Research Report

Title: **Mine employees' understanding of psychological trauma and the importance of seeking psychological intervention when traumatised.**

MA Occupational Social Work

Department of Social Work

School of Human and Community Development

Name of student: Ms Mary Molefe

Student No. 1007712

Declaration

I, **Ms. Mary Molefe** (Student No. 1007712), hereby declare that this study is a true reflection of my own research from which the report was constructed, and this research has not been submitted for any degree in any other institution of higher education. Secondary material used was acknowledged and referenced in accordance with the requirements of the university. I understand what plagiarism is and the implications thereof in terms of the university policy.

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Chapter 1

Introduction

Background of the study

The South African Mining Industry (SAMI) is known as a high-risk work environment. Although SAMI makes a significant contribution to the economy of South Africa, it faces frequent occupational health and safety challenges (Bonsu, et al., 2017; Pelders & Nelson, 2019). Although the aim of the mining industry is zero harm to the employees, there are unfortunately traumatic incidents that take place.

Research findings indicate that there are many causes of serious injuries and fatalities in the mining sector. For example, direct causes include slips and falls, mistakes, routine violation, and deviant violation. Work factors such as not fit-for-purpose equipment and the physical environment are also a cause of these incidents (Woolf & Aaron, 2013).

The employee who is directly involved in a traumatic incident usually experiences behavioural, emotional, and psychological effects. However, it is important to note that employees who have personally witnessed the traumatic incident also experience negative side-effects on their psychological and emotional well-being (Zungu, 2013).

According to the Statistics South Africa report released in 2021, mining recorded 18.1% growth, contributing 1.2% to the overall 4.6% seasonally adjusted and annualized gross domestic product due to increased production in the Platinum Group Metals (PGMs), iron ore and gold (Statistics South Africa Report, 2021). The mining industry is the second largest employer in South Africa (Rubber, 2020). It has improved the lives of its employees, both skilled and semi-skilled as well as the surrounding communities.

Statement of the problem and rationale for the study

The organization where the study was conducted is a multinational mining and metals processing group with a diverse portfolio of mining and processing operations and projects and investments across five continents, including South Africa. During the process of extraction of minerals, there are risks and safety issues that may lead to disturbance in physical and psychological functioning of employees exposed to such risks and safety factors. The mining employees are exposed to environmental risks such as fall of ground of rocks in different sizes, slip and fall while executing duties due to uneven surfaces or exposure to dangerous chemicals. These aforementioned environmental risk may result in mild to severe injuries and in worst case scenarios, fatalities. Mining companies are investing in equipment, training and cultural changes to improve their safety outcomes (Solomons, 2017).

The purpose of the Employee Assistance Programme is to support workforces to resolve personal and occupational difficulties through evaluations, counseling, and referrals to healthcare professionals for further psychosocial intervention. “Trauma-informed care (TIC) involves a broad understanding of traumatic stress reactions and common responses to trauma” (Substance Abuse and Mental Health Services Administration, 2014:1). The intention is to aid employees get back on track after exposure to a traumatic incident.

Due to the nature of the industry, trauma intervention is part of the programme for early intervention and identification of employees that may be extremely affected by experiencing and traumatic incident whether directly or by witnessing.

According to Javidi (2012) employees exposed directly or indirectly to a traumatic incident often experience traumatic tension, that can lead to Post-Traumatic Stress Disorder (PTSD). Based on work experience, although employees exposed to traumatic incidents are aware of the services provided by EAP, they do not fully utilize and engage. This might be

owing to the stigma often associated with seeking 'psychological' or 'mental health' treatment (Eben, 2022). However, it might also be related to some employees not understanding what trauma is and changes that transpire post exposure to risk.

Although employers are paying for the EAP services, employees do not seem to grasp the importance and benefit these services have to them and the organization, especially on the operational level.

Another observation made is that some employees return to work almost immediately post traumatic exposure, especially based on the level of severity. They seem to refocus on fulfilling their work responsibilities in the usual pattern without considering the impact. Researchers have found that from the employee's perspective, employment creates own revenue and the capacity to afford for basic needs for daily living, and extraction from the working environment that comprises of loss of financial stability (Ryan & Deci, 2000; Vogel-Scibilia et al., 2009). Moreover, unemployment adds to depression and suicide risk (Gowan, 2012; McIntyre & Lee, 2020). Financial stability when employed also affords one the prospect to gratifying personal psychosocial necessities

On the other hand, returning to work prior to full recovery can be harmful for those who suffer from acute traumatic stress or post-traumatic stress (PTSD). This emerges in the workplace as absenteeism, presenteeism, conflict with others, and social isolation (DeFraia, 2013).

Williams and Williams (2020) emphasized that returning to a work environment that reminds employees of their trauma can trigger flashbacks (i.e., re-experiencing) of the traumatic incident. This poses a great risk to traumatic stress casualties in organizations (Vogel & Bolino, 2019). Traumatic stress can be elicited when trauma sufferers identify their surroundings in ways that prompt them of their trauma and leads to re-experience of trauma (Lis et al., 2020; National Center for PTSD, 2020a; Pearson &Clair, 1998).

Because PTSD can have a negative impact on both the employee and the employer it is essential that management monitors the experience of traumatic events and identifies trauma-related symptoms as early as possible. (van der Meer, et al., 2017). An organization's intervention strategies should consider the contribution toward their employees' change in character after a critical incident that may potentially be detrimental to the organization and community, as well as family.

Furthermore, according to Erlank and William (2019, p. 5) "given the excessive exposure to trauma experienced by the South African population, it is clear that further trauma counselling services are required, and more effective ways must be found to empower communities to deal with trauma". The employers in the mining industry should not be reluctant to engage employees in the trauma intervention processes to avoid further mental illness that may emanate from the experiences. Regular engagement would alleviate stigma around mental health and issues around shying away from seeking help in fear of being viewed as weak.

Another concern is that the doctors at the mine hospital tend to only treat the physical ailments of survivors. The concerns are reinforced by Mvundla and Zungu's (2020) research on male survivors' perception of PTSD management strategies in the South African Mining Industry (SAMI) sectors. Their research findings indicated that medical practitioners prescribed only medication for trauma survivors, and nothing to address the psychological effects of the trauma suffered.

The intention of this study was to establish what employees of a SAMI operation centre based in Rustenburg know about psychological trauma in the mining context and what are their attitudes towards psychological treatment. The anticipation is that research findings would help employees to understand the psychological impact of being directly involved in, or witnessing, a traumatic incident. Based on an improved understanding of the signs and

symptoms of psychological trauma they would better be able to understand what they are experiencing, and when and why psychological treatment provided by the EAP would prove significant. It is also important that management and other key role players develop a good understanding of trauma and the influence this has on their employees in the work context. Findings could influence changes in policy and procedures related to trauma in order to facilitate healthy recovery of employees and to improve the work environment in general.

Finally, the study intended to fill a gap of knowledge. This is because a rigorous literature review indicated that the study had not been conducted before at the mining operations in Rustenburg.

Main Research Questions

This study was conducted at a SAMI operation centre based in Rustenburg. The two main research questions were:

What are mine employees' understanding of psychological trauma?

What are mine employees' attitudes towards seeking treatment for psychological trauma?

Main aim and Objectives of the study

The main aim of the research was to describe mine employees' understanding of psychological trauma and their attitudes towards seeking treatment for psychological trauma.

The objectives of the study:

1. To determine mine employees' understanding about the signs and symptoms of psychological harm.
2. Explore employees' attitudes towards psychological trauma treatment.
3. Based on research findings, make recommendations to management of SAMI Rustenburg operations regarding possible changes in trauma policy and procedures that would be in the best interests of employees.

Definition of key concepts of the study

The key concepts and terms used in this study are defined as follows:

Psychological trauma***:***

"It can be affirmed that psychological trauma is one or more events perceived by the critics, generating impotence and vulnerability, capable of causing such severe stress to threaten the integrity of the person's psychological balance" (Perrotta, 2020:3).

Traumatic incident***:***

Painful event causing immediate physical or mental damage (Corsini, 2002).

Post-Traumatic Stress Disorder***:***

"People with post-traumatic stress disorder have intense, disturbing thoughts and feelings related to their experience that lasts long after the traumatic event has ended" (APA, 2001:1)

Mining industry*:*

*"*Mining involves extraction of precious minerals and other geological materials transformed into a mineralized form that serves an economic benefit to the prospector or miner. Typical activities in the mining industry include metals production, metals investing, and metals trading" (CFI, 2022).

Employee Assistance Programme***:***

"A workplace programme designed to assist: (1) work organizations in addressing productivity issues, and (2) "employee clients" in identifying and resolving personal concerns, including health, marital, family, financial, alcohol, drug, legal, emotional, stress, or other personal issues that may affect job performance" (EAPA, 2013, p.1).

Resilience:

"The capacity of a dynamic system to withstand or recover from significant threats to its stability, viability or development" (Parsons, Kruijt, & Fox, 2016).

Psychological treatment*:*

A broad range of therapies implemented to address psychological trauma. "The common type of psychological treatment is Cognitive-behavioural therapy which helps a person process and evaluate their thoughts and feelings about a trauma; while cognitive-behavioural therapy doesn't treat the physiological effects of trauma, it can be helpful when used in addition to a body-based therapy such as somatic experiencing or Eye Movement Desensitization and Reprocessing (EMDR)" (EAPA, 2013, p.1).

Organisation of the research report

The research report consists of five chapters.

Chapter one is the introductory chapter to the report. This chapter consists of the statement of the problem and rationale of the study, research questions, aims and objectives of the study, brief overview of the research approach and methodology, limitations of the study and definition of concepts.

In the second chapter, the theoretical framework underpinning the study and literature review is presented. This chapter provides literature on mine employees' understanding of psychological trauma and the importance of seeking psychological treatment should the need arise.

The third chapter on the research methodology. It includes the research approach and design the population, sample and sampling procedure, the research instrumentation, the methods of data collection and data analysis used as well as the trustworthiness of the study and ethical principles considered.

In Chapter Four the collected and analysed data is presented and discussed. The findings will be compared or contrasted to the relevant literature and direct quotations from participants will be integrated in the discussion. The final chapter focuses on the main findings, conclusions, and recommendations.

Conclusion

This chapter provided an overview of the research report. The problem statement and rationale for the study, the overarching research questions, and the aims and objectives of the study were highlighted. A brief outline of research methodology applied, the definition of key concepts, limitations of the study and the structure of the research report were addressed. In the next chapter, a description of the theoretical framework that underpins the study and literature review relevant to the study are presented.

Chapter 2

The Theoretical Framework and Literature Review

Introduction

Traumatic experiences are faced by those persons directly involved in the traumatic event as well as those persons who witness it. This chapter will initially describe the theoretical framework that underpinned my study. It will then lay out how psychological trauma affects an individual and those that are around them. The chapter will also detail the etiology, impact and the importance of treatment.

Theoretical framework underpinning the study.

Based on the effort of this study, the researcher selected the theoretical concept of 'Mental Health Literacy (MHL) to underpin the study, MHL is defined as the "knowledge, and beliefs about mental disorders which aid their recognition, management, or prevention'' (Spiker & Hammer, 2017 citing Jorm et al., 1997, p. 182).

