer (2007) indicate that people who experienced a refugee situation before they were resettled, take longer to participate educationally equally in their resettled destination. Fransen et al. (2018) mention that the negative effects of displacement can cause instability which could impact schooling negatively.

Counselling support

The research participants expressed that they needed *counselling services* when they were repatriated to Namibia:

... to give us counselling. At least the basic so we could say okay, now I'm fine. You don't heal completely but at least they could have given us support so that we can support ourselves. If somebody is sick, how can they support themselves? Psychologically, if you are not fine? (Female, 40 years old, participant 5)

Lie (2004) comments that trauma is a significant factor in the refugee and returnee experience (Mollica et al., 1992). Sundquist and Johansson (1996) found in their study that Chilean and Uruguayan refugees who lived in exile in Sweden suffered more in terms of mental health after return to their countries of origin than those who remained in Sweden.

A few participants stated that their parents were not in happy marriages when they lived with them after repatriation. Some of the CLS thus also had to come to terms with *dysfunctional home* circumstances after returning. This consequently had a negative impact on their well-being:

I always felt, had my dad not gone into exile he would have probably been better off than having been a soldier and coming back to be a soldier...he had gone away from home, but that was common amongst other soldiers... My mom was the one that lived with me, and maybe sometimes she would take the frustration of my dad's situation, or the situation at home, on me... Maybe we needed that [psychological intervention] to bring the bond back or to create that environment. Maybe things would have turned out better or we could have functioned as a normal family rather than the way things turned out to be... Everybody was on their own... (Female, 36 years old, participant 3)

The physical and psychological demands of the exile situation surely can have a negative impact on the marital and family bond. Bloch (1997), for example found that Somali refugees in Britain experienced a high rate of marital breakdown with a subsequent disintegration of families. These refugees ascribed the

stress that men experienced due to their inability to provide for their families or fulfill their assumed male role as a reason for such familial breakdowns.

As a result of the experiences related to the liberation struggle, one of the participants highlighted her experience when she *sought counselling*:

...I decided to see a psychologist for the first time in my life. When I went there I was even in a very bad situation and I think it's because I was also not getting support from my spouse... So I discovered that I was angry that I didn't grow up with my parents and it really has affected me. And I realized that I was also angry with the 'Boers'. I was very upset with them. And obviously I couldn't tell him that I was angry with the 'Boers' because I don't know whether he was coloured or white. I couldn't really tell because his hair was red. So I couldn't really fully tell that I'm really upset with the 'Boers'. (...) I think I had this anger since as a child growing up without my parents in a refugee camp and I just kept it in. (Female, 40 years old, participant 5)

By the time that exiled people returned to Namibia, the many years of social engineering (van Omen & Painter, 2008) ensured that resources and opportunities in Namibian society were still unequally distributed, with white people in key positions. A returnee seeking for psychological services would probably have ended up with a white counsellor/therapist, regarded as a 'Boer' and thus the enemy. Not much of an open and trusting relationship would culminate out of this combination. Written accounts of organised psychotherapy and counseling services for returnees to young Namibia are scarce, leaving the nuance that such services were not high on the agenda of the authorities. Shisana and Celentano (1985) found that many Namibian adolescent refugees showed symptoms of depression already during their time as refugees. As late as 2014, Shiningayamwe et al. (2014) found that the Namibian CLS were in dire need of psychotherapy, not only for the trauma that they suffered during the exile years but also due to stigma and isolation many of them experienced after their return to Namibia. The People's Education, Assistance, and Counselling for Empowerment (PEACE) Centre in Windhoek reports that many returnees are coping via their defense mechanisms like denial, repression, projection and substance abuse (Curling, 2002).

Some participants recounted to have experienced *persistent nightmares* as children growing up in exile after witnessing or experiencing so many traumatic events. For one participant these nightmares persisted into adulthood after she returned to

Namibia:

And then I used to have dreams even after exile that I was falling, even recently I had dreams that those mountains and hills like I am trying to cross them and I was afraid...Even now I still have dreams running away from those planes in exile, running away like there's war. (Female, 40 years old, participant 5)

It was found that recurrent nightmares can be a defining symptom of PTSD and may also be associated with other psychiatric illnesses (Pagel, 2000).

Privileges/opportunities

A few participants reported to have been *assisted* to further their education from the limited government supported initiatives that had been set up to assist the CLS, especially those whose parents died during the liberation struggle:

"...I happen to get assistance from the SIPE company [Socio-Economic Integration Programme for Ex-Combatants]... When we received maybe only ones money, 2 500 [Namibian dollars]... I only benefitted ones ...because it found me already in matric [Grade 12, final school year]" (Male, 39 years old, participant 1).

Some of the participants acknowledged the emotional and financial *support they received from their parents and relatives* as one of the major contributing factors to obtaining an education:

...he [father] asked what is it that I wanted to do and he would support me, so he was always there for emotional and financial support. ...I can say if it wasn't for my dad I wouldn't be here today... I was lucky to have had 4 parents, two fathers and two mothers. (Male, 36 years old, participant 2)

One participant mentioned that her "status" of being a CLS helped her with *smooth entry* into her desired school:

"...I wanted to go to Peoples Primary School because that is where my friends are schooling and it was easy for me to get admitted at PPS. So I feel like that was because of who I am as an CLS and my application was taken serious, I don't think my dad 'hustled' much for me to get in..."(Male, 36 years old, participant 4).

