EXECUTIVE

SUMMARY

MINING MENTAL HEALTH

Dr. Michel Larivière
Dr. Zsuzsanna Kerekes
Courtney Lessel
Alyssa Smith
Amber Sinclair
Dr. Mónika Tiszberger
Caleb Leduc

April 17, 2018

TABLE OF CONTENTS

OVERVIEW

Through a collaborative partnership between the Joint Occupational Health Committee (JOHC), the United Steelworkers (USW), the Canadian Guards Association, and the Centre for Research in Occupational Safety and Health (CROSH) at Laurentian University, a research project was undertaken to examine mental health in the workforce at Vale's Ontario Operations. The purpose of the study was to gain important information to develop key strategies that promote the best possible mental health for these workers.

The "Mining Mental Health" research project examined the mental health and well-being of the Vale operations workforce in Ontario, while addressing the distinct and interrelated needs identified by the company and unions. The study is a first of its kind and demonstrated a significant commitment by Vale, USW, the Canadian Guards Association, and Laurentian University, to worker health and well-being. It also highlights the value of participative research whereby all stakeholders (researchers, front-line workers, union/industry leadership, and the community at large) are involved in the actual research process.

The current project addressed a number of distinct and interrelated needs at Vale:

1. What is the state of mental health and well-being of Vale employees?
2. What factors are most strongly related to the mental health and well-being of Vale employees?
3. What factors predict absence from work?
4. What factors are most involved in return to work following an absence?

Through the Joint Occupational Health Committee (JOHC), the Centre for Research in Occupational Safety and Health (CROSH) at Laurentian University has launched a three-year mental health study at Vale's Ontario Operations (Sudbury and Port Colborne). In preparation for this large study, the research team conducted a pilot study in February 2016, a report of which was provided to the JOHC in March 2016. Subsequently, Phase I (quantitative) took place during the summer of 2016 ending October 2016, and phase II (qualitative) was undertaken in Q1 2017.

PROJECT TIMELINE

01.2015
Formulate research team, identify stakeholders, determine sampling strategy

07.2015
Official Study Launch

12.2015 - 04.2016
Pilot Study: Survey instrument, including focus group meetings and interviews, submission of technical report

05.2016
Finalize instruments

06.2016 - 10.2016
All staff survey (see complete list of instruments below)

06.2016 – 05.2017
Data entry, revision and cleaning
Planning of qualitative research phase

01.2017 – 04.2018
Qualitative research recruitment and interviewing

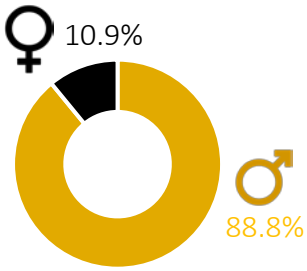
05.2017 – 04.2018
Quantitative and qualitative data analysis

07.2017 - 06.2018
Dissemination, including JOHC Presentations and submission of technical reports

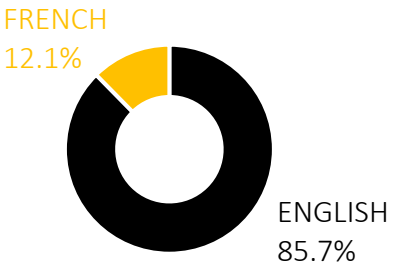
INSTRUMENTS

- Demographics
- PTSD Checklist for DSM-5
- Beck Depression Inventory II
- Beck Anxiety Inventory
- Pittsburgh Sleep Quality Index
- Fatigue Severity Scale
- Alcohol Use Disorders Identification Test
- Drug questionnaire and DAST-20
- Copenhagen Burnout Inventory
- Relationship Assessment Scale
- Satisfaction with Work-Life Balance Scale
- Perceived Stress Scale
- Effort-Reward Imbalance Questionnaire
- Job Insecurity Measure
- NIOSH Generic Job Stress Questionnaire
- Guarding Minds at Work
- Stigma Scale
- Recovery Experience Questionnaire

