

ALCOHOL AND CANNABIS USE AMONG MINeworkERS IN SOUTH AFRICA

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DECLARATION

I, Adenike Frances Yejide Ajani declare that this thesis is my own work. Although the structured interviews aspect of this study formed a single project carried out for the Safety in Mines Research Advisory Committee (SIMRAC) through the Wits School of Public Health, the seven mines involved were distributed between different researchers. The author who was the principal investigator, was allocated two mines for this aspect of the study (mines P1 & P2), and the other five mines (mines G1, G2, D1, C1 & O1) were distributed between three students at the University of the Witwatersrand and have been submitted for the purpose of Master of Public Health degrees. The other aspects of this study, including the focus group discussions, record review, and comparison of the findings of all study mines were however for the sole purpose of this PhD.

This thesis is being submitted in fulfilment of the degree of PhD in Public Health at the University of the Witwatersrand, Johannesburg.

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18th day of October 2010

Dedicated to my husband, Olufemi, and my children, Daniel and Anne.

Thanks for your support.

ABSTRACT

Substance use is associated with mining accidents, increased health care utilisation, and economic loss. Although South Africa is a major mining country, paucity of data exists on substance use among mineworkers. To determine the prevalence of alcohol and cannabis use among mineworkers, the prevalence of accidents associated with substance use, and factors influencing substance use among this population, structured interviews of 1571 participants (involving breathalyser tests for alcohol and urine tests for cannabis), focus group discussions, and a record review of post-accident substance tests were carried out in seven mines. While structured interviews were carried out between March & October 2002, focus group discussions were carried out between May & June 2003, and record review was done between March & September 2004.

Between 10.7% to 24.4% of participants across study mines, with a mean of 15.3%, are likely to be dependent on alcohol, while 4.6% to 21.5% of participants, with a mean of 9.1%, use cannabis. Between 0% and 5.9% of all breath samples, with a mean of 1.9%, contained alcohol $\geq 0.10\text{mg}/1000\text{ml}$ of breath, the legal limit for professional drivers. However, the majority of positive samples were collected on a Monday and day of sample collection was found to be a confounding factor. In mine P1 in 2003, 1% of samples tested in cases of accidents were positive for alcohol, and in 2002 and 2003, cannabis tests were positive in 4.9% and 3.9% of accident cases tested, respectively.

Low levels of education ($p=0.020$), low job categories ($p=0.004$) and lack of awareness of link between cannabis use and accidents ($p=0.0001$) were found to be positively associated with cannabis use. Being a full-time worker compared to a contract worker ($p=0.004$) was protective from cannabis use. While being married ($p=0.001$) was protective from alcohol use, there was no significant difference in the alcohol and cannabis use status of those who were married and lived with their wives at the mines and those who didn't live with their wives but visited them periodically.

Findings of this study where alcohol use for fun ($p=0.046$) and relaxation ($p=0.018$) were associated with alcohol dependence, and where misconceptions about the energy-boosting attribute of cannabis, and perception that work is 'most-times to always dangerous' ($p=0.012$) were associated with cannabis use and alcohol dependence, suggest the use of substances as a coping mechanism and highlight the link between social factors and substance use.

Industry regulations employing a holistic approach and incorporating essential components, such as clear written individual mine policy, health promotion, monitoring and surveillance, Employee Assistance Programmes, disciplinary procedures and wellness programmes, can contribute towards substance use control among this population.

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TABLE OF CONTENTS

	Page
DECLARATION	ii
DEDICATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	viii
LIST OF FIGURES	xxvii
LIST OF TABLES	xxviii
GLOSSARY	xxxiv
1.0 INTRODUCTION	
1.1 Prevalence of substance use in the workforce	1
1.1.1 Prevalence of alcohol use in the workforce	1
1.1.2 Prevalence of cannabis use in the workforce	2
1.1.3 Prevalence of workplace accident-related substance use	3
1.2 Factors associated with substance use	4
1.3 Effects of substance use	5
1.3.1 Effects of alcohol use	5
1.3.2 Effects of cannabis use	6