However, some of the CLS also had *difficulty in finding a placement at a school*:

"So me I was left out... That time I even didn't find school. People were going to school." (Male, 39 years old, participant 1).

Some of the CLS were *excluded* from helping initiatives:

“...I didn’t get anything. (...) I don’t know what it is but some of my colleagues got things. But me, no, I didn’t get anything, nothing at all.” (Female, 40 years old, participant 10)

Being left out from resource allocation if one qualifies for such help might make people feel cheated and deflated. The perceived unequal and unfair distribution of resources has psychological consequences. Buttrich and Oishi (2017) found that living in such unequal environments can cause mistrust, anxiety about social status, lower happiness, lower social cohesion, weaker morality, higher mortality and ailing physical health.

Inspiration

The majority of participants cited that their *lived difficult experiences* in exile and during post-Independence years served as a motivating factor to continue with life:

...What I experienced, things have never been good, and when I came here again it has never been good again up to coming to Wanaheda [location]. And there was a time also when my mom could not afford a 20 dollar to pay for the school... She just didn’t know what to do, she went to make a ghetto just because of me to assist... Selling chips... I didn’t find it that conducive for her. This is just suffering again so I must just struggle myself... I motivate myself to just do whatever can be done to provide for myself... I happen to get some casual job which I assisted myself and also my mom. ...she didn’t work also... Its many things. Many things. Cause I happen to pay for myself until when I completed. (Male, 39 years old, participant 1)

Voulgaridou et al. (2006) mention that even when people leave all that is familiar to them like family, culture and support systems, they still have their innate abilities for coping. Also, it was found that people, when exposed to difficult circumstances over the long term, can learn new ways of coping which leads to positive transformation and can be referred to as post-traumatic growth (PTG) (Tedeschi & Calhoun, 1996).

Connectedness

Most of the participants, particularly from the first generation, affirmed to be more connected and comfortable with fellow CLS because of their shared past and *common story*:

...we grew up like in a group, and these are people that you grew up together with and

these are people you look at as your own brothers and sisters, it’s like we are family. We have this bond that we grew up with, it’s something I will say you can’t really break it easily... (Male, 41 years old, participant 11)

The *negative comments* of some members of the Namibian society regarding the behaviour of the CLS were expressed as *hurtful* by both generations:

As CLS we are also judged...now we are just seen as ‘idiots’... Somebody, a friend of mine even said it on Facebook, ‘you guys are talking about you have fought for this country, I think us, our parents who have stayed here fought for this country than your parents because your parents were just in camps making love, having a good time making you guys’... (Male, 36 years old, participant 4)

4. Conclusion

Privilege is, amongst others, what human beings did not have to endure. To live the exiled life and going through the stress of repatriation are traumatic human experiences. Namibia gaining independence and the return of refugees back home is not enough to wipe the trauma of the exiled and returnee experience, as narrated and confirmed by the CLS who participated in this study. Coming home was not always a happy experience as expectations did not match realities. Many of the returning CLS felt unsafe as they were suspicious of white people who were regarded as the enemy. The yearning for the unification with parents was often disappointed and CLS had to continue moving between relatives. Half siblings, who relied on each other during the exile years were often separated, leaving more emotional scars. Adjustment difficulties were significant. Having to adapt to the many different cultures in Namibia, often being separated from loved-ones, and unstable living conditions was all difficult. As the CLS did not see their parents often during exile, the quality of parent-child relationships were compromised when suddenly having had to live together in Namibia. The turmoil of exile and returning also created problems with parental spousal relationships which again impacted children negatively. Parents expected their children to start schooling in Namibia and perform academically well, but children were still mentally occupied by all they went through, thus often disappointing parental dreams of academic achievement of their children. Besides that, many of the CLS could not find placement in schools and did also not receive assistance from the authorities of the day. Despite a clear need for counselling and psychotherapy for the returning CLS, such services were scarce. The CLS mention that in a sense all the hardships that they had to endure provided them with the resilience to

continue to fight for their survival. Staying connected with each other is also a blessing, as they share a common story. Labelling and stigmatisation of some members of the Namibian public is hurting, as those who dish out the labels and stigma are most probably not aware of the traumatic life stories of the CLS.

5. Recommendations

The lack of integration programmes involving psychological services appears to have disadvantaged the Namibian CLS. Psychoeducation of the Namibian CLS on the possible consequences of their lived experiences which have an influence on their current behaviour can still be undertaken. Psychological interventions should be offered in the form of therapeutic group session for employed and unemployed Namibian CLS to reflect on the past, make sense of it and find healing in order to move on with their lives. Group sessions may be beneficial for the Namibian CLS as they revealed to find comfort in one another and have a sense of oneness. Group sessions should be complimented by individual counselling sessions for those that need them. Government, non-governmental institutions and the private sector should take hands in a coordinated way to provide targeted psychological interventions for CLS alongside with some training and employment opportunities as part of alleviating the plight of the CLS. Furthermore, an active effort should be undertaken by government to sensitise the Namibian public regarding the lived experiences of the Namibian CLS in order for the public to understand their behaviour, have empathy and connect with the CLS.

