

Exploring the meaning, symptoms and perceived support of psychological trauma at a mining organisation

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REMARKS

The reader is reminded of the following:

- The editorial style as well as the references referred to in the mini-dissertation follow the format prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom) to use APA style in all scientific documents, as from January 1999.
- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the South African Journal of Industrial Psychology (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables

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DECLARATION FROM LANGAUGE EDITOR

Declaration

*This is to declare that I, Annette L Combrink, accredited
language editor and translator of the South African
Translators' Institute, have language-edited the dissertation
by*

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**Exploring the meaning, symptoms and perceived
support of psychological trauma at a mining
organisation**



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Date: 25 November 2016

DECLARATION

I, Mariolette Oosthuizen, hereby declare that this mini-dissertation entitled “Exploring the meaning, symptoms and perceived support of psychological trauma at a mining organisation”, is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as shown in the references.

I further declare that the content in the research will not be handed in for any other qualification at any other tertiary institution

A handwritten signature in black ink, appearing to read 'M. Oosthuizen', is written over a faint, circular, dotted watermark.

Mariolette Oosthuizen
2016

NOVEMBER

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ABSTRACT

Title: Exploring the meaning, symptoms and perceived support of psychological trauma at a mining organisation

Keywords: Psychological trauma, meaning, symptoms, perceived support, mine, South Africa

The South African mining industry plays a vital role within the economy. Even so, the exposure to traumatic events within South Africa is rapidly increasing, specifically within the mining industry. The impact of a traumatic event not only has an influence on the individual but also greatly affects the organisation. Within literature, it is also evident that trauma within the mining industry does not receive adequate attention. The focus of the present study is to explore how employees understand psychological trauma (PT) and the specific traumatic events that occur within the organisation. The focus of the present study is also to understand what symptoms employees experience after exposure to a traumatic event. The study also explored not only the various aspects of PT but the perceived support employees receive after a traumatic event within the South African mining industry. A qualitative research design from a phenomenological and constructivist/interpretivist approach was used for the purpose of this study. Purposive sampling was utilised and participants' responses were obtained by means of a focus group. The population of the study consisted of participants (N = 11) from an operational department within a particular organisation in the South African mining industry. The responses from the focus group were transcribed and thematic analysis was used to analyse the data. Themes and sub-themes were extracted from the data and direct quotations were utilised to substantiate the findings.

It was found that participants in the study understand the meaning of PT. It was further found that various traumatic events occur within the mining industry. During the study it became evident that participants experience various symptoms of PT after exposure to a traumatic event. Furthermore, it was found that the support participants receive after exposure to a traumatic event is negative in nature. Participants experienced that there was a lack of support from supervisors, the organisation and family members. To conclude the present study, recommendations were made for future research and practice.

OPSOMMING

Titel: Verkenning van die betekenis, simptome en waargenome ondersteuning van psigologiese trauma by 'n mynorganisasie.

Sleutelwoorde: Psigologiese trauma, betekenis, simptome, waargenome ondersteuning, myn, Suid-Arika

Die Suid-Afrikaanse mynbedryf speel 'n belangrike rol in die ekonomie. Tog het blootstelling aan traumatiese gebeurtenisse in Suid-Afrika verhoog, meer spesifiek in die mynbedryf. Die effek van 'n traumatiese gebeurtenis het nie net 'n invloed op die individue nie maar ook 'n groot invloed op die organisasie. Literatuur bevestig dat trauma in die mynbedryf nie genoeg aandag kry nie. Die fokus van die huidige studie is om te verken hoe werknemers psigologiese trauma verstaan asook die tipe traumatiese gebeurtenisse wat plaasvind in die mynbedryf. Die huidige studie fokus ook op die verskillende simptome wat werknemers ervaar na blootstelling aan 'n traumatiese gebeurtenis. Laastens, verken die studie ook die ondersteuning ontvang na die blootstelling aan 'n traumatiese gebeurtenis. 'n Kwalitatiewe navorsingsontwerp is vir hierdie studie gevolg wat 'n gekombineerde fenomenologiese en konstruktivistiese benadering behels. 'n Waarskynlikheidsteekproef is gebruik en deelnemers se response is verkry deur 'n fokusgroep. Die populasie van die studie het bestaan uit deelnemers (N = 11) van 'n spesifieke departement in 'n spesifieke organisasie binne die Suid-Afrikaanse mynbedryf. Die response van die deelnemers is getranskribeer en tematiese analise is gebruik om die data te ontleed. Temas en sub-temas is uit die data onttrek en direkte aanhalings van deelnemers is gebruik om die bevindinge te ondersteun.

Daar is bevind dat deelnemers 'n duidelike begrip het van psigologiese trauma. Dit is verder bevind dat daar verskeie traumatiese gebeurtenisse plaasvind binne die mynbedryf. Gedurende die studie was dit duidelik dat deelnemers verskeie simptome ervaar na 'n traumatiese gebeurtenis. Daar is ook bevind dat die ondersteuning ontvang na die blootstelling aan 'n traumatiese gebeurtenis negatief is. Deelnemers het aangedui dat daar 'n gebrek aan ondersteuning is van toesighouers, die organisasie en familie. Ter afsluiting van die studie is aanbevelings gemaak met die oog op toekomstige navorsing en vir die praktyk

CHAPTER 1

Introduction

This study aims to explore and describe the meaning, symptoms and perceived support of psychological trauma (PT) within a South African mining organisation. This chapter includes the problem statement, research objectives, the general and specific objectives, and thereafter the research methodology and chapter overview. Key words utilised in this research include *psychological trauma, meaning, symptoms, perceived support, mine, South Africa*

1.1 Problem statement

These days being exposed to a traumatic event is not viewed as uncommon (Tierny, Lindell & Perry, 2001). Ozer, Best, Lipsey and Weiss (2003) stipulate that most individuals are exposed to at least one violent or life-threatening situation during the course of their lives. An incident is regarded as traumatic if the event is seriously harmful or disruptive to the individual's functioning (Neria, Nandi & Galea, 2007). South Africa is characterised by increasingly high rates of fatal and non-fatal injuries due to violence, motor vehicle crashes, burns, falls and occupational injuries (Bowman, Stevens, Seedat & Snyman, 2010). According to the South African Stress and Health study approximately 75% of South African adults have been exposed to a traumatic event such as physical or sexual assault, motor vehicle accidents or work-related accidents (Suliman & Stein, 2012). The South African mining industry is a long-lived occupation recognised as being dangerous and liable to traumatic events (Donoghue, 2004).

According to Bishop, McCullough, Thompson and Vasi (2006) the definition and occurrence of traumatic events are expanding rapidly. Africa, especially South Africa, is experiencing severe traumatic events on a daily basis (van Dyk & van Dyk, 2010). Trauma can be defined as a stressful psychological event outside normal human functioning (Perry, 2006). The author further explains that trauma involves a sense of fear, terror, helplessness and creates a persistent stress response (Perry, 2006). During the exposure of a perceived threat individuals experience a response to either fight or flight (Schmidt, Richey, Zvolneksy & Maner, 2008). The phrase “fight or flight” was created by Cannon in 1920, and describes behaviours that individuals display in the presence of perceived threats or disturbances (Schmidt et al., 2008). Alongside the fight or flight response, Barlow (2002) suggests that a freeze response may occur during a

traumatic event. Freezing or tonic immobility overwhelms other action tendencies within individuals (Schmidt et al., 2008).

A traumatic event affects every aspect of an individual such as thoughts, emotions, behaviour, and reactions to the specific event (van Dyk & van Dyk, 2010). The authors further state that traumatic accidents can result in psychological disorders such as Post-Traumatic Stress Disorder (PTSD), Acute Stress Disorder (ASD), and Combat Reaction in some industries. Suliman and Stein (2012) concur with this finding by stating that the responses to traumatic events vary and the majority of individuals recover; however, some individuals experience ongoing disorders such as PTSD or depression. Furthermore, the degree to which a traumatic event impacts on an individual, working environment or community differs (Bishop et al., 2006).

Various industries have constantly been exposed to diseases and traumatic events (Stuckler, Basu, McKee, 2010). Traumatic events within organisations can include both industrial and natural disasters such as (a) work-area accidents, (b) organisational changes, (c) suicide and homicide, (d) robbery, (e) assault, and (f) threats of violence (Bishop et al., 2006). Organisations are aware of the importance of trauma as a workplace factor and the impact it has on employee retention, employee well-being and organisational functioning (Bishop et al., 2006). Even so, organisations show insufficient attempts to lower the adverse effects of trauma within the workplace. Little research has been conducted regarding PT in the working environment.

Statistics indicate that workplaces in the United States will see one employee killed and twenty-five employees injured in a week (Armour, 2004). Even though the majority of employees eventually recover from the traumatic event, a workplace accident may aggravate the symptoms of pre-morbid depression, anxiety or other mental health issues of those employees who have been exposed (Armour, 2004). The above-mentioned can easily be related to the South African context and specifically the South African mining industry. The South African mining industry is regarded as a high-risk working environment and is constantly exposed to traumatic events (Groves, Kecojevic & Komljenovic, 2007). It is evident that little research has been conducted to address and to minimize the effects of traumatic events on employees. The above-mentioned statement by Armour (2004) highlights the harsh fact that the adverse effects of PT cannot be ignored.

According to the Occupational Health and Safety Act (OHSA) of South Africa every employer is obligated to provide and maintain a reasonable working environment that is safe and with minimum risk to the health of employees (South African Department of Labour, 2004). Legal requirements and legislation allow organisations to take responsibility for the safety of their employees (Groves et al., 2007; Van den Honert, 2014). This is even more important for the mining industry seeing that it is a high risk environment and considered as one of the toughest and most hazardous occupations (Paul & Maiti, 2005; Groves et al., 2007).

In the mining industry, there are multiple risks that employees are exposed to and it remains an everyday problem since accidents occur suddenly without warning (Van den Honert, 2014). According to Hermanus (2007) South African miners are four to five times more likely to lose their lives in a mining accident. Underground miners work in severe conditions in narrow openings with extensive heat and humidity, heavy noise, vibration, poor lighting, airborne dust, and toxic gases (Paul & Maiti, 2005). As a result, accidents/injuries are more prevalent within the mining industry (Van den Honert, 2014).

Mine-workers are exposed to various job-related accidents on a daily basis (Kunar, Bhattacharjee & Chau, 2010). Accidents/injuries within the mining industry are cyclical in nature in the sense that there are periods of high accident rates followed by periods of lower accident rates (Webber-Youngman & Van Wyk, 2013). Groves et al. (2007) explain that the six main causes of injuries within the mining industry are (a) handling of material, (b) slipping or falling of employees, (c) machinery, (d) hand tools, (e) rock falls and rock bursts, and (f) powered transport. Furthermore, Rupprecht (2011) adds that transportation contributes 26% of all mining accidents in South Africa which entails shaft, haulage and in-stope transportation.

Perceived organisational support has been gaining interest among researchers over the past few years (Colakoglu, Culha & Atay, 2010). Perceived organisational support can be defined as how the organisation values their employees (Allen, Armstrong, Reid & Riemenschneider, 2008). If employees don't perceive the organisation as being supportive, employees might experience job dissatisfaction (Susskind, Borchgrevink, Kacmar, & Brymer, 2000).

Support plays a crucial role with regard to a traumatic event and coping with the aftermath. The above-mentioned statement can be substantiated by the views of Kawachi and Berkman (2001) that highlight the importance of social connections as a buffer against the impact of a

traumatic event. Research has indicated that a sense of belonging can protect individuals from the negative consequences of a disaster (Fisher, Sonn & Bishop, 2002; Perkins, Hughey & Speer, 2002; Perkins & Long, 2002; Saegert & Winkel, 2004). It is a matter of concern that little to no research has been conducted regarding PT and perceived support within organisations.

With the afore-mentioned as background, it is evident that there is a gap in literature regarding PT and perceived social support and the consequences it has on organisations and the individual, specifically within the mining industry. It is, however, not clear how mining employees would define PT and what symptoms of PT they experience following exposure to a traumatic event, from their point of view. Furthermore, it is not known how mining employees perceive the support they receive after a critical incident. A qualitative study was conducted to explore the meaning of PT from the perspective of mineworkers. The types of events at the mining organisation that are viewed as traumatic as well as the symptoms experienced after exposure to such a traumatic incident are also discussed. Finally the perceived support following a traumatic event was explored from the perspective of the mineworker within the mining organisation.

Based on the problem statement, the following research questions arise:

- How are the meaning, symptoms and perceived support of PT conceptualised in the literature?
- What does PT mean to employees at a mining organisation?
- What types of traumatic events are experienced by employees at a mining organisation?
- What are the symptoms of PT that employees experience at a mining organisation following a traumatic event?
- How do employees at a mining organisation perceive the support given after exposure to a traumatic event?
- What recommendations can be made towards effective support for employees at a mining organisation following exposure to a traumatic event?
- What recommendations can be made for future research and practice?

1.2 Expected contribution of the study

1.2.1 **Contribution for the individual**

Individuals will have a clear understanding of PT as well as the symptoms they experience after a traumatic event. Individuals will gain more knowledge regarding what type of traumatic events occur. Individuals will further benefit from the study by receiving adequate support from the organisation and supervisors after a traumatic event.