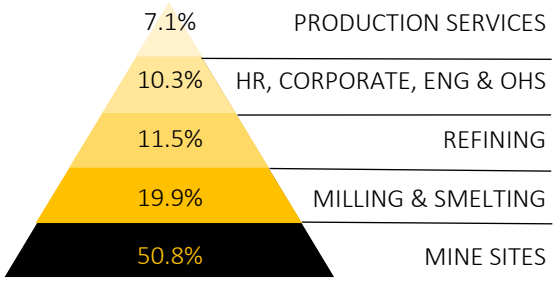
DEMOGRAPHIC OVERVIEW



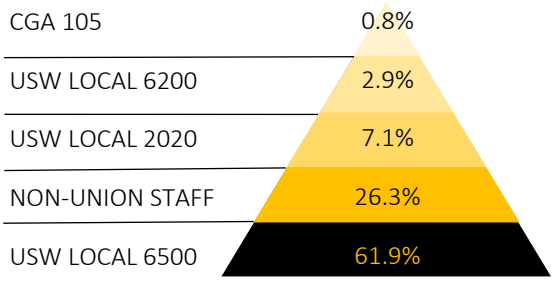
2224
RESPONDENTS

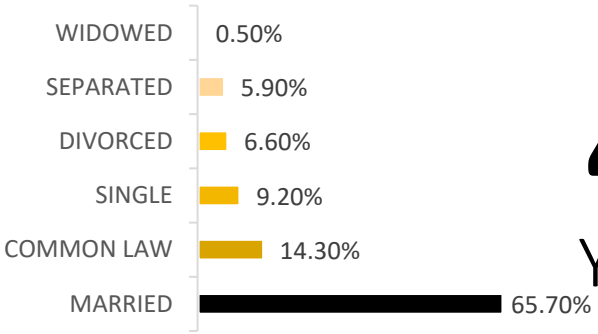


5.5% ABORIGINAL, MÉTIS OR INUIT | 93.6% CAUCASIAN | 1.7% ALL OTHER ETHNIC MINORITIES

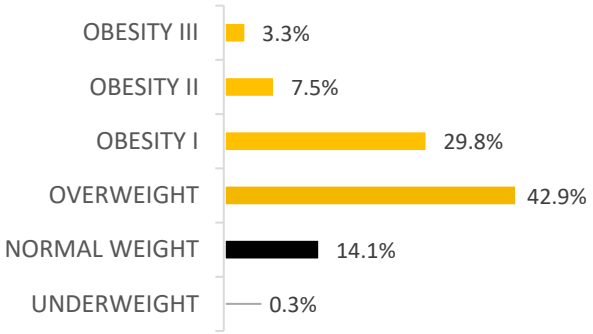


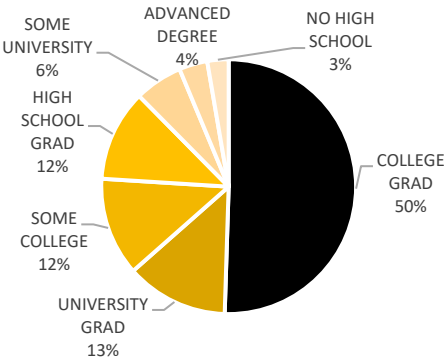
25
WORKSITES



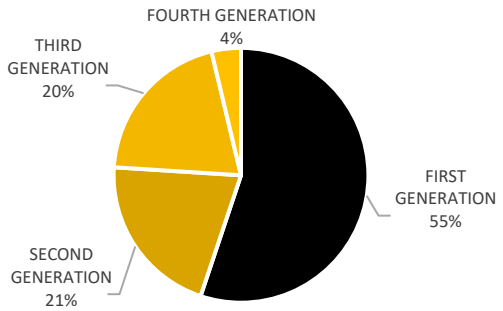


43.6
YEARS OF AGE





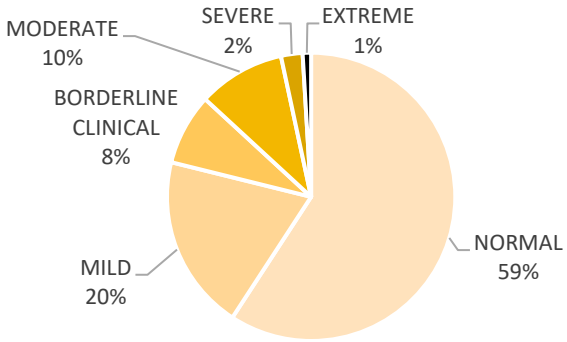
17.2
YEARS OF MINING EXPERIENCE



Q1. STATE OF MENTAL HEALTH

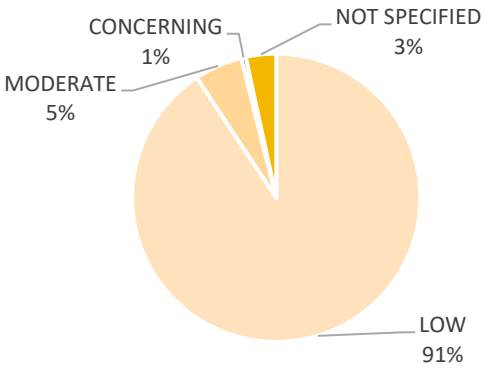
DEPRESSION

Depression is a mental illness characterized by overwhelming feelings of despair accompanied by various physical and emotional symptoms. It typically lasts for considerably lengthy periods of time and affects all aspects of a person's life; depression can have important consequences on a person's work, relationships, physical health, etc. (Canadian Mental Health Association, 2017a). The **Beck Depression Inventory-II** is one of the most widely used instruments for measuring the severity of depression symptoms over a period of two weeks prior to use and screening for possible depression in normal populations of adults (Beck, Steer, & Brown, 1996). Notably, **10.6%** of respondents indicated that they have thoughts of suicide but would not carry them out. For complete results pertaining to depression, please refer to Chapter 25 of the Mining Mental Health Report.



ANXIETY

By definition, anxiety is an emotion which is expressed through feelings of worry and tension, and which can also result in physical symptoms such as an increase in a person's blood pressure, dizziness, sweating, etc. Anxiety disorders are therefore characterized by crippling anxiety which can lead to avoidance behaviours (American Psychological Association, 2017) and have numerous consequences on a person's personal and professional life. The **Beck Anxiety Inventory** is a self-report inventory that is used for measuring the severity of an individual's anxiety over the week prior to completion (Beck, Epstein, Brown, & Steer, 1988). It has been designed to distinguish between behavioral, emotional and physiological symptoms of individuals with depression and anxiety (Leyfer, Ruberg, & Woodruff-Borden, 2006). For complete results pertaining to anxiety, please refer to Chapter 26 of the Mining Mental Health Report.



POST-TRAUMATIC STRESS DISORDER (PTSD)

PTSD is a mental illness affecting people who have experienced trauma. Trauma can take many shapes and includes things like abuse, accidents, crimes, natural disasters, etc. PTSD is therefore a condition characterized by recurring symptoms that are intrusive and remind the person of the trauma they have faced. Examples of such symptoms include flashbacks and vivid nightmares. This in turn can lead to irritability, nervousness, and sleep problems (Canadian Mental Health Association, 2017b). The **PCL-5** is a 20-item questionnaire, corresponding to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) symptom criteria over a one month period for PTSD (American Psychiatric Association, 2013). For complete results pertaining to PTSD, please refer to Chapter 24 of the Mining Mental Health Report.

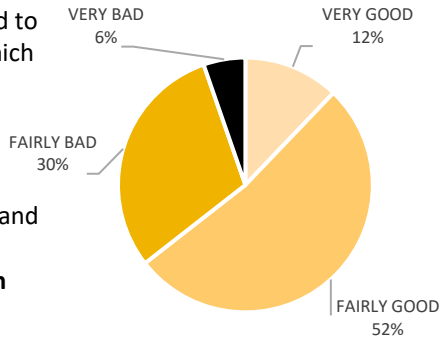
10.5%

OF RESPONDENTS SHOULD BE SCREENED FOR POST-TRAUMATIC STRESS DISORDER

Q1. STATE OF MENTAL HEALTH

SLEEP

Assessing sleep quality is important because better sleep quality has been demonstrated to be associated with better quality of life, which includes better physical health, better psychological health, and better social relationships (Shao, Chou, Yeh, & Tzeng, 2010). Unfortunately, shift workers are susceptible to having poorer sleep quality, and therefore both their physical and mental health can suffer as a result. The **Pittsburgh Sleep Quality Index (PSQI)** is a self-rated questionnaire which assesses sleep quality and disturbances over a 1-month time interval (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989). For complete results pertaining to sleep, please refer to Chapter 27 of the Mining Mental Health Report.



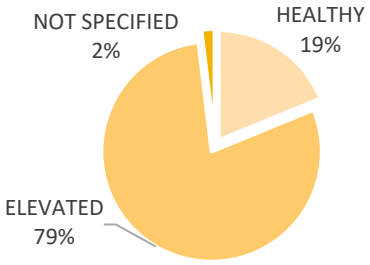
DAY SHIFT
6.1 HOURS

AFTERNOON
6.0 HOURS

NIGHT
5.5 HOURS

AVERAGE 6.2 HOURS OF SLEEP/NIGHT

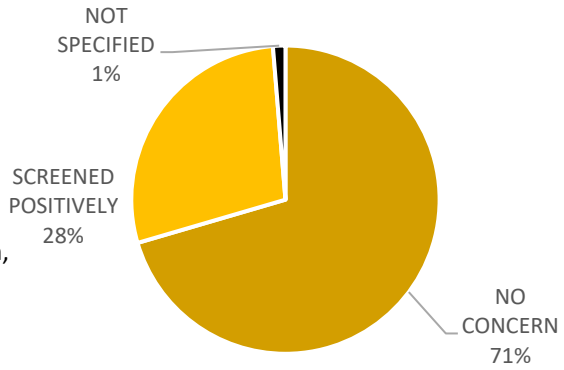
FATIGUE



Fatigue could be defined as a self-determined state in which a person feels overwhelmingly exhausted, both physically and mentally, and is unable to relieve this feeling of exhaustion, even with rest (Hossain et al., 2003). The **Fatigue Severity Scale** is a clinical and research application that measures fatigue severity over a period of a week prior to completion of the scale (Krupp et al., 1989). For complete results pertaining to fatigue, please refer to Chapter 28 of the Mining Mental Health Report.

BURNOUT

Maslach, Schaufeli and Leiter (2001) define burnout as “a psychological syndrome in response to chronic interpersonal stressors on the job”, which they state is characterized by the following three dimensions: 1) “overwhelming exhaustion”, 2) “feelings of cynicism and detachment from the job”, and 3) “a sense of ineffectiveness and lack of accomplishment” (Maslach et al., 2001). The **Copenhagen Burnout Inventory (CBI)** is a 19-question instrument comprised of three scales measuring 1) personal burnout, 2) work-related burnout, and 3) client-related burnout (Kristensen, Borritz, Villadsen & Christensen, 2005). For complete results pertaining to burnout, please refer to Chapter 32 of the Mining Mental Health Report.

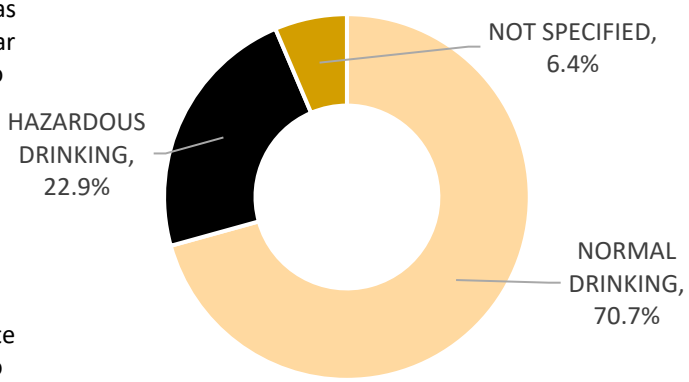


SCREENED POSITIVELY FOR BURNOUT: ♀ 46.5% ♂ 26.0%

Q1. STATE OF MENTAL HEALTH

ALCOHOL CONSUMPTION & SMOKING

The **Alcohol Use Disorders Identification Test** (AUDIT) was developed to screen for excessive drinking over a one year time period and to help practitioners identify people who would benefit from reducing or ceasing drinking (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). It is a six-country World Health Organization collaborative effort that consists of 10 items that encapsulate drinking behaviour, alcohol consumption and alcohol-related issues (Saunders, Aasland, Babor, De la Fuente, Juan R, & Grant, 1993). **22.9%** of respondents screened positively for hazardous levels of alcohol consumption. For complete results pertaining to alcohol consumption, please refer to Chapter 29 of the Mining Mental Health Report.