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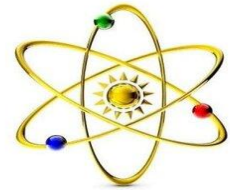
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Original Research Article

The Impact of Financial Literacy on the Sustainability of Female Entrepreneurship in the Namibian Cosmetic Industry

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ABSTRACT

This paper analyses the impact of financial literacy on the sustainability of female entrepreneurship in the Namibian cosmetic industry. The aim of the study was to identify the financial literacy challenges faced by female entrepreneurs in Namibia when managing their businesses; to analyse these challenges, and to provide possible solutions to the challenges identified. Previous studies have concentrated on either the overall financial literacy of the Namibian adult population as a whole or the financial literacy of SMEs in general. To this end, the purpose of the study was to investigate the impact of financial literacy skills on the sustainability of female-run enterprises within the Namibian Cosmetic Industry. The study adopted the correlational research design in which data was processed through the use of the STATA 15 statistical software. The results of the study confirmed that the majority of entrepreneurs in Namibia were young female entrepreneurs who are, for the most part, educated. However, the findings of the study revealed that despite the high levels of education among female entrepreneurs, they still lacked the necessary financial literacy skills. For example, female entrepreneurs had lower financial literacy skills as compared to their male counterparts, and this has had a negative impact on the sustainability of their businesses over the years. It is recommended in this study that, as a matter of urgency, the Namibian Cosmetic Industry and interested parties in this matter, make concerted efforts to provide financial literacy education to their members to equip them with financial literate skills to enable their enterprises to be sustainable.

1.1 INTRODUCTION

The global economic crises and technological advances that have affected the financial sector in general, and small and medium enterprises (SMEs) in particular are among the many factors that have brought to the fore, the importance of financial literacy (Huston, 2010). In the same vein, the importance of SMEs in all economies has been highlighted as a crucial contributor to economic growth (Huston, 2010). Different stakeholder groups are encouraging women to be innovative and to use entrepreneurship as a driver for economic growth. Many of these entrepreneurial endeavors fail to survive due to a number of challenges SMEs face in their business pursuits. The primary challenge that female entrepreneurs face is their inability to manage their finances prudently due to a lack of financial literacy skills (Baporikar & Akino, 2020). As a result, a significant majority of SMEs have failed the sustainability test by failing to survive and continue their business operations beyond the five-year mark. It is estimated that 75% of SMEs in Namibia fail within their first year of operation (UNDP, 2015).

Female entrepreneurs' financial literacy skills have been under scrutiny in an attempt to find out how best they can be assisted to manage their finances well to lengthen the lives of their SMEs into the long-term future and to ensure that they are on par with their male counterparts whose businesses survive for longer periods of time (Ministry of Trade, 2015). The Namibian government has made significant efforts to empower female entrepreneurs by equipping them with financial literacy skills in line with the United Nations Development Programme (UNDP) Agenda 2030, which encourages member states to promote female participation in all the economic sectors of their economies in order to reduce and ultimately eliminate gender imbalances (UNDP, 2015).

2.1 SIGNIFICANCE OF THE STUDY

Interventions that have been implemented over the last decade include the Namibian government's implementation of the ten-year financial sector strategic plan, with the support of the Bank of Namibia for the period 2011–2021 (Ministry of Finance, 2011). Despite these policies being implemented and the interventions that were implemented in the past decade, the Ministry of Trade's Policy on Small to Medium Enterprises has emphasized the empowerment of female entrepreneurs with financial literacy skills because it was discovered that this was the major cause of the collapse of female-run SMEs (Ministry of Trade, 2015).

Without adequate and sound financial literacy skills, female entrepreneurs cannot make sound financial decisions, which ultimately affect the growth of their

businesses and personal livelihoods (OECD, 2018; Naicker & Nsengimana, 2020). Often, the analysis of business performance is based upon the understanding of financial statements and financial ratios by entrepreneurs (Dahmen & Rodriguez, 2014). Businesses are more likely to collapse if they are owned and/or run by entrepreneurs who cannot interpret the figures that show business performance or analyse the financial statements and financial ratios (Dahmen & Rodríguez, 2014). It has been found that entrepreneurs with financial literacy skills are more likely to be able to run and manage the same business for at least five years (OECD, 2018; Dahmen & Rodriguez, 2014) than those who don't have financial literacy skills.

Previous studies have concentrated on either the overall financial literacy of the population as a whole or the financial literacy of SMEs in general without analyzing the differences based on gender. This study focuses on the cosmetic industry in Namibia, which is an emerging export market with growth potential. The African continent is in an advantaged position in the cosmetic industry due to the vast availability of natural resources and indigenous knowledge, which may provide employment and economic benefits if harnessed correctly (UNDP, 2015).