Spiker and Hammar (2019) pointed out that Jorm et al. (1997) who conceived the theoretical construct of MHL identified seven primary components of MHL, 'namely recognition of mental disorder, knowledge of how to seek mental health information, knowledge of mental health risk factors, knowledge of etiology/causes of mental illness, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition of appropriate help-seeking behavior.'

Prior to conducting the study, the researcher hypothesized that many employees in mining industry did not have a good consideration of trauma and the signs and symptoms thereof. The researcher also believed they do not understand psychological treatment which determines their response, seeking help or not seeking help. Social cognitive theory provides a framework for understanding, predicting and changing human behaviour (Green & Peil, 2015). Further, although they might have knowledge of professional help available at the

mining industry, their attitude may have an impact towards seeking treatment. The researcher reasoned that, if employees do not have good knowledge and beliefs about psychological trauma in the mining work environment, their recognition, management, or prevention of psychological impact would be undermined.

Social cognitive a learning theory which has come out on the ideas that people learn by watching what others do, and that human thought processes are central to understanding personality (Nabavi & Bijanti, 2012). How one responds to stressors is related to various factors including how they were socialized or what was modelled to them. Subsequent to a stressful event, some employees return to work without treatment, although the signs and symptoms that manifest indicate they would benefit from treatment. According to Green & Peil (2015) social cognitive theory is based on the idea that we learn from our interactions with others in a social context, by observing the behaviours of others, people then develop similar behaviours. The acknowledgement and treatment of the presenting symptom may be linked to how an individual general response to stressors. The ability to recognize the signs and symptoms of psychological trauma may cause motivation to seek treatment if they identify the need to do so. Therefore, mental health literacy encourages an understanding of trauma but seeking assistance determines engagement to address the symptoms.

Literature review

Based on a rigorous literature review the following information was deemed relevant to the study.

Nature of traumatic incidents occurring in the mining industry.

The mining industry is prone to accidents that can be crippling to the employees involved, physical and psychologically. Frankel (2013:39) explained that “every mine aims at zero occupational injuries and fatalities, but unfortunately the nature and operations of the mines often make it inevitable for injuries and deaths to occur.”

Accidents that take place in the mining environment often include rock falls, slip and falls or trucks being hijacked or getting involved in accidents. Saleh and Cummings (2011) added that traumatic injuries are a major concern in the mining industry and common causes of fatal injuries. Fatal injuries can be caused by entrapments, blasts, fires, falls from heights, rock falls, electrocution and mobile equipment accidents.

The current challenge in the mining industry is illegal mining (informally referred to as 'Zama Zamas') that not only threaten the wellbeing of the economy but the wellbeing of the security guards in the mining premises as they are exposed to danger with the perpetrators of cable thefts and illegal mining. Employees work in fear of meeting the illegal miners underground. They are afraid of the harm they might cause and also witnessing dead illegal miners that are left to be discovered by the employees. Transporting raw minerals is also potential risk as employees also work night shift and they are exposed to hijackings and potential reckless driving.

According to research, an individual can experience traumatic incidents more than once. Individuals may experience the traumatic event directly, witness an event, feel threatened, or hear about an event that affects someone they know (Goodman, 2017).

The etiology, physiology, and genetic considerations of trauma

"Trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting adverse effects on the individual's functioning and physical, social, emotional, or spiritual well-being" (Substance Abuse and Mental Health Services Administration [SAMHSA], Trauma and Justice Strategic Initiative, 2012:1).

Trauma can also be described as a concept that associates an external event with its specific aftermaths for the inner psychosomatic actuality (Bohleber, 2010). Bohleber (2010:12) also mentioned that "a major factor in defining trauma is the sudden, disruptive,

uncontrollable aspect of the traumatic event and the experience of a "too much" that renders one helpless."

The diagnosis of dysfunctioning is considered when an individual exposed to a traumatic incident is unable to engage meaningfully with their environment. A victim of psychological trauma may experience sleeplessness, irritability or hypervigilance following a critical incident.

During a traumatic incident, an individual experiences physical and psychological reactions. There may be injuries sustained and the sight and extent of the injuries causes psychological reaction. The common physical reactions are headaches, sore muscles and chest pains. According to DeFraia (2016) workers exposed to a critical occurrence commonly encounter emotional, cognitive and behavioral symptoms the discourages their functioning. These reactions have a negative impact on the functionality of the victim. There are physical, behavioral and social changes that result from the exposure to a traumatic incident.

- The three phases of trauma according to Michelle (2018)

"When it comes to trauma events in particular three specific phases have been identified, each with their own appropriate response:

a. <u>The impact phase</u> (24 to 36 hours)

This phase is characterized by general chaos. It can last from a few seconds to 3 days.

In this phase the victim appears emotionally numb, disorientated, confused, irrational and disorganized. The victim is in a state of shock and may not be entirely aware of the reality of what has happened to them. The victim is temporarily helpless in this phase and their low level of functioning can be compared to that of a young child (Wild & Ehlers, 2010)

Some victims show a lot of emotion and may scream or cry. Others may be completely calm and behave as though nothing has happened. The victim may seek assurance and direction.

b. The recoil phase (36 hours to 3 months)

This is the best time for debriefing. It is much less chaotic and more controlled. In this phase the victim begins to realize the traumatic nature of their experience and will express some emotion (anger, sadness, guilt, etc.). Referring to a counselling agency may be necessary. As the victim experiences intrusive ideas and very often relives the event, they may recall information that has been omitted from previous reporting (Wild & Ehlers, 2010) Most of the post-traumatic stress symptoms begin to develop during this phase and most victims want to talk about their experience.

c. Reintegration (3 months +)

During this phase the person re-establishes him/herself in former patterns of life. They return to normality and regular functioning. They can still recall details about the incident, but the thoughts are not causing dysfunctionality.

Physical and Social Factors in Trauma and Resilience

Individuals recuperate differently after a traumatic event, physically and mentally. Research has shown that people employ various manners to adjust after an instant disturbance in their normal way of living. Resilience, as a psychosocial construct that is described as an adaptive feature of an individual to survive with and recuperate from and sometimes even flourish after misfortune (Iacoviello & Charney, 2014). In view of the range of stressful and traumatic experiences humans can encounter, and the range of probable reactions, which are influenced by various factors that contribute to resilience compared to psychological disorders.

Individuals have varying options of coping mechanism that can serve to be destructive or constructive to their recovery process. Berger (2013) says that to support those who survive trauma to cope, recover, and potentially grow form the experience and the help with modification the conditions that add to the distressing event, the employment of diverse body

of intervention strategies combining individual, family, group and community modalities. The inconsistency of the distressed state is that the numbing and blocking of affect are experienced as a relief from the painful effects of anxiety (Bohleber, 2010). Such selection is based on what the individuals are exposed with regards to lessons, environment, and personality trait. An environment that encourages openness in discussing thoughts and emotions foster the ability to process traumatic experiences and recovery development.

According to Schunk (2012) "information processing theorists contend that people select and attend to features of the environment, transform, and rehearse information, relate new information to previously acquired knowledge, and organize knowledge to make it meaningful."

The mining areas are exposed to different cultures and traditions as well as differing economic levels and educational levels. Psychological trauma is conceptualised in literature as an unpredicted, unusual, and severe event that results in an upsetting emotional response characterised by a failure to cope with the psychological demands of the event. This contributes to ways of undertaking things and choices made by individuals after stressful or traumatic experience.

In order to manage mental health concerns in South Africa, social workers are expected to be conversant with the various training methods, treatments and models that are available with regard to the treatment of trauma and PTSD (William & Erlank, 2019). Assess if the employee that eventually return to work would have received intervention, spiritual, emotional, traditional.

Effects of trauma in the workplace

Psychological trauma in the workplace can manifest itself in various ways. Employees that are not aware of the impact of trauma on their behaviour, emotions and physically may continue to report for duty without treatment. Anxiety, dissociative symptoms, sadness, fear

weakens cognitive functioning and work skills (Defraia, 2016). This may impact their interpersonal relationship with co-workers as there may be levels of irritability, and a desire to isolate.

Lack of concentration may lead to errors and risk of more accidents in the workplace. Kapur (2020) stated that implementation of measures that focuses on prevention of risks contributes in promoting health and safety of workers. The affected employee may place others at risk. Safety becomes a concern. Defraia (2016) confirmed that if not attended to, trauma related symptoms affects organisational functioning negatively through, missed deadlines, sick leave, declining productivity and reduced work quality.

- *Absenteeism and Presenteeism*

A Human Resources data showed that an average daily cost of absenteeism amounted to plus minus R790.00 per employee in 2022 (Absenteeism presentation by Mr McKenzie in April 2022).

Because the reaction of trauma has physical and mental effects, and individual experience issues such as headaches, body pains, elevated blood pressure and sugar level, this results in the need for a worker to constantly be under the care of medical practitioner.

Stressors in the workplace include dangerous working conditions, long working hours, job security worries and job monotony. These stressors can lead to poor mental health, heart disease, back pain, and gastrointestinal disturbances (Kocakula, 2016). The injured worker, depending on the severity of the accident, might be away from work for an extended period which lead to high workload and frustration from those left to compensate for the absent worker.

Interestingly, “a 2006 Canadian review indicated that another major issue for employees with depression and anxiety disorders is ‘presenteeism,’ or lost productivity while at work” (Defraia, 2016).

- *Conflict*

Conflict amongst workers may result due to the trauma responses presented by different workers involved directly or indirectly in a traumatic incident. According to Kocakula (2016:12) “arousal of symptoms creates difficulties with sleep, resulting in poor concentration, irritability, with co-workers and tardiness or absenteeism.” Due to the distress experienced by the worker involved, taking orders or constant errors that may lead to conflict with the worker and supervisor. Lee (2006) urged intervention to take place which facilitates staff and employer to explore on emotional responses to people and challenge them when they appear illogical and unsupported.

Effects of trauma on the family system

Mining is still regarded as a family occupation where there are often relatives within the organization. In my opinion human beings do not operate in isolation, they are born into families that enable them to identify themselves and learn various conducts that shape their being.

According to Corey (2013), the family system perspective holds that individuals are best understood through assessing the interaction between and among family members. Employees exposed to trauma will display reactions as transferred from family interactions where patterns and habits were developed. Zungu and Mvundla (2020) mentioned that family support following a traumatic incident experienced by individuals aided the acceptance of injuries sustained and the ability to move on.

The family structure can foster as a supportive structure after a traumatic event. Individuals affected by trauma may also struggle to connect after a traumatic incident which impacts negatively on recovery. International Society for Traumatic Stress Studies (2016) cited that regardless of the distinct nature of each traumatic experiences, the disruption to

people's lives from distressing events may also cause disturbances in their feelings for and relations to others.

In the South African context, there are rituals that needs to be performed to remove what is considered to be bad luck. This is to avoid the incident, despite its nature, from repeating itself. Bergers (2013) confirmed that the manifestation of reactions to trauma are culture dependent where behavioural and emotional reactions that are viewed as pathological in the one culture may be expected and normative in another.

Treatment of psychological trauma

The American Psychological Association (APA) provides guidelines for treating trauma victims. However, according to Norcross and Wampold (2019, p.391) the APA tends to "… adhere to a biomedical model that focuses on identifying particular treatment methods that work but ignores the research evidence that most treatments for posttraumatic stress disorder produce similar outcomes." The said authors insist that the therapeutic relationship and responsiveness/adaptation factors also augments sturdily to management success and should be encouraged.