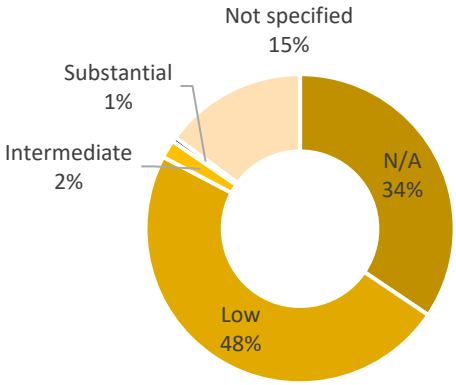
REPORTED HAZARDOUS LEVELS OF DRINKING: ♀ 7.4% ♂ 24.9%

Smoking status was assessed into one of four categories: a never smoker; a daily smoker; an occasional smoked, and a former smoker. Nearly half of respondents reported never smoking, whereas 23% report smoking either daily or occasionally.

DAILY SMOKER vs. OCCASIONAL	FORMER SMOKER	NEVER SMOKED
15.8% vs. 7.2%	27.1%	49.0%

DRUG USE

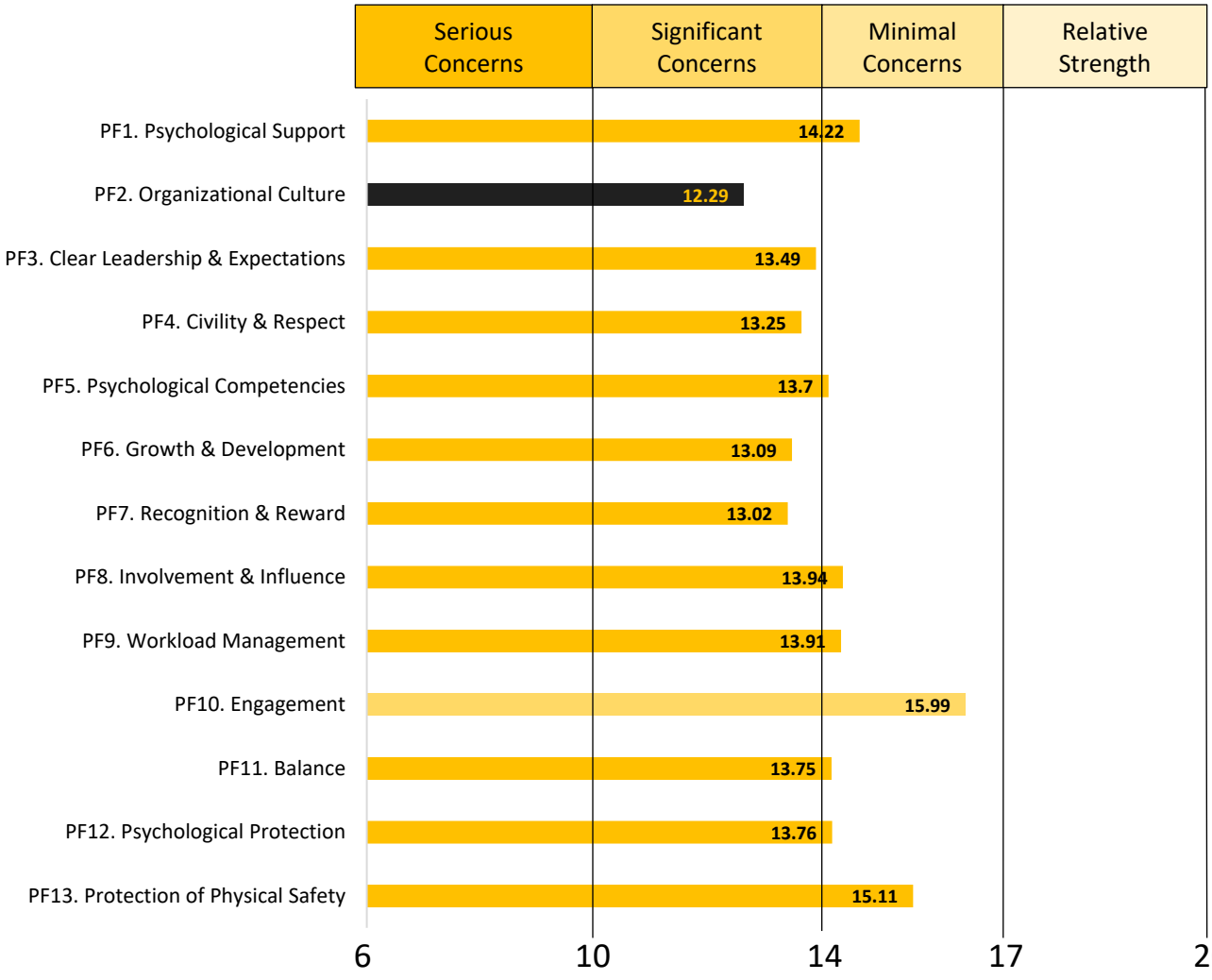
To assess drug use behaviours, we developed a modified drug questionnaire to address the specific needs of this workforce and employer based on existing measures including the CAGE-AID questionnaire (Kitchens, 1994; Mayfield, McLeod, & Hall, 1974). We also adapted certain items from the AUDIT (Babor et al., 2001) to reflect drug use habits rather than alcohol consumption. Each of the items that make up this modified drug questionnaire were scored as individual items. In addition to our modified generic drug behaviours questionnaire, we included the **Drug Abuse Screening Test (DAST-20)** which provides a brief and practical self-reported method for identifying individuals who are abusing drugs. It also reports a quantitative index score of the degree of problems related to drug use (Skinner, 1982). For complete results pertaining to drug use, please refer to Chapter 30 & 31 of the Mining Mental Health Report.