1.4	Screening tools for substance use	7
1.4.1	Screening tools for alcohol misuse	7
1.4.1.1	Questionnaires for alcohol misuse screening	7
1.4.1.2	Tests of acute alcohol intoxication	8
1.4.1.3	Laboratory tests for chronic alcohol misuse	9
1.4.2	Screening tools for cannabis use	10
1.5	Measures for control of substance use in the workplace	11
1.6	Motivation for this study	13
1.7	Study aim & objectives	14
1.7.1	Overall aim	14
1.7.2	Specific objectives	14
2.0	METHODOLOGY	16
2.1	Study design	16
2.2	Study population	16
2.2.1	Background information on study mines	17
2.3	Structured Interviews	19
2.3.1	Sampling	19
2.3.1.1	Sample size calculation	19
2.3.1.2	Selection of subjects	20
2.3.1.3	Inclusion/exclusion criteria & replacement technique	20

2.3.2	Instruments of measurement	21
2.3.2.1	Questionnaire	21
2.3.2.2	Breathalyser tests for alcohol	22
2.3.2.3	Urine cannabis tests	23
2.3.3	Pilot study	23
2.3.4	Data collection	24
2.3.4.1	Accessing of participants	24
2.3.4.2	Administration of questionnaire	26
2.3.4.3	Collection of urine samples	27
2.3.4.4	Breathalyser tests	27
2.3.5	Challenges encountered	28
2.3.5.1	Lengthy consultation process	28
2.3.5.2	Logistics of accessing employees	28
2.3.5.3	Unavailability of urine sample at time of interview	29
2.3.6	Facilitating factors	29
2.3.6.1	Cooperation of stakeholders	29
2.3.6.2	Masking of results on breathalyser screen	30
2.3.6.3	Non-invasive nature of requested tests	30
2.3.6.4	Experience gained by research team from mine to mine	30
2.3.7	Quality assurance	30
2.3.7.1	Breathalyser tests	30
2.3.7.2	Urine tests	31

2.3.8	Data analysis	32
2.4	Focus group discussions	33
2.4.1	Study sample	33
2.4.2	Focus group discussion guidelines	34
2.4.3	Pilot study	34
2.4.4	Data collection	34
2.4.5	Data analysis	35
2.5	Record review of accidents	36
2.5.1	Study sample	36
2.5.2	Instrument of measurement	36
2.5.3	Pilot study	36
2.5.4	Data collection	37
2.5.5	Data analysis	37
2.6	Limitations of the study	37
3.0	RESULTS OF BREATHALYSER & URINE TESTS	40
3.1	Response proportion	40
3.2	Breathalyser results	41
3.2.1	Overview of breathalyser results	41
3.2.2	Comparison of breathalyser results to specific alcohol limits	42
3.2.2.1	Comparison of breathalyser results to legal breath alcohol limit for professional drivers	42

3.2.2.2	Evaluation of relationship between day of breathalyser test and breathalalyser test result	45
3.2.2.3	Comparison of breathalyser results to individual mine breath alcohol limit	46
3.3	Urine tests results for cannabis	47
3.3.1	Urine test results by mine	48
3.3.2	Urine test results by commodity group	48
4.0	RESULTS OF STRUCTURED INTERVIEWS	49
4.1	Response proportion	50
4.2	Prevalence of substance use	50
4.2.1	Estimated prevalence of alcohol dependence	50
4.2.2	Comparison of CAGE positive respondents to breathalyser results	52
4.2.3	Prevalence of cannabis use	53
4.2.3.1	Prevalence of self-reported cannabis use	54
4.2.3.2	Prevalence of cannabis use estimated by urine tests	54
4.2.3.3	Comparison of percentages of self-reported cannabis users to urine-positive cannabis users	55
4.2.3.4	Evaluation of level of accuracy of self-reported cannabis use	56
4.3	Socio-demographic profile & substance use	57
4.3.1	Age distribution of participants	57
4.3.1.1	Substance use & age	58