3.1. LITERATURE REVIEW

Previous scholars who investigated this area could not agree on a single definition of financial literacy (Potrich, Viera, & Kirch, 2015). The absence of a universally accepted definition of financial literacy poses challenges for researchers and practitioners in the industry when it comes to identifying relevant variables. Huston (2010) emphasized the need to define financial literacy to enable appropriate interventions and measurement of the success or failure of entrepreneurs with different levels of financial knowledge. Financial literacy is a term that suggests that the right and relevant financial actions and behaviours of entrepreneurs in an economy are dependent on the financial knowledge and skills they possess if they are to make meaningful and relevant decisions that can enhance the success and sustainability of businesses (OECD, 2011; Potrich, Viera & Kirch, 2015). The financial literacy skills that an entrepreneur or business person possesses are measured by the right financial knowledge, skills, attitudes, and behaviors that one holds. Financial knowledge, skills, and attitudes are necessary for sound financial decision making, which in turn leads to long-term business sustainability. Financial literacy skills give an entrepreneur the confidence needed to make sound financial decisions and, ultimately, the

ability to participate in the economic activities of the country (Baporikar & Akino, 2020).

3.1.1 FINANCIAL KNOWLEDGE

Financial knowledge is defined as the cognitive ability needed to make sound financial decisions, such as the selection of financial products that have been identified as important factors in the sustainability of businesses (Huston, 2010). The financial knowledge that an individual possesses is measurable by an individual's ability to correctly define financial concepts, the ability to know where to get money to finance one's business, and the ability to plan and effectively manage finances, among many other examples (Potrich et al., 2016). Literature suggests that there is a disconnect between an individual's perceived financial knowledge and what they know when presented with financial literacy questions (Lusardi, 2019; Barboza et al., 2016). It is noteworthy that people from vulnerable population groups, which include the majority of females, have reported significantly lower levels of financial knowledge and confidence in making financial decisions in comparison to their male counterparts (Lusardi & Mitchel, 2014; Barboza, et al., 2016).

3.1.2 FINANCIAL ATTITUDE

An individual's predisposition can influence his/her financial decisions regardless of the financial knowledge that they possess (Lusardi, 2019; Atkinson & Messy 2012). These predispositions involve how people view their financial knowledge and their perception of money, which may not necessarily translate to sound financial decision-making. Findings from previous research show that respondents to the G20 Financial Literacy Survey, a landmark survey conducted by the OECD, showed that 42% of the participants did not believe in saving money despite their level of financial literacy being modest to high (OECD, 2017). Financial attitudes have been noted to have a significant impact on the financial decisions that people make in their personal and professional capacity. Individuals' perceptions of their financial knowledge are also indicated as factors that influence financial behaviour (Lusardi, 2019).

3.1.3 FINANCIAL BEHAVIOUR

The dominant behaviors that entrepreneurs exhibit when operating a business ultimately determine the sustainability of their businesses and their overall financial well-being (Huston, 2010; OECD, 2017). A correlation was established between financial literacy and the quality of decisions based on the dominant behaviour that an individual entrepreneur exhibits. For example, those entrepreneurs who appear prudent and calculated in the way they manage their money, run more sustainable enterprises (Mashizha, Sibanda & Maumbe, 2019; Lusardi & Mitchel, 2014). Literature also suggests that individuals who have been exposed to certain levels of financial literacy education are more

likely to behave wisely when making financial decisions (Mashizha et al., 2019). Definitive behaviour showcasing financial literacy skills includes spending patterns, budgeting, and investments made by individual entrepreneurs (Huston, 2010). Behaviour is therefore a determinant of how well an individual entrepreneur manages his/her finances when operating a business (Houston, 2010).

3.2 FINANCIAL LITERACY CHALLENGES ENCOUNTERED BY FEMALE ENTREPRENEURS

Due to the important role that SMEs play in the growth and development of any economy, it is imperative to reduce or illuminate the challenges that entrepreneurs face. Financial literacy has been identified as one of the empowering factors that can aid the sustainability of female-led enterprises. However, challenges encountered by female entrepreneurs include regulatory and tax barriers, difficulties in accessing finance, and other non-financial obstacles. Research suggests that women lack the knowledge and confidence to make sound financial decisions, which are critical factors to the success of a business (Lusardi & Mitchel, 2014).

3.2.1 REGULATORY AND TAX BARRIERS

The complexity of the regulatory environment can be a serious obstacle, making it difficult for less educated entrepreneurs, including women, to operate their businesses. Formal procedures such as registration and administration of the taxation laws are performed in a language that some of the female entrepreneurs cannot fully comprehend and this disadvantages the less educated who are historically and predominantly female (Atkinson, 2017).

3.2.2 DIFFICULTIES IN ACCESSING FINANCE

SMEs struggle to access financing options generally due to the nature of their businesses and the lack of collateral, which predominantly affects female entrepreneurs who do not own property due to historical and current gender biases against women. In a study that was conducted across 21 economies, it was found that women are considered less serious as compared to men when looking for financing options (Atkinson, 2017). The results from a survey of female entrepreneurs in Kigali, Rwanda indicated that it is more difficult for female entrepreneurs to access financing as compared to their male business counterparts. Barriers arise from financial literacy education disparities and the general perception that women should be homemakers or informal traders who should not venture into the formal business sectors (Naicker & Nsengimana, 2020).