Q1. STATE OF MENTAL HEALTH

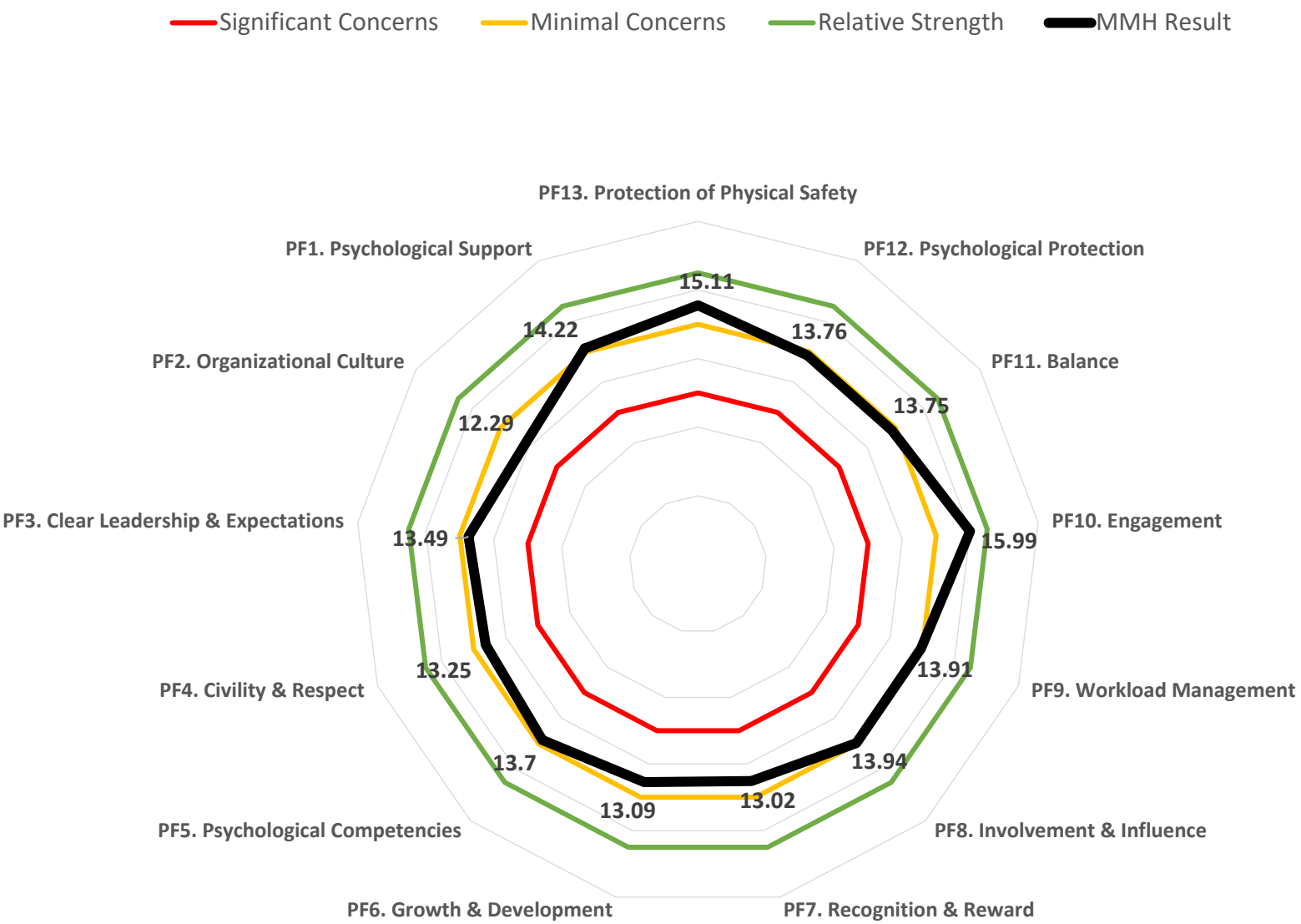
PSYCHOSOCIAL RISK FACTORS

Guarding Minds @ Work is a 68-item measure geared to protecting and promoting psychological health and safety in the workplace (Samra, Gilbert, Shain, & Bilsker, 2012). It measures 13 psychosocial factors related to organizational health, the health of individual workers, and the financial resources of the organization (Samra et al, 2012). These factors include aspects of the work itself, such as workload and time pressure, as well as aspects of the work environment, such as the interactions between workers (Samra et al, 2012). Workplaces who are proactive in addressing each of these psychosocial risks are rewarded with better productivity from happier and healthier employees (Samra et al., 2012). Guarding Minds @ Work is the recommended assessment tool in the National Standard of Canada – Psychological Health and Safety in the Workplace – Prevention, promotion and guidance to staged implementation (CAN/CSA-Z1003-13/BNQ 9700-803/2013). For complete results pertaining to psychosocial risk factors, please refer to Chapters 42 through 48 of the Mining Mental Health Report.



