

# Impact of Psychological Health on the Culture of Safety at Work: Study Conducted at MMG / Kinsevere / DRC

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**Abstract:** *This study aims to examine the impact of psychological health on the safety culture at work within the company Mining Mineral General / Kinsevere in the DRC, during the period from 2017 to 2020. It is based on data collected by the questionnaire, which we sent to the agents in the workshops. The processing of these data was carried out using the Karl Pearson chi-square test. The main results of this research inform that, self-esteem or self-esteem, fulfillment, life balance and stress levels are the indices of psychological health that allow employees of the MMG company / Kinsevere to internalize the rules of safety at work and to share them.*

**Keywords:** psychological health and safety culture at work

## 1. Introduction

Why address the impact of psychological health on the workplace safety culture in a mining company? In other words, what is the impact of health on the culture of safety at work? From this question follows the relevance of the topic of this article. The data collected from employees of the Mining Mineral General (MMG) / Kinsevere Company will allow us to answer this question.

Addressing psychological health and safety culture at work requires the definition of these terms, in order to clarify the context and identify their main determinants.

## 2. Psychological health and safety culture at work

The issue of psychological health at work in mining companies deserves the attention of researchers. In the sense that it would allow employees to properly assimilate and share the occupational safety policy rules of their respective companies. According to Roland Foucher, (2004), psychological health refers, on the one hand, to the possibilities offered by the organizational context, the working conditions and the tasks devolved to the individual to feel valued, to flourish, to lead a balanced life, and to have a level of stress that he is able to manage; on the other hand, psychological health refers to the state of development of the individual in relation to indices such as self-esteem or self-esteem, fulfillment, life balance and stress level. Finally, we must take into account the ability of man to adapt to work and the environment in which it is carried out.

According to Brundtland, (2000), statistics show the extent and cost of mental health problems in relation to work, these statistics are presented as follows: 1) five of the most frequent causes of incapacity at work relate to mental health; 2) in England, mental health attacks cost 80 million working days every 80 million pounds and cost £ 1 billion to £ 2 billion; 3) in the same country, 15 to 30% of workers are affected by mental health problems during their working life; 4) In the United States, depression,

which is one of the five most common health problems, costs 20 to 40 billion US dollars, causing the loss of more than 200 million working days.

Hilton & Whiteford, (2010), examined the role of moderate and high psychological distress in workplace accidents in a variety of industries and occupations, they found that psychological distress, whether moderate or severe, actually increases the risk of an accident at work.

Mclean, (2012), conducted his research on the mental health of miners who worked close to their homes, excluding miners working in remote mines to which they have to travel and for which miners typically have to leave for several days. This study aimed to examine the mental health of these workers and to determine the risk factors associated with them. He remembers that workers suffer from depression. Moreover, the profession itself is difficult and leads to negative feelings, making workers want to get out of it and no longer have the motivation to go to work.

Marcel Simard in ICSI (2017), defines "safety culture" as "all the practices developed and applied by the main players concerned to control the socio-technical risks of their profession". The use of the word "socio-technical" is to be linked to the three factors mentioned above. The term "practice" specifies both:

- The way to act (usual and accepted repeated behaviors) such as, for example, the wearing of personal protective equipment (PPE), compliance with the rules, the use of risk analyzes.

- The way of thinking (value, importance given to safety, convictions,...).

According to Daniellou.F, Simard.M, & Boissières .I, (2010, p.104), for the organization, a primary function of safety culture is to impact its results in the field. This effect is due to the fact that culture is made up of the actual practices of the actors in matters of security. Therefore, the effect of culture on the bottom line can be more or less

positive depending on the quality of the safety practices in place in the company.

Wano (2014) identifies the "characteristics of a strong safety culture at work":

- Individual commitment to safety;
- Personal responsibility calling for accountability;
- The questioning attitude;
- Communication on safety;
- Management's commitment to safety;
- Empowerment of leadership;
- Systematic, rigorous and detailed decision-making;
- A respectful working environment;
- Management systems;
- Continuous learning;
- Identification and resolution of problems;
- An environment allowing them to raise their concerns;
- Procedures for preparing and controlling interventions.