Berger (2013, p. 37) suggested that people are "from a comprehensive biopsychosocial perspective adds to the traditional understanding of problems and pathology by viewing individual and social systems from a strength perspective." The strengths perspective in social work, focuses on promoting the dynamic of coping, and the application of effective coping strategies that allows individuals, families, groups, and communities to enhance their coping capacities with challenges and endeavour to be functional to the best of their abilities (Baron & Stanley, 2019).

Sepeng and Makhado (2019) pointed out that the evidence of effectiveness of psychological management intervention guidelines mostly comes from studies conducted in

the USA. As stated by the said researchers, there is a need for the development of guidelines for psychological trauma management interventions specific to the African context.

"Eye movement desensitization and reprocessing therapy, (EMDR), is a mental health therapy method best known for its role in treating post-traumatic stress disorder" (Mavranezouli, et al., 2020:45). Research evidence suggests that it has good outcomes when implemented.

Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) is also an evidence-based treatment model intended in promotion adults and children overcoming the undesirable circumstance of a distressing experiences (Mavranezouli, et al., 2020).

There are several guidelines from various agencies and professional organizations that recommend quite a few trauma-focused psychological mediations for handling trauma survivors and some of which acknowledge benefits of pharmacological management. Venlafaxine is one of the medications that has been associated with improvement in some for symptoms of numbing and/or re-experiencing the trauma (Davidson, et al., 2006 cited from SAMHSA accessed on 28 January 2023). Medication used addresses symptoms reported by individuals, it is not generalised as the symptoms differ from one person to the other.

DeFraia, (2013) informed that "Critical Incident Stress Management (CISM) is the most widespread multi-level incident response strategy utilized by organizations. CISM is often through specialized CISM units operating within their employee assistance programs (EAPs)". The method is often used in a group setting and later for workers that show severe symptoms and are treated individually.

Conclusion

Literature denotes that psychological trauma leads to changes in an individual that is affected by a traumatic incident. Psychological trauma can affect one by directly experience of witnessing a traumatic incident. The individual impact had an effect on interaction with the

outside world which is family and colleagues. There are changes that experience in terms of behaviour, moods and performance. Thus, seeking treatment will be determined by the severity of the symptoms and the support the affected individual has. Interventions both at work and on individual capacity.

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Chapter 3

Research Methodology

Introduction

The purpose of the study was to describe mine employees' understanding of psychological trauma and their attitudes towards seeking treatment for psychological trauma. This chapter focuses on the research approach and design, population, sample and sampling procedure, the research instrumentation, and pre-testing of the research instrumentation. The methods of data collection and data analysis are presented. The means of ensuring the validity and reliability of the study, and ethical considerations for the study are also discussed in this chapter.

Research paradigm and approach

The study adopted a quantitative approach based on the post-positivism paradigm. "Quantitative research is the process of collecting and analyzing numerical data and can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations" (Bhandari, 2020). The test was selected to assist in verifying the hypothesis made in the study. Bhandari (2020) indicates that the use of quantitative research is when you want to confirm or test something (a theory or hypothesis).

Post-positivism is the philosophy that all knowledge is not neutral, but socially constructed. In other words, there is no absolute truth (Creswell & Creswell, 2018). Robson (2002) explains that post-positivism adopts the stance that "… the theories, hypotheses, background knowledge and values of the researcher can influence what is observed' (Robson, 2002, p.27). Furthermore, post-positivism acknowledges the existence of multiple realities among participants (Usher, 2021, citing Henderson, 2011).

Research design and method

The study was a cross-sectional survey study, which was mainly descriptive in nature. A cross-sectional study involves looking at data from a population at one specific point in time. As pointed out by Cherry, (2019, para. 2) "Cross-sectional studies are observational in nature and are known as descriptive research". The main reason the researcher employed a cross-sectional study was because it has several advantages. For example, it is inexpensive to conduct, and data can be gathered rather swiftly. Of course, there are also recognised disadvantages conducting a cross-sectional survey. For example, cross-sectional surveys cannot determine substantiated evidence on causal relationships between variables (Sun et al., 2021).

Population, sample, and sampling procedures.

The target population was employees of an organization operating in the mining industry within mining and metals group based in North-West province. The staff compliment of the organization is approximately 200 employees.

The sample was purposive in nature because it was made up of all employees at a mining organization working on surface transporting raw materials extracted from underground at the Randburg mining organisation. The employees consist of 32 Engineering department staff (Artisans, Mechanics, Artisan assistants and general workers); 59 drivers separated into two shift cycle; 67 support staff (human resources personnel, clerks, safety officers, site manager, cleaners). As far as selection criteria are concerned, the participants were not limited in terms of age (all employees are adults), gender, race, or rank. It included employees who have been directly involved in a traumatic incident or witnessed a traumatic incident.

Recruitment of prospective participants

The invitation to participate in the study was made available through emails sent to all employees. Posters were also used to invite interested employees to participate in the research project. A presentation focusing on the study purpose and procedures was presented during a safety meeting that are conducted daily at 06:00 and 14:00 at the beginning of each shift and employees were invited to participate in the study.

Although the questionnaire could have been completed on computer, participants chose to complete hard copies. Thus, employees interested in taking part in the research project were provided with the hard copy of the questionnaire, and the participant information sheet. A total of 30 participants responded to the questionnaire out of a total of 110 that was distributed. There were employees that showed interest but did not return the questionnaires.

The information received was scanned and saved in a password protected file. The hard copies are shredded for confidentiality purposes.

Data gathering

As already stated, a self-administered questionnaire was used as the data gathering instrument. It was shaped and distributed in hard copy to potential participants. The questionnaire consisted of simple vocabulary to assist in accommodating employees with limited academic background and/or English is not their first language. All potential participants were allowed time and space to complete the questionnaire to the best of their ability.

Data collection procedure

Questionnaires were personally distributed by the researcher to employees of the Organization to complete. The research assistants completed questionnaires for participants who couldn't read. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2012, p. 160). The

research assistants are social workers that went through briefing of the research project and the administration of the questionnaire. Ethical considerations were address during the briefing and how to assist the participants without influencing their responses.

The data was collected over a period of six weeks. Employees completed the questionnaires the beginning of their shift at 06:00 am and some at the end of their shift at 14:00. According to Ponto (2015) the method allows for a variety of methods to recruit participants, collect data, and utilize various methods of instrumentation. Some participants chose to take the questionnaires with them and placed them on the designated closed box.

The researcher constructed a questionnaire using a Likert scale. A Likert scale is defined as "… a psychometric scale that has multiple categories from which respondents choose to indicate their opinions, attitudes, or feelings about a particular issue" (Nemoto & Beglar, 2015, p. 2).

The self-administered survey questionnaire that was constructed used a three-point Likert scale to describe research participants' opinions or understanding of psychological trauma in the mining in the mining industry. 'Yes' and 'No' were the two pilot points along with the neutral point being 'Not sure' (refer to Appendix 2). At the top of the questionnaire, researcher explained to participants how they should complete the questionnaire. Participants were required to read statements to the signs and symptoms of psychological trauma are then respond by highlighting one of the three points. The statements focusing on the signs and symptoms of psychological trauma were grouped into three categories, namely the physical, mental, and behavioural signs and symptoms.

Below the Likert scale researcher included five open-ended questions. The main reason for doing so is because they often elicit more honest responses (Jackson & Trochim, 2002, citing Erickson & Kaplan, 2000). "They can also capture diversity in responses and

provide alternative explanations to those that closed-ended survey questions are able to capture." (Jackson & Trochim, 2002, p.307).

The questionnaire was tested with a few members of another mining house in Rustenburg to enable for changes and adjustment to be made. The pre-test included six participants. The participants consisted of two mechanical engineers who works both underground and on surface; three human resources personnel and one metallurgist working on surface but goes underground when necessary. The pre-test is a way of reflecting and revising the questionnaire in case of errors that were not noticed during the initial construction of the questionnaire. According to Ruel et. al. (2016) pretesting your survey is an important was to pinpoint problem areas, reduce measurement errors, reduce respondent burden, determine whether or not respondents are interpreting the survey correctly and ensure that the order of the questionnaire does not influence the respondent's answers. The pre-test exercise enabled a few corrections and adjustments of the questionnaire.

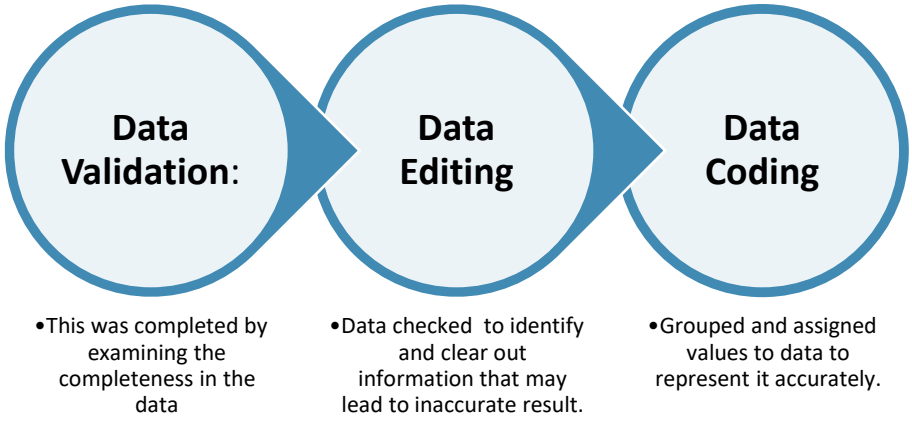
Data analysis

In order to meet the aims and objectives of the study, two distinct forms of quantitative data analyses are necessary. Firstly, univariate (data consists of one variable) and bivariate (involving two variables) statistics such as simple frequency counts, measures of central tendency and cross tabulations are used (Zhang,2016).

Organising the data was completed through capturing the responses from the questionnaire to a spreadsheet. This involved the close and repeated reading of the responses which allowed the researcher to gain a holistic grasp of the data. Excel spreadsheet was used to count frequencies and generate graphs for data demonstration.

Figure 1.

Summary of data analysis



Generating categories, themes and patterns phase of analysis encompasses the identification of significant themes, frequent ideas and patterns which link responses provided by the participants.

The themes were derived from the narratives shared by the participants. The undertaking of forming categories included selecting and simplifying the data. Researcher examined the data for patterns, similarities and differences, and then wrote down responses and expressions to represent these themes. 'Data condensation is an activity that leads researcher to summarize, choose and focus on the data that had been taken from participants' (Miles et al., 2014, p. 26). The open-ended questions were categorized in terms of similarities and verbatim quotes used to reflect general responses. The themes were primarily based on what emerged from the data but were also influenced by the research questions.

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Ethical considerations

Applying proper ethical principles and protecting human participants is crucial in all research studies (Creswell, 2014). The following ethical principles were considered:

Approval of research by the Human Research Ethics Committee

According to Creswell (2014), a researcher is required to submit the research proposal for the proposed study to get ethical clearance before conducting a study. I applied for permission from the Wits Human Research Ethics Committee (non-medical) to conduct this study. The study followed the Wits University guidelines on studies that involve human participation and was approved (R14/49 Molefe).

Anonymity and confidentiality

Anonymity was achieved in this study because participants were not asked any personal identifying particulars (names or contact details) when they engaged in the study. The questionnaire was self-administered thus would not attach responses to individuals. During the compilation of the report all information is anonymous because the participants did not need to provide their identifying particulars. In this report and in any published journals or conference presentations, the identity of participants will remain anonymous.