Q1. STATE OF MENTAL HEALTH

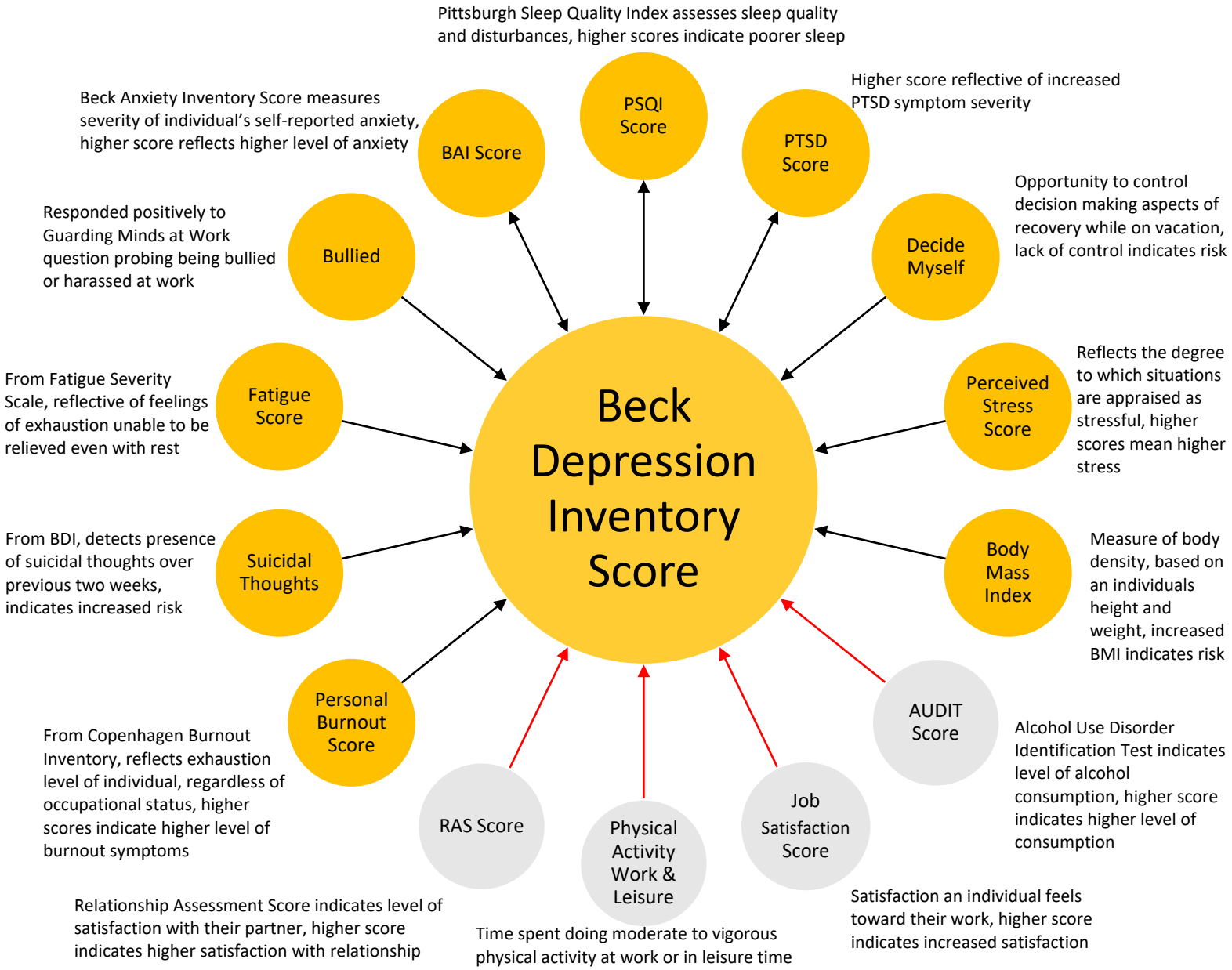
PSYCHOSOCIAL RISK FACTORS



Q2. PREDICTING MENTAL HEALTH

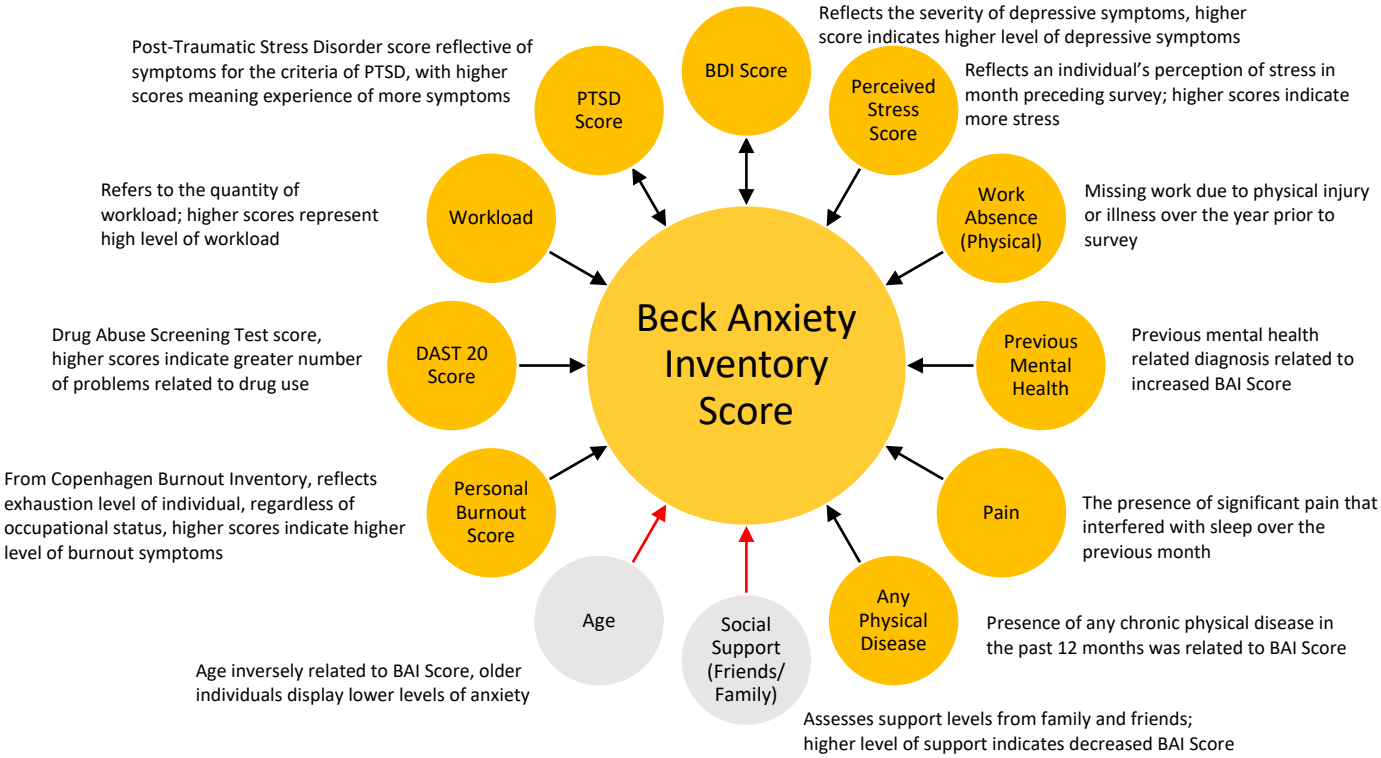
Seven key variables were identified for further analysis: depression, anxiety, post-traumatic stress disorder, sleep, fatigue, alcohol consumption and drug use. In total, we sought to understand the influence of 92 explanatory variables on each of our identified variables. All participants with less than five missing values across all measures were included in the analyses (N=1913). Multiple linear regression analyses were conducted for depression, anxiety, post-traumatic stress disorder, sleep and fatigue. Logistic regression modeling was utilized to understand predictors of alcohol consumption and drug use. Depicted visually over subsequent pages are statistically significant predictors of the target variable. Yellow variables joined by black arrows indicate a positive relationship, as one score increases, so does the other. Grey variables joined by red arrows indicate a negative relationship, as one score rises the other falls. For complete results pertaining to regression modeling, please refer to Chapter 52 of the Mining Mental Health Report.

DEPRESSION



Q2. PREDICTING MENTAL HEALTH

ANXIETY



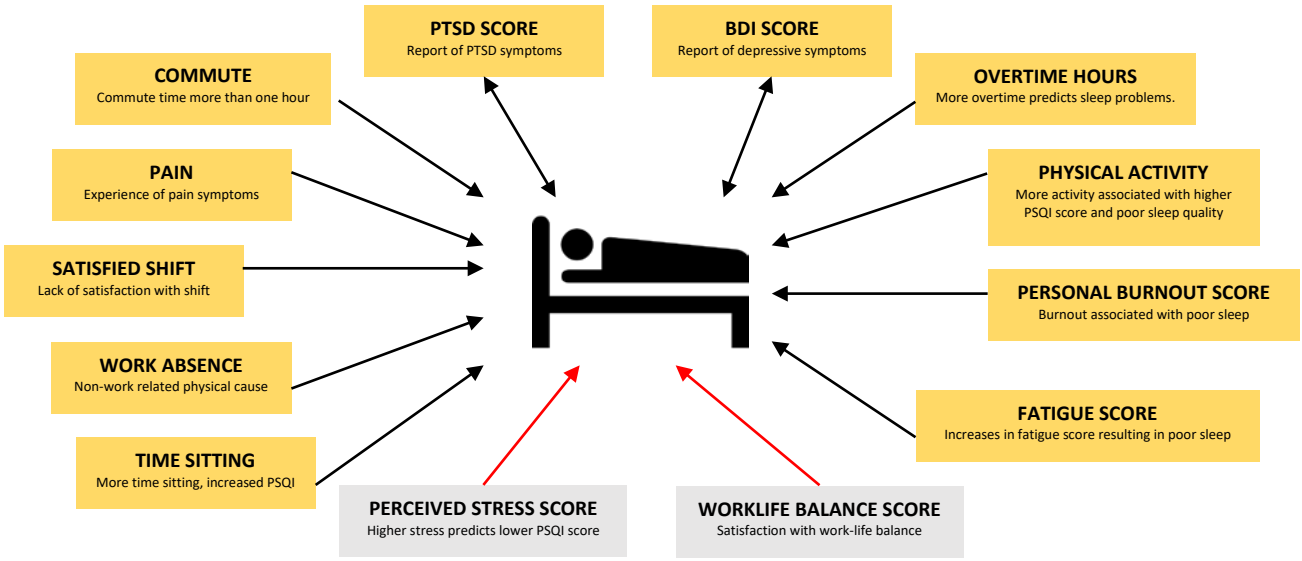
POST TRAUMATIC STRESS DISORDER

BDI Score	Reflects the severity of depressive symptoms, higher score indicates higher level of depressive symptoms
PSQI Score	Pittsburgh Sleep Quality Index assesses sleep quality and disturbances, higher scores indicate poorer sleep
Perceived Stress Score	Reflects an individual's perception of stress in month preceding survey; higher scores indicate more stress
Marital Status	Being single or divorced associated with higher PTSD Score compared to those in any type of relationship
Personal Burnout Score	From Copenhagen Burnout Inventory, reflects exhaustion level of individual, regardless of occupational status, higher scores indicate higher level of burnout symptoms
Work Absence (Mental)	Being absent from work due to mental health issue over the previous year was predictive risk factor for high PTSD Score
Care for Elderly	Having responsibility for the care of an elderly person predicted higher values on PTSD Score
Recent Mental Health	Being diagnosed with mental health related issues over the previous year was predictive risk factor for higher PTSD Score