1.2.2 **Contribution for the organisation**

The present research will assist management, including supervisors, to better understand PT and the effect it has on the affected employee. Furthermore, management will be more aware of the types of traumatic events that occur. The most important contributing factor in the present study is related to the support received. Management will gain a better understanding in relation to the support received from the viewpoint of the employees. This will enable the organisation to implement and improve current systems to assist employees effectively after a traumatic event. Through updated systems the whole organisation will benefit through increased employee functioning and productivity.

1.2.3 **Contribution for Industrial Psychology literature**

The research will contribute by providing a rich description regarding the meaning of PT as defined by the mining employee. In addition, the types of traumatic events and trauma related symptoms experienced by mining employees are also described. The support rendered to mining employees following exposure to a traumatic event is also explored from the perspective of the mining employee. This research will thus add to the present body of knowledge regarding PT in South Africa and specifically within a mining organisation.

1.3 Research objectives

The research objectives are divided into a general objective and specific objectives.

1.3.1 General objective

The general objective of this research is to explore the meaning, symptoms and perceived support of psychological trauma within a mining organisation.

1.3.2 Specific objectives

The specific objectives of this research are:

- To determine how the meaning, symptoms and perceived support of PT are conceptualised in the literature
- To determine what PT means to employees within a mining organisation.
- To ascertain what types of traumatic events are experienced by employees within a mining organisation.
- To establish what symptoms of PT are experienced by employees within a mining organisation following a traumatic event.
- To determine how employees within a mining organisation perceive the support given after exposure to a traumatic event.
- To establish what recommendations can be made towards effective support for employees within a mining organisation following exposure to a traumatic event.
- To make recommendations for future research and practice.

1.4 Research design

1.4.1 Research approach

An explorative, descriptive qualitative research design was utilised in the present study. Qualitative approaches do not follow a set of worked-out formulas (De Vos, Strydom, Fouché & Delport, 2013); rather, qualitative research considers the understanding of human

experiences as being far more important than focusing on explanations, prediction and control (Holloway & Wheeler, 2002). Therefore, qualitative research is not quantifiable in numerical terms (Struwig & Stead, 2001).

The research is grounded within the constructivist/interpretivist research approach. The constructivist and interpretivist paradigms are related concepts that attempt to understand the world as other individuals experience it (Chilisa & Kawulich, 2012). Therefore, this study richly described the meaning of PT as conceptualised by employees at a mining organisation. The researcher also explored what types of traumatic events and PT symptoms follow after the exposure to such traumatic incidents from the perspective of the mine employees. In addition, lived experiences related to the support received after the exposure to a traumatic event were described from the view of the employees.

1.4.2 Research strategy

The research strategy took place in the form of a case study. According to Creswell (2007) a case study entails an examination of a “bounded system” over a period of time through detailed data collection involving various sources of information. A case study is directed towards understanding the uniqueness and the characteristics of a particular case in all its complexity (Welman, Kruger & Mitchell, 2012). The assumption can be made that it is not feasible to study the experience of PT without contextual conditions. Therefore, the mining organisation and the context in which mine employees’ function play a critical part in the research strategy and overall research process. The type of case study that was conducted is described as a descriptive case study. A descriptive case study strives to describe, analyse, and interpret a particular phenomenon (De Vos et al., 2011). It is important to note that the phenomenon is described within the real-life context in which it occurred (Yin, 2009). The real-life context that was described in the study is a mining organisation specifically, with mining employees working underground. In conclusion, a case study approach was chosen because the contextual conditions cannot be isolated from the phenomena themselves (Baxter & Jack, 2008).

1.4.3 Research method

The research method consists of the literature review, research setting, entrée and establishing researcher roles, sampling, data collection methods, recording of data, data analysis, strategies employed to ensure data quality and integrity, reporting style and ethical considerations.

1.4.3.1 Literature review

A complete literature review regarding PT, workplace trauma, perceived social support and PT in the mining industry was conducted. Applicable articles published between 2000 and 2016 were accessed. The key words used during the literature searches include: psychological trauma, workplace trauma, perceived support, traumatic stress, psychological meaning, mine, and South Africa.

The following databases were consulted:

- Databases such as: APA PsycArticles, EbscoHost, Emerald, Google Scholar, Metacrawler, Proquest, SAePublications, and Science Direct.
- The following journals were considered in terms of relevancy to the research topic: Journal of Industrial Psychology, SA Journal of Human Resource Management, Journal of Workplace Behavioural Health, Occupational Health Southern Africa, African Journal of Health Sciences, Journal of Psychology in Africa, Journal of Applied Psychology, and International Journal of Academic Research in Business and Social Sciences.

1.4.3.2 Research setting

The research setting entails where the data is going to be collected (Mbambo, 2009). The setting of the research was at a mining organisation in the Gauteng Province. A mining operation located at the mining organisation was utilised for purposes of the research. Taking into account the research strategy, the venue for the data collection was established at the workplace to avoid any inconveniences for the participants.

1.4.3.3 Entrée and establishing researcher roles

Firstly, the researcher gained ethical clearance from the North-West University to conduct the research. This study forms part of a larger project with the following ethical clearance number: NWU-00084-10-S4. Next, the researcher gained consent from the mining organisation to collect data. This was done in the form of a formal letter stipulating the purpose of the research as well as requesting access to conduct research at the mining organisation (Addendum A). The researcher gained access to the participants via the Wellness Department at the organisation. Shift schedules were considered in order to not interfere with the employees' functioning and productivity. Alongside this, informed consent forms (Addendum B) were provided to participants to inform them that the research was voluntary and that participants could withdraw from the process at any time.

1.4.3.4 Research participants and sampling methods

Participants consisted of underground mineworkers who were able to understand or speak English. This would ensure that mining employees who were frequently exposed to traumatic events were included in the study and that they would be able to comprehend the interview questions and respond in a language that the interviewer would be able to understand. The sample size was determined by the number of participants accessible and willing to participate in the process. The duration of the focus group went on until data saturation was reached. In this study, non-probability, purposive, voluntary sampling was used. Purposive sampling determines participants according to a pre-selected criterion relevant to the research questions and is based upon the researcher's judgement that the participants meet the criteria (Mack, Woodsong, Macqueen, Guest, & Namey, 2011; Mbambo, 2009). The sample consisted of the following inclusion criteria: Participants had to be underground mineworkers and be able to understand and speak English.

1.4.3.5 Data-collection methods

Data was collected by means of a focus group, based upon the phenomenological and constructivist paradigms. During the focus group, the researcher asked predetermined questions, but the interview was guided rather than dictated (De Vos et al., 2011). Probing and clarifying questions were asked where necessary to ensure that the researcher deeply

understood the participants' experiences and perceptions. The researcher used this method to gain detailed descriptions about the participants' definitions of PT, traumatic events at the mining organisation, symptoms of PT and perceived support received following traumatic incidents at the mining organisation. During the focus group participants were asked the standard questions on the focus group schedule. All participants were asked the following questions:

1. In your own words, what does psychological trauma mean?
2. In your experience, what types of traumatic events take place at this mine?
3. What symptoms have you experienced after you were exposed to a traumatic event?
4. How would you describe the support you received after the traumatic incident?
5. What advice would you give in order to support a mine employee who was exposed to a traumatic event?

During the data-collection process it is of utmost importance that the researcher establishes trust with participants. The researcher introduced herself, explained the purpose or context of the focus group, and with consent recorded the conversation. To ensure trust, the researcher informed the participants that the discussion was strictly confidential and that the recording would be erased.

The researcher facilitated the participants to help them share their experiences. The use of body language, silence, projection, summarising, and minimal encouragement was utilised to assist the participants to explain their experiences (McLeod, 2011). If the participant had difficulty answering the question the researcher made use of cues or probing to encourage the participant to consider the question further (Hancock, 2002). Participants were asked to fill in biographical information documents to obtain the age, race, work experience, and educational levels of the participants.

1.4.3.6 Data recording

The detailed responses of participants were captured by using an electronic voice recorder. Before the interview began, the researcher explained to the participants the purpose of the voice recorder to put the participants at ease. The data was captured after consent had been given

from participants. Participants were asked to speak loudly and clearly, to ensure that the actual words and phrases were captured and transcribed verbatim. Transcribing can be defined as the procedure to produce a written version of the interviews (Hancock, 2002). The transcribing was done on an Excel spreadsheet on the researcher's computer. Electronic back-ups of the transcribed interviews were made. The computer and voice recorders were locked away in a safe place and had passwords.

1.4.3.7 Strategies employed to ensure data quality and integrity

According to De Vos et al. (2011) strategies to ensure quality data include: (a) credibility, (b) transferability, (c) dependability, and (d) conformability.

Credibility: Credibility is an alternative to internal validity, in which the goal is to ensure that the research measures or tests what is actually intended (Shenton, 2004). Credibility also refers to research that has been conducted in such a manner as to ensure that the subject was accurately identified and described (De Vos et al., 2011). Credibility evaluates the congruence between the findings and reality (Shenton, 2004). To ensure credibility the researcher made the following provisions: (a) adopted a well-established research method, (b) became familiar with the culture and functions of the mining organisation, (c) ensured honesty by establishing rapport and stressing that it is a safe environment where the participants can talk freely, (d) ensured to have adequate knowledge and experience to conduct the focus group and data analysis, and (e) consistently evaluated responses during data analysis.

Transferability: Transferability is an alternative to external validity, where the researcher is concerned as to whether or not the research can be transferred or applied to another situation (Shenton, 2004). It is also important to demonstrate that the results obtained can be applied to a wider population (Shenton, 2004). The researcher made provision for the results of the research to be understood within the context - specifically, the mining organisation. The researcher established the context and a full description of the phenomenon was given in order for comparisons to be made (Shenton, 2004).

Dependability: Dependability refers to the research process that is logical, well-documented, and audited (De Vos et al., 2011). Shenton (2004) states that if the research were to be repeated in the same context, using the same methods and the same participants that it would obtain

similar results. In order to ensure dependability the researcher did the following: (a) the processes employed during the research were reported that would enable future researchers to repeat the research, (b) the research design was explained, and (c) the data-collection method and analysis were described.

Confirmability: Confirmability can be described as the concept of objectivity (De Vos et al., 2011). It is important to ensure that the findings are the result of the experiences and perspectives of the participants and not the researcher (Shenton, 2004). The researcher ensured confirmability through bracketing. Bracketing is a method used to mitigate the potential effects of unacknowledged preconceptions related to the research and thereby to increase the objectivity of the research (Tufford & Newman, 2010).

1.4.3.8 Data analysis

Data analysis entails summarising the mass of data collected and presenting the results in such a way that communicates the main features (Hancock, 2002). Thematic analysis was employed as the basis for analysing the transcribed data. According to Braun and Clark (2006) thematic analysis is a flexible research tool that provides a rich and detailed description of the data. Thematic analysis can be defined as a method to analyse classifications and present themes (Alhojailan, 2012). By using thematic analysis the researcher had the opportunity to understand the potential of any issue more widely (Marks & Yardley, 2004). In order to conduct thematic analysis the following steps were applied:

Step 1: Familiarise with the data

The first step was to send the data to an accredited language translator to translate the African languages to English. Thereafter the transcribing of the data was conducted. The researcher read through the transcribed data to ensure that all the information had been captured and mistakes were corrected. The entire dataset was combined in a single draft on the Microsoft Excel programme. This enabled the researcher to view and become familiarised with the entire dataset to gain a clear image of the participants' experience.

Step 2: Generating initial codes

By coding the data the researcher could easily identify and extract themes and evaluate the themes in the early and late stages of the analysis process (Alhojailan, 2012). The coding process was driven by the focus group questions. Thereafter, the researcher identified four categories which included definition of PT, traumatic events that take place at mines, symptoms experienced after a traumatic event, and support received after a traumatic event. During the creation of codes, all the data was considered.

Step 3: Searching for themes

After the creation of themes, the researcher was able to isolate themes within each category. Each category alongside its relevant themes and responses of participants was analysed in separate documents. During the analysis it was apparent that the data was rich in detail, therefore sub-themes were created. The researcher made use of co-coders to assist with the creation of themes. The purpose of this procedure and having a co-coder was to establish reliability and validity in the themes analysis (Hosmer, 2008).

Step 4: Review of themes

The next step was to review the themes that had been created in step 3. The researcher and supervisors reviewed the responses and sub-themes of each theme to determine whether or not it represented each theme correctly. The researcher and supervisors chose to merge certain themes as one or separate themes. Furthermore, data that did not seem relevant to the theme was discarded from the analysis. Thereafter, the whole dataset was reviewed to ensure that all the data was coded and that the analysis of each theme was done appropriately.

Step 5: Defining and naming themes

This step included defining as well as refining the themes created in step 4. The data was interpreted and each theme was given a name. The naming of each theme and sub-theme was done to reflect the true content of the data. Where applicable, the relatedness of themes was also determined. Lastly, the researcher described the content by providing responses from participants that represented the relevant theme.

Step 6: Producing a report

The reporting of the data was described as truthfully and accurately as possible from the perspective of the participants. The analysis of the data was reported in dissertation format. Each category is represented in a table format with its subsequent themes and sub-themes. Direct quotations were used to substantiate the findings. During the reporting of the data, the researcher set aside her own beliefs, ideas and judgements. Starks and Trinidad (2007) assert that researchers must recognise and set aside their own perspectives, thoughts, emotions, beliefs, and assumptions, with the analytical goal to attend to participants' responses with an open mind.