4.3.2	Sex	60
4.3.3	Country of origin	61
4.3.4	Main languages spoken	62
4.3.5	Location of workstation	63
4.3.5.1	Substance use & location of workstation	63
4.3.6	Level of education	64
4.3.6.1	CAGE status & level of education	65
4.3.6.2	Cannabis use & level of education	65
4.3.7	Type of accommodation	66
4.3.7.1	CAGE status & type of accommodation	67
4.3.7.2	Cannabis use & type of accommodation	68
4.3.8	Marital status	69
4.3.8.1	CAGE status & marital status	70
4.3.8.2	Cannabis use & marital status	71
4.3.9	Cohabitation status with wife	72
4.3.9.1	CAGE status and cohabitation status with wife	72
4.3.9.2	Cannabis use status and cohabitation status with wife	73
4.3.10	Job category	73
4.3.10.1	CAGE status & job category	74
4.3.10.2	Cannabis use & job category	75
4.3.11	Nature of employment	76
4.3.11.1	CAGE status & nature of employment	77

4.3.11.2	Cannabis use & nature of employment	77
4.3.12	Length of service	78
4.3.12.1	CAGE status & length of service	79
4.3.11.2	Cannabis use & length of service	79
4.3.13	Type of study mine	81
4.4	Practice of substance use	85
4.4.1	Frequency of substance use	85
4.4.1.1	Frequency of alcohol consumption	85
4.4.1.2	Frequency of cannabis use by current users	86
4.4.2	Drinking partners	87
4.4.3	Practice of substance use among participants' fellow workers	88
4.4.3.1	Reported alcohol use status of fellow workers	88
4.4.3.2	Participants' CAGE status & reported alcohol use status of fellow workers	89
4.4.3.3	Reported cannabis use status of fellow workers	91
4.4.3.4	Reported cannabis use status of fellow workers & participants' cannabis use status	92
4.4.4	Help-seeking practice & its relationship to substance use	92
4.4.4.1	Help-seeking practice & CAGE status	92
4.4.4.2	Help-seeking practice & its relationship to cannabis use	94
4.4.5	Practice of multiple substance use	95

4.5	Awareness of link between substance use & work-related accidents	97
4.5.1	Awareness of link between alcohol use & accidents	97
4.5.1.1	CAGE status & awareness of link between alcohol use & accidents	98
4.5.2	Awareness of link between cannabis use & accidents	98
4.5.2.1	Cannabis use & awareness of its link to accidents	99
4.6	Participants' perceptions & its relationship to substance use	101
4.6.1	Perceived level of work-related danger	101
4.6.1.1	CAGE status & perceived level of work-related danger	102
4.6.1.2	Cannabis use status & perceived level of work-related danger	103
4.6.2	Perceptions of reasons why mineworkers use alcohol	106
4.6.2.1	Evaluation of relationship between 'relaxation' as reason for alcohol use & CAGE status	107
4.6.2.2	Evaluation of relationship between 'fun' as reason for alcohol use & CAGE status	108
4.6.2.3	Evaluation of relationship between CAGE status & other reasons for alcohol use	110
4.6.3	Perceptions of reasons why mineworkers use cannabis	110
4.6.3.1	Evaluation of relationship between cannabis use & reasons for cannabis use	112

4.6.4	Perceptions of how to control alcohol use among mineworkers	112
4.7	Summary of study variables & their relationship to substance use	113
5.0	FINDINGS OF FOCUS GROUP DISCUSSIONS	115
5.1	Socio-demographic profile of participants	116
5.1.1	Age of participants	116
5.1.2	Sex of participants	116
5.1.3	Level of education	117
5.2	Perceptions, practice & attitudes of mineworkers towards alcohol use	118
5.2.1	Perceptions about alcohol use	118
5.2.1.1	First thoughts about alcohol	118
5.2.1.2	Why some mineworkers misuse alcohol	120
5.2.1.3	Why some mineworkers do not misuse alcohol	122
5.2.2	Attitudes towards mineworkers who misuse alcohol	122
5.2.3	Practice & patterns of alcohol use	123
5.2.3.1	“Most mineworkers drink in bars with their friends”	123
5.2.3.2	“Most mineworkers drink alcohol after work but some drink before and during the shift”	124
5.2.3.3	“Day shift workers usually drink alcohol in the evening after their shift but night shift workers find it difficult to sleep during the day and sometimes end up drinking before their shift”	124