Pignault, J and Magne, J (2014), sought through concrete examples, some of which were lived, to highlight human mechanisms in the management of the culture of safety at work. They conclude by saying that: "humanizing a business is a win-win contract":

- For the company, improved performance and safety;
- For men, gain in interest and motivation.

Friset-Brosseau, A., (2015), finds that there is a positive, albeit moderate, relationship between employee participation in the process of promoting health at work and the development of a culture of health promotion at work. job.

Following the example of ICSI (2017, p.12), which states that: "every organizational entity" has a "safety culture", in the sense that the actors share certain ways of doing and thinking which have consequences on Security. And the safety culture reflects the place that the organizational culture gives to safety in all decisions, all services, all businesses, and at all hierarchical levels".

**2.1 Risks in the mining sector**

Following on from Awa Ndiaye Niang, (2019), it should be noted that companies in the mining sector or mining activity, like MMG / Kinsevere, whether it is underground or pit mining open, involves risks that can cause occupational injuries. Ledoux and his collaborators (2015), in Awa ndiaye, described certain risks inherent in the mining sector. These authors, based on certain writings, mentioned that these risks could arise from the work environment specific to the types of operation, the nature of the activities carried out there and the way in which the underground excavation is carried out.

Indeed, the exploitation of deposits, in addition to posing challenges including that of safety related to the stability of excavations, is also an environment often hostile to workers due to the presence of noise, dust, vibrations, smoke, 'exhaust, repeated shocks, etc. In addition, the maneuvering of heavy equipment and oversized trucks for

excavation, shoveling, mineral transport, etc. carries risks of accidents and occupational diseases associated with noise, lack of visibility and vibration. Likewise, drilling and blasting activities involve the risk of explosions, and workers are exposed to high levels of vibration and noise.

The presence of these risks highlights the urgent need to put in place an occupational safety policy, the rules of which must be integrated and shared for employees, thanks to the development and development of the latter at work.

Given that the safety culture is the set of practices developed and applied by the main actors concerned to control the socio-technical risks of their profession, and psychological health refers to the state of development of the individual in relation to the indices that are self-esteem or self-worth, fulfillment, stress level life balance.

This research, as we emphasized in the preamble, questions the impact of psychological health on the culture of safety at work. We believe that psychological health would have a positive impact on the culture of safety, through self-esteem or self-worth, self-fulfillment and self-confidence, which would enable employees of the MMG company / Kinsevere to master the operating methods and to internalize and share the safety rules to reduce the occurrence of work accidents.

**3. Methodology**

**3.1 Research environment**

This study stems from the survey carried out within the MMG / Kinsevere company from 2017 to 2020, specifically in the workshop or operations department.

**3.2 Tools used**

To produce the data, we used the following tools: the survey method accompanied by the questionnaire technique, on a sample of 55 agents.

**3.4 Results**

In the first step, we wanted to verify the existence of characteristics of psychological health in MMG / Kinsevere.

**Table n ° 1:** characteristics of psychological health

Opinions Characteristics of the Psychological health	yes	No	Total
self-esteem or self-worth at work	38	17	55
employee development	40	15	55
racial equality	33	22	55
management of trust and freedom of expression	36	19	55

The following table emerges:

For self-esteem or self-worth at work, 38 agents say that there is a policy of self-worth at MM / Kinsevere and 17 say that this policy does not exist. The use of the chi-

square test gave us the calculated value of 12.01 much greater than the tabular value of 3.84, for the degree of freedom equal to 1 and to the threshold of 0.05. We reject the null hypothesis. We conclude that the majority of MMG / Kinsevere agents find that there is value in the workplace within their company.

For the development of employees, 40 participants approved of the existence of this characteristic in their company, while 15 others said the opposite. Using the chi-square test, we find that the calculated value is 9.84, greater than that in the table equivalent to 3.84 with the  $df = 1$ . We reject the null hypothesis. In summary, the majority of MMG / Kinsevere agents believe that work helps them thrive.

Regarding racial equality, 33 officers attest to it exists in MMG / Kinsevere and 22 others do not. Consequently, our use of the chi-square test shows that the calculated value is 4.91 slightly higher than the table value which is 3.84, at the threshold of 0.05 with the  $df = 1$ . We reject the null hypothesis. And let's remember that within the MMG / Kinsevere company, there is racial equality.