3.2.3 LACK OF FINANCIAL LITERACY KNOWLEDGE

AND CONFIDENCE

Female business owners have been discovered to possess fewer financial literacy skills and confidence as compared to their male counterparts. These weaknesses significantly affect female entrepreneurs' ability to operate sustainable businesses. Another significant obstacle which affects female owned or led SME's is the fact that financial institutions do not take them seriously because of the cultural biases held against them based on gender. Given the restrictions women entrepreneurs face when trying to access funds, female SME owners are less likely to invest in technology, training employees, and other investments that can assist them in running their businesses sustainably (Atkinson, 2017). A significant lack of confidence and financial literacy knowledge has also been noted in female entrepreneurs, making them more likely to be risk-averse than male entrepreneurs. While risk aversion may be a positive trait for small businesses seeking to minimize risks and expenditure, it may result in female entrepreneurs being afraid to take the necessary loans needed to expand and grow their businesses. Female business owners have been shown to lack sufficient financial knowledge to make sound business decisions (Lusardi, 2019). When compounded by a lack of confidence, this lack of knowledge can lead to indecision or poor decisions, which contribute to business failure. One way to overcome the lack of knowledge and lack of confidence is to empower female entrepreneurs through financial literacy.

3.2.4 GENDER BIAS IN THE PROVISION OF FINANCIAL LITERACY EDUCATION

Results from a baseline survey on financial literacy conducted by the Financial Literacy Initiative of Namibia (FLI) indicated a gender bias in the financial literacy training of females in comparison to that of their male counterparts (FLI, 2013). These sentiments were echoed by the Ministry of Industry and Trade in 2015 in a report which stated that, in comparison to their male counterparts, females needed more financial literacy interventions. Despite the disparity between men and women, it looked as though men were still getting more training than women (MIT, 2015). According to the Gender Gap Index Report (GGIR) by the World Economic Forum (WEF), Namibia was ranked 6th in the world and reported an 80.9% gender gap closing percentage (2006–2021), making it the most gender-equal country in Sub-Saharan Africa (WEF, 2021). The same report also highlighted the fact that the Economic Opportunity and Participation (EOP) sub-index did not increase significantly even in the top-ranking countries. Perhaps this indicates that there is a need to address historical inequalities even in the most equal societies in terms of opportunities and participation. It is estimated that it will take 276 years for the world to close the economic participation gender gap, meaning that women will still continue to lag behind men in many respects concerning the above-discussed issues (WEF, 2021).

3.2.5 AGE, MATURITY, AND PEER PRESSURE

A survey conducted on female entrepreneurs in Namibia by Semente (2019) revealed that there was an increase in the number of young entrepreneurs below the age of forty (40) embarking on business activities in comparison to the older generation. Most of the young entrepreneurs are part of the millennial population who were born between 1980 and 2000. Other studies have identified that this generation is more likely to seek entrepreneurship opportunities due to high levels of unemployment. It has been revealed in the literature that age and maturity play an important role in the financial behaviour of individuals, as older people are less likely to be influenced by peer pressure to spend beyond their means (Lusardi, Mitchel & Oggero, 2017). It is also stated that millennials are the most financially stressed generation as they lack basic financial literacy skills and are not likely to seek financial assistance (Chan, Huang & Reka, 2017).

4.1 METHODOLOGY

The study followed a quantitative analysis method which was influenced by the objective of analysing the relationship between the variables financial literacy (independent variable) and female SME sustainability (dependent variable). The correlational research design is a statistical approach used to measure the relationship between the independent and dependent variables (Saunders et al., 2019).

The size of the population was 240, which is the total number of cosmetic industry participants and associates in Namibia. From this population, a probability sampling technique was used to determine the appropriate sample size using Slovin's sample calculation formula. From the population, 150 individuals were chosen as the sample size, which was deemed adequate for the study.

4.1.2 RESEARCH INSTRUMENT

A questionnaire that was adapted from the OECD International Network on Financial Education survey, which utilised the research instrument to measure the financial literacy of SMEs, was used (OECD, 2019). The financial literacy baseline survey, conducted by the Financial Literacy Initiative of Namibia (FLIN), also utilised the same research instrument (FLIN, 2013). The design of the research instrument followed the most widely accepted definition of financial literacy, which divides financial literacy into knowledge, attitude, and behavior components (OECD, 2016). Primary data was collected using a survey questionnaire with closed-ended questions to allow for

quantitative analysis of the relationship between variables (Creswell & Creswell, 2018). The data collection procedure was pre-tested using a pilot study of seven participants to test the suitability of the research instrument, and the seven participants in the pilot study did not participate in the main study.

4.1.3 DESCRIPTIVE STATISTICS

Descriptive statistics were provided for both the independent and dependent variables. Inferential statistics were used in analysing the relationship between variables (Tredoux & Durrheim, 2018). The inferential statistical methods of correlation and regression analysis were used. The use of both methods arose from the limitation of regression analysis which shows the underlying trend of the relationship between variables; however, it gives no indication of the strength of the relationship between the two variables (Tredoux & Durrheim, 2018). The reliability of the study was established using Cronbach’s alpha. Cronbach’s alpha states that for facets of a research instrument such as a questionnaire to give reliable information, they must have a Cronbach’s alpha of 0.70 and anything below 0.70 is questionable (Tredoux & Durrheim, 2018). The questionnaire in this study was tested using the Stata alpha command and scored 0.73, which is above the acceptability threshold.

