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Intimate partner abuse of women in the Bowen Basin and Mackay region of Central Queensland

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Intimate partner abuse of women in the Bowen Basin and Mackay region of Central Queensland: A report submitted to the Criminology Research Council,

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Executive summary

Intimate partner violence, also referred to as intimate partner abuse, includes all types of physical and non-physical violence and acts of abuse between intimate partners. This study focuses on intimate partner abuse among cohabiting, heterosexual partners living in the Bowen Basin and Mackay region of Central Queensland. Specifically, the study is concerned with the abuse of women by their current marriage or de facto male partners. Due to the particular geographic, economic and cultural characteristics of this region many families are affected by atypical work schedules, periodic separation and isolation. Each of these may be expected to impact on the quality of relationships and, potentially, on the experience of intimate partner abuse.

1. Objectives of the study

The key objectives of the study on intimate partner abuse in the Bowen Basin region were to:

- ascertain the prevalence and the nature of male-to-female partner abuse in the region
- identify associations between a variety of socio-demographic and behavioural variables, and physical and non-physical male-to-female partner abuse, and
- identify any impact of the experience of abuse on women's health status.

The study also sought information about the reasons women continued in abusive relationships and sought to identify if women were aware of counselling and support services within their locality, and if they had used such services.

2. Methodology

The sample comprised 532 women over the age of 18 years and living in an intimate, heterosexual (spousal) relationship in the Bowen Basin region of Central Queensland. A stratification strategy was employed to ensure: first, that approximately 100 women from Mackay were interviewed and the remainder from elsewhere in the Bowen Basin; and second, that at least half the women in Mackay had partners who were involved in mining. Reflecting the economic structure of the Basin, this resulted in a sample in which some 10 percent of women and 44 percent of male partners were involved in shiftwork, while 5 percent of women and 54 percent of male partners were employed in mining.

The women were surveyed by telephone in June and July, 2007. The interview schedule comprised two sets of ten questions concerning acts of physical and non-physical abuse by current partners, as well as a range of variables concerning the socio-demographic and behavioural characteristics of women and their partners, and the status of the women's health and their help seeking.

In relation to physical abuse, the women were asked whether they had been abused: first at anytime during the current relationship; and, if so, whether the abuse had occurred during the previous 12 months. Physical abuse was differentiated into three categories including severe physical abuse (including hitting, kicking, beating, choking and threatening with a weapon such as a gun, knife etc); sexual abuse (forced into unwanted sexual activity); and all physical abuse (aforementioned behaviours plus threatening to hit with a fist or anything, throwing things, slapping and pushing). Similarly, the ten questions on the prevalence of non-physical abuse were further classified into psychological, social-psychological and economic abuse.

3. Key findings

3.1 Experience of abuse

3.1.1 Physical abuse

Physical abuse of women by their spousal partner had occurred at some time in 11.5 percent of current relationships. Three point two percent of women reported severe physical abuse at some time within the current relationship and 2.4 percent reported sexual abuse at some time in the relationship.

During the previous 12 months, 4.1 percent reported some form of physical abuse, 1.7 percent reported severe physical abuse and 0.8 percent reported sexual abuse.

3.1.2 Non-physical abuse

At some stage of the current intimate relationship, 31.4 percent of women had experienced at least one form of non-physical abuse; 21.8 percent of the women had experienced psychological abuse, 19.2 percent had experienced social-psychological abuse, and 3.8 percent of the women had experienced economic abuse.

3.1.3 Correlates of abuse

A range of socio-demographic and behavioural variables were analysed for their association with the reporting of abuse. While it is not possible to determine the direction of causality in these relationships, they suggest nevertheless a number of potential risk factors associated with the experience of abuse. Specifically:

Physical abuse (all forms)

A woman's likelihood of having experienced any form of physical abuse at some point in the current relationship increased by a factor of:

- 20.9 if her partner consumed marijuana/cannabis at least twice a month
- 4.8 if she consumed marijuana/cannabis at least twice a month
- 3.7 if the level of joint debt with her partner fell in the range of more than zero but less than $100,000
- 2.7 if her partner smoked
- 2.2 if the relationship was de facto
- 2.1 if she was solely or mostly responsible for looking after children
- 2.1 if her partner drank at a risky level, and
- 2.1 if she was aged less than 30 years.

Physical abuse within last 12 months

A woman's likelihood of having experienced any form of physical abuse during the last 12 months increased by a factor of:

- 10.1 if her partner consumed marijuana/cannabis at least twice a month
- 4.9 if her partner had no technical or higher education
- 4.6 if her partner smoked
- 4.4 if she was aged less than 30 years
- 3.6 if she did not have access to a joint bank account with her partner, and
- 3.3 if the relationship was de facto.

Severe physical abuse

A woman's likelihood of having experienced severe physical abuse at some point in the relationship increased by a factor of:

- 27.4 if her partner consumed marijuana/cannabis at least twice a month
- 7.7 if her partner smoked
- 4.4 if she was aged less than 30 years, and
- 3.9 if she was a smoker herself.

Non-physical abuse (all forms)

A woman's likelihood of having experienced some form of non-physical abuse at some point in the relationship increased by a factor of:

- 6.8 if she consumed marijuana/cannabis at least twice a month
- 5.1 if her partner consumed marijuana/cannabis at least twice a month
- 2.4 if she was solely or mostly responsible for looking after children
- 2.0 if her partner smoked
- 2.0 if she had spent less than five years in the current relationship when compared with women who had spent over fifteen years in the current relationship
- 1.9 if she did not have access to a joint bank account with her partner
- 1.9 if the relationship was de facto
- 1.7 if the level of joint debt with her partner fell in the range of more than zero but less than $100,000
- 1.6 if she was aged less than 30 years, and
- 1.5 if her partner had no technical or higher education.

Social-psychological abuse

A woman's likelihood of having experienced social-psychological abuse at some point in the current relationship increased by a factor of:

- 4.3 if she consumed marijuana/cannabis at least twice a month

- 4.0 if she had spent less than five years in the relationship when compared with women who had spent over fifteen years in the relationship
- 3.2 if she was solely or mostly responsible for looking after children
- 2.8 if there were children living at home, or 3.8 if there were three or more children living at home
- 2.7 if the relationship was de facto
- 2.3 if she was smoker
- 2.2 if she did not have access to a joint bank account with her partner
- 2.1 if her partner smoked
- 1.9 if her partner had no technical or higher education, and
- 1.8 if her partner was employed as a miner, or 3.5 if she was a resident of Mackay and her partner was a miner.

Psychological abuse

A woman's likelihood of having experienced psychological abuse at some point in the relationship increased by a factor of:

- 9.3 if her partner consumed marijuana/cannabis at least twice a month.
- 2.3 if the level of joint debt with her partner fell in the range of more than zero but less than $100,000
- 1.8 if she was solely or mostly responsible for looking after children
- 1.6 if she was a smoker, and
- 1.6 if her partner drank at a risky level.

Economic abuse

A woman's likelihood of having experienced economic abuse at some point in the relationship increased by a factor of:

- 4.3 if she did not have access to a joint bank account with her partner
- 3.7 if she was a smoker
- 3.1 if her partner smoked.

3.2 Reasons for continuing with the abusive relationship

Women who had been abused by their current partners remained in the relationship because:

- they still loved their partner (60.8%)
- they wanted to give their relationship another try (60.8%)
- they had resolved problems with their partners (51.0%)
- for the sake of the children (41.2%), and
- the partner had promised to change (33.3%).

3.3 Mental health of women in abusive relationships

There was a strong association between the experience of abuse and indications of negative mental health outcomes. Specifically, women who reported:

- physical abuse at any stage of their current relationship were 4.4 times more likely to show evidence of severe psychological symptomatology and 3.7 times more likely to show evidence of depression
- physical abuse in the last 12 months were 10.7 times more likely to show evidence of severe psychological symptomatology and 8.8 times more likely to show evidence of depression
- severe physical abuse from their current partner were 13.4 times more likely to show evidence of severe psychological symptomatology and 10.9 times more likely to show evidence of depression
- sexual abuse from their current partner were 4.8 times more likely to show evidence of depression
- economic abuse from their current partner were 4.5 times more likely to show evidence of severe psychological symptomatology and 4.7 times more likely to show evidence of depression
- psychological abuse from their partner were 3.7 times more likely to show evidence of severe psychological symptomatology and 3.0 times more likely to show evidence of depression
- social-psychological abuse from their current partner were 5.6 times more likely to show evidence of severe psychological symptomatology and 4.2 times more likely to show evidence of depression, and
- any form of non-physical abuse from their partner were 5.2 times more likely to show evidence of severe psychological symptomatology and 3.6 times more likely to show evidence of depression.

4. Conclusion

This study found evidence of high levels of intimate partner abuse in the Bowen Basin region, including Mackay, with nearly a third of women surveyed reporting that they had experienced some form of abuse from their intimate male partner at some time during their current relationship. A range of socio-demographic characteristics were found to be significantly associated with the experience of intimate partner abuse, including characteristics that indicate the role of dominant masculine culture. However, and contrary to expectation, mining cultures had little or no demonstrable association with women's experience of most forms of abuse. The study found a range of motivations for women to remain in, as well as a range of constraints on their leaving, an abusive relationship. It also found significant negative mental health consequences for women experiencing any form of abuse, a reluctance to seek counselling and support services; and, compared to Queensland generally, a greater level of police involvement in applications for civil Domestic Violence Protection Orders (DVPOs).

The implications of the study include the need for an enhanced response to intimate partner abuse by a wider range of mainstream services, including health services, to facilitate early intervention. Prevention programs need to target broader societal, as well as individual, attitudes and beliefs that facilitate abuse of women. Such programs must also address non-physical forms of abuse, which also result in depression and severe psychological symptomatology.

Chapter 1: Background and literature review

1.1 Introduction

Anecdotal information from service providers suggests that women living in mining communities, particularly those whose intimate partners are working in the mining industry, are at high risk of experiencing intimate partner violence. Explanations offered for the perceived increased risk of violence in mining communities include the effects of the dominant masculine culture and stressors such as shift work, particularly 'fly-in-fly-out' shift arrangements whereby couples are living apart much of the time. This study sought to identify factors associated with increased risk of intimate partner abuse for women living in mining communities, specifically in the Bowen Basin region of Central Queensland; a region characterized by agricultural and mining activity. The recent mining boom in the region has seen a rapid increase in population without a commensurate increase in infrastructure. Women affected by intimate partner abuse in rural and remote communities are particularly vulnerable for a range of reasons, including isolation from social and professional support; and a lack of services, or difficulty accessing services, including police, because of stigma and lack of confidentiality. The study identifies the prevalence and the nature of abuse of women by their intimate male partners in the Bowen Basin region and tests the association between intimate partner abuse and a number of relevant variables, to provide a better understanding of risk factors for intimate partner violence. The results, therefore, provide an evidence base to inform interventions aimed at preventing intimate partner violence, particularly in mining communities, and supporting women affected by such violence.

1.2 Intimate partner abuse

Domestic violence is a global, health, social, economic, and legal problem. It cuts across every class, ethnic group and place. Included within its definitional domain are all types of physical and non-physical violence and abuse. The range of relationships included in definitions of 'domestic violence' varies, but typically include spouses (married or de facto couples of the same or opposite sex). In some definitions, dating partners, other family members, and other members of a household may also be included. Intimate partner violence is often used synonymously with 'spousal domestic violence', though it may also include people in dating relationships, and those who are engaged to be married, betrothed or 'promised' under traditional cultural practices.[1] This study uses the term 'intimate partner' in reference to heterosexual married or de facto relationships, and is concerned with the abuse of women by their intimate male partners.

It is estimated that 87 percent of victims of domestic violence in Australia are female and 98 percent of perpetrators male (Access Economics). Three-quarters of intimate partner homicides involve men killing their partners (Mouzos & Rushforth 2003). This is consistent with historical and contemporary evidence from many societies suggesting that lethal and non-lethal violence is overwhelmingly perpetrated by men against women (Daly & Wilson 1988; Dobash & Dobash 1979, 1992; Dobash et al. 2004; Dobash et al. 1992; Pleck 1987; Wilson & Daly 1992, 1998).

A recent report by the Australian Institute of Criminology suggests that nearly 10 percent of Australian women aged 18 to 69 have experienced physical violence from their current partner (Mouzos & Makkai 2004). Another study showed that intimate partner violence was the leading

cause of preventable death, disability and illness in Victorian women aged 15 to 44. The study demonstrated that intimate partner violence alone contributes nine percent of the disease burden in this age group (VicHealth 2004). Further, violence against women costs Australia as a whole an estimated $8.1 billion a year (Access Economics 2004). The 2005 Personal Safety Survey, a rigorous national study based on face-to-face interviews with over 17,300 Australians found that 16 percent of women had experienced violence by a current or previous partner since turning 15 (ABS 2006a).

A VicHealth study on community attitudes found that most Victorians thought women should be free from violence. However, nearly 25 percent of the women also believed that violence could be excused in some circumstances (Taylor & Mouzos 2006). Based on 2005 figures from the ABS, the report estimated that 363,000, or 4.7 percent of all Australian women, had experienced physical violence in the previous 12 months, and that 126,100 Australian women (1.6%) had experienced sexual violence. The ABS' Personal Safety Survey (2006) found that 39.9 percent of all Australian women had experienced some sort of physical violence since turning 15, and 19.1 percent had experienced sexual violence.

Although the causes of violence against women are complex, factors in our social, economic and cultural environments play a significant part. Addressing these factors can help to prevent the occurrence and the consequences of violence against women (World Health Organisation (WHO) 2004). While the unequal distribution of power and resources between men and women is often cited as an overarching explanation for the abuse of women (Heise 1998; Office of Women's Policy 2002; WHO 2002), addressing violence in specific contexts requires more detailed understanding of the equally specific geographic, social and economic factors that influence the distribution of resources, the experience of intimate partner violence, and societal responses to that violence. In the context of rural and remote Australia, for example, research suggests that women's vulnerability to domestic violence is influenced by physical and social isolation, the availability of firearms, inadequate legal provisions, under-resourcing of police and other services, fear, and financial insecurity (WESNET (Women's Services Network) 2000). For these women, seeking support or escaping an abusive relationship is complicated by:

- physical isolation from relatives, friends and established social networks
- a lack of social support networks and services
- fear of 'small town talk'
- the 'relative apathy' of police officers in initiating adequate measures because of acquaintance and/or friendship with perpetrators
- lack of available transport in particularly remote locations, and
- increased social isolation and acceptance of abuse by some overseas-born women married to Australian males (WESNET 2000).