The intention was to honour the principle of autonomy by providing sufficient information regarding the risks and benefits of the research so that employees could liberally accept or decline participation.

Employees were made aware verbally during the safety meeting, and in the Participant Information Sheet, that they need not respond to all statements, and could chose to not complete the questionnaire without negative repercussions.

Autonomy

Terre Blanche and Durrheim (1999, p. 66) shared that, "this principle (autonomy) requires the researcher to respect the autonomy of all persons participating in the research work, requiring the researcher to address issues such as the voluntary and informed consent to research participants, the freedom of participants to withdraw from the research at any time and participants' right to anonymity in any publication that might arise out of the research". All these were included, and they were informed of their rights in this regard on the Participant Information Sheet (see Appendix 1).

Permission from relevant authorities

I discussed the proposed research with the managers of the Organisation in the SAMI Rustenburg area. They granted me permission to conduct the study upon reception of ethical clearance from the Wits HREC (non-medical). The letter granting me permission to conduct research was received and saved (see Appendix 4)

Non-maleficence

Non-maleficence means that participants should not be harmed by participating in the research project (Terre Blanche & Durrheim, 1999). In addition, Terre Blanche and Durrheim (1999, p. 66) clarify that, "this obligation to do no harm requires the researcher to consider potential risks that the research may inflict physical, emotional, social or other forms of harm on any person or creature involved in the study."

The topic that is being researched is sensitive in nature. When completing the questionnaire, they might become upset; a questionnaire can trigger the 'reliving' of the traumatic incident. For this reason, I have arranged with four social workers and the ICAS-SA: EAP service provider (that are all easily accessible) to be mindful of this fact. The telephone number of ICAS appears on the Participant Information Sheet.

Informed Consent

Whether completing the survey online or off-line, all possible participants will receive a Participant Information Sheet. This sheet explains the purpose of the research and what the research procedures will entail. As already mentioned, participants will not be required to give written consent because choosing to complete the questionnaire is an indication of consent.

Trustworthiness of the study

The following efforts were made to improve the trustworthiness of the study.

Validity and Reliability

Taherdoost (2016) pointed out that the accuracy and consistency of a survey questionnaire forms a significant aspect of research methodology, namely validity and reliability. Simply put, validity is about measurement accuracy, and reliability is about the measurement of internal consistency. In order to create a survey that yield results that are valid and reliable, researcher paid the following matters attention.

- Face validity: used simple language, given clear directions to participants, and made an effort to structure and format the questionnaire well.
- Content validity: familiar with the mental illness trauma, so the statements reflecting the signs and symptoms of trauma based on the literature reviewed.
- Internal validity: The statements appearing on the questionnaire, and the open-ended present, are directly related to achieving the aims and objectives of the proposed study. Both dependent and independent variable exits so researcher should be able to look for a relationship between them when analysing the outcomes.
- External validity of survey results "… is concerned with the generalizability of the responses of the sample respondents to the population from which the sample was drawn." (Price et al., 2002). The survey to all employees of the

organization based in Rustenburg so the results will be generalizable within the said operation centres. However, because it is cross-sectional descriptive study, but do not think that the results can be generalised on a national or international basis. A longitudinal study on a much larger scale would be more generalizable.

Reliability: There are many international standardised tools for the screening and assessment of trauma that have been tested as reliable. (Trauma-informed care in Behavioural Health Sciences (2014). Unfortunately, there is no standardised tool for assessing how much people know about trauma. Researcher therefore had to self-construct the questionnaire used in the study. To help improve its reliabtruility the questionnaire was pilot tested with a few employees of another mining company. Unfortunately, owing to time constraints could not have time to test and retest the questionnaire to improve its reliability.

Conclusion

This chapter set out the research design adopted to conduct this research, as well as the procedures followed to purposively select a sample of participants. The ethical principles put into operation when conducting the research were described. The issue of research reliability and validity of the research instrument was also stated.

Chapter 4

Presentation and Discussion of Research Findings.

In this chapter researcher present and critically discuss the research findings. After introducing research participants by providing their demographic particulars, each section of this chapter is arranged according to the statements contained in the Likert scale questionnaire. At the end of the chapter, participants' responses to the few open-ended questions are presented.

In total, 30 employees of the Organization's employees employed at the mining operation center based in Rustenburg accepted the invitation to participate in the survey. The participation of the employees was 15 % of the total staff. The participation of the employee is relatively a fair number as they constantly of the main yard due to the nature of their work. Most of the participants are drivers and office staff.

Demographic particulars of the research participants

Twenty-four men and six women took part in the study, with an average age of 33 years. The participants consisting of management staff; engineering (electrical, truck drivers, operators; support services (Hr, admin, maintenance, IT).

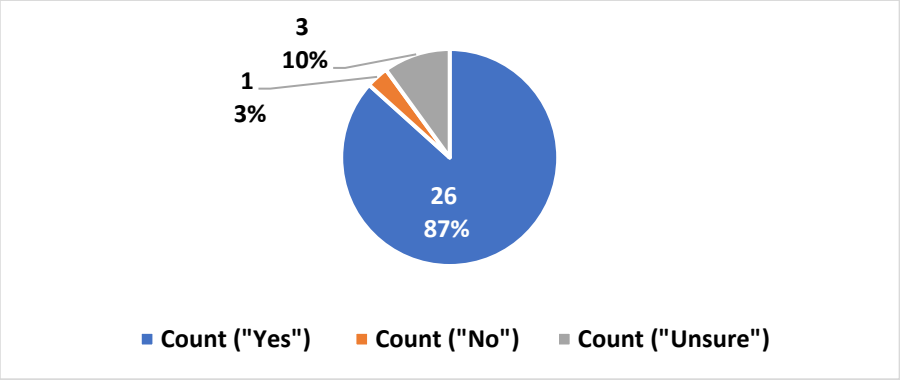
The total data set included 30 participants out of 201 employees, thus the response rate was 15% of the total staff. Chung (2021) says a decent survey response rate ranges between 5% and 30%. Thus response rate recorded can be regarded as being within the required range. The time of the research was prior to the start of their shift which had limitations on employees that would like to participate, especially for drivers and loaders. The participants that were at an advantage were those in the offices as they had time to look at the questionnaire. Time seemed to be the main factor.

Mining is a high-risk job.

Statistically participants' responses are summarized in Figure 1 below. Twenty-six of the thirty participant (87%) of participants, indicated being aware of the mining industry as a high-risk working environment. The involvement of various working areas and incidents experience and witnessed by the participants include dump trucks turning over with sand, hijackings, and accidents. Three of the participants (10%) seem not to be aware of the high-risk environment in the mining industry where one participant (3%) was not certain.

Figure 2:

Number of employees regarding mining as a high-risk job



When the individuals are employed within the organization, it is obvious that in the initial stage, they may not be cognizant of procedures and practices in implementation of duties as well as other aspects of the organization. It is then the responsibility of the supervisors to provide them with necessary support, guidance and assistance to accomplish organizational and personal goals.

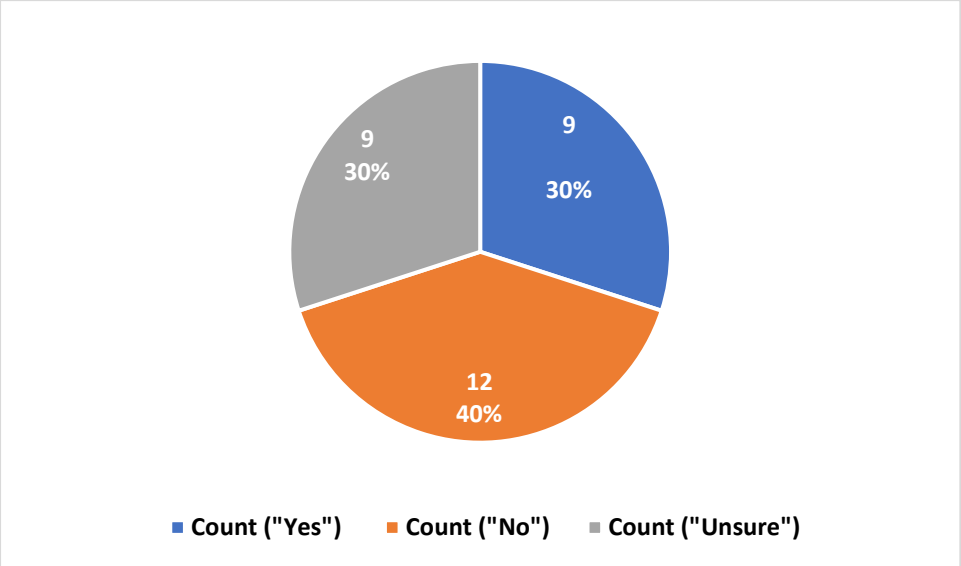
Health and safety are the key factor for all the mining environment in promoting the wellness of both employees and employers. One of the objectives of Mine and Safety Act 29 of 1996 "is to require employers and employees to identify hazards and eliminate, control, and minimise the risks relating to health and safety at mines. Employees are reminded about working safely during safety meetings."

Responses to a traumatic event

One of the statements in the Likert scale questionnaire, explored employees' understanding of how people respond to a traumatic incident. The statement read "All employees respond to a traumatic event in the same way". Their responses are captured in Figure 3.

Figure 3:

Employees' understanding of responses to a traumatic event.



Nine of the 30 participants believed that all workers respond to traumatic events in the same way. Whilst nine of participants (30%) were unsure about the questions, another nine (30%) indicated that they did agree that all workers respond to trauma in the same way.

Berger (2012:8) stated that "in addition to personal aspects, to understand traumatic reactions, one must understand how the environments affect the traumatic experience of those directly exposed to it as well as how the impacts of the traumatic experience of those exposed affect their environment."

The severity of the distress varies from person to person, from the type of distress in question and the emotional care derived from others (Perrota, 2019). Trauma debriefing

session are an opportunity to provide psychoeducation to employees that have been directly involved or witnessed a traumatic incident.

A study by Olashore and Molebatsi (2018) has indicated that some of the limitations in distress responses and treatment is that they are internationally based and there has not been research that is African based. Berger (2012) says that the manifestation of reactions to distress are dependent on values and principles where in some cultures, typical reactions included helpless, guilt and fear while some present with psychosomatic symptoms such as headaches, stomach-aches or high blood pressure. It is thus important for employees to be aware of these differences to enable them to seek relevant assistance without delay and comparing with others. Perrotta (2019) indicates that if trauma is not processed correctly, the responses can become chronic, even rapidly, generating in the subject a real disturbance which a may lead to specific pattern of post-traumatic stress disorder (PTSD).