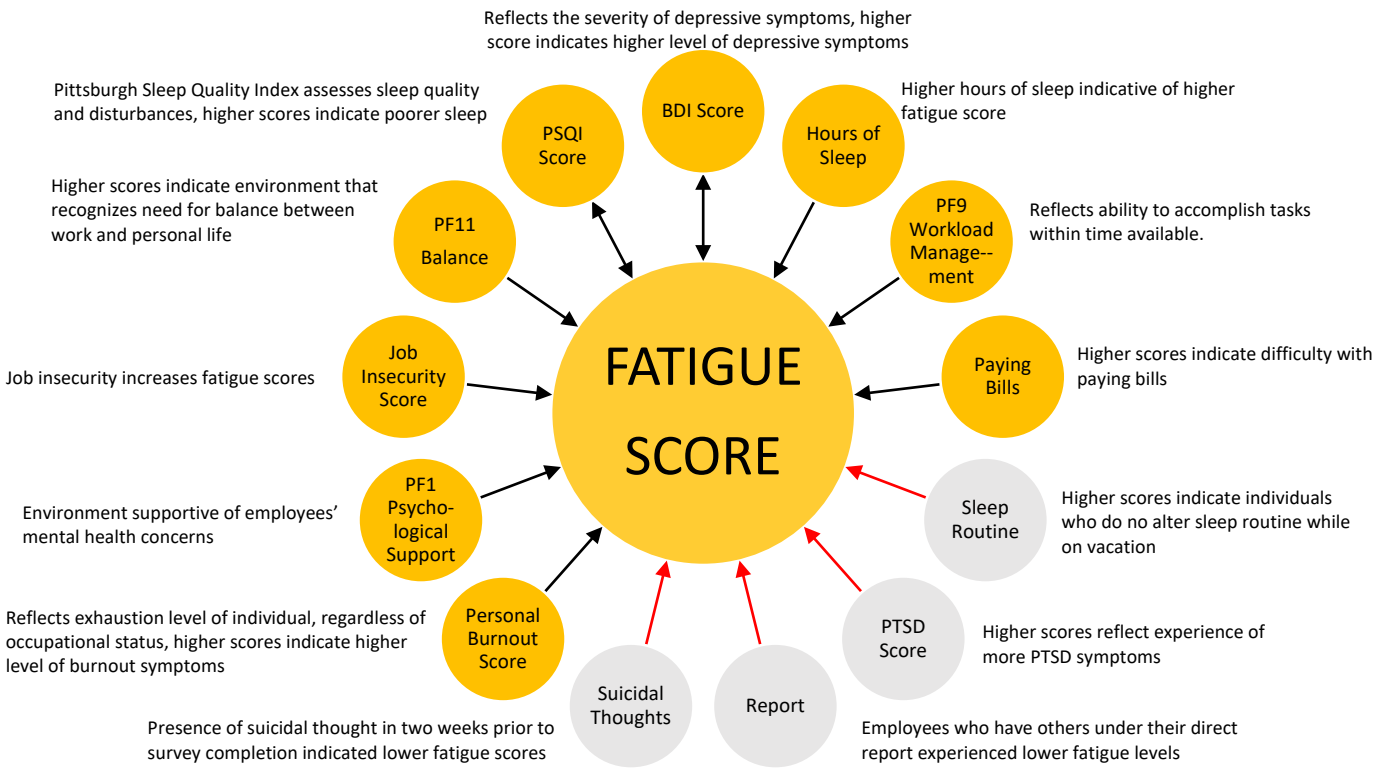
BAI Score	Beck Anxiety Inventory Score measures severity of individual's self-reported anxiety, higher score reflects higher level of anxiety
Mental Health Treatment	Positive response to receiving treatment for mental health related issue was predictive of higher PTSD Scores
Victim Discrimination	Experience of discrimination in the workplace predicted higher score of PTSD symptoms
AUDIT Score	Score indicates level of alcohol consumption, higher score indicates higher level of consumption, presence of PTSD symptoms
Absenteeism	Being absent from work for any reason indicated lower scores for PTSD
Worksite	Working in any mine site were protective factors and associated with lower scores of PTSD symptoms
Skill Underutilization	Reflects underuse of skill, knowledge and training at work, high levels of skill underutilization predict lower PTSD scores