5.2.3.4	“Mineworkers who work under more stressful conditions tend to drink more”	125
5.2.3.5	“People drink more after pay-day”	126
5.2.3.6	“Drinking increases during festive seasons”	126
5.3	Practice, perceptions & attitudes of mineworkers towards cannabis use	126
5.3.1	Perceptions about cannabis use	127
5.3.1.1	First thoughts about cannabis	127
5.3.1.2	Why some mineworkers use cannabis	129
5.3.1.3	Why some mineworkers do not use cannabis	132
5.3.2	Attitudes of participants towards those who use cannabis	133
5.3.2.1	“Those who use dagga are usually hard working and do not cause problems unlike those who use alcohol, so we are tolerant of them”	133
5.3.2.2	“Those who use dagga jeopardise safety, can be aggressive, and give a bad reflection of the mine”	133
5.3.3	Practice of cannabis use	134
5.3.3.1	“It is sometimes difficult to know when others use dagga as it is not always used publicly, but some people smoke it openly before and during the shift”	134
5.3.3.2	“Dagga use is more common among those who carry out more physically demanding jobs”	135

5.4	Participants' perceptions of challenges of working at mines	136
5.4.1	“Working at the mine exposes you to physical hazards and psychological stress”	136
5.4.2	“Relatively decent pay and team spirit are positive things about working in the mine, but they come at a price”	137
5.5	Participants' awareness of health & safety risks linked to alcohol & cannabis use	138
5.6	Perceptions of challenges of controlling substance use & recommendations	138
5.6.1	Challenges & recommendations relating to the approach of mines in controlling substance use	139
5.6.1.1	“There is need for more mine commitment towards control of dagga use”	139
5.6.1.2	“In order to influence behaviour, we need a holistic approach”	140
5.6.1.3	“There is a need for sound EAP which work closely with employees & other role-players”	141
5.6.1.4	“Alternative activities to substance use can help keep employees constructively occupied”	141
5.6.1.5	“Counselling of substance users should be done on a continuous basis by trained personnel”	142

5.6.1.6	“Awareness programmes are important but they are not as effective as they should be”	142
5.6.1.7	“It is possible to bring substances into the mine as employees are not usually searched on their way in”	143
5.6.1.8	“The supervisor is not always present throughout the shift so an employee who wants to smoke dagga during the shift can do so”	144
5.6.1.9	“The selection process for random breathalyser tests is not transparent”	144
5.6.1.10	“We need to expand substance-testing protocols to include dagga”	144
5.6.1.11	“Hostel bars stay open beyond their stipulated operating hours”	145
5.6.1.12	“Incentives can motivate people to maintain a good safety record”	145
5.6.1.13	“Improvement in working and living conditions have a role to play in controlling substance use”	146
5.6.2	Challenges & recommendations relating to knowledge, attitudes & perceptions about substance use	146
5.6.2.1	“It is not the responsibility of individual mineworkers whose co-workers are using dagga, to take action”	146

5.6.2.2	“We need to prove to people that dagga use is not innocuous”	147
5.6.2.3	“We need clarity about the relationship between actual alcohol intake & effect on blood alcohol levels”	147
5.6.3	Challenges relating to perceptions of the public about cannabis	148
5.6.3.1	“Substances are easily accessible in the community”	148
5.6.3.2	“There is public uncertainty about adverse effects of dagga”	148
5.6.3.3	“The legal disciplinary measures for offences related to dagga use among the general public are inadequate”	149
5.7	Summary of focus group discussion findings	149
5.7.1	Practice of substance use among mineworkers	149
5.7.2	Perceptions about why mineworkers use substances	150
5.7.3	Attitudes of mineworkers towards those who use substances	150
5.7.4	Knowledge about hazards of substance use	151
5.7.5	Perceptions of challenges of controlling substance use among mineworkers & recommendations	151
6.0	FINDINGS OF RECORD REVIEW	152
6.1	Availability of post-accident & medical surveillance tests for substance use at study mines	152

6.2	Mine protocol for post-accident & medical surveillance-related substance tests	153
6.2.1	Mine protocol for post-accident substance tests	153
6.2.2	Mine protocol for medical surveillance-related substance tests	155
6.3	Prevalence of positive post-accident & medical surveillance-related substance tests	156
6.3.1	Prevalence of positive post-accident alcohol & cannabis tests	156
6.3.1.1	Prevalence of positive accident-related alcohol tests	156
6.3.1.2	Prevalence of positive post-accident cannabis tests	157
6.3.2	Prevalence of positive medical surveillance-related substance tests	158
6.4	Lost time injury frequency rates & substance use	159
6.4.1	Lost time injury frequency rates by mine	159
6.4.2	Evaluation of differences in LTIFR between mines	160
6.4.3	Evaluation of link between lost time injury frequency rates & substance use	160