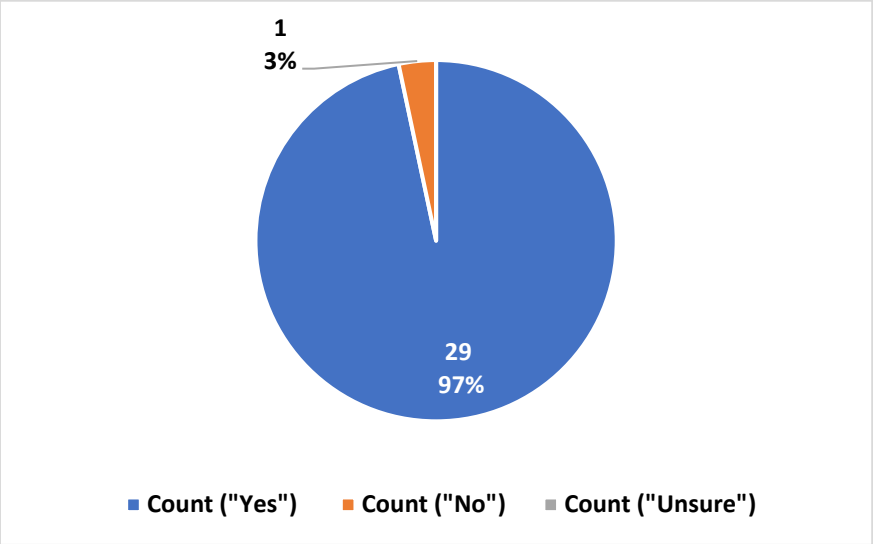
Witnessing a traumatic event

I explored how many employees know that if a person witnesses a traumatic event, they too can be traumatised. Figure 3 indicates that twenty-nine participants (97%) believe that workers that witness trauma can also be traumatised. They seem to be aware that trauma is also experienced through seeing and hearing about trauma; directly being involved.

Figure 4 on the following page indicates the number of employees who know that persons witnessing a traumatic event can also be traumatised.

Figure 4:

The number of employees who know that persons witnessing a traumatic event can also be traumatised.



Vicarious trauma "is the emotional residue of exposure to traumatic stories and experiences of others through work; witnessing fear, pain, and terror that others have experienced; a pre-occupation with horrific stories told to the professional" (American Counselling Association, 2016).

Employees that are involved in accident in the mining areas are attended to by mine's emergency service and receive medical and psychological intervention which exposes the helpers to trauma. The one participant (3%) indicated not believing that one can be traumatised after witnessing a traumatic incident. This participant may require more information regarding trauma experiences and its effects. "An important point that has been discussed a great deal in recent years is whether or not the dissociation is an adaptive response to the trauma, as extreme protection from the painful experience" (Perrotta, 2019:3). The participant may be in denial of the experience or purely unaware of the possibilities of experiencing trauma from witnessing.

Recognising the need for psychological treatment

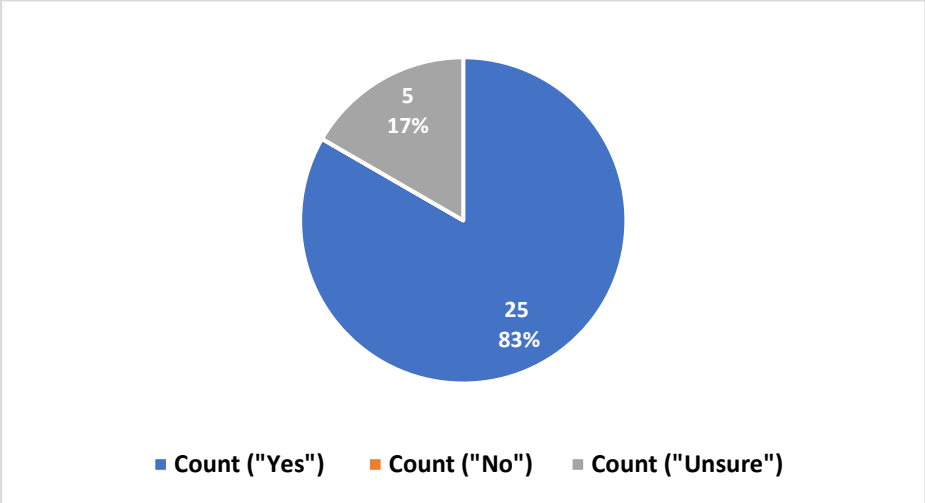
Figure 5 indicates that twenty-five participants (83%) find it difficult to seek professional treatment following a traumatic incident. It reflects that participants have a good understanding of their emotional response to a traumatic event which may be helpful in determining their willingness to seek assistance and offer support to those directly involved.

Findings in research studies reflect that "the most important obstacles towards treatment seeking are stigma and embarrassment, a low literacy, and a preference of solving problems on their own" (Kantor, 2017:15).

We often understand trauma, which is the emotional response to a deeply distressing or disturbing experience, as something that happens unexpectedly, swiftly, and is physically threatening, like a hostage crisis or a car accident. Jacobsen (2012) says that traumatic workplace events can leave workers feeling at best helpless or alienated and completely victimized.

Figure 5:

Number of employees that find it difficult to realise they need more than medical treatment to recover.



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Participants' motives for not pursuing professional support included perceiving their problems as usual or inappropriate, trust issues towards qualified professionals, relying on

familiar methods, anxious being denounced for having a mental disorder and help-seeking, and self-perceptions of being resilient or self-reliant. Findings indicated that five participants (17%) are not sure about seeking professional help.

According to Murray, Savage and Brown (2016) potential targets for interventions to encourage help-seeking could be focused on stigma about help-seeking as well as the self-perception of being strong.

A study by Kantor (2017) highlighted that "time, access, and financial barriers were reported as perceived reasons why trauma-affected individuals with major depression did not seek help, which seems to be consistent with the results of their correlational studies". Griffiths (2011) says that there remain barriers to seeking assistance from experts including humiliation, financially disadvantaged and time.

Understanding of the signs and symptoms of trauma

One section of the questionnaire explored participants' understanding of how trauma can impact on a person's overall well-being, namely emotionally, mentally, physically and behaviourally.

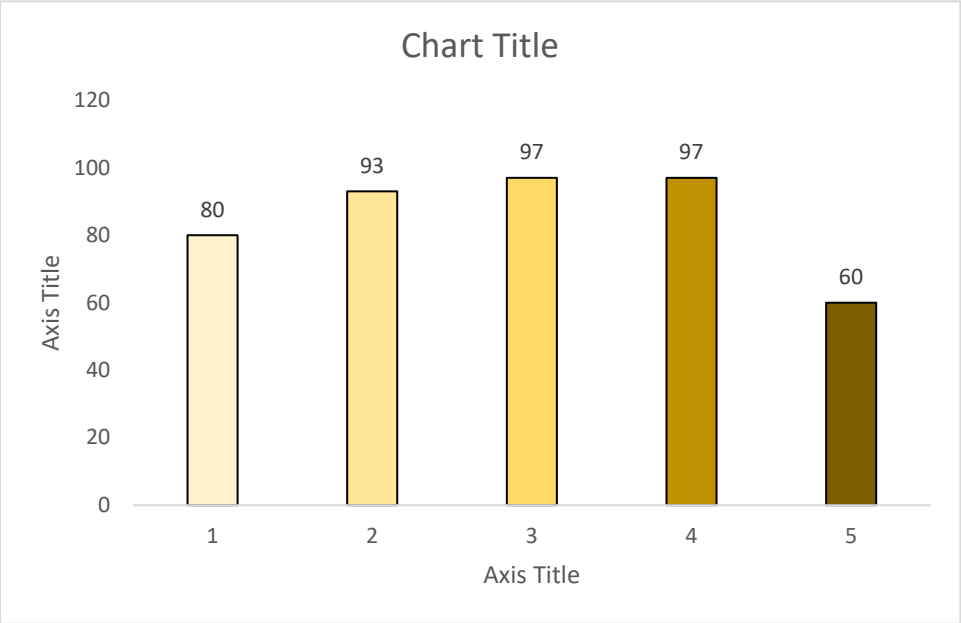
Emotional impact of trauma

Participants were asked to respond to whether the follow the following emotional symptoms are experienced when being directly involved or witnessing a traumatic event:

1. Exhausted
2. Confused
3. Stressed
4. Sad
5. No feelings

Figure 6:

Employees' understanding of the emotional signs and symptoms of trauma.



Mental symptoms of trauma

Participants were asked to respond to whether the following mental symptoms are experienced when a person is directly involved in a traumatic event or witnessed one:

1. Repeated, distorted dreams.
2. Repeated disturbing thoughts.
3. Suddenly thinks he/she is reliving the traumatic experience.
4. Upset if something reminds him of the incident.
5. Avoids talking about the traumatic incident.
6. Trouble remembering certain parts of the traumatic event

Findings indicate that participants have good understanding of emotional responses to a traumatic event which may be helpful in determining their willingness to seek assistance and also offer support to those directly involved. Only 8 (40%) participants seemed unsure about the experiencing no feelings after a traumatic experience, but the more participants seem to be

aware. A study on PTSD and seeking social support suggested that "there is no relationship between PTSD and social support in the presence of negative attitudes, beliefs, and expectations towards support networks utilisation" (Olashore and Molebatsi, 2018:21). The workers will seek help depending on their understanding of the emotional response and perception of the need to seek help.

Figure 7 captures participants' responses. Participants generally have a good understanding of the mental signs and symptoms a person can experience after a traumatic incident.

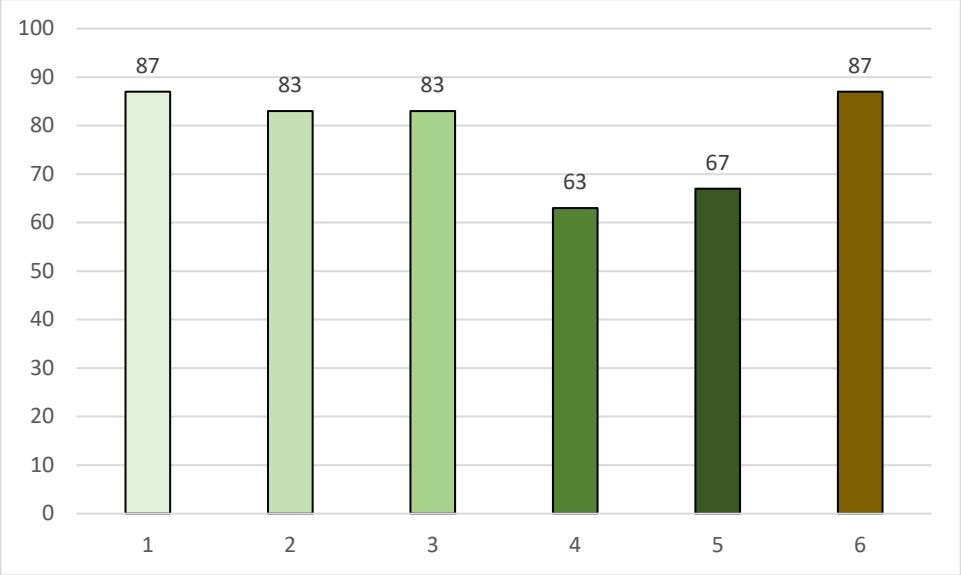
Although findings indicate participants have a good theoretical understanding of the mental signs and symptoms of trauma, I should have also explored their understanding that persons experiencing trauma places them at risk of developing other mental health illness issues and destructive coping mechanisms.

"Cognitive theory indicates that the frequent intrusion of unwanted memories of past traumatic events and impaired processing of the emotionally charged information which is stored in an unprocessed form are essential in PTSD development" (Olashore & Molebatsi, 2018, p.35).

According to Kantor et.al (2016:11) "the need of psychoeducation for trauma survivors regarding mental health in general, possible mental health problems following traumatization, and information about available trauma therapy have an outstanding importance on the pathway towards facilitating mental health services use among survivors." Figure 7 on the following page indicates workers' understanding of the mental signs and symptons of trauma.