Little research has been conducted specifically in mining communities, although WESNET (2000) draws attention, in addition to the above factors, to the lack of social cohesion in some of these communities, the limited employment and education opportunities, the lack of alternative housing, and the focus of services on meeting the needs of mostly male mine employees.

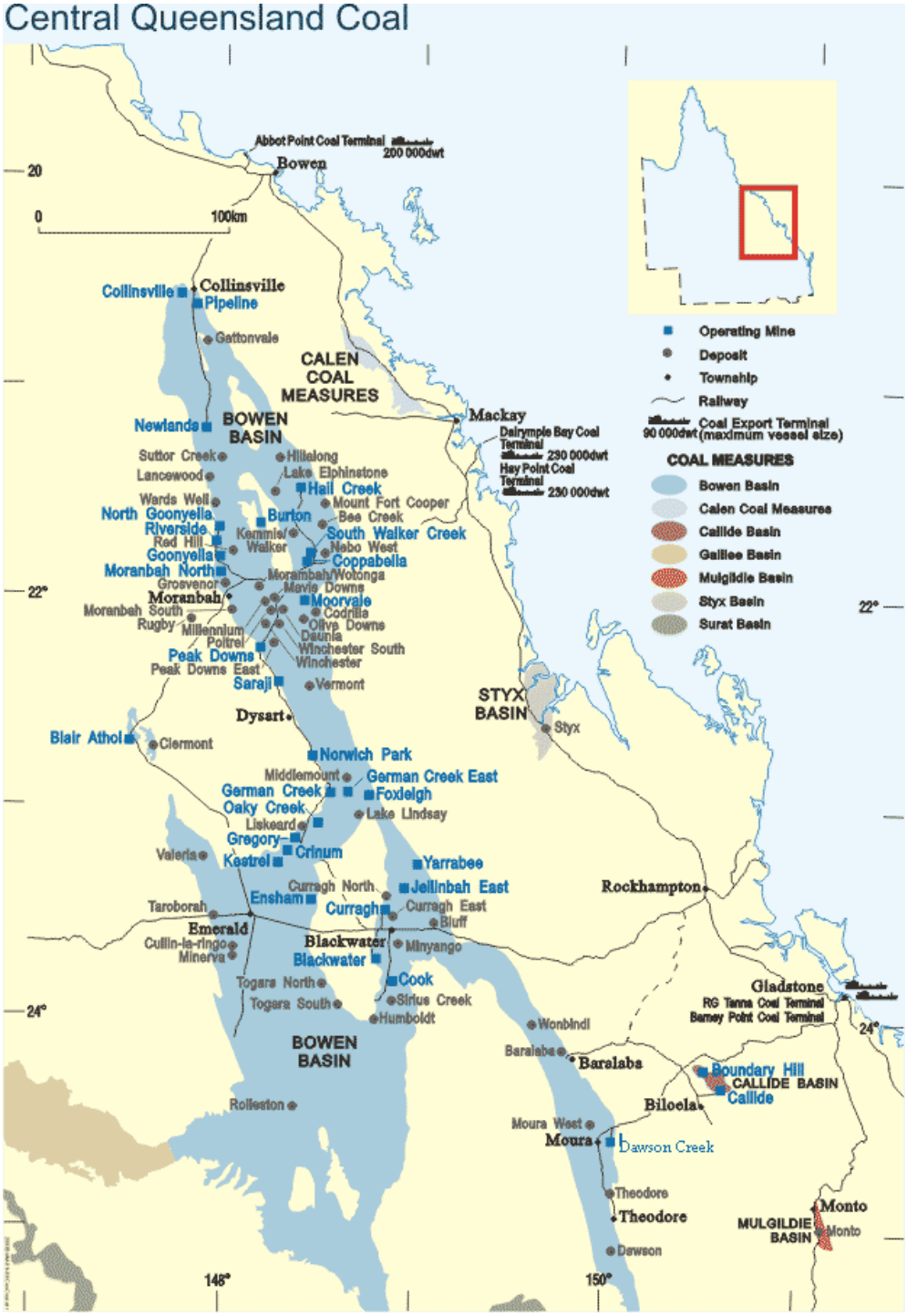
1.3 Social pressures in the Bowen Basin, Central Queensland

The mining industry contributes over 10 percent of Queensland's Gross State Product and about one in every 14 jobs (ACIL Consulting 2002). Coal mining accounts for approximately half of all mining related jobs in Queensland, the vast bulk of which (15,784 full-time job equivalents out of 16,400 in 1999/2000) are based in Central Queensland's Bowen Basin (see Figure 1). In the 12 months to August 2006, Queensland exported AUS$14.5 billion worth of coal with the Bowen Basin contributing approximately 85 percent of state output (Office of Economic and Statistical Research (OESR) 2006). The shifting fortunes of the coal mining industry have been responsible for significant demographic and social shifts within the Bowen Basin.

A sustained period of growth in the Australian mining sector through the 1970s and 80s saw considerable urban expansion, much of which was concentrated in purpose built mining towns (Parker 1988). In part, this was a response to the sparsely settled nature of the Australian continent. However, in the well established agricultural region of the Bowen Basin it was also a reflection of the desire by some companies to maintain control over investments in social infrastructure (Parker 1988). A mixed pattern of development thus emerged which included the expansion of existing service towns within the Basin, the construction of new towns serving multiple mines, and the construction of single company towns (Maude & Hugo 1992). According to researchers, the majority of purpose built towns lacked the critical mass of population necessary to provide comprehensive human services, attract secondary investment, or achieve a balanced socio-demographic structure, providing residents with diminished quality of life and a sense of impermanence (Robinson & Newton 1988). Women especially were found to suffer more psychological stress and experience less social integration than did women in other rural towns (Cotterell 1984). While these might seem ideal conditions for an escalation of problems such as domestic and family violence, it is also important to note that purpose built towns reduced travelling times to and from work; and, while certainly characterised by atypical demographic profiles and high population turnover, were more ordered and tranquil than popularly assumed (Robinson & Newton 1988).

By the mid-1980s, declining terms of trade for coal and minerals, together with changes to taxation regimes that dramatically increased the cost to companies of providing workers with subsidised accommodation, provided powerful incentives to reduce labour costs (Newton & Robinson 1987; Parker 1988). In addition to job shedding, the drive to reduce costs was manifest in moves to replace permanent employees with contract labour; to replace conventional work schedules with compressed schedules (generally involving 12 hour shifts worked in blocks of several days/nights on followed by a similar number of days off); and to abandon the provision of accommodation and other social infrastructure in the expectation either that these would be provided by independent operators or that workforces would commute to mine sites from regional centres on the periphery of the Basin.

Figure 1 Bowen Basin area map



(Source: *Bowen Basin Area Map* 2003 www.bowenbasin.cqu.edu.au)

In 2004, a major boom in coal prices stimulated substantial increases in production, investment and employment. By mid-2006, there were 37 mines operating in the Basin (Natural Resources and Mines (NRM) 2006), producing over AUS$12 billion worth of coal (OESR 2006), with a further 21 mines under development or active consideration (NRM 2006). Booming investment in production has not, however, been matched by commensurate investment in housing or other social infrastructure within the Basin. While there is evidence to suggest that a majority of mine employees now prefer to maintain their permanent residence in a regional centre and to commute for work, it is also the case that acute shortages of housing and subsequent inflation in the cost of accommodation within the Basin have forced many people to locate in regional centres regardless of their housing preferences (Rolfe et al. 2007). By 2006, it was estimated that there were 10,763 non-resident workers staying in temporary accommodation on any given night within the nine key shires of the Bowen Basin, or an additional 14 percent of the Bowen Basin population moving in and out of the region for employment purposes (Planning Information and Forecasting Unit (PIFU) 2006). As Table 1.1 shows, the number of non-resident workers staying in temporary accommodation varied across the Basin, peaking at 61% of the total number of people domiciled on any given night in the Shire of Nebo.

As Table 1.1 also shows, the resident population of the nine local government areas in the Basin in 2006 was 69,119. This contrasted with populations of 84,890 and 58,748 respectively in the coastal cities of Mackay and Rockhampton. Unemployment rates were extremely low and mining the most important employer. Importantly, women constituted only 11.1 percent of the mining workforce and were more likely to be employed in agriculture, health, education, retail and accommodation/food service. This is likely to lead to significant income inequality since average weekly earnings in the mining sector in Australia were higher than any other industry at $1,424/week for a full-time employee in August 2001. This was approximately double weekly earnings in the retail trade and tourism industries (ACIL Consulting 2002).

Table 1.1 Estimated non-resident worker, and full-time equivalent, populations of Local Government Areas in the Bowen Basin, June 2006

Local Government Area: Bowen Basin	Resident population[a]	Non-resident workers living in single persons quarters during shift[a]	Non-resident worker population as % of full-time equivalent population[a]	Unemployment rate (resident population)[b]	Percentage of resident workforce employed in mining[b]
Banana	13,416	1,154	8%	2.4%	16%
Bauhinia	2,116	146	6%	1.7%	7.9%
Belyando	10,503	2,119	17%	2.0%	37.7%
Broadsound	6,503	1,821	22%	1.4%	43.5%
Bowen	11,745	219	2%	4.6%	6.9%

Duaringa	6,433	749	10%	2.1%	32.6%
Emerald	13,181	694	5%	2.6%	16.7%
Nebo	2,005	3,137	61%	2.4%	32.7%
Peak Downs	3,217	724	18%	1.7%	36.6%
TOTAL	69,119	10,763	14%	2.6%	23.5%

[a] (PIFU 2006)

[b] (ABS 2006b)

1.4 Mining communities and the potential for intimate partner abuse

Despite limited research on the impact of commuter workforce arrangements and compressed work schedules (Shrimpton & Storey 2001), such arrangements raise important questions for employee health and safety, as well as for family and community life. Some families and individuals prefer atypical work arrangements and the opportunities they present to earn relatively high incomes, to be flexible in where they choose to live, and to use the significant amount of time they have off work to pursue other interests or income (Shrimpton & Storey 2001). However, typical complaints about atypical work schedules include the difficulties workers face reintegrating into family life following their immersion in the very different culture of workcamps and the isolation they experience from the communities in which they ostensibly live (Shrimpton & Storey 2001). Thus, when non-standard work schedules were first introduced in the Australian mining industry in the late 1980s they became known colloquially as 'divorce rosters' (Gibson 1994). Overseas studies on shiftwork have provided evidence that the families of shiftworkers experience a higher percentage of divorce than do standard working-hour families (Keith & White 1990; Presser 2000), and a large number of studies on work/family conflict have suggested negative impacts from non-standard work schedules that reduce the relative participation of shiftworkers in household duties and other aspects of family life (Grosswald 2003, 2004). These pressures are likely to be amplified when shiftwork is accompanied by the need to commute to the workplace and stay in temporary accommodation for the duration of the shiftblock. Female partners of mine workers can become over-burdened with domestic chores and duties, and often have to play the dual role of mother and father (Gibson 1992, 1994; Heiler 2002; Pocock et al. 2001).

Some studies have suggested that the impact of non-standard work schedules on relationship wellbeing between spouses is not necessarily negative. This may depend on the way such work hours are interpreted by each partner (Clark et al. 1978; Weston et al. 2002), and on whether male partners are willing to give the spousal relationship priority over alternative uses of non-work time (Clark, et al. 1978). However, studies on mining towns indicate that, for many workers, spending leisure time with workmates takes priority over time spent with partners and children (Bulmer 1975; Collis 1999). In addition to the obvious burdening of women with responsibility for management of family chores and activities, it has been argued that this reinforces the patriarchal culture of the community and promotes men's interests (Bulmer 1975; Collis 1999). With men already dominating paid labour, and limited opportunities for paid employment outside mining, women's opportunities

for economic independence and social participation has been constrained and a culture of silence and acceptance of inequality promoted (Collis 1999; Gibson 1992, 1994; Williams 1981). This raises two questions. The first is whether strategies adopted in recent years by mining companies to employ more women in traditionally male areas have acted to empower women more generally and thus to challenge the masculine culture of mining towns. The second is whether the same patterns of gender relations are repeated among those families that do not reside in small mining towns but in larger centres where, on the one hand, more opportunities for employment, education and social engagement are available but, on the other, women may be dealing with the extra domestic burdens of periodically absent partners.

An additional consideration is alcohol consumption. Certainly, remote mining communities are alleged to consume more alcohol than other communities of comparable size (Daly & Philp 1995); with employees of mines reputed to consume large quantities of alcohol most days of the week (Iverson & Maguire 2000; Midford et al. 1997). While the literature is inconclusive on the role of alcohol in the perpetration of intimate partner violence (for discussion see Nicholas 2005), Babor et al find that there is a clear link between alcohol consumption (particularly drinking to intoxication) and violence, however, it is 'not necessarily the level of consumption *per se*...but...the pattern of consumption and the cultural expectations of the resultant behaviour' (in Nicholas 2005: 9) that is the key issue. Thus, in the context of a mining town with a culture of male domination, and high alcohol consumption, a high rate of domestic violence seems likely; as Gondolf (1995) suggests, alcohol abuse and wife (intimate female partner) assault are manifestations of an underlying need for power and control related to gender-based distortions. In other words, the exercise of power by men over their spouses through violence could be interpreted by some mining town residents as an appropriate expression of masculine behaviour.

The workforce dynamics of the Bowen Basin mining industry have created a number of arguably unique circumstances for employees and their families. Importantly, these circumstances potentially extend beyond mine workers and their families to include others living in the Basin and/or engaged in non-traditional working arrangements. For some couples, these circumstances may increase vulnerability to intimate partner abuse. Such factors as identified in the literature include:

- atypical work schedules
- patriarchal domestic division of labour
- social and economic marginalisation of women
- high consumption of alcohol
- men's leisure pursuits, and
- workers' regular absences from their families.

1.5 Secondary data on intimate partner abuse in the region

Secondary data on the incidence of domestic violence in Queensland and in the Bowen Basin region have been collected from several sources. These include:

- Queensland Trauma Registry - data from hospital records
- Department of Communities - data from Magistrate's Courts, and

- Queensland Centre for Domestic and Family Violence Research, CQUniversity – client data from domestic and family violence support services.

Several contacts and meetings were organised to gain access to data on domestic violence 'call outs' from police records. However, these could not be made available for the study.