5.1 RESULTS

The results of this study were discussed under this heading, starting with the response rate, financial literacy scores, and business sustainability scores. Subsequently, definitive behavioural responses, regression analysis, and correlation analysis were discussed. Thereafter, discussions of the results are made, ending with a fitting summary of this section.

5.1.2 RESPONSE RATE

The research instrument was distributed among a sample size of 150 participants. A total of one hundred and fifty (150) questionnaires were distributed through paper format, WhatsApp, and email links to Google Forms. Eighty-five (85) participants completed the survey questionnaire, representing a response rate of fifty-seven percent (57%), which is a credible response rate as survey studies usually have an average response rate of 30%, which is the minimum acceptable response rate in research (Adams, Khan & Raeside, 2014). One may infer that a response rate of 57% is good and may indicate that participants were enthusiastic about taking part in this study because of the perceived benefits for the participants and society in general.

5.1.3 RESPONDENTS’ PROFILES

The profiling of the respondents is based on their demographic details and the characteristics that were observed from the survey, which may have a bearing on their financial literacy as illustrated in Table 1.

The first thing to be analysed in Table 1 is the gender of the respondents. The majority of the respondents were female, representing 76% of the participants. This is consistent with the expectations since the cosmetic industry in Namibia is female-dominated. Around 64% of the respondents were young women and men between the ages of 18 and 35, which is expected from an industry that thrives on youth and beauty.

Table 1 Respondents profiles

Characteristic	Category	Frequency	%
Gender	Female	65	76%
	Male	20	24%
Age	18-25	13	15%
	26-35	42	49%
	36-45	16	19%
	46-55	13	15%
	56+	2	2%
Education Level	Secondary	14	16%
	Diploma/VTC	16	20%
	Bachelors/Equivalent	40	47%
	Masters/Professional PhD	12	14%
Education in business, finance, accounting, and related subjects	Yes	67	79%
	No	18	21%
Training in the management of business finances	Yes	41	48%
	No	44	52%
Number of years of business operations	< 1 years	46	54%
	1-5 years	30	35%
	6-10 years	5	6%
	11-20 years	4	5%

Source: Survey responses

As illustrated in Table 1, a significant number of respondents, representing 47%, were bachelor’s degree graduates, which is in agreement with the findings of Semente (2019), who identified an emerging trend of rising numbers of young educated female entrepreneurs in Namibia. Fourteen percent (14%) of the respondents were holders of master’s degrees or equivalent qualifications, and 3% were Ph.D. holders. While having so many educated women is a positive sign in terms of the general empowerment of women, it does not necessarily contribute to the sustainability and success of female-led organizations. As evidenced by other studies, even highly educated individuals’ education is not a perfect proxy for financial literacy (Lusardi & Mitchel, 2011). The overwhelming majority (79%) of the participants indicated that they received education in business, finance, accounting, and other related subjects, which should be a positive factor in the sustainability of their businesses. However, it is disheartening to observe that (52%) fifty-two percent of the participants indicated that they did not receive any training in the management of business finances.

5.1.4 FINANCIAL LITERACY SCORES

The next summary statistic to be analysed was the average financial literacy scores. These scores were computed according to the correct responses when the participants were asked questions on financial knowledge, financial behavior, and financial attitude key competencies. To better understand the impact of financial literacy on

female businesses, the average financial literacy scores were categorised by gender.

The average score of financial literacy shows that female respondents had lower financial literacy scores compared to their male counterparts. The female participants scored an average of thirty-nine (39%) and the male respondents had an average of fifty-five (55%) in financial literacy. This supports the evidence provided by Baporikar & Akino (2020), who stated that female entrepreneurs had significantly lower levels of financial literacy compared to males. Although FLI (2013) alluded to the fact that females scored lower than males when tested on financial literacy, they concluded that the differences were not significant in their study. However, the results of this study reflected a significant gap between the levels of financial literacy of females compared to males. Literature has cited the lack of financial literacy as being more pronounced in women, as previously stated (Lusardi & Mitchel, 2014). While the results discussed above indicate a need for regular financial literacy interventions for both genders, it is evident that women would need more interventions compared to men (Baporikar & Akino, 2020).

5.1.5 BUSINESS SUSTAINABILITY SCORES

Sustainability scores were allocated to each respondent according to their responses to the business indicators of growth, profitability, and liquidity. The results are illustrated in the graph, Figure 1 below.

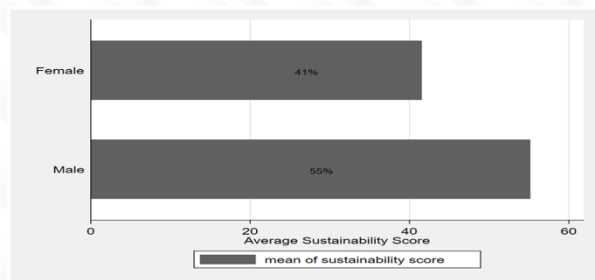


Figure 1 Business Sustainability Scores

The average sustainability scores were categorised by gender to reveal the differences between the two population groups. The results showed that businesses owned by male entrepreneurs presented a higher likelihood of survival compared to those owned by females. These findings are in line with research findings by Carranza (2019), where the socialisation of women was indicated as a challenge to their ability to manage finances and run sustainable businesses compared to males. Women are not socialised to participate in the management of finances from an early age as they are assigned gender roles and are more likely to start their own enterprises as a result of other life events, such as the death or absence of a patriarchal figure. Males are more likely to have access to managing family

businesses and finances earlier than women, which gives men more experience in their earlier lives and a competitive advantage in later life (Naicker & Nsengimana, 2020). The findings are in agreement with the literature on the challenges that female entrepreneurs encounter and the need for targeted interventions to help female entrepreneurs.