Q2. PREDICTING MENTAL HEALTH

SLEEP

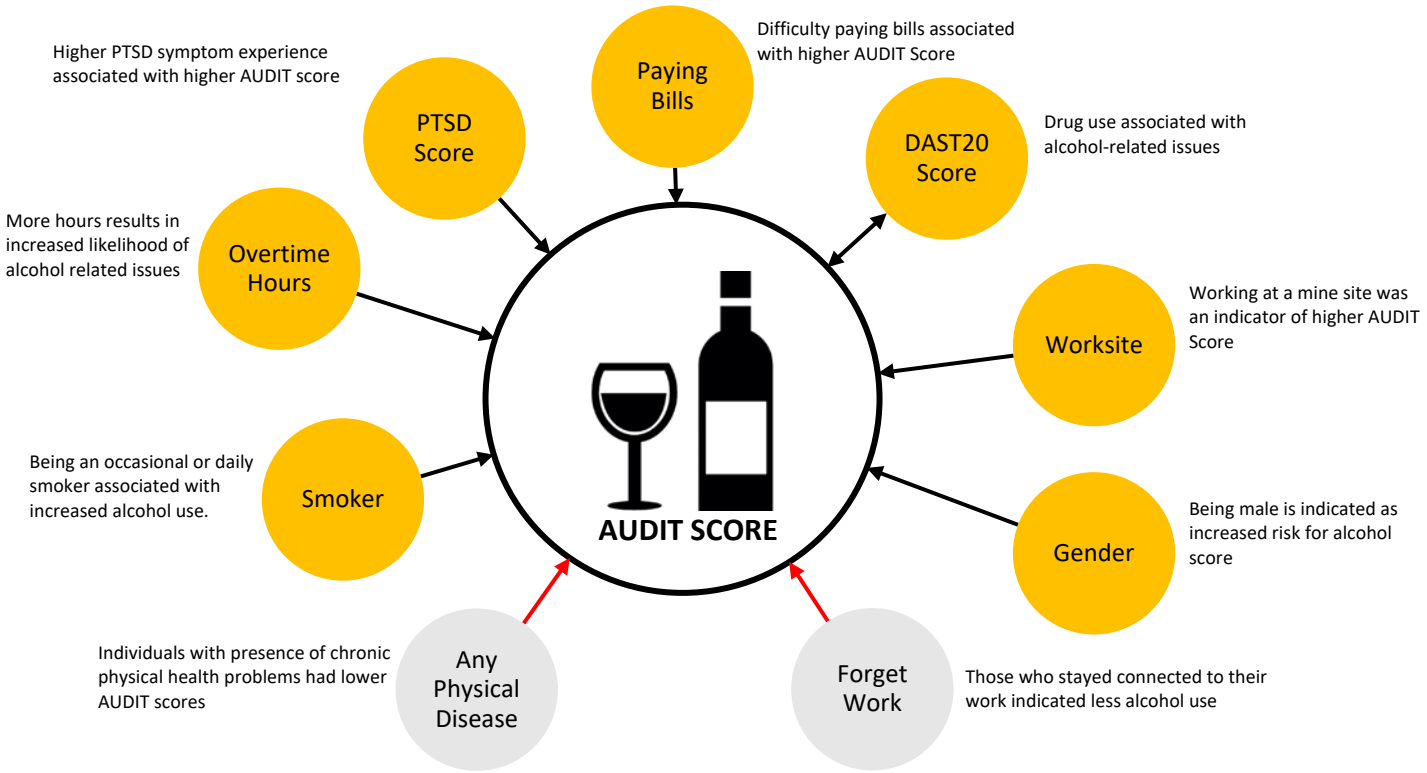


FATIGUE



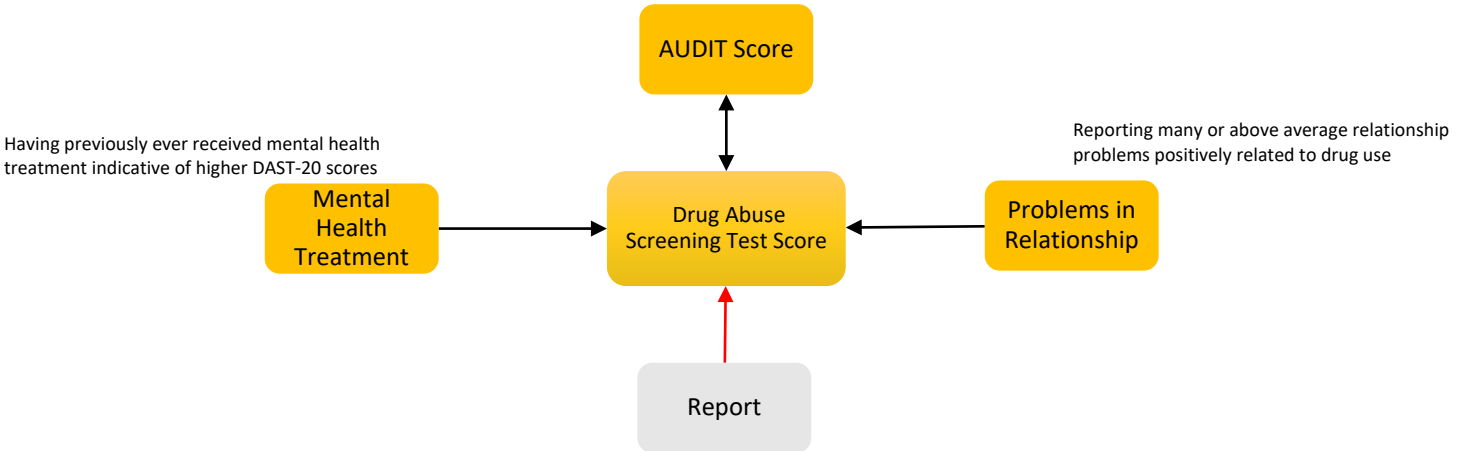
Q2. PREDICTING MENTAL HEALTH

ALCOHOL



DRUG USE

There is a direct, reciprocal relationship between drug and alcohol use. Higher scores on AUDIT is a strong indicator for higher DAST-20 scores.



Q3. PREDICTING ABSENTEEISM

Logistic regression modeling was conducted to understand predictors of absenteeism, disability leave and presenteeism. In total, we sought to understand the influence of 162 explanatory variables on nine absenteeism-related variables (N=1998). With respect to predictors of disability leave, we included 125 explanatory variables for 8 target variables (N=857). Finally, in modelling predictors of presenteeism, we included 123 explanatory variables for one outcome variable (N=1266). Depicted visually over subsequent pages are statistically significant predictors of the target variable. Variables displayed in yellow indicate a positive relationship with the target variable. Those displayed in gray indicate a negative relationship. For complete results pertaining to regression modeling, please refer to Chapter 53 of the Mining Mental Health Report.

MENTAL HEALTH RELATED ABSENCE

Absent from work due to mental health related problem

BAI Score
Higher scores indicate more severe levels of anxiety over the previous week

Commute
More than one hour of commute was considered a risk indicator

Shift Length
Working shifts in excess of eight hours in length indicated higher likelihood of absenteeism

Dicrimination at work
Having been discriminated against in the workplace is an indicator for absenteeism

Mental health treatment
Having previously received mental health treatment associated with absenteeism

Mental health diagnosis
Any previous mental health diagnosis associated with absenteeism

Worksite
Working at a mine site increases likelihood of mental health related absenteeism

Personal Burnout Score
Higher levels of burnout related to higher reported absenteeism levels

Hazardous Work
Presence of physical and psychological hazards indicated higher prevalence of absenteeism

Work-Life Balance
Higher satisfaction with work-life balance lowers chance of absenteeism

Vacation
Not being able to take desired vacation demonstrated inverse relationship

Employment Status
Being on contract or casual work decreased prevalence of absenteeism

Decide Myself
A lack of control over recovery decision-making when off work related to absenteeism

Years in Mining
More years in mining indicates less chance of absenteeism due to mental health

PF10 Engagement
Higher levels of engagement inversely related to absenteeism due to mental health related problems

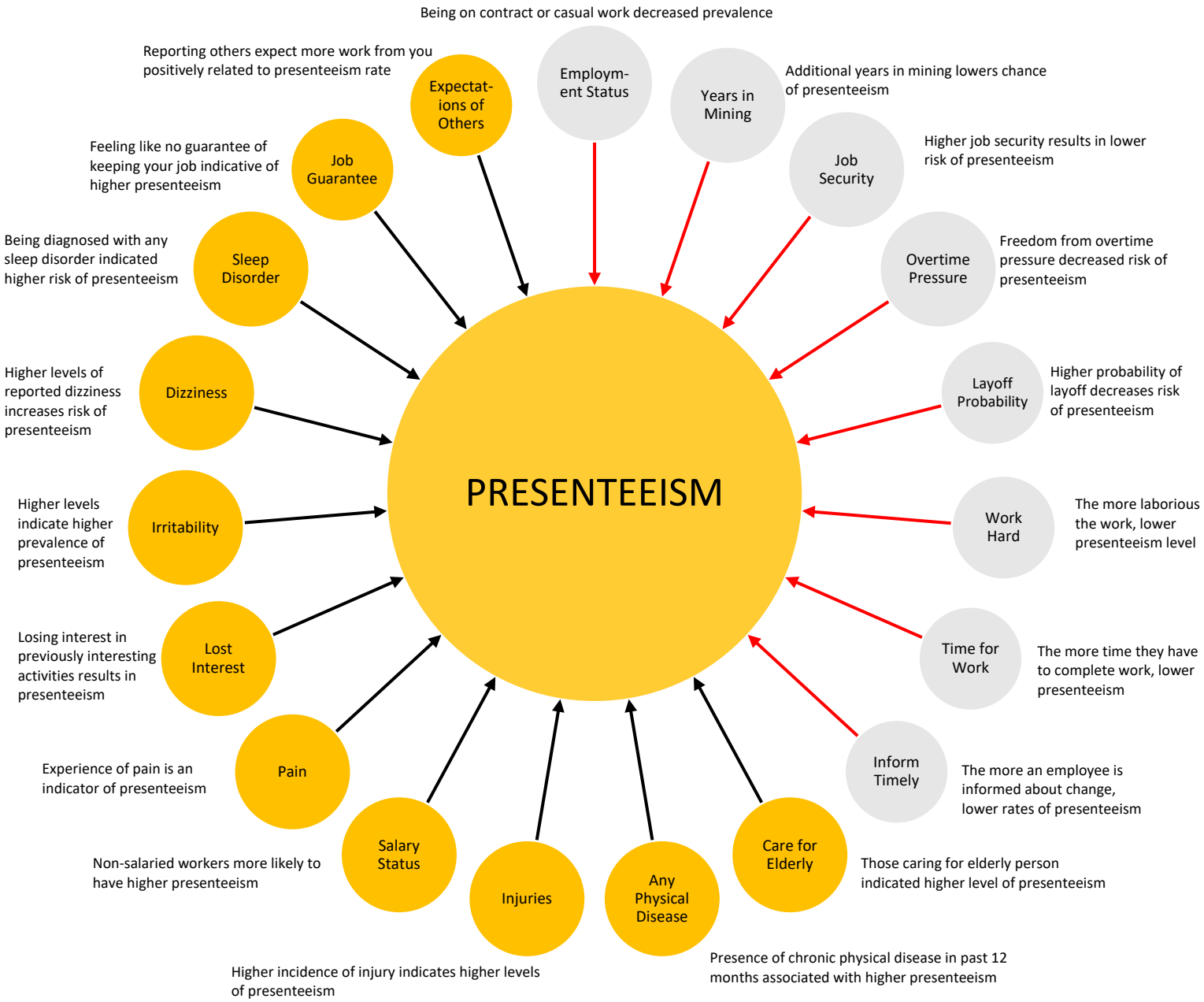
Forget Work
Staying connected to work indicated less absenteeism due to mental health related problems

Q3a. PREDICTING ABSENTEEISM

MENTAL HEALTH RELATED DISABILITY LEAVE

Q3b. PREDICTING PRESENTEEISM

PRESENTEEISM



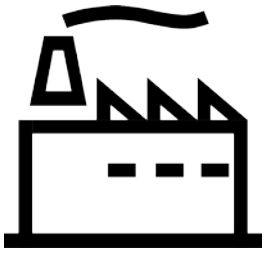
Q4. FACILITATING RETURN TO WORK

Of the 2224 respondents to participate in the study, 734 indicated that they had previously experienced a disability-related absence from work and subsequently made a succesful return to work. Respondents were then asked to identify facilitators and barriers to a return to work. For complete results pertaining to facilitators and barriers of a successful return to work, please refer to Chapter 54 & 55 of the Mining Mental Health Report.