1.5.1 Queensland Trauma Registry - data from hospital records

Established in 1998, the Queensland Trauma Registry is a lead program of the Centre of National Research on Disability and Rehabilitation Medicine (CONROD) in the University of Queensland. The Queensland Trauma Registry is a database consisting of routinely collected information on the injury event, clinical presentation and treatment process for all patients considered to be sufficiently severely injured to be worthy of ongoing review.

Specifically, the QTR is designed to optimise the benefits of care provided by the Public Health System to people hospitalised in Queensland for serious injury by:

- determining the incidence, cause, location, explanatory variables, treatment and outcomes of serious injury in Queensland
- establishing benchmarks and identifying variations in accepted standards of care for people who experience serious injury in Queensland
- facilitating clinical review and making recommendations for changes in trauma management throughout Queensland, and
- conducting scientific research to reduce future incidence and burden of injury and improve trauma management and outcomes.

There are 14 QTR sites which include the following hospitals: Cairns Base Hospital, Gold Coast Hospital, Ipswich Hospital, Mackay Base Hospital, Mater Children's Hospital, Nambour General Hospital, Princess Alexandra Hospital, Redcliffe and Caboolture Hospitals, Rockhampton Hospital, Royal Brisbane and Women's Hospital, Royal Children's Hospital, Toowoomba Hospital, and The Townsville Hospital.

Upon request, and as appropriate to the study and the ethical policy of the registry, the QTR provided data on the incidence of intimate partner abuse in the state of Queensland. To prevent potential identification of individuals, data were provided in aggregate form and were not released for the Bowen Basin region because there were only four cases recorded in the period 2002-2004.

The following tables display the data on intimate partner abuse as recorded by hospitals in the state of Queensland in the period 2002-2006. Notably, the QTR database does not include cases that are admitted to hospital for less than 24 hours, discharged from the emergency department, or admitted for social, psychiatric or other medical reasons. For these reasons, one could assume that there would be some under-representation of cases of intimate partner abuse in the database of the QTR. As is evident from Table 1.2, below, 233 women with assault-related injuries were admitted to the QTR hospitals in Queensland for 24 hours or longer during the period 2002-2006.

Table 1.2 Intimate partner assault: hospitalisation by age of female victim

Age group (years)	Year of hospitalisation					
10-14	-	1	-	-	-	1
15-19	-	8	5	1	1	15
20-24	6	11	9	4	6	36
25-29	6	12	3	14	7	42
30-34	8	12	3	11	8	42
35-39	6	5	7	8	6	32
40-44	7	3	7	13	7	37
45-49	2	3	1	2	1	9
50-54	3	-	1	1	3	8
55-59	-	-	2	-	-	2
60-64	1	-	-	4	-	5
65-69	-	-	-	-	-	-
70-74	-	-	-	-	-	-
75-79	1	2	-	-	-	3
80-84	-	-	-	-	-	-
85-89	-	1	-	-	-	1
90+	-	-	-	-	-	-
Total	**40**	**58**	**38**	**58**	**39**	**233**

Note: At the time of data extraction (9 August 2007) data for 2006 was 85% complete. 2006 data was yet to be subjected to final quality assurance procedures.

The majority of cases involved women under the age of 45. A few cases were recorded for women over 75 years of age during the years 2002 and 2003, signifying that elderly women may also be assaulted by their partner. As Table 1.3 indicates, of the 233 cases of assault against female partners recorded in the QTR database for 2002-2006, 48.5 percent of victims were recorded as Aboriginal, 2.1 percent as Torres Strait Islander, and 18 percent as Aboriginal and Torres and Strait Islander.

Table 1.3 Indigenous status of assault-related injury victims

Indigenous status	2002	2003	2004	2005	2006	Total
Aboriginal	22	37	22	16	16	113
Torres Strait Islander	1	-	2	2	-	5
Aboriginal & Torres Strait Islander	1	1	1	37	2	42
Neither	16	20	13	3	20	72
Total	40	58	38	58	39[a]	233[a]

[a] There was no reporting of the status of one case.

In the 2006 Australian Census, 64,890 females in Queensland identified as being Indigenous (Aboriginal, Torres Strait Islander or both). This makes up 3.3 percent of the total female population in Queensland (noting that Indigenous status is not known for 104, 632, or 5.3 percent, of all Queensland females). However, Indigenous women accounted for 70 percent of the cases of intimate partner assault where the woman was hospitalised for 24 hours or longer during this period.

Table 1.4 shows that, where known, most of the incidents involving physical assault on women by their partners happened at home. During the period 2002-2006, 68 percent of the reported incidents of assault happened at home, while another 26 percent were unspecified.

Table 1.4 Place where assault-related injury occurred

Place	Year					
	2002	2003	2004	2005	2006	**Total**
Home	34	40	29	35	20	158
Street/Highway	1	2	1	2	3	9
Recreation/Sports area	-	2	-	-	1	3
Trade/Service area	-	-	-	1	1	2
Unspecified	5	14	8	20	14	61
Total	40	58	38	58	39	233

As shown in Table 1.5, below, most of the hospitalised victims of assault by a partner suffered minor injuries (Injury Severity Score<16) during the period 2002-2006. However, 5 percent of the victims of assault suffered major injuries (ISS=>16). All but one female victim of assault by an intimate partner survived.

Table 1.5 Injury severity and outcomes of assault-related injury

Injury severity	Year					
	2002	2003	2004	2005	2006	**Total**
Minor (ISS<16)	38	54	37	55	37	221
Major (ISS>16)	2	4	1	3	2	12
Total	40	58	38	58	39	233
Survived	40	57	38	58	39	232
Died	-	1	-	-	-	1

ISS: Injury Severity Score

To summarise, QTR data on hospitalised victims of intimate partner physical violence shows that:

- Women of all ages were susceptible to assault from their partner that could lead to hospitalisation. However, women under 45 were more frequently hospitalised as a result of physical assault by their partner.
- A disproportionate number of women with Indigenous status were admitted to hospital as a result of intimate partner abuse.
- Most of the incidents of assault by a partner occurred at home.
- Most of the women suffered minor injuries. Five percent of the women suffered major injuries, with one woman dying as a result of injuries sustained in the assault.

Although the majority of injuries suffered by women recorded in the QTR were classified as 'minor', it should be noted that those injuries were serious enough to warrant a minimum of 24 hours hospitalisation. Also, death resulting from intimate partner violence is under-represented in the QTR data because many women who are killed in such circumstances simply do not make it to hospital. Data from the Australian Institute of Criminology show that for the period 1 July 1989 – 30 June 2006 there were, on average, 11.5 intimate partner homicides (ranging from 6 – 17) involving female victims in Queensland per annum (Source: Australian Institute of Criminology National Homicide Monitoring Program [Computer file]).

1.5.2 Department of Communities - data from Magistrate's Courts

Queensland's *Domestic and Family Violence Protection Act 1989* aims to protect people experiencing abuse in spousal relationships (referred to in this study as intimate partner relationships), other family relationships, intimate personal relationships (such as dating relationships and couples betrothed under traditional customs), and informal care relationships. The Act provides for a Magistrate's Court to make a Domestic Violence Protection Order (DVPO), which imposes a standard set of conditions to stop abusive behaviour. Additional conditions requested by the applicant may also be imposed by the Court to customise the DVPO for the specific circumstances. Applications for a DVPO can be made by police, by the 'aggrieved' (the person alleging domestic violence), by a third party authorised by the aggrieved, and by certain others, such as the Adult Guardian or a person with an enduring power of attorney, in certain circumstances.

The Act recognises that some people may not want to end their relationship but just want the violence to stop. This means that the person seeking protection and the person who committed the abuse may continue to have contact with each other and may live in the same household. However, the applicant may seek a 'no contact' or an 'ouster' order as a specific condition on a DVPO, which would have the effect of separating the couple.

Section 12(2) of the Act defines 'spousal relationships' as *(a) either 1 of a male or female who are or have been married to each other; or (b) either 1 of the biological parents of a child, whether or not they are or have been married or are residing or have resided together; or (c) either 1 of 2 persons, whether of the same or opposite sex, who are residing or have resided together as a couple*.

Information in relation to the numbers of applications for DVPOs made in Queensland and their outcomes are provided by the Department of Justice and Attorney-General and collated by the Department of Communities, which has responsibility for administering the *Domestic and Family Violence Protection Act 1989.* Information has been collected from all courts on a monthly basis since the commencement of the legislation on 21 August 1989. The increase in the number of protection order applications since commencement of the Act in 1989 is shown in Table 1.6, below. This does not necessarily indicate that there has been an increasing trend in the number of domestic and family violence incidents. While the increase in the use of protection order applications certainly may reflect an increased incidence of domestic and family violence, it is more likely to reflect an increased awareness and willingness to seek help outside the family for intervention in abusive relationships. Since 1992, for example, Queensland has held an annual 'domestic violence' awareness campaign, which was initially an 'awareness week' and since 2004, has been an 'awareness month'.

Table 1.6 Applications for Domestic Violence Protection Orders by year

Period	Number of applications[(a)]
1989-1990[(b)]	2,957
1990-1991	4,667
1991-1992	7,072
1992-1993	8,994

1993-1994	11,082
1994-1995	11,442
1995-1996	12,874
1996-1997	13,183
1997-1998	13,891
1998-1999	14,041
1999-2000[(c)]	13,249
2000-2001	14,191
2001-2002	14,218
2002-2003[(d)]	16,367
2003-2004	21,203
2004-2005	20,940
2005-2006	20,284

(a) Total number of applications made either by the aggrieved person, an authorised person or by the police. From 10 March 2003 a new applicant type -Person acting under another Act - came into use and a wider range or relationships were covered under the Act.

(b) From commencement date of the *Domestic and Family Violence Protection Act 1989.*

(c) From July 1999 data are not comparable with data from previous periods due to changes in reporting arrangements.

(d) From commencement date of amendments to the *Domestic and Family Violence Protection Act 1989.*

Source: Department of Communities' Information Gateway at: http://www.communities.qld.gov.au/department/ig/shared/comsup/.

Further, increases in the figures may also be explained by the addition of categories of relationships covered in the legislation since the original Act commenced, and which is likely to have had a bigger impact on the increased applications than awareness campaigns, alone. The initial Act covered heterosexual spousal relationships only, until late 1999 when same sex spousal relationships were explicitly included in the legislation. In March 2003, the coverage of the Act was further extended to include intimate personal relationships, family relationships, and informal care relationships. This extension would account for the significant jump in applications between 2002-03 and 2003-04 and beyond. Unfortunately, the data available from the Department of Communities does not separately identify the relationship type, or gender, so it is not possible to explicitly identify any changes in the number of applications related to heterosexual spousal domestic violence.

Since 2002, data are made available for the number of DVPO applications lodged in Queensland courts. Table 1.7 indicates the total number of such applications lodged at the courts falling within the Bowen Basin region of Central Queensland.

Table 1.7 Applications for Domestic Violence Protection Orders by court

Court	2002-03	2003-04	2004-05	2005-06
Baralaba	0	0	0	0
Biloela	68	76	88	87
Blackwater	19	35	44	32
Bowen	96	96	60	85
Capella	0	0	0	0
Clermont	10	10	16	6
Collinsville	0	0	0	0
Dysart	NA[(a)]	NA	NA	NA
Gladstone	254	336	294	285
Emerald	80	80	81	118
Mackay	561	561	475	445
Marlborough	NA	NA	NA	NA
Middlemount	NA	NA	NA	NA
Mt Morgan	NA	NA	NA	NA
Moranbah	26	26	19	29
Moura	0	0	0	0
Nebo	0	0	0	0
Proserpine	101	101	67	108
Rockhampton	503	503	578	579
Rolleston	0	0	0	0

Sarina	9	9	15	32
Springsure	0	0	0	0
Taroom	2	2	1	0
Tieri	NA	NA	NA	NA
Theodore	0	0	0	0
Woorabinda	55	92	58	39
Bowen Basin Total	**1784**	**1927**	**1796**	**1845**
Total Queensland	16,367	21203	20940	20284
Ratio Bowen Basin : Qld (%)	**10.90**	**9.09**	**8.58**	**9.10**

(a) NA = not available.

Source: Department of Communities' Information Gateway at: http://www.communities.qld.gov.au/department/ig/shared/comsup/ (Queensland Department of Communities)

On average, 1,838 applications per year were lodged in the courts of the Bowen Basin region of Central Queensland over the four year period. This constituted 9.3 percent of the average number of applications for protection orders in the entire state of Queensland. The Bowen Basin is comprised of the Fitzroy and Mackay Statistical Divisions, with a total estimated population at 30 June 2006 of 360,473 or 8.8 percent of the total Queensland population of 4,091,546 (OESR 2008a; OESR 2008b). Therefore, the average rate of applications for protections orders for the Bowen Basin was 5.1 per 100,000 compared to a rate of 4.8 per 100,000 for the whole of Queensland.

Using court data provided by the Queensland Department of Communities, the study also identifies the number of applications for DVPOs made by police, compared to all applications, for the Bowen Basin courts and for the whole of Queensland. Table 1.8, below, shows that police made the majority of DVPO applications in both cases. However, the percentage of police applications was higher in the Bowen Basin; and the increase in the percentage of police applications in the Bowen Basin over the 4 years (an increase of approximately 16%) was greater than the increase in police applications for the whole state (an increase of approximately 5%).

Table 1.8 Police applications for DVPOs by all applications: Bowen Basin vs Queensland

Year	2002-03		2003-04		2004-05		2005-06	
Type of application (All / Police)	All	Police (number & % of total)	All	Police (number & % of total)	All	Police (number & % of total)	All	Police (number & % of total)
Bowen Basin / Mackay	1784	909 (50.9%)	1927	1200 (62.3%)	1796	1162 (64.6%)	1845	1237 (67.0%)
All of Q'ld	16367	9348 (57.1%)	21203	12691 (59.9%)	20940	12779 (61.0%)	20284	12667 (62.4%)

Source: Department of Communities' Information Gateway at: http://www.communities.qld.gov.au/department/ig/shared/comsup/(Queensland Department of Communities)

1.5.3 Queensland Centre for Domestic and Family Violence Research, CQUniversity - data from support services

The Queensland Centre for Domestic and Family Violence Research (CDFVR), CQUniversity, coordinates and maintains a database of information pertaining to new client matters presenting at 29 domestic and family violence support services across Queensland. The data is collected by participating domestic and family violence support services and entered into the database via CDFVR's website. The variables in the data collected include: type of relationship concerning need for assistance (e.g. spousal, other family member); gender; age; cultural identity; country of birth; language spoken at home; primary reason for contacting the service (such as counselling, court support, advocacy or crisis intervention); the status of protection orders/applications; whether the incident was reported to police; the gender of the other party; the presence of disabilities; the number of children, by age, in the household; and the locality of the last incidence of abuse, and the current locality of the client. The following analysis of the CDFVR data focuses on new client matters related to intimate partner (spousal) domestic violence presenting at domestic and family violence support services participating in the CDFVR data collection.