6.5	Summary of findings	163
6.5.1	Types of post-accident/medical surveillance-related substance tests & modality of testing	163
6.5.2	Prevalence of positive post-accident & medical surveillance-related substance tests	164
6.5.3	Relationship between LTIFR & substance use	166
7.0	DISCUSSION & CONCLUSIONS	167
7.1	Response proportion	167
7.2	Prevalence of substance use among mineworkers	168
7.2.1	Prevalence of alcohol dependence	168
7.2.2	Prevalence of cannabis use	170
7.2.3	Prevalence of positive pre-shift alcohol tests	173
7.2.4	Comparison of CAGE results to breathalyser results	177
7.2.5	Accidents & substance use	177
7.2.5.1	Accidents & alcohol use	177
7.2.5.2	Accidents & cannabis use	182
7.2.5.3	Prevalence of positive medical surveillance-related alcohol & cannabis tests	183
7.3	Probable influence of substance use policies on substance use	183

7.4	Factors which may be linked to substance use	186
7.4.1	Low job categories & low levels of education	186
7.4.2	Location of workstation & levels of perceived work-related danger	187
7.4.3	Nature of employment & length of service	188
7.4.4	Hostel dwellers & marital status	189
7.4.5	Reported reasons for substance use	191
7.4.5.1	Fun, relaxation & stress relief	191
7.4.5.2	Perceived energy-boosting attribute of cannabis	192
7.4.6	Awareness of effects of substance use on health & safety	193
7.4.7	Use of substances by participants' fellow workers	194
7.4.8	Attitudes towards those who use substances	194
7.4.9	Differences in characteristics between mines	195
7.5	Recommendations for controlling substance use	196
7.6	Conclusions	197
8.0	RECOMMENDATIONS	201
8.1	Renew commitment of stakeholders to substance control	202
8.2	Develop industry regulations for substance control	202
8.3	Develop individual mine policies which incorporate essential Components	203

8.4	Improve monitoring & surveillance systems for substance use	204
8.4.1	Develop industry regulated standards for surveillance of substance use	204
8.4.2	Incorporate other ways into monitoring of substance use	207
8.4.2.1	Increase vigilance for signs of substance use during night shift & following weekends	207
8.4.2.2	Improve random security checks	207
8.4.2.3	Encourage involvement of co-workers in substance use control	207
8.4.3	Strengthen database for substance use-related medical surveillance	209
8.5	Effectively involve different categories of employees in programmes	209
8.6	Strengthen health promotion programmes	210
8.7	Adopt holistic approach to substance use control	214
8.7.1	Renew commitment to Employee Assistance Programmes	214
8.7.2	Teach alternative coping strategies for problems	215
8.7.3	Provide adequate leisure activities	216
8.7.4	Continuously improve working conditions	216
8.7.5	Improve living conditions	217
8.8	Review disciplinary procedures	217
8.9	Ensure sustainability of programmes	218
8.10	Control substance use in the wider community	218
8.11	Carry out further studies on substance use among mineworkers	219

8.12	Continuously monitor & evaluate programmes	221
8.13	Conclusion	221
APPENDIX A	Minimum sample sizes for prevalence studies at 95% precision	228
APPENDIX B	A project management model for carrying out studies on substance use among mineworkers in South Africa	229
APPENDIX C	Introductory remarks for interviewers	249
APPENDIX D	Subject information & consent form for structured interviews	250
APPENDIX E	Questionnaire for structured interviews on alcohol and cannabis use among mineworkers	253
APPENDIX F	Mini questionnaire for breathalyser tests	261
APPENDIX G	Where to obtain more information/help about alcohol/dagga use	262
APPENDIX H	Information & consent form for participants of focus group discussions	263
APPENDIX I	Socio-demographic information questionnaire for participants of focus group discussions	265
APPENDIX J	Focus group discussion guidelines	266