1.4.3.9 Reporting style

Results derived from the transcribed data were reported in table format. Themes and sub-themes were extracted from the focus group, and the most descriptive direct quotations were used in table format to validate the results. African responses were translated to English by an accredited translator to ensure uniformity. A narrative reporting style was applied to reflect as truthfully as possible the original participants' responses

1.4.3.10 Ethical considerations

When conducting the research, the following ethical considerations were kept in mind: (a) that no harm was done (mental or physical) to any participant is, (b) participants were provided with the purpose of the research study and that participation was voluntary, (c) participants were informed that the discussion was confidential, and (d) the information gathered during the focus group was processed correctly (De Vos et al., 2011). In the present study participants were provided with consent forms and informed that the focus group discussion would be recorded. Furthermore, participants were not misled or misinformed about the research.

Two important aspects to consider were culture and sensitivity. The mining industry is quite culturally diverse and it is important for the researcher to be culturally sensitive towards the participants. The researcher focused on being aware of the participants' cultures and avoid any harmful or offensive comments or behaviour. The researcher had a brief overview of different cultures to assist her in dealing with different and diverse participants.

Sensitivity was also another important aspect in the sense that the research topic might lead to participants experiencing discomforting and disturbing emotions, feelings, thoughts and behaviours. Special care was taken about the questions asked during the focus group not to provoke any discomfort in participants.

1.5 Overview of chapters

The chapters in this dissertation are presented as follows:

Chapter 1: Introduction.

Chapter 2: Research article 1.

Chapter 3: Conclusions, limitations and recommendations.

1.6 Chapter summary

This chapter entailed a discussion of the problem statement and the research objectives. The research method followed by the chapter overview was explained.

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CHAPTER 2

RESEARCH ARTICLE

EXPLORING THE MEANING, SYMPTOMS AND PERCEIVED SUPPORT OF PSYCHOLOGICAL TRAUMA AT A MINING ORGANISATION

Orientation: Mine employees working underground are daily faced by hazards related to seismic activity and mining-related accidents. Such accidents are very often traumatic in nature and cause psychological distress in those experiencing it. It is, however, not clear how mineworkers would define psychological trauma (PT), what symptoms of psychological trauma are experienced by mineworkers and the nature of the support they receive as viewed from the perspective of the underground mineworker.

Research purpose: The general aim was to explore the meaning, symptoms and perceived support of PT at a mining organisation.

Motivation for the study: The study was motivated by the fact that little is known about PT specifically within the mining industry. The study provides insight into the organisation pertaining PT from the perspective of the employees. This will assist the organisation to provide effective support to employees affected by PT.

Research design, approach and method: An explorative qualitative research design with a purposive sampling of 11 participants formed part of the study. Participants consisted of mineworkers from a mining organisation in the Gauteng area. Data gathering took place in the form of a focus group, whose views were later transcribed verbatim and analysed using the method of content analysis.

Main findings: It was found that the participants had a clear understanding of the meaning of PT. It was also evident that there are various traumatic events that occur within the mining industry. The findings illustrate that participants experience various symptoms after exposure to a traumatic event. Participants also indicated there was a lack of support from a variety of sources.

Practical implications: It became evident that employers should promote extensive support to employees after a traumatic event. It is important to create or implement sufficient intervention plans after the exposure of a traumatic event. The first step to provide support is through training and educating employers about trauma and the effect support has on the productivity and well-being of employees.

Contribution/value-add: On an individual level, individuals will benefit from this study by receiving effective support from management in the form of possible updated policies and procedures that will reduce the inevitable negative aftermath related to a traumatic event. Individuals will also have a better understanding of PT, what symptoms they experience, and

how support is received after a traumatic event. Research conducted on PT specifically in the mining industry is limited, therefore the research study provides rich knowledge and adds substantive purpose to existing knowledge.

Keywords: Psychological trauma, meaning, symptoms, perceived support, mine, South Africa

Introduction

The workplace can be a dangerous environment and is constantly exposed to accidents, violence, and injuries (Maabela, 2011). Every organisation is at risk in terms of unpredictable disasters and accidents; however, the mining industry has the highest risk of being exposed to these terrifying events (McFarlane & Bryant, 2007). The South African mining industry is no exception and is often exposed to traumatic events (Kowalski-Trakofler & Vaught, 2012; Maabela, 2011). Earth-fall accidents have been the most predominant cause of injuries within the South African mining industry (Stevens, Calitz, Joubert, Gagiano & Nel, 2006). The exposure and experience of traumatic events may cause both short-term and long-term effects on an individual's functioning (Kowalski-Trakofler & Vaught, 2012). The traumatic experience may also lead to psychological and emotional problems (Maiden & Terblanche, 2006).

The mining industry is at the heart of the South African economy and plays a key role in attracting foreign investment and creating leading global enterprises (Hanns-Seidel Foundation, 2013). The fact that PT significantly influences the individual's mental health and functioning may place a burden on the mining industry to function and contribute to the South African economy (Kowalski-Trakofler & Vaught, 2012). A concern is that there is a gap in literature regarding PT specifically within the South African mining industry (Williams, Williams, Stein, Seedat, Jackson & Moomal, 2007). It is not clear how mine employees would define PT. Little is known about the types of events that cause PT from the perspective of the mine employee, as well as the PT symptoms they experience following a traumatic incident. Furthermore, it is unknown how mine employees perceive the support they receive after exposure to a traumatic event. Therefore, this study explores and describes the meaning, experience and symptoms of PT within a South African mining organisation. The support received after exposure to a traumatic incident is also explored from the perspective of employees in a mining organisation.

Research purpose and objectives

The general objective is to explore the meaning, symptoms and perceived support of psychological trauma in a mining organisation. The specific objectives of this research are:

- To determine how the meaning, symptoms and perceived support of PT are conceptualised in the literature.
- To determine what PT means to employees in a mining organisation.
- To ascertain what types of traumatic events are experienced by employees in a mining organisation.
- To establish what symptoms of PT are experienced by employees in a mining organisation following a traumatic event.
- To determine how employees in a mining organisation perceive the support given after exposure to a traumatic event.
- To establish what recommendations can be made towards effective support for employees in a mining organisation following exposure to a traumatic event.
- To make recommendations for future research and practice.

Literature review

Psychological trauma

Since pre-historic times, human beings have developed stress appraisal and adaptation mechanisms to handle stressful events (De Jong, 2011). However, a traumatic event differs from a stressful event which evokes a complete loss of control (Van der Kolk, McFarlane & Weisaeth, 2012).

Throughout the years, the definition of PT has undergone changes and has been applied in various contexts so that the original meaning has been watered down (Briere, 2006). Therefore, defining PT may be a daunting task (Levers, 2012). According to Weaver, Flannelly and Preston (2004) the word *trauma* is derived from the Greek word for *wound*. Physical trauma can cause suffering by wounding the body, just as psychological trauma can wound an individual through overwhelming thoughts and emotions (Glanville, 2012).

A common definition of PT is the exposure to sudden, uncontrollable, terrifying life events (Van der Kolk, 2003). PT evokes intense reactions of fear, helplessness and horror within the individual (Carlson & Dalenberg, 2000). From this perspective, PT causes individuals to be emotionally, cognitively and physically overwhelmed (Rassool, 2007). The influence of PT on the individual is holistic in nature, and represents a complex mind-body phenomenon (Wilson & Keane, 2004). PT is caused by an external event that affects the individual's internal levels of functioning as well as the conscious and unconscious awareness and behaviour (Wilson, Friedman & Lindy, 2001). To simplify the definition, PT includes a range of events or experiences that evoke reactions of terror or horror (Kim, Ford, Howard, & Bradford, 2008). Traumatic events include various forms such as war, military combat, serious accidents, work-related accidents, physical assault, rape and natural disasters (Kozarić-Kovačić & Pivac, 2007). From the above-mentioned it is evident that PT is caused by external factors or events that evoke intense emotions within an individual. These events cause the individual to experience turbulence with daily functioning as well as coping with daily stressors. The experience of PT keeps the individual's thoughts and emotions occupied with the specific event.

Research illustrates that PT can either be acute, which is caused by a single event, or cumulative when traumatic incidents occur over a prolonged period of time (Kaberia, 2011). The experience of PT is considered to be the threshold for developing acute stress disorder (ASD) and post-traumatic stress disorder (PTSD) (Backholm, 2012). According to the Diagnostic and Statistical Manual for Mental Disorders version five (DSM-5), ASD is defined as the exposure to a catastrophic stressor that inflicts intense emotional reactions (American Psychiatric Association, 2013). The traumatic event is tirelessly re-experienced through images, thoughts or dreams (APA, 2013). ASD was added to the DSM-5 to describe and classify symptoms that occur in the post-trauma period and to identify individuals that may be at risk of developing PTSD (Litz, Hundert & Jordan, 2015). The ASD diagnosis attempts to distinguish between temporary reactions and responses that may represent an indication of PTSD (Litz et al., 2015). ASD symptoms manifest two days to four weeks post-trauma, whereas PTSD can only be diagnosed four weeks after the trauma occurred (Bryant, Friedman, Spiegel, Ursano & Strain, 2010). Halgin and Whitbourne (2007) describe PTSD as an anxiety condition that derives from a traumatic event where the individual experiences symptoms more than a month following the event. The symptoms include components of intrusive, numbing, re-experiencing, arousal and avoidance symptoms (Menna, 2012). It has been observed that PTSD is a by-product of traumatic events (Olubunmi & Dogbahgeen, 2013).

Risk factors for the development of PTSD following a traumatic event fall into three categories: pre-trauma, peri-trauma and post-trauma factors (Sayed, Iacoviello & Charney, 2015). Kaminer and Eagle (2015) explain that the below-mentioned risk factors are significant predictors to develop PTSD. Pre-trauma factors can include age, gender, race/ethnicity, education; exposure to previous traumatic events, adverse life events, and neurobiological factors (Friedman, 2003; Sayed et al., 2015). Research found that males are at a higher risk to be exposed to traumatic events whereas females are more likely to develop PTSD (Rumball, 2013). Trickey, Siddaway, Meiser-Stedman, Serpell and Field (2012) explain that the peri-traumatic factors may not give support to the theoretical explanation of PTSD; however, these factors support the efforts to identify whether the individual is at high risk of developing PTSD after the exposure to a traumatic event. Peri-trauma factors include duration of trauma, severity of trauma, degree of control over event, and lack of internal or external resources to handle traumatic events (Bosch & McKay, 2014; Sayed et al., 2015). Post-trauma factors include access to needed resources, social support, cognitive patterns, and physical activity (Sayed et al., 2015). Greenberg, Brooks and Dunn (2015) established that a meta-analysis of the PTSD risk factors found that post-trauma factors play a larger role in developing PTSD than the peri-trauma factors (Greenberg et al., 2015). The availability and quality of social support after a traumatic event are an influential factor to determine the development of PTSD (Greenberg et al., 2015).

Globally and nationally, psychological traumatic events occur with regularity in organisations (De Fraia, 2015). Therefore, the place of employment is no exception to the exposure and experience of PT (Menna, 2012). In every organisation a certain percentage of the workforce will experience or suffer from a traumatic event (Ekundayo, 2014). It is estimated within any workgroup that 15% of employees will exhibit a cluster of symptoms for the diagnosis of ASD or PTSD (De Fraia, 2015). PT within the working environment is often referred to as critical incidents (De Fraia, 2016). Traumatic events/critical incidents can be defined as events that are sudden and unexpected beyond the norm of what usually happens to employees at the workplace (Paul & Blum, 2005). When an employee is involved in an event, various characteristics turn the event into an experience of powerlessness, disruption and discomfort (Terblanche & van Wyk, 2014). Incidents within the working environment vary in (a) scale, (b) human intention, (c) predictability, (d) duration, (e) number of affected employees, and (f) whether fatalities occur (De Fraia, 2016). It is apparent that PT not only severely impacts on

an individual's personal functioning but influences his/her functioning at work as well (McKay & Fratzl, 2011; Rick & Briner, 2004).

According to Mossink and De Greef (2002) individuals experience behavioural, psychological, social, vocational and economic consequences after a traumatic event in the workplace. Individuals who are exposed to a traumatic event in the workplace may often be absent from work, be accident-prone while at work, less efficient, and have poor interpersonal relationships (Edwards, 2005). In addition, individuals may experience memory problems, feelings of fear or anxiety, trouble staying awake or difficulty retaining information (Menna, 2012). Work-related trauma not only influences the individual, but may influence organisational outcomes such as a decrease in performance, lack of motivation and commitment (Ekundayo, 2014). Due to workplace reminders of the event, employees may also become distressed or anxious at the thought of entering the work environment (De Fraia, 2016). Inevitably, employees who function in a life-threatening working environment such as the mining industry have a higher risk of being exposed to traumatic events and may develop PTSD (Kendall, Murphy, O'Neill & August, 2000).