Two of the 29 domestic and family violence services participating in the data collection are located in the Bowen Basin region. Data for the three year period from 1 July 2004 to 30 June 2007 were analysed to identify any variation in client characteristics and patterns in service usage between the two Bowen Basin services and all participating services in Queensland, with the exception of the

state-wide telephone service, *dvconnect*. The state-wide telephone service provides crisis counselling and referral services for the whole state and does not provide other services, such as court support, counselling and advocacy which are typically provided by other participating services, including those in the Bowen Basin. Approximately 25 percent of the total new client matters recorded in the Domestic and Family Violence Database were clients of *dvconnect*. Therefore, inclusion of *dvconnect* data in the analysis would skew the state-wide results.

It should also be noted that of the two domestic and family violence services in the Bowen Basin region, one has struggled to recruit and retain a full complement of staff, due to the migration of workers into mining and associated industries or other, better-paid jobs arising from competition for skilled workers. This would have adversely affected the provision of services within the time-frame of the data analysis and possibly skewed data relating to service provision, such as court support.

First, it should be noted that there is no evidence in the CDFVR data of any particular variation in client characteristics, such as gender, age or cultural identity for the Bowen Basin compared to Queensland. Table 1.9 below, shows the variation between regions in regard to the primary service provided in relation to intimate partner (spousal) abuse for new clients attending a domestic and family violence support service. The data show that only 41.2 percent of the total 1,681 new clients in the Bowen Basin region contacted the service primarily for court support, while 62 percent of the total 43,102 new clients in Queensland primarily sought court support.

Table 1.9 Primary service type provided for intimate partner abuse

Type of service	Bowen Basin			All of Queensland	
	Frequency	**Percentage**		**Frequency**	**Percentage**
No value entered	2	0.11		206	0.5
Counselling	442	26.3		5599	12.9
Court support	693	41.2		26653	62
Crisis intervention	363	21.6		7039	16.3
Advocacy	57	3.4		1242	2.8
Other	124	7.4		2363	5.5
Total	1681	100		43102	100

Source: Queensland Centre for Domestic and Family Violence Research, CQUniversity

The lower percentage of Bowen Basin region clients being provided court support might be considered surprising, given that the data in Table 1.10, below, also show that, where known, a higher percentage of cases in that region (71.5%) had been reported to police, compared to all Queensland cases (61.1%).

Table 1.10 Intimate partner violence reported to police

Reported	Bowen Basin			All of Queensland	
	Frequency	**Percentage**		**Frequency**	**Percentage**
No value entered	101	6.0		1269	3.1
Yes	1203	71.5		26345	61.1
No	305	18.1		10062	23.3
Unknown	72	4.2		5426	12.6
Total	**1681**	**100.0**		**43102**	**100.0**

Source: Queensland Centre for Domestic and Family Violence Research, CQUniversity

It is not possible to discern from the data whether this reflects, as mentioned above, the capacity of Bowen Basin region services to provide court support or, alternatively, a different level of demand for this particular service. However, as illustrated in Table 1.11 below, the data also reveal that a higher percentage of new clients in the Bowen Basin region (38.7%) had already obtained a domestic violence protection order before seeking support from a domestic and family violence support service, compared to those in Queensland (27%).

Table 1.11 Intimate partner violence by current DVPO status [(a)]

Current DVO status	Bowen Basin		All of Queensland	
	Frequency	%	Frequency	%
None	518	30.8	8027	18.6
Service assisting with application	143	8.5	4173	9.7
Current application	256	15.2	14938	34.6
Current order	651	38.7	11660	27.0
Temporary order	76	4.5	6794	15.7
Registered interstate order	2	0.11	131	0.3
Unregistered interstate order	6	0.3	68	0.15
Expired order	23	1.3	766	1.77

Application to vary order	58	3.4	3495	8.1
Multiple orders	4	0.2	225	.52
Unknown	24	1.4	1162	2.7

(*a) Figures exceed 100% because some clients may have, for example, a current order and the service is assisting with an application to vary an order.*

Source: Queensland Centre for Domestic and Family Violence Research, CQUniversity

This could be a consequence of greater involvement in police making applications for DVPOs in the Bowen Basin region. Notably, 30.8% of new clients attending a domestic violence support service in the Bowen Basin region did not have a DVPO, compared to only 18.6% of new clients attending a service in Queensland, and only 15.2% of those in the Bowen Basin, compared to 34.6% for all of Queensland, had a current application at the time the data were collected.

Notes

[1] See for example the definition of "intimate personal relationship' in *Queensland's Domestic and Family Violence Protection Act 1989*

Chapter 2: Research objectives and methods

2.1 Objectives of the study

The overall goal of the study was to identify correlates of abuse that may inform intervention strategies to reduce intimate partner abuse in the region. With this goal in mind, the study had three key objectives. First, to ascertain the prevalence and the nature of male-to-female partner abuse in the Bowen Basin region, including Mackay; second, to identify associations between a variety of socio-demographic and behavioural variables, and physical and non-physical male-to-female partner abuse; and, third to identify any impact of experience of abuse on women's health status. The study also sought information on reasons abused women continued in the relationship; and to identify if women were aware of counselling and support services within their locality, and if they had used such services.

2.2 Methodology

2.2.1 Data Collection Method

A variety of sources can be used to gauge the prevalence of intimate partner violence. These include:

- clinical samples/screening by medical professionals (Barbara et al. 2005)
- women's services or Centrelink beneficiary records
- police records (see WESNET 2000)
- court records, and
- community samples comprising members of the general public sampled at random/convenience.

Sources one to four, listed above, have proven inadequate for analysing the nature and extent of intimate partner abuse, particularly in remote, rural and/or mining communities (see e.g. Ferrante et al. 1996). Findings from community samples, by contrast, may underestimate the problem. Nevertheless such sampling may help uncover and investigate different facets of violence in intimate relationships.

Various data collection methods employed with community samples include:

- Mailed questionnaire. These often result in a poor response rate, time consumption and incomplete responses. For this study, the possibility of the male partner getting access to the questionnaire and the intended respondent being denied access to it or, worse, being at risk of abuse associated with receiving the questionnaire, was taken very seriously.
- Face–to-face interview. This is a time consuming and costly data collection method. For this study, which sought information on intimate partner relationships and abuse, face-to-face interviews were also considered too risky for the women and interviewers, in the event that an abusive partner may arrive unexpectedly while the interview was being conducted.

- Telephone interview. The CATI (Computer Assisted Telephone Interview) system allows immediate entry of data from the interviewer's questionnaire screen to the computer database. This facilitates collection of a large sample of data in a relatively short period of time while providing privacy and anonymity for participants. This is particularly helpful for the collection of data on highly sensitive topics. Conversely, telephone interviews potentially under-sample individuals who do not have access to a landline telephone, do not speak English and/or do not wish to be interviewed on the telephone.

In light of the above, CATI was deemed the most suitable method for a study of intimate partner violence in the Bowen Basin region. Consideration was also given to the information paper issued by the ABS on the advantages and disadvantages of different survey modes for measuring crime victimization (refer Appendix 1).

Ethical concerns regarding safety and emotional trauma were addressed by ensuring that interviewers were trained to: appropriately abort calls when a male answered; ensure that the interviews proceeded only when participants confirmed that they were able to safely respond to questions about domestic violence at that time (or women were given a number to call back if they preferred); advise that some questions would be asked that might be distressing; refer to a domestic violence support service, so that women could access support should they need it; and to check that that they could proceed with sensitive questions when that point of the interview was reached. Appendix 2 sets out the risk management process used for the project.

2.2.2 Sample

The sample comprised 532 women over the age of 18 years and living in an intimate, heterosexual, spousal relationship (married or de facto) in the Bowen Basin region of Central Queensland. A strict random sample of women within the Bowen Basin and surrounding urban areas would have resulted in a heavy bias towards Mackay and towards women whose partners were not involved in any form of long distance commuting or shiftwork. To ensure adequate representation of women from inland towns whose partners were involved in mining, the sample for this study was, therefore, stratified to: first, draw a disproportionate share of women from inland towns; and second, to ensure that at least half the Mackay women were partnered to mineworkers. The sample is not, therefore, representative of the entire Bowen Basin population unless weighted to reflect these stratification strategies.

2.2.3 The interview schedule

An interview schedule was used to collect data. The schedule comprised closed-ended questions. To assess abuse, the interview schedule incorporated questions from the:

- Conflict Tactics Scale (CTS2) (Straus 1979). This scale has high reliability and validity. It is the most widely used scale to explore the nature and extent of intimate partner violence (Hegarty & Roberts 1998; Nelson et al. 2004). A set of ten questions from this scale was used in the survey to determine the physical abuse of women. These ten questions were further classified into 'all physical abuse', 'severe physical abuse' and 'sexual abuse'. There are significant and valid concerns about the limitations of the *Conflict Tactics Scale* (CTS) and its variant (CTS2). They do not encompass non-physical acts of intimate partner violence, nor do they contextualise the perpetration of violent acts in terms of motivation for, and impact of the violence. As a result, these scales have previously been used inappropriately to argue gender symmetry in intimate partner violence. This study, however, does not involve any comparison of acts of violence against men and women. Further, the study utilises another established data collection instrument to facilitate the collection of data on non-physical

abuse, to address the inadequacies of the CTS and CTS2 in measuring intimate partner abuse.

- General Social Survey on Victimisation, Canada (Johnson & Bunge 2001). From this survey, a set of ten questions was prepared to measure the non-physical abuse of women. These questions were further classified into economic, psychological and social-psychological abuse. Further details are provided in Chapter 3.

These questions on physical and non-physical abuse were also used in the survey conducted by the AIC for the Australian component of the International Violence Against Women Survey (Mouzos & Makkai 2004). The interview schedule for the Bowen Basin study also included the SF-12 Health Survey (Ware et al. 1996, 1998; Ware et al. 2007) and two questions related to awareness, and use of counselling and support services.

2.3 Data analysis

Raw data from the CATI system were analysed using The Statistical Package for the Social Sciences (SPSS). The data were subjected to a range of statistical tests including Logistic Regression Analysis to examine whether there was an association between types of intimate partner abuse and a number of independent variables such as the socio-demographic characteristics of the women and their partners, other behavioural characteristics etc.

Logistic regression is used to predict a categorical (usually dichotomous) variable from a set of predictor variables. Logistic regression is particularly useful in circumstances in which these predictor variables are a mix of continuous and categorical variables and/or are not normally distributed. Logistic regression has been especially popular with medical research in which the dependent variable is the presence or absence of a disease. The method is equally popular in social science research on intimate partner abuse, in which case the independent variable is the presence or absence of abuse.

The results of logistic regression are expressed as an odds ratio. In brief, the odds ratio is a way of comparing whether the probability of a certain event is the same for two groups. An odds ratio of 1 implies that the event is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the first group. An odds ratio less than one implies that the event is less likely in the first group. The statistical outcomes (odds ratio) of the type of abuse and its correlates are presented in Appendix 3. To assist with the interpretation of data in this report, 95 percent confidence levels of all survey data have been presented in the appendices. The lower and the upper confidence levels help in understanding the reliability of the data. The 95 percent confidence intervals provide the range in which it can be 95 percent sure that if the survey were repeated, the new findings would fall within this range. To enhance readability, the 95 percent confidence levels are also provided in Appendix 3, rather than in the main body of the report.

Chapter 3: Research process and results

3.1 Experience of abuse

3.1.1 Physical abuse

Physical abuse refers to an act or a behaviour that could be physically intimidating, could hurt, or actually hurts another person. A set of ten questions was asked regarding the experience of physical abuse. These questions were based on the questions on physical abuse first devised in the Conflict Tactics Scale (CTS) by Straus (1979). This CTS has a strong reliability and construct validity.

The following 10 questions were asked to assess the prevalence of physical abuse:

- Has your partner ever threatened to hit you with his fist or anything else that could have hurt you?
- Has he ever thrown anything at you that could have hurt you?
- Has your partner ever pushed, grabbed or shoved you in a way that could have hurt you?
- Has your partner ever slapped you?
- Has your partner ever kicked, bit or hit you with his fist?
- Has your partner ever hit you with something that could have hurt you?
- Has your partner ever beaten you?
- Has your partner ever choked or strangled you?
- Has your partner ever used or threatened to use a gun, a knife or any similar weapon on you?
- Has your partner ever forced you into any unwanted sexual activity?

If the women answered affirmatively, they were further asked if these acts happened in the past 12 months. The responses were limited to Yes, No, Do Not Know or No response. Internal reliability (Cronbach's ά (alpha) coefficient) was found to be 0.81 for these ten questions on intimate partner physical abuse.

To determine the nature of physical abuse experienced by a respondent woman from her current male partner, the above ten questions were further classified into the following three categories: 1) severe physical abuse (acts of hitting, kicking, beating, choking and threatening with a weapon, such as a gun or knife; 2) sexual abuse (forced into unwanted sexual activity); and 3) all physical abuse (all of the aforementioned behaviours plus acts involving threatening to hit with fist or anything, throwing things, slapping, and pushing).

Table 3.1, below, shows the breakdown of women's experiences of physical abuse. Out of the total sample of 532 women, 61 (11.5%) reported some form of abuse by their current partner at some time in the lifetime of the relationship (Table 3.1). The most common abusive behaviours were 'pushing, grabbing or shoving', and 'threatening'. Women were also intimidated by their partners by having things thrown at them or being slapped.

Table 3.1 Women's experience of physical abuse

Experience of abusive behaviour	Ever during relationship		During the last 12 months	
	Number	%	Number	%
Pushed grabbed or shoved	41	7.7	15	2.8
Threatened to hit with fist or anything else	34	6.4	15	2.8
Thrown anything that could hurt	25	4.7	7	1.3
Slapped	16	3.0	3	0.6
Kicked, bit or hit with fist	9	1.7	3	0.6
Choked or strangled	8	1.5	4	0.8
Hit with something	6	1.1	5	0.9
Beaten	4	0.8	2	0.4
Threatened to use gun, knife or a similar weapon	1	0.2	0	0.0
Forced into unwanted sexual activity	13	2.4	4	0.8
TOTAL[(a)]	**61**	**11.5**	**22**	**4.1**

(a)If a woman experienced more than one type of physical violence, she was only counted once in the total.