Regarding the management of confidence and freedom of expression, 36 participants said yes and 19 said no. After applying the chi-square test to the data, we found that the calculated value is 8.64, greater than the table value which is 3.84, at the threshold of 0.05 with the  $df = 1$ . We reject the null hypothesis. And let's say that within MMG / Kinsevere there is the management of confidence and freedom of expression.

After we found that psychological health characteristics exist within the MMG / Kinsevere Company, we also wanted to check if they allow employees of this company to internalize the safety rules and to share them at work.

**Table 2:** Impact of psychological health on workplace safety culture at MMG / Kinsevere

Reactions	Frequency
Yes	31
No	24
Total	55

This table shows us that 31 officers said that psychological health allows them to internalize the rules of safety at work and to share them, 24 others the opposite. The chi-square test applied to the data in the table gives a calculated value of 7.21 which is greater than that of the table equivalent to 3.84 at the threshold of 0.05 with the  $df = 1$ . We thus rejected the null hypothesis. In light of the above, we say that the majority agents from workshops at MMG / Kinsevere say psychological health allows them to internalize and share workplace safety rules.

### 3.5 Discussion of the results

As a bonus on board, the results of this article highlighted that the impact of psychological health on the safety culture at MMG / Kinsevere is positive, that is, psychological health allows employees of this company mining to internalize and share workplace safety rules.

Our results contradict those of Goldberg et al (1991), who argue that if employees perceive a threat to their well-being, they will be more inclined to participate in workplace safety programs. However, Laurence (2005) argues that it is not the quantity of rules that matters but their quality or their application. This quality can be ensured by involving workers in establishing safe work procedures and thus identifying and eliminating hazards that could cause serious accidents. Thus, the involvement of workers in the workplace safety process depends on how they feel they are considered by the employer, by colleagues and their development.

According to Roland Foucher, (2004), psychological health refers, on the one hand, to the possibilities offered by the organizational context, the working conditions and the tasks devolved to the individual to feel valued, to flourish, to lead a balanced life, and to have a level of stress that he is able to manage; on the other hand, psychological health refers to the state of development of the individual in relation to the indices of self-esteem or self-esteem, fulfillment, life balance and stress level.

The development and development of employees at work are convincing signs of psychological health that allow them to integrate and share in their conduct at work the rules of safety at work.

We therefore encourage the consideration of the psychological health dimension in any safety and security policy at work.

## 4. Conclusion

This study questions whether to examine the impact of psychological health on the culture of safety at work within the company Mining Mineral General / Kinsevere in the DRC, during the period from 2017 to 2020. It stems from the data collected by the questionnaire, which we sent to the agents in the workshops. The processing of these data was carried out using the Karl Pearson chi-square test.

The main results of this research inform that, self-esteem or self-esteem, fulfillment, life balance and stress levels are the indices of psychological health that allow employees of the MMG company / Kinsevere to internalize the rules of safety at work and to share them.

## References

- [1] Awa Ndiaye Niang, (2019), occupational health and safety prevention practices in gold mines in Senegal: the case of the teranga gold mining company
- [2] Goldberg, et al. (1991). Threat perception and the readiness to participate in safety programs.
- [3] Journal of Organizational Behavior, 12 (2), 109-122. Hilton, M. F., & Whiteford, H. A. (2010). Associations between psychological distress, workplace accidents, workplace failures and workplace successes. International Archives of

Occupational and Environmental Health, 83 (8), 923-933.

- [4] Ledoux, É., Beaugrand, S., Jolly, C., Ouellet, S., & Fournier, P.-S. (2015, November). The conditions for a safe integration into the profession: a look at the Quebec mining sector. (Report-898) IRSST. Retrieved from [http: 'www.irsst.qc.ca:media/documents, PubIRSST R-898.pdf? V = 2020- 09-30](http://www.irsst.qc.ca/media/documents, PubIRSST R-898.pdf? V = 2020- 09-30).
- [5] Mclean, K. N. (2012). Mental health and well-being in resident mine workers: Out of the fly-in fly-out box. *Australian Journal of Rural Health*, 20 (3), 126-130.
- [6] Roland Foucher, (2004), psychological health at work: a shared responsibility. Quebec, Canada