Research indicates that the mining industry has an extremely high risk of accidents and has not yet received any systematic attention (McFarlane & Bryant, 2015). A mine entails large and small-scale operations and can be described as an excavation in the earth from which ore, minerals and industrial supplies can be extracted (Van den Honert, 2014). In the mining industry, dealing with multiple unknown risks is a problem, due to not knowing when the accident will occur (Van den Honert, 2014). Not knowing when an accident will occur may challenge employees to accurately assimilate and comprehend the experience and can devastate even the most secure individuals (Terblanche & van Wyk, 2014). According to Wu, Chen and Li (2013) there is a lack of knowledge regarding traumatic events and safety, which is very useful in the mining industry that deals with risks on a daily basis that cannot be predicted. The accident and ill-health record of the mining industry relates badly to other industries such as manufacturing, construction and rail, thus extending the mining industry's reputation as the most hazardous industrial sector (Hermanus, 2007). This can be substantiated by statistics in 2011 and 2012 from the mining industry, indicating 6679 injuries collectively across all the mining organisations in South Africa (Van den Honert, 2014). According to Jansen and Brent (2005) the highest incidence of mining accidents is related to fall of ground, electronic

locomotives, explosives and machinery. There is a significant burden of occupational disease and trauma among former and current mine employees (Hermanus, 2007).

Trauma within South Africa is undoubtedly a menacing epidemic (Lutge & Muirhead, 2005). Nearly 70 000 South Africans die each year, and 3.5 million seek health-care facilities as a result of trauma (Lutge & Muirhead, 2005). Literature suggests that South Africa is characterised by various types of traumatic events (Williams et al., 2007). An extreme concern is that there are increasing numbers of traumatic incidents in the South African mining industry (Li, 2013). Evidence further indicates that South African organisations' health and safety record is in a critical state (Industrial Health Research Group, 2008). The outcome of traumatic experiences negatively affects the organisation through: (a) increased sick leave, (b) long-term disability, (c) early retirements, (d) high staff-turnover rates, and (e) increased cost for recruitment and training (Fisher, 2003). Employees exposed to traumatic events are unable to cope with the accident stressors which also lead to decreased productivity and morale (Bryson & Phillips, 2006). The field of PT and workplace trauma literature illustrates the need to address the human response to traumatic events (Paul & Blum, 2005). Subsequently the symptoms of PT will be discussed.

Symptoms of psychological trauma

Glanville (2012) explains that during and after a traumatic event, individuals experience a number of reactions. Greenberg et al. (2015) explain that the majority of individuals will experience at least some short-term symptoms of trauma. These authors further state that it is inevitable that the minority of individuals exposed to a traumatic event, will develop long-term mental health problems, which include ASD and PTSD.

The basic symptomatology of PT can be described as individuals reliving or denying the traumatic event, alongside alternating intrusive and numbing responses (Van der Kolk, 2003). Alongside the above-mentioned responses, individuals experience an automatic response to freeze, fight or flight (Glanville, 2012). Individuals who are exposed to a traumatic event experience different phases or symptoms during or after a traumatic event (Echeburúa, de Corral, & Amor, 2003). The variation in individual symptoms is based upon (a) individual biological factors, (b) developmental level at the time of traumatic event, (c) severity of trauma, (d) social context of individual before and after the traumatic event, and (e) events that occur

prior and subsequent after trauma (Carlson & Dalenburg, 2000). Biological factors refer to the individual's body response to the traumatic event (Sayed et al., 2015). These factors are observable in the individual and not in the external environment (Bomyea, Risbrough & Lang, 2012). The three major biological factors include genetic predisposition to trauma, non-biogenetic predisposition, and biological changes in functioning in response to a traumatic event (Carlson & Dalenburg, 2000). The response to trauma is also influenced by the individual's emotional, social and cognitive development at the time of the traumatic event (Bomyea et al., 2012). The severity of the trauma refers to the objective components of the event such as duration, intensity and nature that influence the individual's perception as a true threat to one's life (Bisson, McFarlane, Ruzek, Watson & Rose, 2009; Ozer, Best, Lipsey & Weiss, 2008; Trickey et al., 2012). The social context – community, family or organisational environment - before and after the traumatic event plays an influential role in the expression and reaction to the traumatic event (Shalev, 2001; Carlson & Dalenburg, 2000). Literature reveals that events prior to or after a traumatic event may mitigate or exaggerate the effect of the traumatic event on the individual (Brewin, Andrews & Valentine, 2000). In order to understand why individuals experience different symptoms, it is useful to consider the different phases as well as the responses of the brain and body during the traumatic event (Glanville, 2012).

The first phase entails the immediate reaction at the time of the trauma (Therani, 2004). This phase represents the first 48 hours subsequent to a traumatic event and may persist for some time after the exposure (Glanville, 2012). During this phase, several body systems are activated, more specifically the nervous system and endocrine systems (Olpin & Hesson, 2013). Coon and Mitterer (2007) continue to explain that during the exposure to a traumatic event, the stress hormones adrenaline, noradrenaline and cortisol flow into the bloodstream. As mentioned previously, individuals exposed to a traumatic event exhibit an instinctive “fight or flight” response during the event (Carlson & Dalenburg, 2000). The authors continue to explain that the fight or flight phenomenon is an instinctive, preparatory response of the body and psyche towards danger. These responses are energy-producing mechanisms that confront or run away from the threat (Kaberia, 2011). Additionally, individuals may also experience a “freezing” response towards danger (Bell & Ross, 2014). The body looks motionless during the traumatic event; however internally the body experiences forceful turbulence (Kaberia, 2011). If this response is not treated correctly disturbances may occur (Bell & Ross, 2014). During the traumatic event, the fight or flight response may create physiological stress (Goelitz

& Stewart-Kahn, 2013). These reactions are characterised by slowness, general grief, disbelief and lack of ability to react appropriately (Echeburúa et al., 2003). Emotionally, exposed individuals may experience sadness, a sense of emptiness and despair (Glanville, 2012). Furthermore, during the traumatic event the body's protective response reacts and releases stress hormones, blood pressure rises, muscle tension increases, or even cause digestive problems (Goelitz & Stewart-Kahn, 2013). In this phase, the mind may be over-stimulated but the body will be exhausted (Glanville, 2012). Saari (2005) explains other somatic problems that individuals may experience which include vomiting, nausea and cardiac symptoms. Cognitively, the individual will find it difficult to recall the traumatic event in logical order (Retief, 2004).

The second phase includes acute reactions in the days following exposure to a traumatic incident until a month after the traumatic event (Therani, 2004). The responses can be considered as the second wave of symptoms following trauma (Carlson & Dalenberg, 2000). The most noticeable reactions include pain, aggression, low self-esteem, substance abuse, identity confusion and difficulties with personal relationships (Echeburúa et al., 2003). During this phase, the stress hormones stay activated in the bloodstream (Glanville, 2012). Even though the threat is no longer present, the perception of threat still exists which causes the body not to return to its normal functioning which results in hyper-arousal (Olpin & Hesson, 2013). Due to this perception, the individual struggles to cope with new stressors (Hockenbury & Hockenbury, 2010).

In the third phase, individuals experience chronic or long-term reactions (Therani, 2004). Memories holding emotions, cognitions, and sensations are formed that become associated with the trauma (Briere, 2012). The memories can be triggered and experienced as flashback, intrusive thoughts, painful feelings, and aspects of post-traumatic stress (Briere, 2006). During this phase, the body's resources are depleted and the stress hormones are no longer available to energise the body (Coon & Mitterer, 2007). Individuals experience emotional, behavioural and cognitive exhaustion (Glanville, 2010).

Research illustrates that there are physiological and neurological changes in the brain and body as a result of traumatic stressors as previously mentioned (Reyes, Jon & Ford, 2008). The brain is structured into three parts: the cortex, the limbic system and the brain stem (Jaffe, Segal, & Dumke, 2005). McKinley and O'Loughlin (2010) explain that various areas of the brain are

involved during a traumatic event, more specifically the hippocampus, hypothalamus and the amygdala. The above-mentioned all form part of the limbic system and influence emotions, learning, memory and self-preservation (Glanville, 2012). During a traumatic event, two systems of communication in the brain are simultaneously at work (Conner, 2002). Incoming information from the senses is sent to the thalamus, which sends this information to the sensory cortex to evaluate and assign a meaning (Glanville, 2012). If the sensory cortex determines that there is more than one interpretation, the data is sent to the hippocampus (Conner, 2002). Should the hippocampus determine that no threat is evident, the information is sent to the amygdala which signals the hypothalamus to shut off the fight or flight response (Glanville, 2012). The second system involves the information received from the thalamus which is directly sent to the amygdala, and sends impulses to the hypothalamus to initiate the fight or flight response (Bosch & McKay, 2014; Glanville, 2012). Once the amygdala is activated by sensory information, it can start to regulate the cortex and facilitate the processing of the danger stimulus (LeDoux, 2000), such as hypervigilance for threat (Davis & Whalen, 2001).

Extensive autopsies and scans reveal that during trauma the structure and functions of the brain change (Jaffe et al., 2005). Neurobiological changes occur that alter the brain's processing system - perceptions, cognitions and emotions - and greatly influence the individual's psychological coping and adjustment (Reyes et al., 2008). Traumatic stressors also influence the body's nervous system, by creating a dis-regulated nervous state that is incapable of returning to the relaxed state (Lee & Woon, 2015). This state causes an increase in heart rate and blood pressure as well as an increase in blood flow and glucose availability to muscles (Yehuda, 2002).

According to Kowalski-Trakofler and Vaught (2012) a mining-related accident is regarded as one of the most traumatic events an individual can experience and can cause both short-term and long-term traumatic effects on the individual's functioning. Traumatic experiences may lead to psychological problems such as depression, substance abuse and domestic violence (Kowalski-Trakofler & Vaught, 2012). South African literature has revealed that a large number of mine workers are likely to experience some degree of PTSD due to the high incidence of injuries and deaths resulting from mining accidents (Li, 2013). Employers, government and trade unions are aware of the adverse effects of traumatic events, however the response towards traumatic events remains inadequate (Industrial Health Research Group, 2008). The above-mentioned can be substantiated by a concern based on available data

indicating that the needs of the individual and his/her environment pre-, during, and after a traumatic event are not being addressed adequately (Kowalski-Trakofler & Vaught, 2012). Notably, two factors that are not addressed effectively according to Robinaugh et al. (2011) are social support and organisational support. Next, perceived social support and organisational support will be defined and discussed.

Perceived support following psychological trauma

Lui (2004) defines perceived organisational support as employees' perceptions about how the organisation cares about their well-being and values their contribution to the organisation. Pfeifer (2011) adds that perceived support refers to the quality of emotional support provided by other individuals. Social support is defined as the sense of feeling loved, valued and cared for by other people, for example family, friends, spouse, or co-workers (Kim, Shermon & Taylor, 2008). To simplify the above-mentioned definitions, perceived social support is defined as the organisation's or employers' contribution to the exposed individual's well-being and coping after a traumatic event. Research indicates that the presence of negative social support in the early stages (6-12 months post-trauma) of trauma, may be a strong predictor for developing PTSD (Backholm, 2012). According to Glanville (2012) damage in social support and relationships may cause the exposed individual to be irritable, quick-tempered and display anger outbursts. Little research has been conducted regarding perceived support and its influence on the development of PTSD and post-trauma effects (Vogt, King & King, 2007).

Traditionally, employee assistance programmes (EAPs) are utilised to assist employees who have experienced a traumatic event seeing that most EAP providers address workplace trauma (Terblanche & van Wyk, 2014). However, due to increased emotional and mental health demands of exposed individuals, the focus has shifted to a more comprehensive, integrative, multi-component crisis intervention system called Critical Incident Stress Management (CISM) (Stephenson & Schneider, 2006; Terblanche & van Wyk, 2014). CISM enables employees and groups to receive assessment of needs, practical support and follow-up after the exposure to a traumatic work-related event (Regel, 2007).

The Chamber of Mines developed the Care of Pressurised Employee programme (COPE) to assist employees to cope with pressures that have an adverse effect on their personal well-being and productivity after a traumatic mining accident (Maiden & Terblanche, 2006). However,

the absence of scientific data regarding the prevalence of PTSD as well as the effectiveness of trauma management programmes hinders the effort to implement preventative policies, programmes, and rehabilitation programmes (Stevens, et al., 2003).

It is important to note that perceived organisational support not only aids an individual to cope with PT, but his/her social support plays an important role in dealing with the consequences of trauma (Nurullah, 2012). Studies indicate that perceived social support is associated with improved mental and physical health (Haber, Cohen, Lucas & Baltes, 2007). Research further indicates that social support may play a role in shutting down the amygdala fight or flight response (Bosch & McKay, 2014). It is evident that social support promotes positive reward feelings in the brain and therefore the lack of support leaves individuals at a higher risk of developing PTSD (Inagaki & Essenberg, 2011).

It is evident that a traumatic incident within the mining environment has a significant impact on mineworkers, family members and the community surrounding the mine (Maiden & Terblanche, 2006). Perceived organisational support or rather a lack thereof has a negative influence on the organisation (Beheshtifar & Zare, 2012). The statement can be substantiated by Rhoades and Eisenberger (2002) who explain that a lack of organisational support may lead to negative attitudes and behaviour in the workplace. Negative consequences of organisational support include work stress, low work performance, and lower employee satisfaction (Rhoades & Eisenberger, 2002).