Table 3.2 shows that, of the total 532 women interviewed, 3.2 percent experienced severe abuse (including being bitten or hit with a fist, beaten, choked or threatened with a weapon) at some time in the relationship, and 1.7 percent of the women experienced such abuse within the last year. Sexual abuse was reported by 2.4 percent of the women as occurring sometime during the current relationship and 0.8 percent of the women reported it occurring within the last year.

Table 3.2 Prevalence of types of physical abuse

Type of physical abuse	At any time during relationship		During the last 12 months	
	Number	Rate (%)	Number	Rate (%)
All physical abuse	61	11.5	22	4.1
Severe	17	3.2	9	1.7
Sexual	13	2.4	4	0.8

3.1.2 Non-physical abuse

A set of ten questions was asked regarding non-physical intimate partner abuse experienced by the women. These non-physical abusive behaviours were then classified as psychological abuse, social-psychological abuse, and economic abuse. The questions included the frequency of the behaviour in the relationship. Internal reliability (Cronbach's ά (alpha) coefficient) was 0.833 for these ten questions on intimate partner non-physical abuse.

Psychological abuse included acts or behaviours that could belittle, demoralise or frighten the female partner or make her feel bad. In the survey, this type of abuse was assessed through the following questions:

- He puts you down or calls you names to make you feel bad?
- He harms and threatens to harm someone close to you?
- He damages or destroys your possessions or property?
- He demands that you do what he wants?
- He acts like you are his personal servant?

Social-psychological abuse included acts/behaviours that limit the social interaction and participation of the female partner. In the survey, this abuse was assessed through the following questions:

- He limits your contact with family or friends?
- He demands to know who you were with and where you are at all times?
- He is jealous and does not want you to talk to other men?

Economic abuse included acts or behaviours that limit the female partner's access to the family income and resources, and deprive her of spending money in an independent way. In the survey, this abuse was assessed through the following questions:

- He is stingy in giving you enough money to run the home?
- He prevents you from knowing about the family income/having access to family income?

The analysis of the data suggests that:

- 31.4 percent of the respondent women have experienced at least one type of non-physical abuse in their current relationship
- 21.8 percent experienced psychological abuse alone
- 19.2 percent experienced social-psychological abuse, while
- 3.8 percent experienced economic abuse from their current partner.

With regard to individual acts of non-physical abuse (refer Table 3.3 below), a very small percentage of the women 'always' or 'often' experienced the abusive acts. The experience of non-physical abusive acts was not acute, but chronic, in the sample population.

In the following section, the three subtypes of abuse (economic, psychological, and social-psychological) are discussed individually. The discussion focuses on the experience of abuse at any time in the span of the current relationship. Further, if a woman reported more than one type of non-physical abuse, she has been counted only once.

Table 3.3 Non-physical abuse ever experienced in current relationship by frequency

Type of behaviour	Always Frequency (%)	Often Frequency (%)	Rarely Frequency (%)	Sometimes Frequency (%)	Never Frequency (%)	No response Frequency (%)	Total Frequency (%)
He limits your contact with family	1	3	14	6	507	1	532
He puts you down or calls you	3	4	34	34	456	1	532
He is jealous and does not want	4	7	23	32	465	1	532
He harms and threatens to harm	0	0	1	7	523	1	532
He demands to know who you	6	4	29	30	462	1	532
He damages or destroys your	0	0	3	6	522	1	532
He prevents you from knowing about the family income/having	1 (0.2)	0 (0.0)	5 (0.9)	0 (0.0)	524 (98.5)	1 (0.2)	532 (100.0)
He is stingy in giving you	5	2	8	2	513	2	532
He demands that you do what he wants	3	5	27	16	480	1	532
He acts like you are his personal servant	9	6	31	30	454	1	532

3.2 Socio-demographic correlates of intimate partner abuse

3.2.1 Residential location and likelihood of abuse

Of the total sample of 532 women in the Bowen Basin region, 78.4 percent (n = 417) were from the inland towns of the Bowen Basin, while 21.6 percent (n = 115) were living in the coastal city of Mackay. As indicated in the Table 3.4, physical abuse appears to be independent of geographical location.

Table 3.4 Experience of physical abuse by residential location

Residential location	**Experience of physical abuse ever in current relationship**			
		No	Yes	Total
Inland towns	Number	368	49	417
	Percent	88.2	11.8	100
Mackay	Number	103	12	115
	Percent	89.6	10.4	100
Total	Number	471	61	532
	Percent	88.5	11.5	100

Of the 417 women living in the inland towns, 11.8 percent reported abuse at some time in the relationship compared with 10.4 percent of Mackay women. Further, no statistically significant association could be established between the inland and/or coastal town location of women and any form of abuse by their current partner.

3.2.2 Marital status

Eighty-seven percent of the women (n=461) were married, while the rest were living in de facto relationships (n=71). The majority of married couples (59.7%) had lived for 15 years or more in the current relationship, whereas the majority of de facto relationships (57.7%) spanned less than five years (Table 3.5).

Table 3.5 Marital status and number of years in current relationship

Years in Relationship	Relationship Type					
	Married		De facto		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Less than 5	21	4.6	41	57.7	62	11.7
5 - 15	165	35.8	22	31	187	35.2
15 - 25	133	28.9	6	8.5	139	26.1
25+	142	30.8	2	2.8	144	27.1
Total	461	100	71	100	532	100

Table 3.6 shows that, proportionately, two to three times as many women living in de facto relationships reported physical abuse as women living in married relationships. For all forms of physical abuse, other than sexual abuse, these results were statistically significant. In the case of the latter, too few women reported sexual abuse from their partners to consider differences between the two groups statistically valid.

In relation to non-physical abuse, again, women in de facto relationships reported proportionately higher rates of abuse although this was statistically significant only in relation to social-psychological abuse and the aggregate category 'all non-physical abuse'.

Table 3.6 Marital status and the experience of abuse

Type of Abuse	Relationship Type					
	Married (N=461)		De facto (N=71)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	47	10.2	14	19.7	5.496	.019
Last 12 months	15	3.3	7	9.9	6.771	.009
Severe	12	2.6	5	7.0	3.919	.048
Sexual	10	2.2	3	4.2	1.091	ns
Non-physical						

Economic	16	3.5	4	5.6	.796	ns
Psychological	97	21.0	19	26.8	1.180	ns
Social-psychological	77	16.7	25	35.2	13.600	.000
Non-physical	136	29.5	31	43.7	5.729	.017

Logistic regression analysis suggests that:

- The odds of a married woman having experienced physical abuse during the current relationship were significantly less than for women in de facto relationships (OR 0.462 (CI 0.239, 0.892), Wald (df=1), p<0.05). In fact, women in de facto relationships were two times more likely to be abused than a married woman (OR= 2.163 (CI 1.121, 4.177), Wald (df=1) =5.286, p<0.05).
- Likewise, a woman in a de facto relationship was three times more likely to have experienced physical abuse during the last 12 months than a married woman (OR=3.252 (CI 1.277, 8.281), Wald (df=1)=6.116, p<0.05). This finding is very close to the findings of a recent national study by Mouzos and Makkai (2004) which found that four percent of married women and 11 percent of women in de facto relationships in Australia had experienced physical abuse during the previous 12 months.
- A woman in a de facto relationship was nearly two times more likely to experience non-physical abuse than was a married woman (OR 1.852, p<0.05).
- Very significantly, women in de facto relationships were nearly three times more likely to experience social-psychological abuse from their current partner than were married women (OR 2.710, p< 0.001).

Table 3.7, below, suggests that while length of relationship had little impact on the likelihood of women reporting physical abuse at any time in the current relationship, women in younger relationships reported higher rates of social-psychological abuse and aggregate non-physical abuse.

Table 3.7 Frequency of intimate partner abuse by length of relationship

Type of abuse	**Total** (n)	**Number of years in the current relationship**							
		Less than 5 years (N=62)		5-15 years (N=187)		Over 15 years (N=283)			
		Abused (f)	%	Abused (f)	%	Abused (f)	%	Chi square	sig
Physical									
Ever in relationship	61	8	12.9	23	12.3	30	10.6	.463	ns
Last 12 months	22	5	8.1	8	4.3	9	3.2	3.075	ns

Severe	17	3	4.8	7	3.7	7	2.5	1.200	ns
Sexual	13	0	0.0	8	4.3	5	1.8	4.737	ns
Non-Physical									
Economic	20	3	4.8	10	5.3	7	2.5	2.797	ns
Psychological	116	12	19.4	42	22.5	62	21.9	.267	ns
Social-psychological	102	22	35.5	46	24.6	34	12.0	23.555	.000
Non-physical	167	26	41.9	66	35.3	75	26.5	7.665	.022

Logistic regression analysis confirms this. Specifically:

- A woman with less than five years in the current relationship was two times more likely to experience non-physical abuse than a woman with over fifteen years in the current relationship (OR=2.003 (CI 1.133, 3.539) Wald (df=1) 5.718, p<0.05). For women in the relationship 5 to 15 years, odds were one and a half times greater (OR=1.513, p<0.05).
- Further, women with less than five years in the current relationship were four times more likely to have experienced social-psychological abuse from their partner than women with over 15 years in the relationship (OR=4.028 (CI 2.142, 7.576) Wald (df=1) 18.686, p<0.01), and 2.4 times more likely to have suffered social-psychological abuse than women with 5-15 years in the current relationship (OR=2.389 (CI 1.465, 3.896) Wald (df=1) 12.184, p<0.01).

3.2.3 Place of residence in early years of life

Most of the women (338) and men (345) in the survey sample grew up either in a town or rural area. Only 90 (16.9%) of the women and 87 (16.4%) of their partners spent their early years in a mining town. As shown in Table 3.8, 14 percent of the women now living in an inland town came from a metropolitan city. By comparison, 21 percent of the women now living in Mackay grew up in a city. Similarly, 34 percent of the women living in Mackay came from a regional town compared with 27 percent in the Basin. Men followed the same pattern. This suggests that people from larger towns and cities are more likely to gravitate to Mackay than they are to the smaller Bowen Basin towns.

Table 3.8 Place of origin and current place of residence

Place of origin	Now living in Mackay				Now living in Bowen Basin inland communities			
	Women		Men		Women		Men	
Metropolitan	24	21%	24	21%	57	14%	53	13%
Town	39	34%	50	44%	114	27%	110	26%
Rural	32	28%	22	19%	153	37%	163	39%
Mining town	16	14%	10	9%	74	18%	77	19%

Other	4	3%	9	8%	19	5%	14	3%
Total	115	100%	115	100%	417	100%	115	100%

Few relationships were evident between the place of origin of either women or men and the experience of abuse. However, women partnered to men who grew up in mining communities were more likely to report social-psychological abuse (28.7%) than were women whose partners grew up in metropolitan centres (18.2%), towns (21.3%), rural areas (15.1%) or elsewhere (4.3%)(chi square=10.836, p=.028).

3.2.4 Age characteristics of the women and their partners

The women were within the age range 18 to 80 years with an average age of 42.7 (SD=12.198). The women's partners were aged between 19 and 93 years with an average age of 44.6 (SD=12.798). As Table 3.9 shows, the sample population living in the Bowen Basin was slightly younger than the sample population living in Mackay. On average, women were 2.3 years younger than their male partners (standard deviation 4.5 years). At the extremes of the age difference range, one woman reported being 16 years older than her partner and another being 34 years younger.

Table 3.9 Age characteristics

	Women			**Male partners**		
Age	Bowen Basin	Mackay	All women	Bowen Basin	Mackay	All men
Minimum	18	18	18	19	20	19
Maximum	78	80	80	93	82	93
Mean	41.8	44.2	42.7	44.0	46.5	44.6
Std. Deviation	11.581	14.107	12.198	12.467	13.822	12.798
n	417	115	532	417	115	532

Table 3.10 shows that, for most forms of abuse, those women reporting abuse tended, on average, to be three to six years younger than those women who did not report it. The exceptions to this pattern were sexual, economic and psychological abuse for which the differences were not significant.

Table 3.10 Mean age of women by experience of abuse

Type of abuse	**Mean age of women** (years)			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	39.2	42.7	2.077	.038
Last 12 months	36.8	42.3	2.168	.031
Severe	36.4	42.5	2.040	.042
Sexual	41.5	42.3	.243	ns
Non-Physical				
Economic	41.4	42.3	.326	ns
Psychological	41.2	42.3	1.081	ns
Social-psychological	37.9	43.3	4.629	.000
Non-physical	40.4	43.2	2.592	.010

While the mean age of male partners perpetrating abuse was slightly lower than the mean age of male partners who did not perpetrate abuse, with the exception of social-psychological abuse, the differences were not statistically significant (Table 3.11). Similarly, while the average age gap between women and their partners was slightly greater in those relationships marked by abuse, these differences were also not significant.

Table 3.11 Mean age of male partners by reported abuse

Type of abuse	**Mean age of male partners** (years)			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	42.7	44.9	1.445	ns
Last 12 months	40.2	44.8	1.634	ns
Severe	41.0	44.7	1.155	ns
Sexual	45.6	44.6	-.293	ns
Non-Physical				

Economic	43.7	44.6	.333	ns
Psychological	44.2	44.7	.402	ns
Social-psychological	40.9	45.5	3.613	.000
Non-physical	43.1	45.3	1.777	ns

Logistic regression suggests that:

- Women could experience physical abuse at any time in a relationship, with the likelihood declining slightly as women got older (OR= 0.975, p<0.05).
- Similarly, the likelihood of women having experienced physical violence from their current partner in the last 12 months declined marginally as women got older (OR=0.956, p<0.05).
- The report of social-psychological abuse also declined by 3.1 percent for older women (OR=0.969, p<0.05).

Reference, however, to the Queensland Trauma Register (see section 1.3.1) suggests that the relationship between violence resulting in hospitalisation and age may not be linear but may remain relatively constant before dropping in women over 45. To test whether this may be the case, the women were re-classified into four age groups (<30, 30-45, 46-60 and >60). This reinforces the idea that the relationship between age and abuse is not linear. However, it also suggests a more complex pattern.