Figure 7:

Workers' understanding of the mental signs and symptoms of trauma



Employees' understanding of the physical signs and symptoms of trauma.

Research participants were asked to respond to the following statements regarding the signs and symptoms of physical trauma:

1. Physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminds him of the traumatic experience

2. Difficulty sleeping

3. Excessive tiredness/fatigue

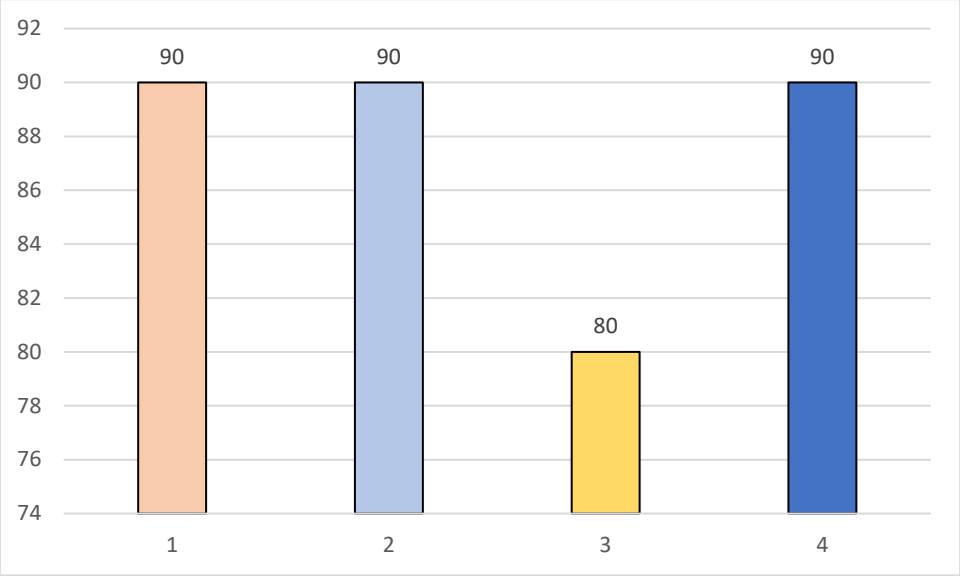
4. Headaches, tension

This figure indicates, for example, whilst over 85% of participants understood that people experiencing trauma can have bad dreams and avoid talking about the traumatic event, only 63% responded yes to the statement about avoidance, 21 participants (63%) were either unsure or did not know about remembering part of the incident.

Figure 8 indicates employees' understanding of the physical signs and symptoms of trauma.

Figure 8:

Employees' understanding of the physical signs and symptoms of trauma



The behavioural signs and symptoms of trauma.

Participants were asked to respond to the following statements regarding the behavioural signs and symptoms of trauma.

1. Avoids activities or situations because they are reminders of the traumatic experience

2. Loss of interest in activities that previously enjoyed

3. Feeling distant or cut off from other people

4. Feel unable to loving feelings towards loved ones

5. Feeling as if the future will somehow be cut short

6.. Have difficulty concentrating

7. Is watchful or on guard because they fear another traumatic event might happen?

8. Feeling jumpy or easily startled

The directly affected employees are faced with the after-effects of the traumatic incident. Increased arousal can cause muscle stiffness and negative impact on drive. The challenges are based on the severity of the accident.

The participants seemed to be cognizant of the physical signs and symptoms of the physical impact to a distressing incident. The frequency distribution seems to be consistent in the responses provided.

There are also physical responses to trauma that can be confusing to the injuries that are sustained. Re-experience of symptoms is an indication that the body and mind are actively trying to cope with the traumatic experience (Perrotta, 2020). Employees that witness the incident or with minor injuries are able to clearly express the physical responses. Depending on the traumatic event, aside from the psychological consequences trauma, survivors face further demanding conditions. "They might be affected or disabled by physical (e.g., injuries), social (e.g., financial burden, loss of property), or societal (e.g., political instability) consequences" (Olashore et.al, 2018).

Participants' responses to the eight are reflected in Figure 9 below.

Figure 9

Employees' understanding of the behavioural symptoms of trauma

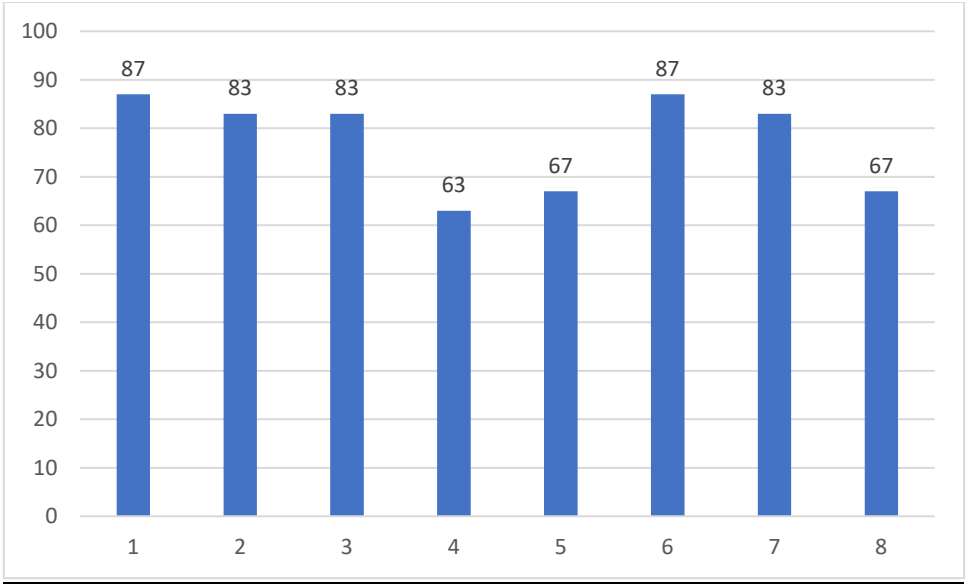


Figure 9 indicates that most participants are aware of the behavioural symptoms following a traumatic incident. Avoidance, for instance, include discontinuing with activities, places, thoughts, or feelings related to the distressing or feeling detached or estranged from others (Perrotta, 2020). It assists in determining the need for intervention and to support others to cope better with the symptoms. Decker (2004, p. 4) argued that dissociative ability could be a personality trait that assists people in surviving traumas, while on the other hand helping traumatized people to excel. The high awareness of symptoms according to the responses provided, enables workers to realise the importance of treatment or seeking help outside of the adopted techniques that may not improve the symptoms. However, this finding does not reflect what is happening in the organisation. One must question if employees have this knowledge, why are they not seeking psychological treatment? Findings seem to suggest that although people have knowledge about symptoms, they do not put this knowledge into practise.

The Occupational Safety and Health Administration mentions that inexperienced workers are more susceptible to injuries which occurs when workers lack the awareness and abilities required to use equipment and supplies safely. Doyle et al (2021) whilst the employees acknowledge availability of support services were available, there was considerable scepticism in their research not only about their effectiveness but also that these existed to satisfy occupational health requirements rather than the genuine wellbeing of employees thus seemed to not use the services questioning the genuineness of their presence. Thus, the employees are not denying the presence of symptoms but the genuineness of the services available to address the symptoms. Avoidance of not seeking treatment is also dependent on individual background and their perception of seeking mental health intervention.

The Organisation has more men in their staff compliment. This is one of the accounts that can lead to avoidance of seeking treatment. Table 1 relays how some participants chose to manage their symptoms rather than seeking professional treatment. According to Tehrani (2011:18) "organisations have a vital role in facilitation of workers dealing with trauma by supporting the management of traumatic events and then creating individual and organisational meaning in order to maximise learning." One study conducted in the United State of America indicated that its respondents showed a lack of confidence in mental health treatment, which was largely because respondents felt it despondent about assistance they would receive, though some indicated they were fearful of being forced to take a medication or being committed (Nietzel, 2021).

Duration of the signs and symptoms of trauma

Participants' understanding of the duration of the signs and symptoms of trauma are reflected in Figure 10. The responses are proportional to the awareness of the duration of trauma. The figure indicates that seventeen participants (59%) understand the duration of the trauma symptoms.

Whilst trauma can impact an individual at any time in the life, from birth through to old age, the impact and the treatment approaches vary depending on the individual's progressive needs and the psychosocial background (Kantor, 2017).

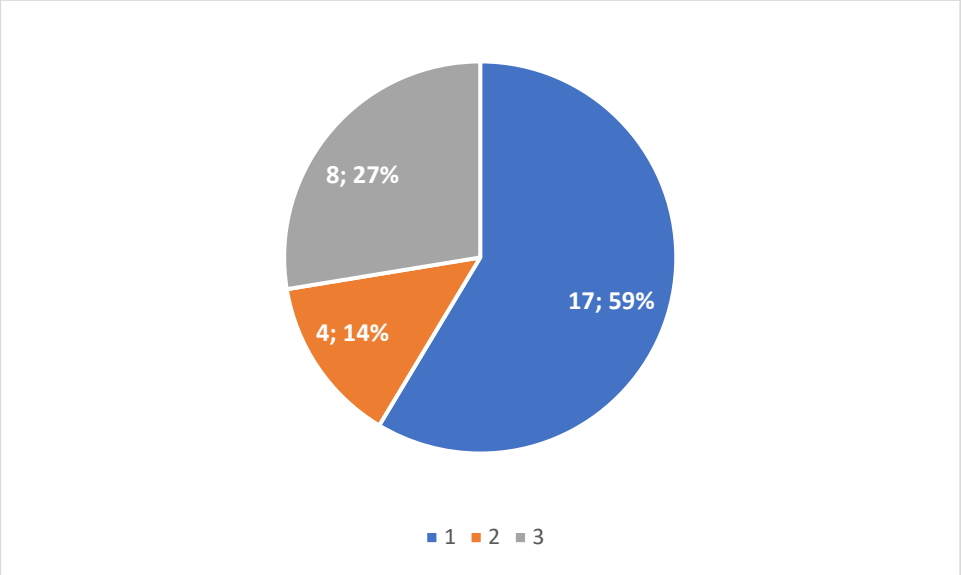
An understanding of the duration of the symptoms also assists in knowing when the symptoms have been prolonging if they persist over 6-8 weeks according to DSM- 5 diagnostic manual. The importance of this awareness enables the affected individual to realise when they are no longer functioning as they used which can affect their interpersonal relationships with other employees. Tehrani (2011) suggests that supervisors and managers have a responsibility to observe the behaviour of all their workers, discern any changes that may suggest that there is a need for intervention.

Standardised referral process will encourage survivors to trauma to engage in support services available to employees. The use of these support services will also prevent avoidance of symptoms thereby placing themselves and others at risk.

"Re-traumatization can engrave deeper memory circuits, possibly leading to intensification of symptoms that can in turn require increased duration of treatment in order to be effective" (Oleshore and Molebatsi, 2018:15).

Figure 10

Workers' understanding of the duration of trauma symptoms.