Conclusively, the gap in literature is a major concern regarding PT and perceived social support and the consequences it has for organisations and the individual, specifically within the mining industry. A qualitative study was done to explore the meaning of PT from the perspective of mineworkers. The types of events at the mining organisation that are viewed as traumatic as well as the symptoms experienced after exposure to such a traumatic incident are also described. Finally the perceived support following a traumatic event is explored from the perspective of the mineworker at the mining organisation.

Research design

Research approach

The research design was qualitative in nature. The reason for that is located in the fact that a qualitative research approach focuses on the viewpoint or the experience of the individual (Welman, Kruger & Mitchell, 2012). The focus of qualitative research is to explore, examine and describe individuals within their natural surroundings (Orb, Eisenhauer & Wynaden, 2000). The research is rooted in the constructivist/interpretivist research approach. Constructionists believe there is no objective reality and the aim is to understand the multiple social constructions of meaning and knowledge (Mertens, 2014). The constructivist paradigm sees reality as socially constructed and meaning originates on a social rather than individual level (Oosthuizen, 2009). The interpretivist approach focuses on explaining the subjective actions and meaning that individuals give to their world (Thomas, 2010). Epistemology is the study of knowledge and principles (Browaeys, 2004). The epistemological root of the constructivist/interpretivist approach is that knowledge is subjective, because reality lies within the individual's mind (Chilisa & Kawulich, 2012). Thus, the reality can be discovered by interacting with individuals and listening to their experiences (Oosthuizen, 2009). Therefore, the aim of the study has been to explain the meaning of PT from the viewpoint of the participants. The researcher also explored what types of traumatic events had taken place within the organisation from the perspective of the mineworkers. Additionally, the support employees received after a traumatic event was also described from the viewpoint of the participants.

Research strategy

During the study, the research strategy took the form of a case study. A case study entails examining individuals in a particular context over a period of time (Creswell, 2007). The aim of the case study was to gain a better understanding of the individual in his/her bounded system since contextual conditions cannot be isolated from the phenomenon (Welman, Kruger & Mitchell, 2012; Baxter & Jack, 2008). The study entailed exploring the meaning, symptoms and perceived support mineworkers experience at the mining organisation.

Research method

The research method consists of the literature review, research setting, entrée and establishing researcher roles, sampling, data collection methods, recording of data, data analysis, strategies employed to ensure data quality and integrity, reporting style and ethical considerations.

Research setting

The research setting involved a mining organisation in the Gauteng Province in South Africa. A focus group took place at the workplace at a time which was most convenient for employees. The reason for this was to ensure that the research process did not interrupt the daily functioning and productivity of the participants. A relaxed and safe environment was created to build rapport and trust with the participants. The focus group questions entailed a series of open-ended questions based upon the research questions. Participants were informed beforehand that an electronic voice recorder would be utilised.

Entrée and establishing researcher roles

Access to the participants was obtained through a formal written letter (Appendix A) that was sent to the appropriate representative at the mining organisation, requesting access to conduct a focus group. After access had been gained, a focus group was conducted at the mining organisation. Participants were informed about the nature and intent of the research project and the content of the project was explained to them. Participants were provided with an informed consent form (Appendix B) stating that participation was voluntary and participants could withdraw from the research project at any given moment. During the focus group, participants were aware that their responses were being recorded and field notes taken of observations.

Research participants and sampling methods

A non-probable, purposive, voluntary sampling was used in the research project. Purposive sampling is a technique used to select certain participants based on a specific purpose rather than choosing randomly (Teddlie & Yu, 2007). Participants were selected who fitted the criteria or purpose of the research project. The purpose was to explore the meaning, symptoms and

perceived support of PT to employees who had been exposed to a traumatic event. Participants were underground mineworkers who had been exposed to traumatic incidents at the mining organisation. The participants were able to understand or speak English. Due to the mine being culturally diverse, a translator was present during the focus group to assist with the translation of the African responses to English. It was important to include the selected sample due to the fact that underground workers are directly exposed to accidents. The sample size consisted of eleven employees who formed part of a crew team. The focus group discussion was conducted until data saturation had been obtained. Table 1 provides an overview of the participants.

Table 1

Characteristics of participant (n=11)

Item	Category	Frequency	Percentage
Gender	Male	11	100%
Age	26-30 years	1	9%
	31-35 years	3	27%
	35-40 years	2	18%
	41-50 years	3	27%
	50-65 years	2	18%
Language	Sesotho	4	36%
	isiXhosa	3	27%
	isiZulu	2	18%
	Siswati	1	9%
	Setswana	1	9%
Highest qualification	Grade 12	2	18%
	Grade 9/ABET Level 4	4	36%
	Grade 1 - Grade 9	3	27%
	No education	2	18%
Years of experience	1-10 years	5	45%
	10-20 years	1	9%
	20-30 years	3	27%
	30-40 years	2	18%

Table 1 indicates that the sample consisted of 11 underground mineworkers. From the 11 participants, all were male (100%). The majority of the participants fell in the age category of 31-35 years and 41-50 years, while only one participant fell in the 26-30 year category. The majority of participants indicated Sesotho (36%) as their home language. Regarding the highest qualification, participants had mostly obtained a Grade 9/ABET Level 4 education, while only

two participants obtained a Grade 12 education. Most (45%) of the participants had 1-10 years of experience in the mining industry.

Data-collection methods

The data for the research project was collected by means of a focus group. A focus group can be defined as a group that comprises individuals with certain traits who discuss certain issues or topics (Dilshad & Latif, 2013). There were various phases during the focus group (Welman et al., 2012): (a) the researcher introduced the topic to the focus group, (b) the researcher set rules, for example only one person may talk at a time, (c) each participants made an open statement regarding his experience of the topic, (d) the researcher guided the group discussion by asking the pre-determined questions, and (e) the session ended with participants giving a final statement that may not be challenged. During the data-collection process, there was an interpreter present to assist with participants who struggled with communicating in English. During the focus group session the following questions were asked:

1. In your own words, what does psychological trauma mean?
2. In your experience, what types of traumatic events take place at this mine?
3. What symptoms have you experienced after you were exposed to a traumatic event?
4. How would you describe the support you received after the traumatic incident?
5. What advice would you give in order to support a mine employee who was exposed to a traumatic event?

Data recording

Consent was obtained from participants to make use of electronic voice recorder. This ensured that the responses of the participants were captured as truthfully and accurately as possible. Firstly, the responses that were in African languages were translated to English and thereafter transcribed in an Excel spreadsheet after the group discussion had ended. The recording was also sent to an academic translator to accurately translate the African language to English. After the discussion had been transcribed, the original responses on the recorder was compared to the recording of the academic translator to ensure that the responses had been copied accurately. The computer with the Excel spreadsheet and the voice recorder were locked away in a safe place with passwords to ensure that other individuals didn't gain access.

Strategies employed to ensure data quality and integrity

The strategies that were considered to ensure quality data included (a) credibility, (b) transferability, (c) dependability, and (d) conformability (De Vos, Strydom, Fouche & Delpont, 2011).

Credibility: Internal validity was maintained by accurately identifying and describing the findings from the perspective of the participants. Co-coders were utilised to ensure that the findings were a true reflection of the participants' experience.

Transferability: Transferability refers to the degree that results can be applied in other contexts. Shenton (2004) explains that it is difficult to achieve transferability since qualitative research focuses on small groups or a single environment. Nonetheless, the context and setting of the present study were described in full.

Dependability: Dependability is also a reference to consistency. The researcher ensured dependability by providing a clear description of the research procedure, data-collection method and data analysis.

Confirmability: Conformability refers to objectivity. Bracketing was employed during the present study by eliminating preconceptions related to the research. The researcher refrained from any judgements or bias.

Data analysis

After the group discussion had been transcribed in an Excel spreadsheet, the data was analysed by employing thematic analysis. Thematic analysis is a descriptive approach to identify, analyse and report patterns (themes) within data (Vaismoradi, Turunen & Bondas, 2013; Braun & Clarke, 2006). The first step in thematic analysis is to be familiarised with the data (Braun & Clarke, 2006). Furthermore Braun and Clarke (2006) propose the following during the data analysis:

Step 1: Becoming familiar with the data

After the focus group had occurred, the data was sent to an academic translator to translate the African spoken languages to English. This was done to ensure that critical responses were not omitted in the findings. The data was thereafter transcribed in written form. This was done by making use of the Microsoft Excel programme. The entire dataset was drafted in a single document. The transcribed verbatim version was reviewed to eliminate errors and allow the researcher to familiarise herself with the data.

Step 2: Generate initial codes

Codes in the present research represent categories. During the data analysis the researcher developed categories from the transcribed data. The questions that were asked during the focus group assisted with the categorising process. The following codes was identified: *definition of PT, traumatic events that take place at mine, symptoms experienced after a traumatic event, and support received after a traumatic event*. All the raw data was considered during the step.

Step 3: Searching for themes

As mentioned-above, four categories were identified during the data analysis. Overarching themes were created within each category. Each category with the identified themes as well as responses from participants were analysed in separate documents. Sub-themes were also created to describe the data fully. Co-coders assisted during the step to ensure adequate representation of each theme and sub-themes.

Step 4: Reviewing themes

In this step, the respective themes were refined and reviewed. The themes and sub-themes were read thoroughly and discussed with the supervisors with the aim of refining the themes. Reviewing themes ensured that the researcher had identified themes correctly as supported by the data collected. During this step, certain themes were merged as one or separated. A new theme was created for data that the researcher considered irrelevant or problematic. Alternatively, if the data did not fit with the theme it was best to discard it from the analysis. Thereafter, the entire dataset was reviewed to ensure that all the respective data had been coded and the themes as well as sub-themes analysed appropriately.

Step 5: Defining and naming themes

This step entails defining and refining the themes that had been created in the analysis. Each theme was given a meaning to ensure that there was no overlap. The relations of the themes were also determined during this step. Names were allocated to each theme and sub-themes that reflected the true content of the data. The content of the data was fully described by making use of representing responses from participants.

Step 6: Producing report

The analysis of the data is reported in dissertation format. Each category is represented in a table format with its subsequent themes and sub-themes. The results are reflected in an honest and correct manner. The findings are substantiated by direct quotations of participants' responses.

Reporting style

In the findings the themes and sub-themes that emerged during the focus group are described. The responses of the participants are stated accurately with minor modifications without affecting the meaning (De Vos, Strydom, Fouché & Delport, 2005). Furthermore, to consider all language groups that were present during the focus group, an academic editor translated the statements from the African languages into understandable English.

Ethical considerations

During the present research, the following ethical aspects were considered. The entire research process was explained to the participants to ensure that they fully understood what the research entailed. No harm – mentally or physically - was caused to any participant during the data collection. After the focus group had been conducted, participants were properly debriefed to ensure that no harm was done. Participants were informed that the process was voluntary and that they would not be forced to participate and information would be kept confidential. The data gathered from the participants during the data collection was kept confidential between researcher and supervisors. During the data analysis, the researcher and supervisors remained unbiased and set aside own assumptions. Furthermore, the researcher and supervisors remained objective during the data analysis.

All along, the researcher remained culturally sensitive towards the participants during the data collection. During the focus group, attention was given to participants' verbal and non-verbal behaviour to pick up on discomfort.

Findings

This section contains the results of the analysis that was completed on the data. The results of the analysis are explained in table format and arranged into themes and sub-themes with direct quotations from the participants to support the findings. The quotations provided by African-speaking participants were translated into English by an accredited language editor. The participants consisted of only male mine workers. Given the pre-historic preferences of the mining industry the focus is on male participants due to the labour intensive work being performed.

Category 1: Definition of psychological trauma

The findings of category 1 were attained by asking the participants a question regarding the meaning of PT. Participants were asked to explain in their own words what the definition was of PT specifically within the work context. The reason for that was to assist the researcher to gain an understanding of the definition of PT from the perspective of the participants. One can conclude that the participants generally had a clear understanding of PT. Various participants made use of examples to explain how they understand the concept. Table 2 collectively gives an indication of how the participants had understood PT. In table 2 the most descriptive responses from the participants were included to substantiate the findings.

Table 2

Definition of psychological trauma

Theme	Sub-theme	Response
Cause of psychological trauma	Visual exposure to event	"... I see something that I was not supposed to see. "
		"...Someone dies right in front of me. I see the blood, I see everything that happened. "
	Unexpected event	"...when something happens and you didn't expect that to happen. "
		"...because you don't know when the rock will fall underground. "

	Painful event	"...it is a painful experience." "...when something painful happens."
Reaction to psychological trauma	Mentally disturbed	"According to my understanding. When I am being disturbed in my head " "...you see something that makes you think twice, maybe your mind is being disturbed "
	Shocked	"...It shocks you. " "It is when you get shocked when something happens..."
	Irrational behaviour	"...you do awkward things." "...you can run away to cause another accident."
	Emotional response	"... Affects your emotions and the way you feel." " "Hurt me deeply..."

Table 2 lists the general themes of the meaning of PT and the sub-themes gathered from the data. It is evident that the meaning of PT is two-fold in nature from the viewpoint of the participants. Firstly, there is a cause for PT and secondly there is a response to the cause of PT. Below are the descriptions of the respective themes as provided by the different participants.

Cause of psychological trauma: PT can be defined from the perspective of the participants through explaining the causes thereof. Participants reported that PT can be described as witnessing something that you were not supposed to see (i.e. visual exposure to event). For example, a participant mentioned a car accident where the individual died right in front of him. Participants described that PT is to experience an event and you did not expect the event to happen (i.e. unexpected event). Participants also noted that PT is a painful event being experienced.