Table 3.12 shows that for most forms of abuse, older women (in this case women over 60) report much lower levels of abuse than do women in any other age category. However, the reporting of abuse varies little between the 30-45 and 46-60 year age groups (social-psychological abuse being the only exception), but is substantially higher in the under 30 age group (with social-psychological abuse, again, being the only exception). This Table also suggests that much of the significantly higher level of reporting of physical abuse at any stage of the current relationship by younger women (nearly double the rate of reporting for women 30-45 and 46-60) can be accounted for by the fact that younger women reported physical abuse in the last 12 months at three to four times the rate of women in other age categories.

Table 3.12 Women's age by reporting of abuse

Type of abuse	**Age of women**				Sig
	<30 (%)	30-45 (%)	46-60 (%)	>60 (%)	
Physical					
Ever in relationship	19.2	10.7	11.3	2.4	.042
Last 12 months	11.5	2.6	3.5	2.4	.005
Severe	9.0	2.6	2.1	.0	.014

Sexual	3.8	1.8	3.5	.0	ns
Non-Physical					
Economic	6.4	2.6	4.3	4.8	ns
Psychological	25.6	22.5	22.0	9.5	ns
Social-psychological	32.1	22.1	9.9	7.1	.000
Non-physical	41.0	32.8	28.4	14.3	.019

Logistic regression shows that women under 30 were:

- Twice as likely to report any form of physical abuse (OR=2.112, (CI 1.113, 4.006), Wald (df=1) 5.236, p=0.022).
- 4.4 times more likely to report physical abuse within the last 12 months (OR=4.425, (CI 1.823, 10.742), Wald (df=1) 10.800, p=0.001).
- 4.4 times more likely to report severe physical abuse (OR=4.377, (CI 1.614, 11.873), Wald (df=1) 10.800, p=0.004).
- 2.3 times more likely to report social-psychological abuse (OR=2.309, (CI 1.353, 3.943), Wald (df=1) 9.403, p=0.002).
- 1.6 times more likely to report non-physical abuse (OR=1.644, (CI 1.003, 2.694), Wald (df=1) 3.888, p=0.049).

Young women are clearly at considerably greater risk of physical intimate partner abuse than are women in older age groups.

3.2.5 Level of education of the women and their partners

Nearly three-fifths of the women had an education to a level of senior secondary school; one-fifth had a university or professional education; while one-seventh had some technical/TAFE education (Table 3.13). Nearly, 50 percent of the male partners of the women had attained only a secondary school education, and one-third had technical/TAFE education. The percentage of male partners with technical/TAFE education was substantially higher than their female counterparts. This highlights both the employment profile of the region and the stratified sampling strategy. Further, more women (19.2%) than men (11.8%) had a university or other higher education.

Table 3.13 Highest level of education of women and their partners

Highest education level attempted	**Women**		**Male partners**	
	n	%	n	%
Primary	34	6.4	43	8.1
Junior Secondary	178	33.5	169	31.8

Senior secondary	139	26.1	94	17.7
TAFE/technical	79	14.8	157	29.5
University	102	19.2	63	11.8
Don't know	0	0.0	6	1.1

Tables 3.14 and 3.15 show that women who either had a university-level education, or whose partners had a university-level education, reported lower levels of abuse than did those with lower levels of formal education. However, the overall distribution of reporting of abuse against education level was not statistically significant for all forms of abuse except sexual abuse. Sexual abuse was reported at a disproportionately high rate by women whose partners had a primary level education only.

Table 3.14 Educational levels of women and experience of abuse

Type of abuse	Education level of women					Sig
	Primary %	Junior secondary %	Senior secondary %	Technical %	University %	
Physical						
Ever in relationship	5.9	11.8	15.8	13.9	4.9	ns
Last 12 months	2.9	3.9	7.2	5.1	0.0	ns
Severe	2.9	5.6	2.9	2.5	0.0	ns
Sexual	5.9	1.1	2.9	5.1	1.0	ns
Non-Physical						
Economic	5.9	4.5	2.9	3.8	2.9	ns
Psychological	14.7	22.5	24.5	21.5	19.6	ns
Social-psychological	8.8	20.8	21.6	20.3	15.7	ns
Non-physical	20.6	33.7	34.5	31.6	26.5	ns

Table 3.15 Educational levels of male partners and women's experiences of abuse

Type of abuse	Education level of male partners					Sig
	Primary %	Junior secondary %	Senior secondary %	Technical %	University %	
Physical						
Ever in relationship	14.0	13.6	11.7	11.5	4.8	ns
Last 12 months	9.3	4.1	8.5	1.9	0.0	ns
Severe	9.3	4.1	2.1	1.9	1.6	ns
Sexual	9.3	1.8	1.1	3.2	0.0	.040
Non-Physical						
Economic	7.0	4.1	4.3	3.2	1.6	ns
Psychological	27.9	23.1	25.5	20.4	14.3	ns
Social-psychological	20.9	21.9	26.6	14.0	11.1	ns
Non-physical	34.9	35.5	35.1	28.7	19.0	ns

Logistic regression confirmed that the education level of women had no bearing on their reporting of any form of abuse. However:

- Very significantly, women whose male partner had an education up to senior secondary level or less were nearly five times more likely to have experienced physical abuse during the last year than were women whose male partner had a higher level of education (OR= 4.921, $p<0.05$).
- Similarly, the women with less educated partners were more likely to have experienced non-physical abuse (OR=1.544, $p<0.05$) and social-psychological abuse (OR=1.900, $p<0.05$).

3.2.6 Number of children

Of the 532 couples in the survey, 474 (89.1%) had children. Ten point three percent had one child; 37.8 percent had two children; 23.1 percent three children; 10.7 percent four children and 8.0 percent five to eight children. The average number of children per couple with children was 2.66 (SD=1.198). However, 121 of the couples with children did not have a child currently living with them on either a full-time or part-time basis. Nearly 32 percent of the families had two children currently living with them. Thus, the average number of children currently living with their parents was 1.57 (SD=1.266).

Table 3.16 shows that women reporting psychological, social-psychological and 'all forms' of non-physical abuse tend, on average, to have more children living at home than do women whom do not report these forms of abuse. Similar relationships were not evident between the reporting of psychological and social-psychological abuse and women's total number of children.

Table 3.16 Mean number of children living at home by experience of abuse

Type of abuse	Mean number of children living at home			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	1.6	1.4	-1.009	ns
Last 12 months	1.6	1.4	-.686	ns
Severe	1.6	1.4	-.557	ns
Sexual	1.5	1.4	-.349	ns
Non-Physical				
Economic	1.2	1.4	.897	ns
Psychological	1.6	1.3	-2.084	.038
Social-psychological	1.7	1.3	-3.021	.003
Non-physical	1.6	1.3	-2.261	.024

Logistic regression was used to examine the relative experience of abuse by women who had children living at home and women who either did not have children or whose children were not living at home. Similarly, logistic regression found no correlation between having children and the experience of abuse. However, women who had children who were living at home were 2.8 times more likely to experience social-psychological abuse (OR=2.843, $p<0.05$); while women with three or more children living at home were 3.8 times more likely to experience social-psychological abuse (OR=3.801, $p<0.05$).

3.2.7 Employment status

Of the total sample, 41.2 percent of the women were unemployed/not working, 23.5 percent worked full-time, 23.5 percent worked part-time and the rest (11.8%) worked on a casual basis. On the other hand, 89.1 percent of the male partners worked on a full-time basis, while less than 3 percent worked either on a part-time or casual basis. A smaller proportion (8.3%) was unemployed/not working. Of the working population, less than half of working women (39.9%) were employed full-time, whereas 97.1 percent of the men were employed on a full-time basis (Table 3.17).

Table 3.17 Nature of employment of working population

Nature of job	Women		Male partners	
	Number	%	Number	%
Full-time	125	39.9	474	97.1
Part-time	125	39.9	8	1.6
Casual	63	20.1	6	1.2
Total	313	100	488	100

Many of the women interviewed (41.2%) were not working in a remunerative job. Out of these 218 women, over three-fifths (62.8%) identified themselves as 'homemaker performing home duties', while 17.4 percent identified themselves as 'retired' (Table 3.18).

Table 3.18 Working status of unemployed population

Working Status	Women		Male partners	
	Frequency	Percentage	Frequency	Percentage
Unemployed and looking for work	5	2.3	2	4.5
Unemployed and not looking for work	18	8.3	2	4.5
Retired	38	17.4	31	70.5
Student	4	1.8	0	0.0
Home duties	137	62.8	0	0.0
Pension	8	3.7	6	13.6
Don't know	6	2.8	1	2.3
No response	2	0.9	2	4.5
Total	218	100	44	100

Twelve point nine percent of women employed on a casual basis reported economic abuse compared with a rate for all women of 3.8 percent (chi square=20.802, p=.000). No other

relationships were found between women's or men's employment status and the experience of abuse.

3.2.8 Shiftwork

Of the 313 women who were employed in a paid job, 53 (17%) worked shifts. Of these, 30.2 percent worked evening shifts, 24.5 percent worked rotating shifts, 18.9 percent split shifts, 17.1 irregular shifts, 15.1 percent on-call schedules and 15.1 percent weekend day shifts. Seven point five percent worked extended work days. Only 15.1 percent worked fixed shifts.

Out of the 488 male partners who were in paid employment, 235 (48.2%) were working variable types of shiftwork. This high percentage of men on shiftwork reflects employment in mining jobs that typically involve non-standard work schedules.

For 35.7 percent of the men doing shiftwork, their job involved extended work days – which is quite typical of mining jobs as most of the mines in the Bowen Basin region utilise 12 hour shifts. Further, 29.3 percent often worked on rotating shifts, 25.5 percent each worked on evening and/or weekend shifts respectively. Only 6 percent of the male partners were on 'on call' work schedules. Just over one-tenth (11.5%) were on irregular shifts and another 11.1 percent were on fixed shifts.

Nine point four percent of women employed to undertake shiftwork reported economic abuse compared with a rate for all other women in paid employment of 1.9 percent (chi square=8.042, p=.018). Six percent of women whose partners worked shifts reported physical abuse during the last 12 months compared with two percent of women whose partners did not work shifts (chi square=5.161, p=.023). No other relationships were found between women's or men's engagement in shiftwork and the experience of abuse.

3.2.9 Employment and type of industry

A list of 18 industries was provided to the women. As shown in Table 3.19, below, working women were primarily employed in the retail trade (17.3%), education (15%), health and community services (12.8%), mining (8.6%), agriculture, forestry and fishing (5.1%) and personal services (4.5%). A large number of male partners (59.2%) were employed in the mining industry. Next were agriculture, forestry and fishing (collectively) with 9.4 percent and transport and storage with 5.1 percent (Table 3.19, below). Thus, the coal mining industry was the predominant employer for partners of the women surveyed.

Few meaningful differences were evident in the rates of abuse reported by women working in different industries. Similarly, few meaningful differences were evident in the rates of abuse reported by women whose partners worked in different industries. The exception to this pattern was social-psychological abuse. While reported by 19.2 percent of women overall, this form of abuse was reported by 37.0 percent of women who worked in mining themselves (chi square=13.706, p=.033) and by 23.5 percent of women whose partners worked in mining (chi square=14.986, p=.020). This meant that the partners of men working in the mining industry were 1.8 times more likely to experience social-psychological abuse (OR=1.777, $p< 0.05$). Further, partners of men working in the mining industry and who were living in the coastal town of Mackay were 3.5 times more likely to experience social-psychological abuse from their partner than women whose partners were not in the mining industry (OR 3.519, CI (1.336, 9.264), $p<0.05$).

Table 3.19 Employment by industry

Industry category	Women		Male partners	
	No.	%	No.	%
Agriculture, forestry and fishing	16	5.1	46	9.4
Mining	27	8.6	289	59.2
Manufacturing	3	1.0	14	2.9
Electricity, gas and water supply	5	1.6	17	3.5
Construction	9	2.9	20	4.1
Wholesale trade	1	0.3	2	0.4
Retail trade	54	17.3	7	1.4
Accommodation, cafes and restaurants	12	3.8	1	0.2
Transport and storage	10	3.2	25	5.1
Communication services	2	0.6	2	0.4
Finance, property and business services	8	2.6	2	0.4
Finance and insurance	5	1.6	2	0.4
Property and business services	6	1.9	4	0.8
Government administration and defence	8	2.6	5	1.0
Cultural and recreational services	6	1.9	2	0.4
Health and community services	40	12.8	3	0.6
Education	47	15.0	7	1.4
Personal and other services	14	4.5	6	1.2
Other	40	12.8	34	7.0
Total	313	100	488	100

3.2.10 Income of the women and their partners

Table 3.20 shows the income levels for women responding to the survey, and the income levels of their partners. Nearly one-quarter (24.8%) of the women did not have an income. Nearly one-fifth (19.6%) of the total women had a gross income less than $300 per week, while only one percent of

them had a gross weekly income of over $2000 (Table 3.20). Another 6.6 percent had a gross income between $1000 and $1999.

Table 3.20 Gross income of women and partners

		Women		Male partners	
Per Week	Per Year	Frequency	%	Frequency	%
$2,500 or more	$130,000 or more	1	0.2	26	4.9
$2,000 - $2,499	$100,00 - $129,000	4	0.8	103	19.4
$1,500 - $1,999	$78,000 - $99,999	9	1.7	79	14.8
$1,000 - $1,499	$52,000 - $77,999	26	4.9	96	18.0
$800 - $999	$41,600 - $51,999	28	5.3	39	7.3
$700 - $799	$36,400 - $41,599	16	3.0	16	3.0
$600 - $699	$31,300 - $36,399	27	5.1	12	2.3
$500 - $599	$26,000 - $31,199	35	6.6	7	1.3
$400 - $499	$20,800 - $25,999	33	6.2	6	1.1
$300 - $399	$15,000 - $29,799	25	4.7	1	0.2
$200 - $299	$10,400 - $15,599	45	8.5	18	3.4
$160 - $199	$8,320 - $10,399	8	1.5	1	0.2
$120 - $159	$6,240 - $8,319	17	3.2	2	0.4
$80 - $119	$4,160 - $6,239	17	3.2	0	0.0
$40 - $79	$2,080 - $4,159	4	0.8	0	0.0
$1 - $39	$1 - $2,079	13	2.4	0	0.0
Nil or Negative Income		132	24.8	4	0.8
Don't Know		68	12.8	90	16.9
No Response		24	4.5	32	6.0
Total		532	100.0	532	100.0

By contrast, nearly one-quarter (24.3%) of the total number of male partners had a gross weekly income over $2000, and another one-third (32.8%) had a gross weekly income between $1000 and $1999 reflecting that a large number of them were employed in the mining industry.