The figure also shows that eight participants (27%) indicated that they do not know how long a person exposed to trauma can experience the signs and symptoms thereof., whilst four participants (14%) were unsure about the duration of the symptoms post a traumatic incident. According to Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, "some experiences, like the sudden, unexpected death of a loved one, can also cause PTSD." It continues to share trauma related symptoms usually begin early, within 90 days of the tdistressing incident, which is vital for employees to know that duration of trauma symptoms varies from person to person but if PTSD goes untreated it has negative consequences (Yann,

2018). This is because they could progress into further problems, such as depression, anxiety and substance misuse/dependency.

Participants returning to work.

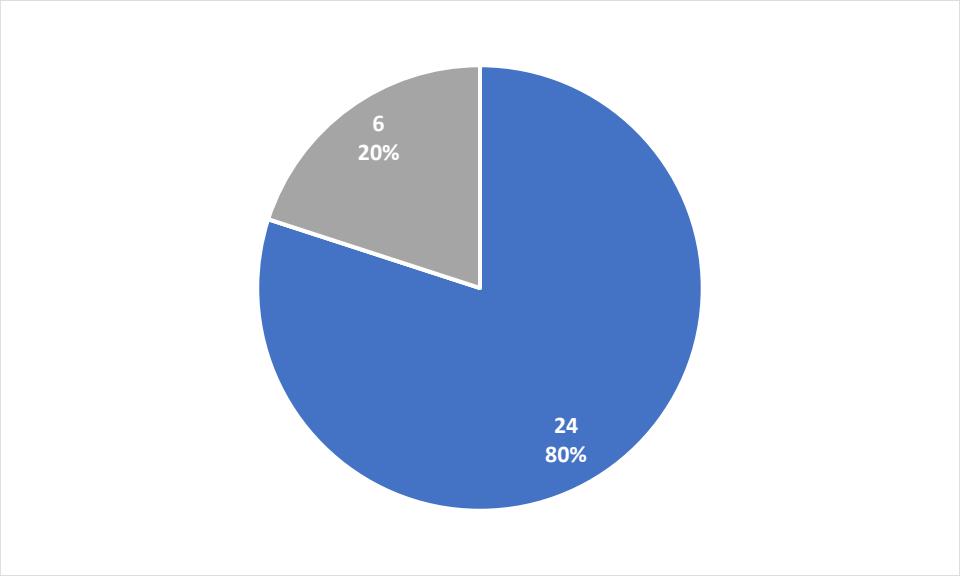
Another issue explored using the Likert scale was participants' opinion whether some employees return to work even though psychological treatment is required.

Figure 10 indicates that 24 participants (80%) are of the opinion that employees return to work even when they should first receive treatment. The indication of the stigma and negative connotation towards treatment seem to be an influence to return to work. They seem to be a correlation of the two variables as the workers are predominantly male and research has indicated that males are less prone to seeking help for most health-related issues. Figure 4 also indicate that twenty-five participants (83%) find it difficult to seek professional treatment following a traumatic incident.

In addition, "trauma survivors might find that the world they used to perceive as being stable and predictable, now seems unpredictable and out of their control" (Straussner, 2014). Returning to work without treatment may be a way of returning to normality and gaining control over one's live and functionality. In many cases, this can lead a person suffering from distressing conditions to absorb harsh or self-destructive adaptation mechanisms, often without being fully aware of the nature or causes of their actions (Perrotta, 2019). A victim returns to work according to their understanding of the impact of trauma and the use of support to cope with their perception of the impact.

Figure 11:

Number of participants indicating that some employees return to work even though they should be receiving treatment.



This finding reinforces my personal observations; namely that many employees return to work even though they require 'psychological treatment. It is important to note that "research has shown that employees who are unable to return to work also experience more persistent PTSD symptoms" (DuChene, 2019:9). However, it is also important to recognize that returning to work prematurely can cause an interruption in recovery and further stress due to strains in the workplace of work and exposure to the traumatic environment.

The poor acceptance of distressing incidents in the workplace often poorly linked to the person's accident or injury. Cancellier et. al (2016) articulates that the consequences studied in those using to sick leave include indolence and separation, suicide, limited career growth, and decreased personal finances stability.

In some cases, however, the survivor leaves their job as they cannot cope or find themselves in situations where they are no longer able to meet the standards of work required of them. Markovich (2019) says that lower productivity and quality of work can result from a disruption in daily operations due to an overall low number of employees or inexperienced employees without complete training.

Fatigue is one of the most significant and commonly reported symptoms following an injury is. In several studies, fatigue has been described to have a negative effect on social, physical, and cognitive functioning and participation in daily activities, including work performance (Tomar et.al., 2018). The impact fatigue often underestimated and can be the key issue when returning to work and posing safety risk. It is important to manage fatigue and that return to work a survivor is adjusted and planned to accommodate their abilities.

Thematic analysis of open-ended questions

Thematic analysis of data seeks to analyse qualitative data that was gathered when participants answered the second part of the questionnaire which involved some open-ended questions. As Braun and Clarke (2006) pointed out, thematic analysis basically describes qualitative data that was collected which involves interpretation in the processes of constructing themes. The qualitative part of the questionnaire covered opinions, experiences and recommendations by the participants in the study.

Results indicate that only eight of the participants met the selection criterium of having been directly involved in a traumatic incident. To analyse these eight participants' responses, I identified common responses to the questions presented to them. The summary of the results is presented in Table 1.

Although the themes identified suggest that stigma is not the major reason for not seeking it might be a mistake to dismiss it as a substantial barrier to care (Nietziel, 2021).

The participants cited different trauma incidents that they experienced in different time and spaces. The common theme that was identified was that workers experience negative thoughts and feelings when experiencing or witnessing trauma.

Participants responses to open-ended questions

Below is a presentation of the open-ended questions presented to the participants (in bold font) and the participants responses (not in bold).

- ***If you have ever been directly involved in, or witnessed, a traumatic event at the workplace, please tell me how you felt, thought, and behaved soon after the event and then a few months later.***

All eight expressed similar symptoms, such as shock and fear. For example, one participant stated "I was scared of the incident and worried about the person involved on it. I took me days to forget about it"

Workers experience negative thoughts and feelings when experiencing or witnessing trauma

- ***How did you try to cope with the trauma?***

Participants expressed various ways of coping. The manner of coping did not include seeking professional help. One participant mentioned trying to forget the incident was not easy. Another participant mentioned self-medicating and reading information from Google. There was a participant who explained that he tried to cope by drinking beer. One participant pointed out that it would have been difficult to cope had their fellow employee passed on. He reasoned that he and his colleagues had coped better by themselves because the injuries their colleague sustained were minor and not death. Only a few participants mentioned that they had received treatment. One of the participants described that he had taken part in group trauma debriefing.

While another participant mentioned having felt “better” after receiving treatment. Unfortunately, the participant did not describe what the treatment entailed.

Fear of stigma were common concerns cited by the participants in finding it difficult to seek help. Fear of being gossiped about and being seen a weak was cited as a contributor to difficulty in seeking treatment after a traumatic incident. Fear of judgment was cited by some participants as one of the deterrents to seeking help.

Workers usually use personal coping strategies when exposed to trauma.

- ***If you received treatment after the traumatic event, please tell me a little about the type of treatment you received***

Few employees receive treatment for PTSD. The severity of the incident also seemed to have had bearing on the response by those directly or indirectly affected. Some cited that the fact that their colleague had not passed on subsequent to a traumatic incident, they coped better. One participant indicated resorting to alcohol which is often misused for numbing intrusive thoughts and feelings. Fear of stigma seem to be a reason for avoidance of treatment. Corrigan (2014) says “stigma process is extended as one relevant factor and is framed as four social cognitive processes: cues, stereotypes, prejudice, and discrimination.” Some mentioned fearing to be seem as weak for seeking professional help or expressing symptoms related to a traumatic incident which is a further deterrent to seeking treatment.

- ***What do you think about the treatment you received?***

Fear of stigma is an obstacle to seeking treatment. The participants believed there is definite room for improvement in the management of trauma in the workplace. They highlighted that they need more information on trauma and that counselling is important. They also recommended regular visits by social workers for easy access to the counselling services and information. Participants suggested speaking to trusted people like social workers and psychologists.

Social workers should regularly emphasise the importance of counselling.

The participants showed their awareness to trauma responses. They cited symptoms such as shock and fear. “In a study regarding the question of why adolescents and young adults do not seek help for mental health problems there is evidence for common barriers as stigma, family beliefs about mental health service and treatment, poor mental health literacy, and autonomy as main barriers: (Pfeiffer & In-Albon, 2022:23). The awareness in these responses should allow for them to determine their level of functioning and the insinuation is that they ought to be aware of the need to seek treatment. However, most seemed to have resorted to use personal coping strategies when exposed to trauma. Strengths are means employed by individuals to address distressing incidents which includes those in mental health (Corrigan, 2014). Corrigan, Druss and Perlick (2014) further share that just as assessment identifies distress and dysfunctions that block personal goals, so must it recognize strengths that promote those goals.

Limitations of study findings

The main limitations of my study findings relate to the following issues:

- The study was cross-sectional in nature, but the sample size completing the was small. Thus, findings are not generalizable to the population of the mining industry.
- I constructed the questionnaire myself. Upon analysing the participants’ responses, I realised that I could have included other statements to explore their understanding and attitudes towards seeking psychological treatment.
- Interconnection cannot be inferred with the cross-sectional nature of the study.
- The study sought to describe workers’ understanding of trauma. However, the participants may have had recall biases as they were required to report about past trauma incidents.

- Avoidance is a feature of trauma responses which may limit disclosure of information regarding events relating to the stressor.
- Unlike in qualitative studies, I could not obtain an in-depth understanding of the participants' responses because I could not probe for clarity and meaningful information. This is because I did not interview them personally after forming a trusting relationship with them.

Conclusion

This chapter presented the findings of my research and how it compares to other studies in the different aspects of trauma. In the following chapter I provide a summary of my research findings and the conclusions reached. I then present recommendations based on the research findings.

Chapter 5

Summary, Conclusions, and Recommendations based on Research Findings.

Introduction

In this chapter I focus on the main research findings and the conclusions I reached. I then present recommendations relevant to the research findings.

Summary of findings

As discussed in Chapter 2, the main theory underlying my study was Mental Health Literacy (MHL). Basically, the MHL theory identifies seven primary components of MHL, namely "recognition of mental disorder, knowledge of how to seek mental health information, knowledge of mental health risk factors, knowledge of etiology/causes of mental illness, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition of appropriate help-seeking behavior."

Prior to conducting study, the researcher hypothesized that many employees in a mining industry did not have a good understanding of trauma and the signs and symptoms thereof. The researcher also believed they do not have understanding about the need for psychological treatment. The hypothesis was based on observations in the work environment, namely that employees are returning to work too early and that very few employees seek psychological treatment. In other words, employees' MHL was lacking.

The findings indicated that participants/employees had a fairly good understanding of the inscriptions and indicators of trauma, but in some instances this understanding was lacking.

Objective #1: To determine mine employees' understanding about the signs and symptoms of psychological harm.

Summary of Findings:

- Most of the participants recognized mining as being a high-risk job.

- They also understood that it is both the person directly involved in the traumatic event, and those witnessing the event, that can experience trauma
- Participants had a good understanding of the physical, behavioral and emotional signs and symptoms of trauma.

Objective #2: Explore employees' attitudes towards psychological trauma treatment.