Reaction to psychological trauma: Participants indicated that PT can also be defined by explaining the reaction to it. Participants indicated that PT can be explained as your mind being disturbed. For example, a participant explained when something painful happens such as your child getting sick or dying you will get disturbed because you didn't expect it to happen. Participants mentioned that a typical reaction to PT is shock. Participants further explained that PT affects one's behaviour in an irrational way and will cause you to act outside your normal functioning such as to cause an accident. Participants noted that PT has an emotional effect on them by explaining that it is very sad or hurtful to see something traumatic happen.

Next, the findings of the second question of the focus group will be reported.

Category 2: Traumatic events experienced at the mine

The findings in category 2 were obtained by asking the participants what traumatic events had been experienced within their working environments. It was evident that participants recognised various traumatic events that had taken place in the mine. Table 3 provides an overview from the perspective of the participants.

Table 3

Traumatic events that take place at the mine

Theme	Sub-theme	Response
Seismic activity	Shaking ground	"...shaking of the earth."
		"Shaking when you are working..."
	Sound	"...Sound is causing trauma."
		"...The sound is so huge it is like a bomb happening in front of you."
	Disorientated	"...shaking of the ground. I Don't know where I am standing"
		"...you don't know where to go you become dizzy and it becomes dark in there."
	Uncertainty	"You don't know where it is happening, it is just a big sound, and you don't know where it is coming from..."
		"...You are not sure where you are standing whether you are safe or you are not."
	Rock-fall	"When the rock falls you get scared."
Methane gas	Uncertainty	"... When seismic happens the rocks fall unexpected."
		"... You don't know whether you are going to survive."
Trapped cage	Uncertainty	"... We can't say what causes the gas."
		"...don't know what is going on in the drums."
	Strange movement of cage	"We don't know if we are going down forever."
		"It will go down but it is supposed to go up."
	Disorientated	"Going up, then going down immediately..."
		"You lose focus, when you go, you don't know where you are going"

Table 3 indicates themes of traumatic events, sub-themes and the original responses from the participants. The traumatic events that take place in the work environment from the viewpoint of the participants are *seismic activity*, *methane gas*, and *trapped cage* events.

Seismic activity: Participants perceive a seismic activity as a traumatic event. A seismic activity can be explained as the sudden shaking of the ground. The sound of the seismic activity can be traumatising to exposed employees. When the seismic activity occurs participants mentioned that they did not know where the activity was happening, it became dark underground and they only heard a big sound. Participants further mentioned that when the seismic activity occurs rocks fall and they become disorientated.

Methane gas: Participants mentioned that the event where methane gas is exposed in the air is traumatising. Participants further mentioned that they do not know how the gas is released.

Trapped cage: Another traumatic event as mentioned by participants is the trapping of the cage. When employees are done working underground they get into the cage to get above ground. At times it happens that the cage is moving up and suddenly it drops back down. Participants mentioned that the movement of the cage suddenly going down when it is supposed to go up is traumatic. When the cage is going down, participants mentioned that they felt disorientated and did not know what had gone wrong with the cage.

Next, the findings related to symptoms experienced after a traumatic event are given

Category 3: Symptoms experienced after a traumatic event

The themes in Table 4 emerged from asking participants what symptoms they experienced after the exposure to a traumatic event. The majority of the participants understood the definition of symptoms and provided examples to explain the symptoms they experienced after a traumatic event.

Table 4

Symptoms experienced after a traumatic event

Theme	Sub-theme	Response
Psychological response	Mentally disturbed	<i>"It disturbs your mind."</i> <i>"Your mind is preoccupied with the event, and you are not productive."</i>
	Recurring memories	<i>"...every time you get passed that area, or you go to that area, it will always come back."</i> <i>"...I don't know what happened today when I was sleeping, I was telling my colleague next to me, you know I saw that thing again today."</i>
	Worried	<i>"I mean if it was me, what would happen to my family."</i> <i>"...I mean who is next here, if it happens again who is next, am I the one next, so it becomes very emotional."</i>
	Scared	<i>"...It scares all of us underground."</i> <i>"Shaking of the earth becomes very scary."</i>
	Avoidance	<i>"... You wouldn't want to come here again. "</i> <i>"So I'd rather be safe at home, than come here again and die."</i>
Physical reaction	Struggle to walk	<i>"Struggle to walk home."</i> <i>"You can't walk, someone must help you walk."</i>
	Sleeplessness	<i>"At night you don't sleep, it happened for about a week."</i> <i>"...you don't sleep and what might happen is when you don't sleep and go to work you might get injured again."</i>
Behavioural reaction	Intention to quit	<i>"Usually if events like that happen, you always think about resigning."</i> <i>"... I mean it comes to mind, am I working at the right place. "</i>
	Accidents	<i>"Threat in your thinking and this contributes to causing an accident by getting injured or injure other."</i> <i>"It is easy to get injured again of the trauma you experienced because it is the only thing you are thinking, you are not looking at the hazards that are there"</i>

Table 4 explains the symptoms as the participants of the study experienced them. Participants were asked to explain what symptoms they experienced within themselves either during or after the traumatic event had taken place. The main symptoms participants experienced included *psychological reaction*, *physical response* and *behavioural reaction*. Below is a description of the various themes related to the symptoms experienced by the participants.

Psychological reaction: Participants mentioned that the traumatic event caused their minds to be disturbed. They also indicated that when they went back to the area where the accident had taken place the experience of the event emerged again. The traumatic event further caused the participants to think about themselves and their own lives. Participants mentioned that they thought about their families and what would happen to them if they got injured or died. Participants further noted that being exposed to a traumatic event elicited feelings of being scared and worried. Furthermore, not only did participants experience feelings of fear and concern, they also expressed the intention to avoid or returning to their workplace.

Physical reaction: Participants indicated that then they were exposed to a traumatic event, they experienced a physical reaction. Participants mentioned that when an accident happened which was traumatic, their whole body shook and they struggled to walk. Furthermore, participants mentioned that after a traumatic incident it was difficult to sleep because one's mind is preoccupied with the event.

Behavioural reaction: When a traumatic event occurs the participants experience a behavioural reaction towards the event. The majority of the participants stated that being exposed to a traumatic event caused them to question their employment at the organisation. Furthermore, participants indicated that after the traumatic event their minds were preoccupied with the occurrence and they feared that they might cause another accident or that they might hurt someone else. Participants also explained that when their minds were preoccupied they acted disrespectfully and with frustration towards supervisors.

Next the findings regarding category 4 are presented. Table 4 illustrates the symptoms experienced after a traumatic event from the perspective of the participants. It is evident from Table 4 that there are psychological and physical symptoms that are experienced during and after the exposure to a traumatic event.

Category 4: Support received after a traumatic event

Apart from the symptoms experienced during and after a traumatic event, the participants were also asked to explain the support they had received. In table 5 the most descriptive responses from the participants were included to substantiate the findings.

Table 5

Support received after a traumatic event

Theme	Sub-theme	Response
Lack of supervisory support	Lack of empathy	"... there was a fatal there, and the supervisor says go there tomorrow and fix 1 2 and 3."
		"If we had a fatal today, the following day our supervisors will give us the instruction to go to the same place we had the fatal. "
	Production focused	"...clocking late doesn't matter but clocking out early and going out matters most to them."
		"...they want you now to continue with work."
	Lack of involvement	"...We will not see supervisors."
		"I die, if I'm going to get buried on Saturday, Friday everyone will be there but you won't see one supervisor."
	Lack of equality	"Shift bosses will go with private cars while workers are driving in bus."
		"We will be sleeping there Friday singing, while the supervisors arrive there on Saturday in their nice suits and slept well in hotel."
Lack of organisational support	Inefficient time spent on counselling	"We are forced to go back to same place of incident without proper counselling process..."
Organisational support	Support from social worker	"Social worker came in and tried to harmonise us. She is the only support. "
		"She has been helping this crew, to become normal again."
Lack of family support	Lack of empathy	"...you get the response: Why are you still there?"
		"It is not easy to tell someone from home because it will cause a lot of confusion at home."

Table 5 indicates the themes, sub-themes and original responses that were extracted by asking participants to explain the support they had received after a traumatic event. According to the participants they received supervisory, organisational and family support, although some of the participants indicated that inadequate support was received from the organisation and their supervisors. Below a breakdown is given of themes and sub-themes reported in Table 5.

Lack of supervisory support: This refers to the support individuals received from their supervisors. In this context, supervisors are viewed as shift bosses. Team leaders are viewed as part of the crew. Participants explained that the support they received from supervisors was limited, for example to attend a funeral. They explained that there was a lack of empathy, involvement and equality from supervisors. Participants further mentioned that supervisors were production-focused and did not consider the well-being of employees for example not visiting an injured crew member in hospital.

Lack of organisational support: Participants explained that the support received from the organisation was insufficient specifically with regards to counselling. One crew member explained, for example, that after a traumatic event the crew was sent to a waiting area. At the waiting area, limited support or counselling was provided to the affected crew. Most of the time spent in the waiting area was just to sit and look at each other.

Organisational support: Participants stated that the only organisational support they received was from the social worker. Participants indicated that the social worker facilitated the process of returning to normal functioning and group cohesion.

Lack of family support: Participants stated that they withheld information from their families due to the fact that they did not understand. One crew member mentioned for example that he was in hospital for three months without telling his wife back home. She did not live with him at the mine. Participants further explained that their families would question why they were still working at the mine but not understand that they had to provide for the family.

Discussion

Outline of the findings

The main objective of the study was to explore the meaning, symptoms, and perceived support of PT in a mining organisation from the perspective of the employees. From the results, it is apparent that mine workers are familiar with the term PT and are faced with various traumatic events. The participants had similar opinions regarding the symptoms they experienced as well as the support they received after a traumatic event. Participants also made recommendations concerning the provision of support following a traumatic event.

The *first objective* of the study was to conceptualise PT according to literature. Various definitions have been recommended to describe PT (Reyes et al., 2008) in various contexts therefore, to concretely define PT might be challenging (Levers, 2012). As Glanville (2012) explains PT can be defined as wounding an individual mentally or physically. It is evident that PT is caused by external factors or events that evoke intense emotions within an individual. These events cause the individual to experience turbulence with daily functioning as well as to

cope with daily stressors. The experience of PT keeps the individual's thoughts and emotions occupied with the specific event. A common characteristic of PT is exposure to uncontrollable, terrifying, overwhelming life events (Myers, Perrine, Lancman, Fleming & Lancman, 2013). Traumatic events include severe physical trauma, or being a witness during a traumatic event (Reyes et al., 2008). According to Levers (2012) the exposure to a traumatic event causes individuals to struggle with daily functioning. PT can cause both mental and physical reactions after a traumatic event and may result in unstable or rapidly changing behaviour (Shalev, 2001).

From the results, two themes emerged concerning this objective, namely the *cause of psychological trauma* and *reaction to psychological trauma*. Most of the participants reported that when PT is conceptualised, the *cause of psychological trauma* comes to mind. The cause of PT, as stipulated by the participants, was the traumatic event itself. This concurs with D'Andrea, Sharma, Zelechowski, and Spinazzola (2011) who state that PT refers to the actual events themselves rather than their potential consequences. Participants reported that PT was the exposure to an unexpected event i.e. seismic activity and methane gas that inflicted disruptive emotions within. Jaffe et al. (2005) substantiate the previous-mentioned by explaining that PT includes the following elements (a) the event is unexpected, (b) the individual was not prepared for the event, and (c) the individual could not do anything to prevent the event from occurring. Furthermore, the authors explain that the traumatic event causes emotional pain to individuals, even if the event does not cause physical harm. The participants in this study are mineworkers working underground work in one of the most dangerous occupational settings (Li, 2013; Dumakude, 2012) and it is understandable why they would equate PT to the terrifying events they are exposed to on a daily basis

The second theme that was found was the *reaction to psychological trauma*. Participants reported that PT can be defined by means of the reactions to PT. The majority of participants stated that according to their understanding PT can be defined as your mind being disturbed. This is in accordance with Walter, Leißner, Jerg-Bretzke, Hraball, and Traue (2010) who state that traumatic events cause individuals to experience disruptive somatic (bodily) and mental functions. Poor psychological outcomes (Martin, Cromer, DePrince & Freyd, 2011) are also associated with exposure to critical incidents. Underground mineworkers are frequently exposed to traumatic events (Hermanus, 2007) where serious injuries and fatalities are often a reality (Groves, Kecojevic & Komljenovic, 2007). It is thus understandable that mineworkers would associate the definition of PT with the very real consequences it proved to have in their

dangerous subterranean work setting. A mental or bodily reaction following a traumatic incident underground is thus to be expected. With regards to somatic functions, participants indicated that PT can be defined as being exposed to an event where you want to run away or you do awkward things. Participants further indicate that to define PT is to explain that PT affects emotions and causes pain. This is in accordance with literature which states that PT represents events that are emotionally shocking or horrifying, which threaten or allow the affected individual to cause psychological and physical trauma to oneself or others (Reyes et al., 2008).