There were no relationships between the income of women or their partners and the reporting of any form of abuse.

3.3 Relational correlates of intimate partner abuse

Here 'relational' refers to the couple's management of finances, including bank accounts and the level of debt; and the distribution of household tasks, including domestic tasks, caring for children and maintenance tasks.

3.3.1 Maintenance of bank accounts

The majority (85.5%) of the 532 couples ran a joint bank account. However, 45.7 percent of the women and 33.1 percent of their partners maintained individual bank accounts either in place of, or in addition to, a joint account. Tables 3.21 to 3.23 show a number of associations between couples' approaches to the maintenance of bank accounts and various forms of intimate partner abuse. Specifically, women who did not operate a joint bank account with their partner reported higher levels of recent physical abuse and economic abuse; women who operated an individual account reported higher levels of psychological and social-psychological abuse; and women whose partners operated individual accounts reported higher levels of economic and social-psychological abuse.

Table 3.21 Couples operating a joint account by reporting of abuse

	Joint account (n=455)		**No joint account** (n=77)			
Type of Abuse	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	50	11.2	11	14.3	.705	ns
Last 12 months	14	3.1	8	10.4	8.883	.003
Severe	12	2.6	5	6.5	3.166	ns
Sexual	10	2.2	3	3.9	.797	ns
Non-physical						
Economic	12	2.6	8	10.4	10.939	.001
Psychological	97	21.3	19	24.7	.435	ns
Social-psychological	78	17.1	24	31.2	8.360	.004
Non-physical	133	29.2	34	44.2	6.811	.009

Table 3.22 Women operating an individual account by reporting of abuse

Type of Abuse	Individual account (n=243)		No individual account (n=289)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	31	12.8	30	10.4	.391	ns
Last 12 months	12	4.9	10	3.5	.727	ns
Severe	8	3.3	9	3.1	.014	ns
Sexual	7	2.9	6	2.1	.358	ns
Non-physical						
Economic	12	4.9	8	2.8	1.718	ns
Psychological	64	26.3	52	18.0	5.391	.020
Social-psychological	59	24.3	43	14.9	7.528	.006
Non-physical	94	38.7	73	25.3	11.044	.001

Table 3.23 Partners operating an individual account by reporting of abuse

Type of Abuse	Individual account (n=176)		No individual account (n=356)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	22	12.5	39	11.0	.277	ns
Last 12 months	9	7.3	13	3.7	.635	ns
Severe	7	4.0	10	2.8	.520	ns
Sexual	6	3.4	7	2.0	1.028	ns
Non-physical						
Economic	13	7.4	7	2.0	9.563	.002
Psychological	42	23.9	74	20.8	.654	ns

Social-psychological	46	26.1	56	15.7	8.230	.004
Non-physical	67	38.1	100	28.1	5.445	.020

Similarly, logistic regression analysis suggests that women who run a joint account with their partner were:

- significantly less likely to have experienced physical abuse during the last 12 months of their relationship (OR=0.274, p=0.005)
- less likely to experience economic abuse (OR= 0.234, p=0.002)
- less likely to experience social-psychological abuse (OR=0.457, p=0.004), and
- less likely to experience non-physical abuse (OR=0.522, p=0.01).

3.3.2 Level of debt

At the individual level, a large majority of the women (70.7%) and their partners (65%) did not owe any debt; but, at the joint level only 34.8 percent of the couples did not owe any debt (Table 3.24).

Table 3.24 Individual and joint levels of debt for women and their partners

	Respondent women		**Partners**		**Joint debt**	
Amount of Debt	Frequency	%	Frequency	%	Frequency	%
No personal debt	376	70.7	346	65.0	185	34.8
< $5,000	55	10.3	33	6.2	13	2.4
$5,000-10,000	15	2.8	6	1.1	9	1.7
$10,000-20,000	13	2.4	17	3.2	11	2.1
$20,000-50,000	15	2.8	19	3.6	34	6.4
$50,000-100,000	6	1.1	19	3.6	34	6.4
$100,000-200,000	4	0.8	14	2.6	63	11.8
> $200,000	5	0.9	31	5.8	131	24.6
Don't know	20	3.8	23	4.3	23	4.3
No response	23	4.3	24	4.5	29	5.5
Total	532	100.0	532	100.0	532	100.0

Reflecting the very low levels of individual debt, there were no meaningful associations between the individual debt of either women or their partners and the reporting of abuse. However, as Table 3.25 shows, there were several relationships evident between joint debt and abuse. Physical abuse, including sexual abuse, was disproportionately high among couples with joint debt of less than $5,000 and between $20,000 and $50,000. Psychological abuse was disproportionately high among couples with joint debt of less than $50,000.

Table 3.25 Level of joint debt by reporting of abuse

	Level of joint debt (000's)										
Type of Abuse	None	<5 (%)	5-10 (%)	10-20 (%)	20-50 (%)	50-100 (%)	100-200 (%)	>200 (%)	Don't know	Chi square	Sig
Physical											
Ever in relationship	7.0	30.8	22.2	.0	32.4	14.7	14.3	11.5	4.3	29.254	.001
Last 12 months	3.8	15.4	.0	.0	11.8	5.9	6.3	1.5	4.3	14.605	ns
Severe	2.2	15.4	.0	.0	11.8	5.9	1.6	2.3	4.3	18.337	.031
Sexual	1.6	15.4	.0	.0	8.8	.0	4.8	.8	4.3	20.863	.013
Non-physical											
Economic	4.9	7.7	.0	.0	5.9	5.9	1.6	.8	8.7	9.218	ns
Psychological	17.8	38.5	33.3	45.5	41.2	20.6	19.0	22.1	17.4	17.289	.044
Social-psychological	17.8	15.4	11.1	18.2	29.4	23.5	17.5	20.6	21.7	5.284	ns
Non-physical	27.6	46.2	33.3	45.5	47.1	29.4	25.4	35.1	26.1	9.924	ns

Logistic regression suggests, similarly, that couples with joint debt in the lower ranges (but greater than zero) are those whose relationships are most likely to be marred by abuse of the female partner. Women with joint debt less than $100,000 were 3.7 times more likely to have experienced physical abuse than women in relationships where the couple did not owe any debt (OR=3.685, p=0.001). Further, those women were 2.3 times more likely to experience psychological abuse (OR=2.337, p=0.003) and 1.7 times more likely to experience non-physical abuse from their partners (OR=1.723, $p<0.05$).

3.3.3 Division of household labour

Household labour is defined here as unpaid work done at home to maintain family members and/or a home (Shelton & John 1996). Methods to measure household labour can include time diaries, time estimates, and/or gender specific work allocations based on who performs specific tasks rather than how much time is spent on those tasks (Baxter 2001, 2002; Blood & Wolfe 1960). This study used the proportional measure to access performance data for a range of household tasks. The response categories were: 'always by me' (100 %), 'mostly by me' (75 %), 'shared equally' (50 %), 'mostly by my partner' (25 %), 'always by my partner' (0 %). The mean scores provided in Table 3.26 are representative of responses for individual tasks. Missing data were excluded meaning that the means provided in Table 3.26, below, reflect only those households in which each specific task was undertaken.

Table 3.26 Proportional performance of household tasks by the female partners

Household Task	Frequency	Mean	SD
Laundry duties	532	82.00	20.51
Ironing the clothes	467	89.67	18.79
House cleaning duties	525	77.19	21.01
Preparation of meals	532	71.43	23.45
Washing the dishes	484	66.84	25.85
Paying the bills	532	72.18	31.91
Purchasing groceries	531	77.12	24.21
Looking after dependent children	344	65.33	18.88
Dropping off/picking up children from school	259	71.14	22.22
Attending special events at school	277	66.70	19.12
Car cleaning	502	44.62	32.54
Mowing the lawn	486	29.22	33.95
Household maintenance and repairs	468	24.68	24.21

It is evident from Table 3.26 that women had primary responsibility for childcare and the majority of household tasks, with the exception of traditionally 'masculine tasks' such as lawn mowing and household repairs. To simplify these data, three indexes were calculated that assigned each survey respondent a composite score for domestic tasks (laundry, ironing, cleaning, meals, dishwashing, bill paying and grocery shopping), maintenance tasks (care cleaning, lawn mowing and household repairs) and childcare tasks (looking after dependent children, school transport and attending school

events). A score of one on these indexes indicates that a respondent took sole responsibility while a score of five indicates that her partner took sole responsibility for the task. Tables 3.27 to 3.29 compare the mean scores on these indexes for women reporting abuse and those women not reporting abuse.

Table 3.27 Responsibility for domestic tasks by experience of abuse

Type of abuse	Mean score responsibility index			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	1.9	1.9	-.045	ns
Last 12 months	1.9	1.9	-.160	ns
Severe	1.8	1.9	.587	ns
Sexual	1.6	1.9	2.194	.029
Non-Physical				
Economic	1.9	1.9	-.430	ns
Psychological	1.8	1.9	2.430	.016
Social-psychological	1.8	1.9	1.606	ns
Non-physical	1.8	1.9	1.915	ns

Table 3.28 Responsibility for maintenance tasks by experience of abuse

Type of abuse	Mean score responsibility index			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	3.7	3.7	.328	ns
Last 12 months	3.6	3.7	.764	ns
Severe	3.5	3.7	1.865	ns
Sexual	3.3	3.7	1.315	ns
Non-Physical				
Economic	3.6	3.7	.428	ns

Psychological	3.5	3.7	2.102	.036
Social-psychological	3.4	3.8	3.234	.001
Non-physical	3.5	3.8	2.389	.017

Table 3.29 Responsibility for childcare tasks by experience of abuse

Type of abuse	Mean score responsibility index			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	1.9	2.4	3.625	.000
Last 12 months	1.9	2.3	2.464	.014
Severe	1.9	2.3	1.886	ns
Sexual	1.8	2.3	2.008	.046
Non-Physical				
Economic	1.7	2.3	2.863	.005
Psychological	2.1	2.4	3.168	.002
Social-psychological	1.9	2.4	5.205	.000
Non-physical	2.0	2.5	5.183	.000

Table 3.27 shows that there was very little difference between those women who reported abuse and those women who did not, in terms of the levels of responsibility they took for general domestic tasks. The major exception to this pattern was women who reported sexual abuse, who averaged a substantially higher level of responsibility for domestic tasks than did women who did not report sexual abuse. Table 3.28 shows that women reporting psychological and social-psychological abuse took higher levels of responsibility for the traditionally masculine tasks of house and garden maintenance. However, as Table 3.29 shows, the area in which there were the most consistent differences between those women reporting abuse and those not reporting abuse was in the level of responsibility for the performance of childcare tasks. For all forms of abuse except severe physical abuse, those women who reported abuse averaged substantially higher levels of responsibility for childcare.

Logistic regression suggests that women solely or mostly responsible for looking after the children were:

- 2 times more likely to experience physical abuse during their relationship (OR=2.143, $p<0.03$)

- 2.4 times more likely to experience non-physical abuse (OR=2.421, p<0.001)
- 3.2 times more likely to experience social-psychological abuse (OR=3.251, p<0.001), and
- 1.8 times more likely to experience psychological abuse (OR=1.883, p<0.02).

3.4 Behavioural correlates of intimate partner abuse

3.4.1 Tobacco smoking

According to the Australian Bureau of Statistics' (ABS) National Health Survey on tobacco smoking in Australia in 2004-05 (ABS 2006c), tobacco smoking is the largest single preventable cause of death and disease in Australia. The survey reported that 23 percent of adults were current smokers (20% of adult women and, 26% of adult men). Of these, 92 percent were daily smokers.

In line with Australian statistics, 19.4 percent of the women responding to the survey and 25.2 percent of their male partners smoked cigarettes. Of the 103 women who smoked, 56.3 percent smoked six to 15 cigarettes a day and 3.9 percent smoked over 30 cigarettes a day. Of the 134 male smokers it was estimated that 16.4 percent smoked up to 15 cigarettes per day and 8.9 percent smoked more than 30. Table 3.30, below shows the relationship between women's smoking of tobacco and experiences of abuse, followed by Table 3.31, which shows the relationship between their partners' smoking of tobacco and their experiences of abuse.

Table 3.30 Experience of abuse by women's smoking

Type of Abuse	**Smokers** (n=103)		**Non-smokers** (n=429)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	17	16.5	44	10.3	3.194	ns
Last 12 months	7	6.8	15	3.5	2.281	ns
Severe	8	7.8	9	2.1	8.629	.003
Sexual	4	3.9	9	2.1	1.111	ns
Non-physical						
Economic	9	8.7	11	2.6	8.750	.003
Psychological	30	29.1	86	20.0	4.016	.045
Social-psychological	32	31.1	70	16.3	11.662	.001
Non-physical	47	45.6	120	28.0	12.026	.001

Cigarette smoking women were:

- 3.7 times more likely to experience economic abuse (OR=3.638, p=0.005)

- 1.6 times more likely to experience psychological abuse (OR=1.639, p<0.05)
- 2.3 times more likely to experience social-psychological abuse (OR=2.311, p=0.001)
- 2.1 times more likely to experience non-physical abuse (OR=2.161, p=0.001), and
- 3.9 times more likely to experience severe physical abuse (OR=3.930, p=0.006)

There was no evidence that the risk of any of these forms of violence increased with the rate of smoking.

Table 3.31 Experience of abuse by partners' smoking

Type of Abuse	**Smokers** (n=134)		**Non-smokers** (n=398)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	27	20.1	34	8.5	13.303	.000
Last 12 months	13	9.7	9	2.3	13.998	.000
Severe	12	9.0	5	1.3	19.209	.000
Sexual	5	3.7	8	2.0	1.246	ns
Non-physical						
Economic	10	7.5	10	2.5	6.789	.009
Psychological	37	27.6	79	19.8	3.543	ns
Social-psychological	39	29.1	63	15.8	11.400	.001
Non-physical	58	43.3	109	27.4	11.763	.001

Men's smoking was associated with an increased reporting of most forms of abuse (see Table 3.31). Women whose partners smoked were:

- 2.7 times more likely to have experienced abuse at some time in the current relationship (OR=2.701, p<0.001)
- 4.6 times more likely to have experienced physical abuse in the last 12 months (OR =4.644, p=0.001)
- 7.7 times more likely to have reported severe physical abuse (OR=7.731, p=0.000)
- 3.1 times more likely to have experienced economic abuse (OR=3.129, p<0.05)
- 2.1 times more likely to have experienced social-psychological abuse (OR=2.183 p=0.001), and
- 2 times more likely to have reported at least one form of non-physical abuse (OR =2.023, p=0.001).