5.1.6 DEFINITIVE BEHAVIOURAL RESPONSES

The primary goal of financial literacy education is to influence financial behavior with the aim of improving the financial decisions made by an individual in the course of running their business. Three key behavioral questions were asked in line with Huston (2010). Respondents were asked questions about seeking external finance, separating business and personal expenses, and budgeting. Forty-eight percent (48%) of the respondents did not seek external finance because they either found the loan application process to be complex or they did not know how to apply. This shows that seeking finance and the knowledge of how to apply for funding is a challenge for female entrepreneurs.

Only forty-seven (47%) of the respondents indicated that they were able to separate business and personal finances. The business entity concept states that the business is distinct from the owner(s) of the business, hence it is especially cause for concern that Fifty-three percent (53%) of respondents do not understand and adhere to this basic principle. While a significant majority of eighty-two percent (82%) of respondents confirmed that they had a budget for their business, only eighteen percent (18%) managed to spend according to their budgets. Despite the importance of budgeting and separation of expenses as key financial behaviour competencies that are crucial to the success of businesses, most of the respondents indicated that they do not stick to their budgets.

For businesses that are owned and operated by individual entrepreneurs, the sustainability of the businesses is a direct consequence of the behavior of the individual entrepreneurs. Literature suggests that more prudent and informed behavior is likely to positively impact the success of a business (Mashizha et al., 2019). The findings on the respondents' financial behaviour highlight the financial literacy challenges those female entrepreneurs face in line with the research questions and objectives.

5.1.7 CORRELATION ANALYSIS

Pearson's correlation coefficient measures the

Figure 2 Regression Analysis

strength of the relationship between variables by calculating how far the data points are from the regression line of best fit (Tredoux & Durrheim, 2018). The correlation coefficient for this study is calculated at 0.624 and can be interpreted as a moderate correlation, which signifies a positive and relatively strong relationship between sustainability and financial literacy. Correlations are interpreted according to the sign and the value of the coefficient within a range of -1 to 1, with a correlation of 1 showing a strong positive relationship between the two variables being measured against each other; and a -1 correlation indicates a strong but negative relationship between the two variables being measured against each other (Tredoux & Durrheim, 2013). The work by Guilford cited in Tredoux & Durrheim (2018) offers an interpretation of the magnitude of statistical significance of different coefficients of correlation as alluded to earlier. Although the coefficient correlation is below 1, there is a relatively strong relationship between sustainability and financial literacy (Tredoux & Durrheim, 2018). The correlation results indicate a positive relationship between the dependent and independent variables, which means the sustainability of female-owned SMEs can be improved by providing financial literacy initiatives.

5.1.8 REGRESSION ANALYSIS

A regression analysis was conducted to investigate the relationship between financial literacy and sustainable entrepreneurship. Regression analysis is a statistical method of estimating the linear relationship between variables. The data to be analysed is collected independently from each other (Montgomery, Peck & Vining, 2021). The researchers used two independent sets of data from the participants to compute the sustainability score and the financial literacy score. Sustainability was the dependent variable and financial literacy score was the independent variable, which was regressed with the results depicted below. The overall model fit, depicted in the top right-hand corner of Figure 2, was interpreted first, followed by the co-efficient and the t-statistic test.

As illustrated in Figure 2, the number of observations in the study was 85, representing the data from all the participants. Probability > F measures the probability of there not being a predictive relationship between the two variables. Ideally, the probability value of the F test should fall below 0.05 in a 95% confidence level regression (Tredoux & Durrheim, 2018). The above analysis shows that F has a probability value of 0.00. This means that financial literacy can predict an enterprise's ability to stay in business, and the model can be argued to be statistically significant (Tredoux & Durrheim, 2018).

R-squared was measured at 38.94%, representing the

Source	SS	df	MS	Number of obs =	85
Model	31892.2603	1	31892.2603	F(1, 83)	= 52.93
Residual	50008.5162	83	602.512244	Prob > F	= 0.0000
				R-squared	= 0.3894
				Adj R-squared	= 0.3820
Total	81900.7765	84	975.009244	Root MSE	= 24.546

Sustainability	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
FinancialLiteracyScore	.9292472	.1277237	7.28	0.000	.6752099 1.183285
_cons	4.906092	6.086816	0.81	0.423	-7.200339 17.01252

statistical significance of the relationship between sustainability and financial literacy (Tredoux & Durrheim, 2018). An R-squared value of zero would have indicated that there is no relationship between the variables (Tredoux & Durrheim, 2018). In this case, we can conclude that there is a positive relationship between the variables (independent and dependent in this study) and that the regression model has explanatory significance (Tredoux & Durrheim, 2018).