In literature, a distinction is made between a single traumatic event and cumulative traumatic events (Martin et al., 2011). Cumulative traumatic events refer to events that occur repeatedly and cumulatively over a period of time within a specific relationship or context (Courtois, 2004). It is evident that the mining industry is characterised as being a dangerous and hazardous working environment (Donoghue, 2004). Li (2013) further states that the mining industry is a high-risk occupation with an increasing number of traumatic events. In the findings, it is noted that participants defined PT by referring to a single event that happened even though the participants are constantly exposed to traumatic events. Hence, the definition and effects of cumulative traumatic events are omitted.

From the analysis it became evident that the view relating to the meaning of PT is generalised. The majority of the participants agreed that PT can be defined by explaining the causes and reaction to the traumatic event. This concurs with Shalev (2010) who states that according to the DSM IV, psychologically traumatic events include an element of threat, for example a terrifying event, injury or death and a typical response for example intense fear, horror or emotions.

The *second objective* is to ascertain what types of traumatic events are experienced by employees in a mining organisation. In order to explore this objective, participants were asked to explain what types of traumatic events they had experienced at the mining organisation. From the results, three themes emerged, namely *seismic activity*, *methane gas*, and *trapped cage*.

Participants reported that seismic activities were the most terrifying events that occurred underground. A seismic activity can be defined as the sudden release of potential or stored

energy in rocks (Larsson, 2004). The author further explains that the released energy takes the form of seismic waves. These waves cause earthquakes, rock-bursts and rock falls (Larsson, 2004). Another important finding by Koldas (2001) is that 72% of events are caused by seismic activity. Participants mentioned that during a seismic activity the ground shakes. This statement can be substantiated by Koldas (2001) who explains that during a seismic activity, the whole area shakes and rocks become loose and fall unexpectedly. Participants further mentioned that during a seismic event there is an ear-piercing sound that causes trauma. This concurs with Paul and Maiti (2005) who state that underground workers are exposed to various physical hazards such as heat and humidity, heavy noise and vibration, poor illumination, and airborne dust. Hermanus (2007) further substantiates this finding by stating that dust and noise are innately associated with underground events. Literature reveals that controlling noise has proven difficult in mining and noise-induced hearing loss remains common (Donoghue, 2004). Participants reported that an event is traumatic when the rocks fall. According to Li (2013) fall of rocks is regarded as the most common cause of traumatic accidents. Webber-Young and Van Wyk (2013) state that fall of ground/rocks is still the leading cause of fatalities in mining organisations.

Another traumatic event that occurs as mentioned by participants is the exposure to methane gas. Hermanus (2007) states that blasting as well as mining itself releases harmful gases in the working environment. The finding concurs with Donoghue (2004) who states that coal dust and methane gas explosions are regarded as a traumatic event and remain a significant problem.

Participants mentioned that being trapped in the mining cage is regarded as a traumatic event. Webber-Youngman and van Wyk (2006) support this finding by stating that transport is the second highest risk for fatalities and traumatic injuries. This statement also corresponds with Rupprecht (2011) who states that transportation contributes 26% of all accidents which entails shafts, haulage and in-stop transportation.

From the analysis, it was evident that the views regarding the types of traumatic events that occur are generalised across all the participants. Statements that were evident through all the themes were that participants mentioned during a traumatic event they do not know what is going on, and participants reported that they did not know where they were going. This is characterised by uncertainty and disorientation and the researcher did not find any supporting literature in this regard.

The third objective of the research was to establish what symptoms of PT are experienced by employees in a mining organisation following a traumatic event. From the analysis, themes that emerged were *psychological reaction*, *physical reaction* and *behavioural reaction*. These findings can be substantiated by Carlson and Dalenburg (2000) who state that responses to trauma include cognitive, affective, behavioural, and physiological modes of experience.

Participants explained that the experience of a traumatic event causes psychological reactions. Echeburúa et al. (2003) substantiate this statement by affirming that exposure to a traumatic event constitutes alterations in normal psychological functioning. Participants mentioned that after a traumatic event they were mentally disturbed (disturbed in the mind). The finding is supported by Glanville (2012) who states that cognitively the exposure to a traumatic event may result in disorganised thinking. Kaberia (2011) elaborates by explaining that individuals experience disturbing mental images about the traumatic event. Li (2013) concurs with the above-mentioned by stating that the occurrence of a traumatic event could negatively impact on mining employees' psychosocial well-being. Participants also mentioned that recurring memories were experienced after a traumatic event. This finding can be substantiated through research conducted by Kaberia (2011) who explains that traumatic events target the brain. The author further explains that when threatened the amygdala located in the emotional brain sends messages to the instinctual brain. During the traumatic event memories are stored in the emotional brain and this is the reason why later on the presence of such events or returning to traumatic place activates memories (Briere, 2013; Kaberia, 2014). Re-experiencing is common and takes various forms such as flashbacks, nightmares, intrusive images and distress (APA, 2013; Kindt & Engelhard, 2005). Participants further explained that after a traumatic event they experienced worry. This concurs with Levin (2001) who found that a symptom of PT is worrying or ruminating. Bell and Ross (2014) further supports this finding by stating that worry is a common manifestation after a traumatic event. Participants mentioned that during a traumatic event they were scared. The statement agrees with Echeburúa et al. (2003) who explain that being exposed to a traumatic event generates emotions of fear and helplessness which threaten individuals' physical or psychological well-being. This finding can further be substantiated by Levin (2001) who states that fear is a common emotional reaction to trauma. Terblanche and van Wyk (2014) similarly found that traumatic events have negative emotional outcomes for exposed individuals.

Participants reported that after a traumatic event they attempted to avoid the area where the traumatic event occurred. The statement can be substantiated by Rassool (2007) who states that a traumatic event causes individuals to be externally overwhelmed. The finding concurs with Terblanche and van Wyk (2014) who state that individuals display behavioural avoidance which includes avoiding situations, places or other people associated with the traumatic event. De Jong (2011) also supports the above-mentioned by explaining that the experience of a traumatic event causes individuals to avoid trauma-related thoughts and memories, avoid physical trauma reminders, attempts to forget aspects of trauma and shutting down or emotional numbing.

Another symptom that participants mentioned was physical reactions following exposure to a critical event. A study conducted by Carlson and Dalenburg (2000) supports this finding by reporting that the experience of PT induces reactions such as sleeplessness, difficulty concentrating and being exaggeratedly startled. Relatedly, Jaffe et al. (2005) found that PT causes sleep disturbances. Participants also mentioned that after a traumatic event they struggled to walk. This could be a result of shock. Kowalski-Trakofler and Vaught (2012) report that during a distressed situation individuals may experience shock, increased body temperature, increased blood pressure and higher respiratory rates.

The last theme that emerged from the results was behavioural reaction in the form of intention to quit from participants and causing accidents. This finding can be substantiated by D'Andrea (2011) who reports that the exposure to a traumatic event may lead to behavioural responses. Carlson and Dalenburg (2000) further elaborate that behavioural re-experiencing symptoms is evident after a traumatic event. These authors explain that these symptoms are behaviours reflecting the fight or flight response such as agitation, increased activity, defensive or aggressive behaviour. Literature additionally reveals that individuals also might experience reckless or self-destructive behaviour (Greenberg et al., 2015). The above-mentioned is in relation with the research results, where participants reported that after a traumatic event you might harm yourself or others.

From the analysis, it became evident that participants could clearly define and explain the symptoms they experienced after a traumatic event. An important aspect to consider that is continuously evident in literature is that there are various risk factors that contribute to the experience of a traumatic event (De Jong, 2011). Van Dyk and Van Dyk (2010) concur with

the statement by explaining that the more risk factors that are present, the more likely is the individual to be vulnerable to trauma and the development of PTSD. Eagle and Kaminer (2015) add that risk factors include pre-trauma, aspects of the traumatic event, and post-trauma factors.

Additionally, literature reveals that having experienced PT is considered to be a threshold for developing Acute Stress Disorder and Post Traumatic Stress Disorder (Backholm, 2012). According to the DSM 5 – Diagnostic Criteria the diagnosis for PTSD includes (a) exposure to a traumatic event, (b) experiencing repeated or extreme traumatic events, (c) avoidance of trauma or numbing, (d) alterations in cognition such as negative emotions or distorted thoughts, (e) alterations in arousal and reactivity such as reckless behaviour or hypervigilance (Greenberg et al., 2015). Added to this, the authors state that to make a PTSD diagnosis, the symptoms have to continue for more than one month and be associated with significant functional impairment. It is evident that more of the aforementioned symptoms are evident in the results discussed. However, the diagnosis for PTSD cannot be made due to a lack of evidence as well as there being no evidence to support the idea that the symptoms continued for more than a month.

The final objective of the study was to determine how employees in a mining organisation perceive the support given after the exposure to a traumatic event. McFarlane and Bryant (2007) state that social support after a traumatic event impacts on the recovery or distress of affected individuals. Sayed et al. (2015) further elaborate by explaining that post-traumatic factors are long-term responses to trauma which include social support and life circumstances. The research findings indicate that participants perceive that there is a *lack of supervisory support*, *lack of organisational support*, and *lack of family support*. Additionally, findings indicate that participants did perceive that there is a degree of *organisational support* after the exposure to a traumatic event.

The lack of supervisory support was the most prominent feature mentioned by participants. Paul and Maiti (2005) defines supervisory support as the consideration by supervisors for their subordinates. Lewis, Goodman and Fandt (2001) claim that participative management fosters a supportive environment. Jansen and Brent (2005) further elaborate by stating that employees will be more satisfied if they perceive that their supervisors are supportive. From the responses provided by participants, it seems that there is a lack of supervisory support. When a member of an underground crew is seriously or fatally injured, it is possible that the team will be

adversely affected emotionally and behaviourally. It is understandable that crew members would like supervisors to be with them during that traumatic period, showing solidarity, instead of keeping a distance. Myer, Stein, Grimsrud, Seedat and Williams (2008) found a positive relationship between high levels of psychological distress among individuals who received low levels of support. Young, Koortzen, Oosthuizen (2015) support this finding by stating that a lack of support from management after a traumatic event creates a sense of abandonment, helplessness and aggression towards the organisation. Robinaugh et al. (2011) strengthen these statements by explaining that poor perceptions of social support and negative thoughts may hinder the recovery from post-trauma distress. Participants reported that there was a lack of empathy and involvement that they experienced after a traumatic event from supervisors. Sayed et al. (2015) and Yoshimura (2003) claim that the presence of active listening, feedback, participation, compassion, and addressing and acknowledging concerns contributes to a sense of social support. The author further explains that emotional strength after a traumatic event derives from a social network. In the findings, participants also mentioned there was a lack of equality in terms of how they as a crew and supervisors gave support after exposure to a traumatic event. Jansen and Brent (2005) provide evidence that being treated fairly in the organisation creates a sense of support. Kubuga (2014) strengthens this statement by explaining that there are three general forms of perceived organisational support (a) fairness of treatment, (b) supervisor support, and (c) rewards and work conditions. Ozer, Best, Lipsey and Weiss (2003) and Charney (2014) explain that the lack of support from supervisors after a traumatic event may increase the risk to develop PTSD.

Participants also reported that there was a lack of organisational support after a traumatic event. Kubuga (2014) describes organisational support as policies and practices in the Human Resource Department such as career development opportunities, training and development, work-family support, available resources, incentives and rewards. Participants mentioned that inefficient time was spent on counselling after a traumatic event. It takes time to recover following exposure to a critical incident (De Fraia, 2016; Terblanche & van Wyk, 2014) and it is understandable that traumatised mineworkers might need more time to process what has happened, and where to go from here, by utilising appropriate professional services over time. Research illustrates that organisations continue to use debriefing and Critical Stress Management even though it has been shown to have no value for employees (McFarlane & Bryant, 2007). Burke (2008) highlights that educational and counselling support is critical to ensure recovery efforts after a traumatic event. Participants mentioned the only support they

received was from the social worker who assisted them after exposure to a traumatic event. This constitutes a resource provided by the organisation. Rhoades and Eisenberger (2002) provide evidence that positively perceived organisational support resulted in an increase of job satisfaction, organisational commitment and productivity.

The last theme that participants reported was that they experienced a lack of family support after a traumatic event. Olumbunmi and Dogbahgeen (2013) strengthen the above-mentioned by stating that the lack of family support increases the levels of distress and influences the individual's psychological well-being. Halligan and Yehuda (2000) concur with the finding by stating that family insecurity is associated with an increase in trauma symptoms and development of PTSD. Being constantly exposed to hazardous events, participants mentioned that they struggled to articulate to family members if an event occurs. The reason, according to the participants, is due to a lack of understanding and support from family members. Bell and Ross (2014) claim that the consequences of a traumatic event may have a residual effect on immediate family members. Mineworkers in South Africa are often referred to as migrant labour and often do not stay with their families (Curtis, 2009). A possible reason why family members don't understand what the traumatised underground mineworker is going through, and how to support him/her is that they are geographically far removed from the affected employee. This distance relationship might prove to be an obstacle to effective communication and cause additional stress, which the underground mineworker might choose to avoid altogether. Echeburúa et al. (2003) support the statement by stipulating that trauma not only influences the direct individual but also the family circle. It is apparent that little research has been conducted regarding trauma and family support within the mining industry. Nonetheless, present literature reveals that perceived family support mediates traumatic events and psychological consequences (Miller, 2011).