APPENDIX K	Questionnaire for record review of post-accident & medical surveillance-related alcohol & cannabis tests	269
APPENDIX L	Evaluation of relationship between LTIFR & substance use	275
REFERENCES		276

LIST OF FIGURES

Figure		Page
Figure 4.1:	Scatter plot of CAGE positive results to breathalyser results above 0.10mg/1000ml by mine	53
Figure 5.1	Associations made by participants to alcohol	119
Figure 5.2	Vicious cycle of alcohol misuse	121
Figure 5.3	Main associations made by participants to dagga	128
Figure 5.4	Vicious cycle of dagga use	131
Figure 6.1:	Evaluation of differences in LTIFR between mines using ANOVA techniques	160
Figure 6.2	Evaluation of link between LTIFR & indicators of substance use by correlation analysis	162

LIST OF TABLES

Table	Page
2.1 Summary of background information on study mines	18
2.2 Summary of sample size of study mines	20
2.3 Rapid cannabis test results by Cobas Integra test results	23
2.4 Number of discussion groups carried out at study mines	33
2.5 Number of focus group discussion participants per mine	34
3.1 Response proportion by mine	40
3.2 Overview of results of breathalyser tests by mine	41
3.3 Comparison of breathalyser results to legal breath alcohol limit for professional drivers of 0.10mg/dl	44
3.4 Comparison of breathalyser results to individual mine breath alcohol limit	45
3.5 Overview of urine test results by mine	46
3.6 Overview of urine test results by commodity group	46
3.7 Comparison of breathalyser results to individual mine breath alcohol limit	47
3.8 Overview of urine test results by mine	48
3.9 Overview of urine test results by commodity group	48
4.1 Current users, ex-users & never users of alcohol by mine	51
4.2 Estimated prevalence of alcohol dependence by individual mine	51
4.3 Estimated prevalence of alcohol dependence by commodity mine	51
4.4 Current users, ex-users & never-users of cannabis by mine	52

4.5	Prevalence of cannabis use in individual mines estimated by urine tests	54
4.6	Prevalence of cannabis use in commodity mines estimated by urine tests	55
4.7	Comparison of percentages of self-reported cannabis users & urine-positive cannabis users	55
4.8	Self-reported cannabis use by urine-positive cannabis use	56
4.9	Age distribution of participants by mine	56
4.10	Mean age & median age of participants by mine	58
4.11	CAGE status by age	58
4.12	Cannabis use status by age	59
4.13	Sex of participants by mine	59
4.14	Country of origin of participants by mine	60
4.15	Participants' main language by mine	61
4.16	Location of participants' workstations by mine	62
4.17	CAGE status by location of workstation	63
4.18	Cannabis use status by location of workstation	64
4.19	Level of education of participants by mine	64
4.20	CAGE status by level of education	64
4.21	Cannabis use status by level of education	65
4.22	Univariate & multivariate analysis of cannabis use by level of education	65
4.23	Type of accommodation by mine	66
4.24	CAGE status by type of accommodation	67
4.25	Univariate & multivariate analysis of CAGE status by type of accommodation	68

4.26	Cannabis use status by type of accommodation	68
4.27	Marital status of participants by mine	69
4.28	CAGE status by marital status	69
4.29	Univariate & multivariate analysis of CAGE status by marital status	70
4.30	Cannabis use status by marital status	71
4.31	Job category of participants by mine	71
4.32	Cohabitation status of participants with their wives	72
4.33	CAGE status by cohabitation status with wife	72
4.34	Cannabis use status by cohabitation status with wife	73
4.35	Job category of participants by mine	74
4.36	CAGE status by job category	74
4.37	Cannabis use status by job category	75
4.38	Univariate & multivariate analysis of cannabis use status by job category	76
4.39	Nature of participants' employment by mine	76
4.40	CAGE status by nature of employment	77
4.41	Cannabis use status by nature of employment	77
4.42	Univariate & multivariate analysis of cannabis use by nature of employment	78
4.43	Length of service of participants	79
4.44	CAGE status by length of service	79
4.45	Cannabis use status by length of service	80
4.46	Univariate & multivariate analysis of cannabis use status by length of service	81