FACILITATORS		BARRIERS	
66.4%	Good medical support from my health care provider(s)	I did not feel ready, but financially I had no other choice but to return to work	**41.3%**
59.0%	I received appropriate and timely medical treatment for my condition	I did not receive support and assistance from Vale Occupational Medicine	**26.1%**
44.8%	My family supported my return to work	My employer did not offer suitable modified work	**23.7%**
44.3%	My employer offered suitable modified work	I did not receive appropriate and timely medical treatment for my condition	**20.5%**
40.6%	My supervisor supported my return to work	I did not receive good mental health services	**16.0%**
37.9%	I received support and assistance from Vale Occupational Medicine	Lack of medical support from my health care provider(s)	**14.1%**
36.5%	Financially, I had no other choice	My supervisor did not support my return to work	**14.1%**
31.8%	My coworkers supported my return to work	My treatment providers did not encourage me to return to work	**12.0%**
31.5%	My treatment providers encouraged me to return to work	My coworkers did not support my return to work	**8.3%**
27.3%	My friends supported my return to work	My family did not support my return to work	**5.0%**
19.5%	I received good mental health services	My friends did not support my return to work	**3.7%**

Q4. FACILITATING RETURN TO WORK

MINE SITES ONLY



ALL OTHER SITES

		FACILITATORS	BARRIERS		
64.7%	**68.3%**	Good medical support from my health care provider(s)	Lack of medical support from my health care provider	**17.3%**	9.1%
30.0%	**33.9%**	My treatment providers encouraged me to return to work	I did not feel ready, but financially I had no other choice but to return to work	**42.5%**	37.9%
34.5%	**42.3%**	I received support and assistance from Vale Occupational Medicine	My employer did not offer suitable modified work	20.1%	**27.9%**
41.8%	**48.2%**	My family supported my return to work	My supervisor did not support my return to work	11.4%	**16.0%**
38.2%	34.7%	Financially, I had no other choice	My coworkers did not support my return to work	5.9%	**11.0%**
30.0%	**33.9%**	My coworkers supported my return to work	I did not receive appropriate and timely medical treatment for my condition	**21.3%**	19.2%

Q4. FACILITATING RETURN TO WORK

FEMALES ONLY MALES ONLY

♀	♂	FACILITATORS	BARRIERS	♀	♂
28.9%	**45.7%**	My employer offered suitable modified work	I did not feel ready, but financially I had no other choice but to return to work	18.8%	**43.5%**
50.0%	44.0%	My family supported my return to work	I did not receive appropriate and timely medical treatment for my condition	**27.1%**	19.4%
47.4%	39.9%	My supervisor supported my return to work	I did not receive support and assistance from Vale occupational medicine	14.6%	**27.1%**
39.5%	26.0%	My friends supported my return to work	My employer did not offer suitable modified work	12.5%	**25.0%**
37.9%	22.4%	Financially, I had no other choice	My supervisor did not support my return to work	**22.9%**	13.0%
38.5%	32.9%	I received support and assistance from Vale Occupational Medicine	I did not receive good mental health services	12.5%	**16.0%**

SUMMARY

Through Vale's Joint Occupational Health Committee (JOHC) and in partnership with the United Steelworkers (USW), the Centre for Research in Occupational Safety and Health (CROSH) completed the three-year "Mining Mental Health" study at Vale's Ontario Operations in Sudbury and Port Colborne. Four key questions were developed and subsequently guided the study:

1. *What is the state of mental health and wellbeing of Vale employees?*
2. *What factors are most strongly related to the mental health and wellbeing of Vale employees?*
3. *What factors predict absence from work?*
4. *What factors are most involved in return to work following an absence?*

Through a collaborative process, the teams at CROSH, Vale and USW developed a survey instrument to address all four questions. The instrument was piloted with a representative sample of workers and refined through a process of feedback with all parties. In total, 2224 individuals, or 56% of the organization's total workforce participated, completing the instrument between June and October 2016.

The result of our effort is a comprehensive description of the mental health and wellbeing of employees in the mining industry. Through the detailed analysis of over 800 variables and a representative cross-section of the workforce, we have deepened our understanding of constructs such as depression, anxiety, post-traumatic stress disorder, sleep, fatigue, substance and alcohol use. Further, we have reliably established several predictive models and identified salient predictors of mental health of those working in mining.

With respect to absenteeism, the current study laid considerable groundwork for identifying factors be associated with experiencing an absence from work. It is evident that absenteeism, regardless of cause, is incredibly complex and that the current study is only the starting point to furthering our knowledge in this regard. Further, the multifaceted nature of the return to work process following a workplace absence is equally complex. Notwithstanding these challenges, the results pertaining to facilitators and barriers of a successful return to work provide valuable insight for future prospective research and will both guide and inform intervention development and evaluation processes and content moving forward.

In conclusion, the authors of the current report applaud the willingness and courage of members of the JOHC, USW and Vale for championing a truly remarkable effort to undertake an unbiased and comprehensive evaluation of the mental health of their workforce. We are indebted to the efforts of all CROSH members and volunteers who supported the efforts of the project throughout its entirety. Finally, we would be remiss to not reserve our deepest gratitude to the workers who in sharing their stories and experiences with our research team will help shape the experiences of those within their organization and industry for years to come.

REFERENCES

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC.

American Psychological Association. (2017). Anxiety. Retrieved from http://www.apa.org/topics/anxiety/

Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care* Geneva: World Health Organization.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Beck depression inventory-II. *San Antonio, 78*(2), 490-498.

Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh sleep quality index: A new instrument for psychiatric practice and research. *Psychiatry Research, 28*(2), 193-213.

Canadian Mental Health Association. (2017a). Depression. Retrieved from http://www.cmha.ca/mental-health/understanding-mental-illness/depression/

Canadian Mental Health Association. (2017b). Post-traumatic stress disorder (PTSD). Retrieved from http://www.cmha.ca/mental_health/post-traumatic-stress-disorder/#.WX9P1YjyvIU

Hossain, J., Reinish, L., Kayumov, L., Bhuiya, P., & Shapiro, C. (2003). Underlying sleep pathology may cause chronic high fatigue in shift-workers. *Journal of Sleep Research, 12*(3), 223-230.

Kitchens, J. M. (1994). Does this patient have an alcohol problem? *Jama, 272*(22), 1782-1787.

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The copenhagen burnout inventory: A new tool for the assessment of burnout. *Work & Stress, 19*(3), 192-207.

Krupp, L. B., LaRocca, N. G., Muir-Nash, J., & Steinberg, A. D. (1989). The fatigue severity scale: Application to patients with multiple sclerosis and systemic lupus erythematosus. *Archives of Neurology, 46*(10), 1121-1123.

Leyfer, O. T., Ruberg, J. L., & Woodruff-Borden, J. (2006). Examination of the utility of the beck anxiety inventory and its factors as a screener for anxiety disorders. *Journal of Anxiety Disorders, 20*(4), 444-458.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*(1), 397-422.

Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism screening instrument. *American Journal of Psychiatry, 131*(10), 1121-1123.

Samra, J., Gilbert, M., Shain, M., & Bilsker, D. (2012). In Guarding Minds @ Work (Ed.), *Psychosocial factors* Centre for Applied Research in Mental Health and Addiction (CARMHA).

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, Juan R, & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction, 88*(6), 791-804.

Shao, M., Chou, Y., Yeh, M., & Tzeng, W. (2010). Sleep quality and quality of life in female shift-working nurses. *Journal of Advanced Nursing, 66*(7), 1565-1572.

Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behaviors, 7*(4), 363-371.

crosh.ca
@crosh_crsst