From the analysis, it became evident that there is a lack of support after a traumatic event. Kowalski- Trakofler and Vaught (2012) substantiate this statement through claiming that the behavioural needs, specifically support from the mine pre-, during, and post-event are not being addressed adequately. Bryson and Phillips (2006) explain that individuals have a need to feel safe, supported and able to talk to others. It is apparent, based upon the research findings, that there is a lack of overall support from the organisation as well as immediate family. Additionally, there is a gap in literature pertaining to PT and social support specifically within the mining industry.

Practical implications

From the research findings, the following practical implications can be made. Based upon the results, it is evident that supervisors and management within the mining industry should become more aware of the impact of PT on employees' functioning and well-being. Even more so, supervisors should be more attentive to the support provided to employees who have been exposed to a traumatic event. The participants reported that there was a lack of support, hence the organisation needs to address this issue by providing proper support and counselling to employees after a traumatic event.

Limitations and recommendations

A possible limitation of this study was that the sample was small. This was, however, a qualitative study and the aim was to explore themes and sub-themes related to the definition, symptoms and perceived support of PT in a mining organisation and not to generalise the results. The themes and sub-themes were extracted until data saturation occurred. A further limitation was that the sample consisted entirely of African males. The sample composition was, however, congruent with that of most crews working underground.

Language was a limitation in the study since the focus group questions were posed in English whereas most participants were not fluent in that language. The researcher circumvented the language barrier by making use of an interpreter. Transcribing verbatim responses of participants who preferred to participate in an African language was made possible by employing the services of a certified language translator and editor.

Another limitation of this study was that it focussed on underground mineworkers. Mine-related trauma is, however, mostly experienced by employees working underground and the researcher considered it wise to include underground mineworkers in this study.

Recommendations for future research

The following recommendations can be made for future research. As previously mentioned, the sample consisted of African males. It is recommended that future studies could include underground mineworkers from other races as well as females.

Within the findings it became evident that there is a gap in literature regarding PT and perceived levels of support. This relationship can be explored more in-depth to help researchers gain more understanding and knowledge of PT and perceived support individuals receive. Most of the support that participants mentioned was negative in nature. Therefore, researchers can expand PT and perceived support literature by investigating both negative and positive aspects of perceived support on employees in the mining industry. Furthermore, future research can be conducted regarding the lack of support employees receive and the influence on productivity. Participants reported that they also experienced a lack of support from family members. Another recommendation is therefore to investigate the impact of family support on employee functioning.

There are various variables as mentioned before, during, and post-traumatic events. Participants were not asked to identify factors before, during and after a traumatic event. Therefore, future research can explore in-depth how before, during, and post-trauma factors influence employees' wellbeing in the mining industry.

Another recommendation for future research is to also include mine employees who might experience PT but who may not necessarily work underground on a daily basis. Such employees could include, for example, safety officers, human resource officials, training officers and plant coordinators.

As mentioned, the present study was conducted at one mining organisation. Future research can include more and a wider variety of mining organisations to facilitate generalisation toward the mining industry at large.

Recommendations for practice

Individuals will benefit from this study by receiving effective support from management, in the form of possible updated policies, procedures or systems that will reduce the aftermath related to a traumatic event. Individuals will also have a better understanding of PT, what symptoms they experience, and how support is received after a traumatic event.

The research will contribute to the mining organisation by assisting management to understand what meaning mining employees attribute to PT. Mine management will also be sensitised to the types of events mining employees regard as traumatising. The support rendered to mining employees, of which organisational support is one aspect, following exposure to a work-related traumatic incident, will also be unpacked from the perspective of the mining employee. This will enable the mining organisation to gain a better understanding of employees' lived experiences regarding PT and assist the organisation in implementing systems to help these employees function more effectively and address their needs after exposure to traumatic events. The systems implemented can help sustain productivity which will result in financial success as well as contribute to the economy.

Conclusion

In closing chapter two, the following conclusions can be made. The results of the present research indicate that participants have a clear understanding of the meaning of PT, specifically within their working environment. In the results it was stated that PT can be described as an event that mentally disturbs them. During the present study, it became evident that there are various traumatic events that occur in a mining organisation. It was clear that individuals experienced various symptoms of PT after being exposed to a traumatic event. The results made it evident that individuals experienced psychological, physical and behavioural reactions after a traumatic event. The findings indicated that the support participants received after a traumatic event was negative in nature. Participants mentioned that they did not receive adequate support from the organisation, from supervisors as well as family members. Besides the lack of support as explained by participants, it was evident that there was some degree of support provided by the organisation. It was found that participants received support from the social worker.

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CHAPTER 3

Conclusion, limitations and recommendations

This chapter includes the conclusions according to the general and specific objectives of the study. Furthermore, the limitations of the research are discussed, followed by making recommendations for future research.

3.1 Conclusion

Given the lack of knowledge regarding psychological trauma specifically within the South African mining industry, the objective of the research was to explore the meaning, symptoms and perceived support of PT from the perspective of the employees specifically in the mining industry.

The first objective of the research was to conceptualise the meaning, symptoms and perceived support of PT according to the available literature. The definition of PT can be conceptualised as a physical or psychological threat to an individual's physical integrity, sense of self or safety (Moroz, 2005). Individuals might develop long-term problems as a result of the traumatic experience (Follette, Palm & Pearson, 2006). Furthermore, individuals whose trauma symptoms persist, exhibit behaviour in response to aversive internal experiences (Follette et al., 2006). From the participants in the study, psychological trauma was associated with causes of psychological trauma and reactions to psychological trauma. This is in accordance with Hovden, Albrechtsen and Herrera (2010) who describe a traumatic event as a hazard that becomes unexpectedly visible in a sudden event with adverse consequences. Glanville (2012) also substantiates the research findings by stating that individuals experience various reactions to PT, including physical, emotional and mental reactions.

The second objective of the research was to determine what type of traumatic events occur within the mining organisation. From the analysis, it became evident that employees experience various traumatic events which include seismic activity, methane gas, and trapped cages. Donoghue (2004) supports these findings by stating that traumatic injuries or accidents in the mining industry remain a significant issue and range from minor to fatal accidents. Participants reported that a seismic activity is the most frequent traumatic event that occurs underground.

The third objective was related to understanding what symptoms employees experience after a traumatic event. Participants reported that symptoms they experienced included psychological reactions, physical reactions and behavioural reactions. Psychological reactions are in accordance with De Fraia (2016) who states that anxiety, fear, sadness and detachment are psychological symptoms which influence cognitive functioning. Bombay, Matheson, and Anisman (2009) concur with the findings by stating that traumatic events cause individuals to experience both psychological and physical symptoms after a traumatic event. In the findings, participants reported that after a traumatic event they might cause another accident. The statement concurs with Kowalski-Trakofler and Vaught (2012) who state that the impact on a traumatic event influences the individual's performance and productivity.

The fourth objective of the research was to determine the perceived support employees receive after exposure to a traumatic event. Participants reported that they experienced a lack of organisational, supervisory and family support. Nonetheless, there was evidence that participants experienced some degree of organisational support. Kawachi and Berkman (2001) highlight the importance of social support after the exposure to a traumatic event. Brewin, Andrews and Valentine (2000) and Ozer, Best, Lipsey and Weiss (2003) further elaborate that a lack of social support after a traumatic event is a risk factor to developing PTSD. Additionally, participants mentioned that they receive support from the social worker at the organisation. Danish, Ramzan and Ahmad (2013) highlight this finding by stating that a facilitative and supporting work environment increases commitment and productivity.

3.2 Limitations

The first limitation of the study was that the sample was small. Nonetheless, the research was qualitative in nature and the primary focus was to explore the meaning, symptoms, and perceived support from the perspective of the employees and not to generalise the results. Another limitation was that the sample consisted entirely of African males. The sample composition was, however, congruent with that of most crews working underground.

During the data collection, the focus group questions were stated in English. The language barrier between the researcher and the participants was another limitation, since most of the participants were not fluent in the English language. The researcher remedied the language

barrier by making use of an interpreter during the focus group. Transcribing verbatim responses of participants who preferred to participate in an African language was made possible by employing the services of a certified language translator and editor. Another limitation of this study was that it focussed on underground mineworkers. Mine-related trauma is however mostly experienced by employees working underground and the researcher considered it wise to only include underground mineworkers in this study.

3.3 Recommendations

3.3.1 Recommendations for future research

A recommendation for future research is to investigate a larger population within the mining industry. Another recommendation is to not only include underground mineworkers but investigate various employees' experience of PT within the mining industry.

Future research could also focus not only on the experience of PT but the before, during and post-risk factors of PT can be investigated. Given the diversity of the participants in terms of their various home languages, future research can investigate the impact of PT on various culture groups. Literature revealed limited research regarding perceived support and PT and more specifically within the mining industry. Future research can explore the above-mentioned more in-depth to determine what impact it might have on the affected individual as well as the organisation. Participants reported that they experienced a lack of support from family members. Another recommendation is to investigate the impact of family support on the functioning of the affected individual.

3.3.2 Recommendations for practice

Regardless of the limitations as mentioned above, the research findings have important implications for the mining industry. The proposed recommendations stemmed from the final theme extracted from the data. From the findings, it is evident that support is the most vital factor for employees to cope with the aftermath of a traumatic event.

The following recommendations can be made based upon the statements from the participants with regards to perceived support. Participants mentioned that supervisors need to be trained to adequately handle employees after a traumatic event. Participants reported that supervisors did not have the necessary knowledge to effectively support employees after exposure to a traumatic event. It is understandable that supervisors focus on production – given that the mine is one of the leading industries in the South African economy – however, by providing adequate support to employees will increase commitment and engagement levels of employees as mentioned by Danish (2013). Currently, mining organisations utilise the COPE programme as well as debriefing. The present study provides insight for the organisation on the effectiveness of the current systems they are employing to address traumatic events. Maiden and Terblanche (2006) state that supervisors are trained to recognise symptoms after the exposure of a traumatic event. However, findings illustrate that there is a lack of knowledge regarding PT and the impact thereof from supervisors. A recommendation is to educate supervisors regarding PT and the symptoms employees might experience.

Participants mentioned that the only support they received was from the social worker. A recommendation might be to expand the support provided to employees - not only support from the social worker, but fostering support across the board, including, managers, supervisors and colleagues. Another recommendation is to use internal or external support systems such as EAP programs to assist exposed employees with the aftermath of a traumatic event.

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ADDENDUM A:



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18 August 2016

To whom this may concern

REQUEST TO CONDUCT RESEARCH

This letter aims to provide motivation to conduct research at your reputable organisation. The general objective is to explore the meaning, symptoms and perceived support of psychological trauma at a mining organisation. The study will richly describe the meaning of psychological trauma as conceptualised by employees at a mining organisation. Furthermore, the study will explore what types of traumatic events and symptoms employees' experience as well as support given to employees following exposure to a traumatic event from the view point of the employees.

Firstly, ethical clearance from the North-West University was obtained to conduct the research. This study forms part of a larger project with the following ethical clearance number: NWU-00084-10-S4. The sample participants of the research will consist out of the following criteria: Participants must be underground mine workers and be able to understand and speak English. These criteria will ensure that mining employees who are frequently exposed to traumatic events are included in the study and will be able to comprehend the interview questions. The focus group questions will entail a series of open ended questions based upon the research questions. The aim is not to cause inconvenience or disruption of production. For this reason a **one hour focus group with 5-8 members** might be held at a time and date convenient to the parties concerned.

During the data collection process the following ethical guidelines will be applied:

- Participation is voluntary and no harm will be done to participants
- Establish trust with participants
- Explain the purpose of the focus group and with consent the focus group will be recorded
- Personal information is confidential

- Psychological debriefing for participants will be arranged after the focus group should a group member be in need of such a service
- Information gathered will be processed correctly and objectively
- The research process will correspond with the appropriate legislation

I will be honoured to obtain permission to conduct my research at your organisation.

Be assured that should the research be published in a scientific journal, no identifiable information will be divulged to identify participants.

Please do not hesitate to contact me should you have any questions related to this request.

Kind Regards



Mariole Oosthuizen

Researcher



Mr Bouwer Jonker (Supervisor)

084 512 1764

Dr Lizelle Brink (Co-supervisor)

ADDENDUM B:

INFORMED CONSENT FORM: RESEARCH PROJECT

Purpose of the research:

The purpose of the research project is to explore the meaning, symptoms, and perceived support of psychological trauma at a mining organisation. You are invited to participate in the project.

What will the process involve?

1. A group discussion will be conducted with relevant participants that agreed to the project.
2. Participation is voluntary and you will not be forced to participate in the project.
3. You may withdraw from the project and request that your data is not used, without disclosing reason.
4. By giving consent to participate in the research, you grant permission to the use of a voice recorder during the group discussion.
5. By giving consent to participate in the research, you grant permission that the data gained will be used accordingly
6. The information shared in the group discussion will be kept confidential between myself as researcher and my project supervisors.
7. Your identity will be kept anonymous throughout the entire research project.
8. You may ask any questions of uncertainty or the project itself, to myself as researcher or my project supervisors.

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

I.....agree to participate, as a participant in the research process.

Participant's signature_____ Date:_____

Research supervisors:

Mr B. Jonker

Dr L. Brink

Researcher:

M. Oosthuizen