4.47	Univariate analysis of substance use by mine	82
4.48	Multivariate analysis of CAGE status by mine	83
4.49	Multivariate analysis of cannabis use by mine	84
4.50	Frequency of current users' alcohol consumption by mine	85
4.51	Current users' frequency of cannabis use by mine	86
4.52	Drinking partners of current alcohol users	87
4.53	Reported alcohol use status of respondents' fellow workers	88
4.54	Participants' CAGE status by fellow workers' reported alcohol use status	89
4.55	Univariate & multivariate analysis of participants' CAGE status by fellow workers' reported alcohol use status	90
4.56	Prevalence of cannabis use & reported cannabis use status of fellow workers	91
4.57	Participants' cannabis use status by fellow workers' reported cannabis use status	92
4.58	Help-seeking practice & its relationship to CAGE status	93
4.59	Univariate & multivariate analysis of CAGE status by help-seeking practice for alcohol use	94
4.60	Help-seeking practice & its relationship to cannabis use	95
4.61	Participants' CAGE status by cannabis use status	95
4.62	Univariate & multivariate analysis of CAGE status by cannabis use	96
4.63	Awareness of relationship between alcohol consumption & accidents	97
4.64	CAGE status by awareness of link between alcohol use & accidents	98

4.65	Awareness of relationship between cannabis use & accidents	99
4.66	Cannabis use status by awareness of link between cannabis use & accidents	99
4.67	Univariate & multivariate analysis of cannabis use by awareness of positive link between cannabis use & accidents	100
4.68	Perceived level of work-related danger	101
4.69	CAGE status & perceived level of work-related danger	102
4.70	Univariate & multivariate analysis of cage status by perceived level of work-related danger	103
4.71	Cannabis use status by perceived level of work-related danger	104
4.72	Univariate & multivariate analysis of cannabis use by perceived level of work-related danger	105
4.73	Perceptions of reasons why mineworkers drink alcohol	106
4.74	CAGE status by ‘relaxation’ as reason for alcohol use by mineworkers	107
4.75	Univariate & multivariate analysis of CAGE status by ‘relaxation’ as reason for alcohol use by mineworkers	108
4.76	CAGE status by ‘fun’ as reason for alcohol use by mineworkers	109
4.77	Univariate & multivariate analysis of CAGE status by ‘fun’ as reason for alcohol use by mineworkers	109
4.78	Participants’ perceptions of reasons why mine workers use cannabis	111
4.79	Participants’ recommendations for control of alcohol use by mine	113
4.80	Summary of variables significantly linked to substance use	114
5.1	Mean age of participants by mine	116

5.2	Sex of union/H & S representatives by mine	116
5.3	Sex of management representatives/supervisors by mine	117
5.4	Highest level of education of union/H & S representatives by mine	117
5.5	Highest level of education of management representatives/supervisors by mine	117
6.1	Availability of post-accident & medical surveillance tests for alcohol & cannabis use at study mines	153
6.2	Mine protocol for post-accident alcohol & cannabis tests	154
6.3	Mine protocol for medical surveillance-related alcohol & cannabis tests	155
6.4	Prevalence of positive post-accident alcohol tests in study mines	157
6.5	Prevalence of positive post-accident cannabis tests in study mines	158
6.6	Lost Time Injury Frequency Rate (LTIFR) by mine	159
6.7	Overview of LTIFR & indicators of substance use	161
6.8	Evaluation of link between LTIFR & indicators of substance use by regression analysis	162
6.9	Prevalence of positive post-accident & medical surveillance-related alcohol and cannabis tests in study mines	165
8.1	Algorithm of proposed health promotion programme on alcohol & cannabis use among mineworkers	211
8.2	Intervention model for control of substance use among mineworkers	223

GLOSSARY

Never user:	One who has never used alcohol/cannabis before.
Current user:	One who currently uses alcohol/cannabis.
Ex-user:	One who has stopped using alcohol/cannabis.
Ever-user:	One who has used alcohol/cannabis before. This category includes current users and ex-users.
CAGE positive respondents:	Respondents who are likely to be dependent on alcohol.
CAGE negative respondents:	Respondents other than those who are CAGE positive.
Urine positive respondents:	Respondents who tested positive for cannabis.
Urine negative respondents:	Respondents who tested negative for cannabis.