The probability value for the T-test (P>t): The t-test is used to compare the means of two independent data sets, in this case, sustainability and financial literacy (Tredoux & Durrheim, 2018). The probability value for the t-test measures the likelihood of the two means of the identified variables being equal. Ideally, an output of less than 0.1 is acceptable. The model in question shows a p-test for t of 0.00, which is acceptable in determining the existence of a relationship between the two variables (sustainability and financial literacy) and it indicates that the results did not occur by chance (Tredoux & Durrheim, 2018).

The coefficients of a regression model predict the relationship between the two variables in numerical terms (Tredoux & Durrheim, 2018). The output indicates the amount of increase or decrease in the dependent variable that could be predicted by the independent variable. A statistically significant coefficient should be significantly different from 0. The results of the regression show a coefficient of 0.92, which is significantly greater than zero (Tredoux & Durrheim, 2018). The coefficient is a positive number and therefore indicates a positive relationship between the two variables. This means that for every increase in financial literacy, there is a 0.92 increase in the sustainability of enterprises (Tredoux & Durrheim, 2018).

6. DISCUSSION OF RESULTS

An analysis of the participants based on gender is in line with previous research in Namibia, which alludes to the fact that women were mainly embarking on personal services and the beauty industry. Women make up (76%) of the cosmetics

industry in comparison to males, who are in the minority at (24%) in the same services (Baporikar & Akino, 2020; Semente, 2019). The males involved in the cosmetic industry play a supportive role in specialised fields such as research, as compared to female entrepreneurs, who are, in most cases, small-scale retailers of the finished cosmetic products. This follows the gender-normative societal constructs of the businesses that women can embark on within the African context (Baporikar & Akino, 2020).

The results from the age analysis of the respondents revealed that the majority of the respondents were millennials who are below 40 years of age. The millennials are characterised as a more liberal and self-assured generation compared to the previous generation, but they are also the most financially stressed generation. They were also found to have subjective financial knowledge, which makes them overconfident in their financial knowledge and the least likely to seek help or financial advice (Chan, Huang & Reka, 2017). Linked to this are studies about age and maturity with financial literacy and the making of sound financial decisions, which identify this age group as a more vulnerable group that is most likely to lack financial literacy skills when managing their businesses (Lusardi, 2014; Lusardi & Oggero 2017). Members of the older generation are less likely to make impulsive financial decisions or be influenced by peer pressure than millennials (Lusardi & Oggero, 2017). In this study, respondents above 56 years of age made up only 2% of the total respondents, and yet they are the ones who possess some of the skills and qualities needed to make sound financial decisions. As evidenced by Table 1, the membership of the cosmetic industry is made up of mostly people below the age of 35, implying that there is a need for cosmetic industry members in Namibia to receive financial literacy support in the form of training or awareness to assist them towards running sustainable enterprises (Chan et al., 2017).

The findings of the study indicate that there is a positive correlation between financial literacy and sustainable female entrepreneurship. The regression results indicate a statistically significant relationship between financial literacy and sustainable entrepreneurship. Based on the findings, the results suggest that financial literacy has a positive impact on sustainable female entrepreneurship. If a female entrepreneur knows a lot about money, she is likely to be able to run her business for at least five years. This is a good measure of how long a business can stay in business.

The challenges that female entrepreneurs face concerning a lack of financial literacy skills affect the sustainability of their enterprises. In conclusion, based on the findings of the study as mentioned above, it is suggested that for female entrepreneurs to manage sustainable enterprises, they need to be well equipped

with financial literacy skills.

7. CONCLUSIONS

This study sought to uncover the impact of financial literacy on the sustainability of female entrepreneurship. The findings of the study indicate that there is a positive correlation between financial literacy and sustainable female entrepreneurship. Based on the findings, the results suggest that financial literacy has a positive impact on sustainable female entrepreneurship. Female entrepreneurs with high levels of financial literacy are likely to sustainably manage their businesses beyond the five-year mark, which is a good measure of business sustainability.

This paper was focused on the Namibian cosmetic industry, and the results reflected low levels of financial literacy within the industry. Stakeholders involved in the industry are encouraged to provide more training on financial literacy to equip female entrepreneurs with the financial skills to manage their businesses sustainably. It is also recommended that a formal approach to financial literacy training be adopted and provided to new members of the cosmetic industry network. As the cosmetic industry grows, new members need to be equipped with financial literacy skills if businesses are to be sustainable and to ensure the growth of the industry.

Results indicated that most of the business owners who are part of the cosmetic industry have only been in operation for one to five years. The industry's main donors and stakeholders could provide members with technical services backup in accounting and finance until such a time that they are well versed and experienced in managing their finances or can hire accountants to manage their finances.

The study was based on a positivist research philosophy that follows statistical and logical data collection and analysis. This influenced the type of questions asked in the research instrument, which were closed-ended questions that did not allow the respondents to further explain their choices. Further studies could be conducted using a mixed-methods approach to allow for triangulation. The measurement of financial literacy was measured by financial knowledge, financial behavior, and financial attitude, which were then combined into one variable (financial literacy). It would be beneficial to analyse the impact of each of the three components individually in future studies.

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