Summary of Findings:

- A very important finding related to the purpose of the study was that 83% of the participants agreed that employees usually it difficult to seek treatment after experiencing a traumatic event. The possible reasons for this are that they have negative expectations of professional help (trust issues), prefer to rely on self-coping methods, fear being stigmatized for having a mental disorder if seeking treatment and personal perceptions of being strong and self-reliant.
- It is also significant to note that the findings forthcoming from data analysis based on the Likert Scale responses are similar to the themes identified based on the thematic analysis of participants' responses to the open-ended questions: they indicated that many employees do not seek treatment available at work because of the perceived stigma associated with doing so. Instead, employees try to personally cope with the trauma they experience.

Objective #3: Based on research findings, make recommendations to management of SAMI Rustenburg operations regarding possible changes in trauma policy and procedures that would be in the best interests of employees.

Summary of Findings:

- Participants recommended that social workers regularly inform employees about the benefits of receiving psychological treatment if being exposed to a traumatic event.

Conclusion

The conclusion reached is that although mining employees have a relatively good understanding of the signs and symptoms of trauma, they usually do not seek psychological treatment because of the negative perceptions thereof. Unless these negative perceptions of psychological treatment are changed, it is unlikely that they would seek psychological treatment even though they have developed PTSD and require professional help.

Recommendations

Based on my research findings, the following recommendations are made to policy managers and helping professionals of the mining industry researched:

- Workers need to be regularly made aware of the fact that post incident trauma intervention strategies and emotional support are easily accessible to all workers.
- Helping professionals need to address the stigma associated with receiving counselling and other related treatments.
- Intervention programmes must be created to promote trauma counselling. For example, inviting a work colleague who had received psychological treatment to explain how this treatment had a positive impact on his life (personal and work-related). Designing such a programme could be related to action research where the designed programme can be pilot-tested, and if successful the newly designed programme be implemented on a regular basis.
- There needs to be a standard organisational procedure for all employees to receive intervention immediately after a traumatic incident. This will allow for

psychoeducation post a traumatic incident and determine impact on individuals directly or indirectly involved.

- Research on a larger scale, using a mixed methods approach to enhance validity and reliability, should be conducted in the mining industry.

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List of Appendices

Appendix 1

Participant Information Sheet

Title: Mine employees' understanding of psychological trauma and the importance of treatment should the need arise.

June, 2022

Sir/Madam,

My name is Mary Molefe, and I am completing my Master's degree in Occupational Social Work at the University of the Witwatersrand. Occupational Social Workers render health and wellbeing services to employees in the workplace. I work as a Social Worker at Sibanye-Stillwater, Rustenburg and I have the responsibility to help employees with personal and/or work-related issues.

As part of the requirements for this degree, I need to complete a research study. For my research, I would like to find out mine employees' understanding of the signs and symptoms of trauma and their attitudes towards therapy. Simply put, trauma is how we think, feel, and behave after we have been personally involved in, or witnessed (personally seen), a sudden, life-threatening event that disturbs or upsets our well-being. Well-being means how we feel physically, emotionally, mentally, and spiritually. In other words, how we feel about ourselves and how our lives change following the traumatic event.

Because you are an employee in the mining industry where traumatic events often take place, I think that you can share meaningful information with me about trauma in the workplace. I am therefore inviting you to participate in my study by completing a questionnaire about trauma. It will only take about 15 minutes to complete.

If you decide to complete the questionnaire online, I will <u>not</u> need you to sign a Consent Form. By deciding to complete the questionnaire online, I will take it that you have understood what the study is all about and agreed to participate in the research.

If you consider participating in the study and would prefer to complete the questionnaire offline (i.e., in-person) and would like further information about the
research, I will set up a group meeting at a time and place that suits you best.
A social worker will be there to make sure that you understand what the research is all about. She will then invite you to participate in the study.

Please remember that taking part in this research is voluntary. If you decide not to complete the questionnaire or start doing the questionnaire and then decide not to complete it, that's fine. There will not be any negative consequences. Unfortunately, there will not be any monetary benefits from participating in the study.

I will not ask you to provide your name and contact details when you complete the questionnaire. This is because I want to keep all the information participants provide me with anonymous. Thus, when I write my final research report, people will not know who participated in the study.

The results of the research may be used for academic purposes (including publishing my research findings in books, journals, and conference proceedings). A summary of findings will be made available to you upon request.

As some of the questions that I ask you on the questionnaire might make you feel upset, please remember that you can readily contact ICAS-SA for confidential assistance. They provide counselling for all employees in the company and there are no costs involved. I have made arrangements with them for employees that might decide to seek treatment. They can be contacted on 0800 6111 47.

Social workers also available for support: Cindy Shomang (0733652462) and Lifutso Nkhahle (0630719516) available at Refodile Medical Centre, Heystek Street, Rustenburg.
Please contact me (Mary Molefe) on (060 640 6955) or (moate.mary@gmail.com), or my supervisor, Dr Priscilla Gerrand by emailing her at Priscilla.Gerrand@wits.ac.za if you have any questions regarding my study. We shall answer them to the best of our ability.

If you have any concerns or complaints about the study, please contact **Human Research Ethics Committee (Non-Medical). Their contact details are as follows:** Chairperson: Jennifer.Watermeyer@wits.ac.za or the administrator: Ms Shaun Schoeman Tel 011 717 1408 or Shaun.Schoeman@wits.ac.za

Thank you for taking the time to consider taking part in my study.

Yours sincerely,

Mary Duduzile Molefe.

Appendix 2

Understanding trauma reactions after a traumatic event in the mining environment.

1. Remember that trauma is how a person thinks, feels, and behaves after a sudden, unexpected accident. **2. Please read the following statements and decide if you agree (YES), disagree (NO), or are NOT SURE about the statement.** **2. If you are using your computer to complete the questionnaire, you can highlight your response/answer by highlighting the word in any colour.** **3. If you want to complete the questionnaire by hand, you can just complete your answer by putting a circle around the word.**			
Mining is a high-risk job with an increasing number of traumatic accidents.	YES	NOT SURE	NO
All employees/workers in a mining industry **respond to a traumatic event in the same way**	YES	NOT SURE	NO
Employees/workers who **witness** or see a traumatic event (i.e., they are not directly involved) **can also experience trauma**	YES	NOT SURE	NO
Some employees/workers find it difficult to realize that sometimes if people take a long time to recover from the event that they need treatment.	YES	NOT SURE	NO
Which of the following feelings do you think are normal soon after a person has experienced or witnessed/seen a traumatic event?			
Exhaustion/feel very tired	YES	NOT SURE	NO
Confusion/feel confused because they are shocked by what happened	YES	NOT SURE	NO
Stress	YES	NOT SURE	NO
Sadness	YES	NOT SURE	NO
Have no feelings	YES	NOT SURE	NO
Do you think workers who have experienced a traumatic event can be affected in any of the following ways			
Mental			
Repeated, disturbing dreams of the experience?	YES	NOT SURE	NO

Repeated disturbing memories, thoughts, or images of the experience?	YES	NOT SURE	NO
Suddenly acting or feeling as if the traumatic event experience was happening again (as if you were reliving it)?	YES	NOT SURE	NO
Feeling very upset when something reminds the person of the traumatic experience?	YES	NOT SURE	NO
Avoid thinking about or talking about the traumatic experience or avoiding having feelings related to it?	YES	NOT SURE	NO
Trouble remembering important parts of the traumatic experience?	YES	NOT SURE	NO
Physical			
Have physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded of the traumatic experience	YES	NOT SURE	NO
Difficulty sleeping	YES	NOT SURE	NO
Excessive tiredness/fatigue?	YES	NOT SURE	NO
Headaches, tension?	YES	NOT SURE	NO
Behaviour			
Avoid activities or situations because they are reminders of the traumatic experience?	YES	NOT SURE	NO
Loss of interest in activities that previously enjoyed?	YES	NOT SURE	NO
Feeling distant or cut off from other people?	YES	NOT SURE	NO
Feeling unable to have loving feelings for loved ones?	YES	NOT SURE	NO
Feeling as if the future will somehow be cut short?	YES	NOT SURE	NO
Having difficulty concentrating?	YES	NOT SURE	NO
Being very watchful or on guard because they fear another traumatic event might happen?	YES	NOT SURE	NO
Feeling jumpy or easily startled?	YES	NOT SURE	NO
<u>All</u> employees who have been directly involved, or witnessed a traumatic event, have trauma symptoms that last from a few days to	YES	NOT SURE	NO

a few months, and gradually fade as they work through the traumatic event.			
Do you think some employees are coming to work even though they should be receiving treatment?	YES	NOT SURE	NO
Please share your thoughts and feelings with me regarding the following five questions (There are no right or wrong answers; just share with me your thoughts and feelings) Also, if find any of these questions very sensitive, please ignore them. If you feel that you want trauma treatment, I can arrange this treatment for you so please feel free to contact me at any time.			
1. If you have ever been directly involved in, or witnessed, a traumatic event at the workplace, please tell me how you felt, thought, and behaved soon after the event and then a few months later.			
2. How did you try to cope with the trauma?			
3. If you received treatment after the traumatic event, please tell me a little about the type of treatment you received. (For example, medication, counseling, or you were referred to somewhere else for treatment)			
4. What do you think about the treatment you received.			
5. Why do you think some employees find it difficult to seek trauma treatment at the workplace?			
6. What do you think about the way(s) trauma is managed in the workplace? (If you think it can be improved, please share with me how you think this can be done.)			

Appendix 3

Consent Form

Title of project: Mine employees' understanding of psychological trauma and the importance of treatment should the need arise.

Name of Researcher: Mary Molefe

I, (participant) ……. agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study	YES	NO
I agree that direct quotations from the survey may be used by the researcher in their research report.	YES	NO
I agree that my participation will remain anonymous (my name will not be used by the researcher in their research report)	YES	NO
I agree that other researchers may use the information I provide in my survey but my name and any personal information will not be used or passed on	YES	NO
I will inform the researcher when I feel distressed during the interview/completion of the survey	YES	NO

……	……	……
(Name of participant)	(Signature)	Date
……	……	……
(Name of researcher)	(Signature)	Date

Appendix 4

EC BLAAUW
TRANSPORT

Postnet Suite #281
Private Bag X8324
Waterfall Mall
0300

t. 087 135 2443
f. 086 695 0183
e. ecblaauw@mweb.co.za

DIRECTORS: R.A. Ascanio | N. Maree | P. Khunou

Reg No. 2014/123893/07 | VAT No. 4490213675

11 October 2022

To Whom It May Concern

I Tyron Kok as delegated authority of EC Blaauw Transport hereby give permission to the primary researcher Mary Molefe, studying for a MA Occupational Social Work in the School of Human and Community Development: Social Work at the University of the Witwatersrand the following:

To engage a survey with the employees of the above-mentioned organization. I have reviewed the questionnaire given to myself by the researcher. I hereby give my approval for using the questionnaire by the researcher.

To collect and publish information relating to the abovementioned organization that is publicly not available for the research title:

Mine employees' understanding of psychological trauma and the importance of treatment.

This authorization is based on a mutual understanding that the above-mentioned organization with not be disclosed anywhere in the project.

In addition, no information in the project will enable a third party to identify the name of the organization as the respondent to the survey.

The information provided by the employees, or any other means of the abovementioned organization is entirely for academic purposes and cannot be used for any other purpose.

Regards,

Signature: ..... Date: 11/10/2022

Name and Surname: Tyron Kok

Position: Manager

Email address: tyron@ecblaauw.co.za