Again, there was no evidence to suggest that the risk of abuse increased as partners' cigarette consumption increased.

3.4.2 Alcohol consumption

A set of three questions was asked regarding the woman's, and her partner's, drinking habits. These questions were based on the AUDIT-C instrument developed by Bush et al (1998) as a brief screening test to identify, assess and advise risky drinkers in clinical settings. Despite the inherent limitations of basing diagnosis on such a brief questionnaire, several studies have found the AUDIT-C instrument to identify between 54 and 98 percent of people engaged in active alcohol misuse, depending on the definitions of heavy drinking used, and to compare favourably with longer and more complex instruments (Gual et al. 2002). While this survey was not focused on screening women in a clinical setting, the use of AUDIT-C is justified on the basis that this instrument does provide a reasonably reliable indication of the relative exposure of participants to risky drinking behaviour within spousal relationships.

AUDIT-C includes three questions, addressing:

- frequency of alcohol consumption (never, monthly or less, 2-4 times a month, 2-3 times a week, 4 or more times a week)
- number of standard drinks consumed per session of drinking (1-2 drinks, 3-4 drinks, 5-6 drinks, 7-9 drinks and 10 or more drinks), and
- frequency of consuming six or more standard drinks on one occasion (never, less than monthly, monthly, weekly and daily or almost daily).

In order to be specific, the women were advised that one standard drink equals one middy or pot of ordinary beer (285 ml), one glass of wine (100 ml), one nip of spirits (30 ml) or one glass of fortified wine like port or sherry (60 ml).

Each question in AUDIT-C is scored from 0–4 points. These are then aggregated to allocate each subject a total score out of 12. While, as noted above, definitions of problem or risky drinking may differ, Gual et al's (2002) Spanish study found that values of $\geq$4 for women and $\geq$5 for men provided the best correlation with a clinical diagnosis of risky drinking.

Tables 3.32 to 3.34 provide frequency data for each of the three questions in the AUDIT-C instrument. They show that women drank less frequently than their partners; that they consumed less alcohol when they did drink; and that they engaged less often in heavy drinking sessions of six or more standard drinks.

Table 3.32 Frequency of alcohol consumption

Number of occasions	Women		Male partners	
	Frequency	%	Frequency	%
Never	104	19.5	39	7.3
Monthly or less	139	26.1	77	14.5

2-4 times a month	94	17.7	97	18.2
2-3 times a week	1 23	23.1	165	31.0
4 or more times a week	71	13.3	153	28.8
No response	1	0.2	1	0.2
Total	532	100.0	532	100.0

Table 3.33 Number of drinks per occasion of drinking

Number of drinks	**Women**		**Male partners**	
	Frequency	%	Frequency	%
1-2 drinks	271	63.3	195	39.6
3-4 drinks	101	23.6	174	35.3
5-6 drinks	40	9.3	83	16.8
7-9 drinks	8	1.9	11	2.2
10 or more drinks	7	1.6	27	5.5
Don't know	1	0.2	3	0.6
Total	428	100.0	493	100.0

Table 3.34 Frequency of consuming six or more drinks on one occasion

Number of occasions	**Women**		**Male partners**	
	Frequency	%	Frequency	%
Never	187	43.7	97	19.7
Less than monthly	156	36.4	187	37.9
Monthly	59	13.8	122	24.7
Weekly	23	5.4	70	14.2
Daily or almost daily	2	0.5	16	3.2
Don't know	1	0.2	1	0.2

Total	428	100.0	493	100.0

Table 3.35 shows AUDIT-C scores by gender. Reflecting the data presented in Tables 3.32 to 3.34, above, the scores suggest much more frequent and heavy levels of alcohol consumption among men. However, the differential tolerance for alcohol between women and men must also be taken into account when interpreting this data. Using the cut-off scores suggested by Gual et al (2002) of ≥4 and ≥5 for women and men respectively, it would appear that some 41 percent of women and 55 percent of men displayed evidence of risky drinking behaviour.[1]

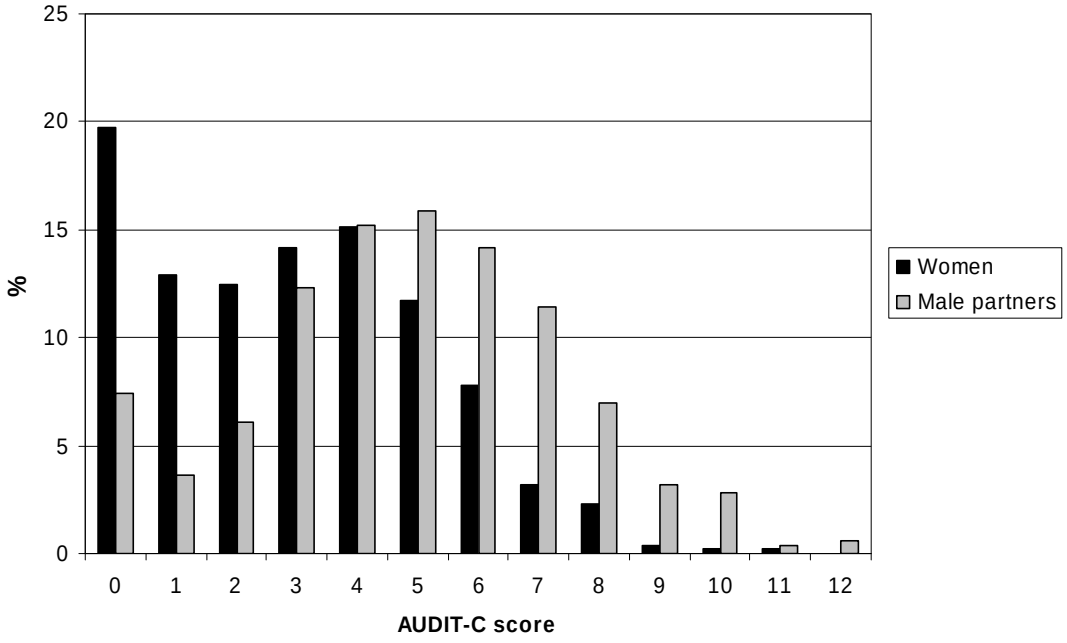
Table 3.35 AUDIT-C scores by gender

AUDIT-C score	Women		Male partners	
	Frequency	%	Frequency	%
0	104	19.7	39	7.4
1	68	12.9	19	3.6
2	66	12.5	32	6.1
3	75	14.2	65	12.3
4	80	15.1	80	15.2
5	62	11.7	84	15.9
6	41	7.8	75	14.2
7	17	3.2	60	11.4
8	12	2.3	37	7.0
9	2	.4	17	3.2
10	1	.2	15	2.8
11	1	.2	2	.4
12	0	0	3	.6
Total	529	100	528	100

In other words, while a cursory examination of the data would suggest that women drank much less than men did, taking full account of women's and men's differential tolerance for alcohol leads to the conclusion that both genders displayed worrying levels of alcohol consumption.

Figure 2 shows the distribution of AUDIT-C scores to be more-or-less normal among male partners but bimodal among women with the first peak at zero and the second peak at a score of five. This suggests that the main difference between the female and male samples was the greater prevalence among women of subjects who never drank more than two standard drinks in one session. While women were more likely than men either not to drink alcohol or to drink very lightly, those women who fell outside this group were no less likely than men to engage in risky drinking behaviour.

Figure 2 Distribution of AUDIT-C scores by gender



Although this report does not present a detailed analysis of the determinants of alcohol consumption, it notes that increasing scores on the AUDIT-C scale among women were associated with: an increasing score on the AUDIT-C scale for their partner (r=0.415, p=0.000); involvement in a de facto relationship (t=-4.082, p=0.000); not having children (t=-2.326, p=0.020); involvement in paid employment (t=5.174, p=0.000); women's smoking (t=2.339, p=0.021); gambling (t=2.405, p=0.016); increasing personal income (r=0.285, p=0.000); increasing spousal income (r=0.117, p=0.018); and younger age (r=0.226, p=0.000).

Among men, increasing scores on the AUDIT-C scale were associated with: an increasing score on the AUDIT-C scale for their partner (r=0.415, p=0.000); their involvement in the mining industry (t=3.52, p=0.000); involvement in a de facto relationship (t=-2.774, p=0.006); not having children (t=-2.347, p=0.019), their partner's involvement in paid employment (t=3.240, p=0.001); their own involvement in paid employment (t=2.938, p=0.003); gambling (t=2.225, p=0.027); increasing personal income (r =0.183, p=0.000); increasing spousal income (r=0.163, p=0.001); and younger age (r=0.283, p=0.000). Even though involvement in mining was positively correlated with alcohol consumption among men, involvement in shiftwork and long distance commuting were not. In other words, it appeared more likely that risky drinking was encouraged by the occupational culture of mining than it was by those structural characteristics of mine employment directly under the control of mine managers such as fly-in/fly-out operations and 12 hour shifts.

Table 3.36 compares the mean AUDIT-C score for women who reported abuse with the mean AUDIT-C score for women who did not report abuse. While some differences were not statistically significant, the overall pattern is of consistently higher levels of alcohol consumption among abused women.

Table 3.36 Women's mean score on AUDIT-C by reporting of abuse

Type of abuse	Mean score AUDIT-C			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	3.6	2.9	-2.218	.027
Last 12 months	3.6	2.9	-1.375	ns
Severe	3.8	2.9	-1.633	ns
Sexual	2.9	2.9	.026	ns
Non-Physical				
Economic	3.2	2.9	-.522	ns
Psychological	3.4	2.8	-2.610	.009
Social-psychological	3.5	2.8	-2.956	.003
Non-physical	3.4	2.7	-3.250	.001

Table 3.37 compares the mean AUDIT-C score for the partners of women who reported abuse with the mean AUDIT-C score for the partners of women who did not report abuse. The pattern, again, is of consistently higher levels of alcohol consumption among the partners of abused women.

Table 3.37 Partners' mean score on AUDIT-C by reporting of abuse

Type of abuse	Mean score AUDIT-C			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	6.0	4.7	-4.075	.000
Last 12 months	6.5	4.7	-3.283	.001

Severe	6.2	4.8	-1.652	ns
Sexual	6.4	4.8	-2.256	.024
Non-Physical				
Economic	5.8	4.8	-1.761	ns
Psychological	5.5	4.6	-3.384	.001
Social-psychological	5.3	4.7	-2.236	.026
Non-physical	5.2	4.6	-2.439	.015

It is of some interest to note, in this regard, that the mean AUDIT-C scores for the partners of abused women were well above the threshold for risky drinking behaviour of ≥5 for men, while the mean score for the abused women themselves fell below the threshold of risky drinking behaviour of ≥4 for women. Logistic regression suggests that a woman whose male partner is a risky drinker of alcohol was twice as likely to experience physical abuse (OR=2.074, $p<0.05$); and 1.6 times more likely to experience psychological abuse (OR=1.609, $p<0.05$).

3.4.3 Consumption of drugs

The women were asked whether they, or their partners, consumed a range of drugs including amphetamines, ecstasy or other forms of MDMA, methamphetamines, sedatives or sleeping pills without a prescription, cannabis or marijuana, cocaine, heroin or other opiates, and other illicit or non-prescription drugs. Those who reported drug use were also asked how frequently they consumed these drugs. The results are provided in Table 3.38, which shows the level of self-reported consumption of most drugs was extremely low.

Table 3.38 Consumption of drugs (N=532)

Type of drug	Women		Male partners	
	Frequency	%	Frequency	%
Amphetamines	1.0	0.2	4.0	0.8
Ecstasy or other forms of MDMA	1.0	0.2	3.0	0.6
Methamphetamines	1.0	0.2	0.0	0.0
Sedatives or sleeping pills without a prescription	7.0	1.3	3.0	0.6
Cannabis/marijuana	16.0	3.0	18.0	3.4
Cocaine	0.0	0.0	0.0	0.0
Heroin or other opiates	0.0	0.0	0.0	0.0

Other illicit or non-prescription drugs	2.0	0.4	0.0	0.0

Since the reported incidence and frequency of consumption of these substances was near negligible they did not warrant any statistical examination for associations with intimate partner abuse. However, 3 percent of the women reported using cannabis or marijuana and 3.4 percent reported that their partners consumed cannabis or marijuana. Both of these groups were more-or-less evenly split between those who used marijuana/cannabis monthly or less, and those that used it four times a week or more, as illustrated in Table 3.39.

Table 3.39 Frequency of use by marijuana/cannabis users

Frequency of use	**Women**	**Male partners**
Monthly or less	7	9
2-4 times a month	1	1
1-3 times a week	3	3
4 or more times a week	4	3
Don't know/no response	1	2
Total	16	18

Tables 3.40 and 3.41 show that women who reported using marijuana/cannabis, or whose partner was reported to use marijuana/cannabis, also experienced substantially higher rates of most forms of intimate partner abuse.

Table 3.40 Experience of abuse by women's marijuana/cannabis use

Type of Abuse	**Users** (n=16)		**Non-users** (n=516)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	7	43.8	54	10.5	16.937	.000
Last 12 months	2	12.5	20	3.9	2.911	ns
Severe	3	18.8	14	2.7	12.902	.000
Sexual	0	.0	13	2.5	.413	ns

Non-physical						
Economic	2	12.5	18	3.5	3.483	ns
Psychological	8	50.0	108	20.9	7.692	.006
Social-psychological	9	56.3	93	18.0	14.633	.000
Non-physical	12	75.0	155	30.0	14.566	.000

Table 3.41 Experience of abuse by male partner's marijuana/cannabis use

Type of Abuse	**Users** (n=18)		**Non-users** (n=514)			
	n	%	n	%	Chi square	Sig
Physical						
Ever in relationship	8	44.4	53	10.3	19.959	.000
Last 12 months	4	22.2	18	3.5	15.374	.000
Severe	4	22.2	13	2.5	21.803	.000
Sexual	1	5.6	12	2.3	.757	ns
Non-physical						
Economic	1	5.6	19	3.7	.166	ns
Psychological	11	61.1	105	20.4	16.882	.000
Social-psychological	10	55.6	92	17.9	15.913	.000
Non-physical	14	77.8	153	29.8	18.613	.000

Similarly, logistic regression suggests that women who consumed cannabis at least twice a month or more were:

- nearly five times more likely than other women to have experienced physical abuse at some time in the relationship (OR=4.821, p<0.05)
- more than four times more likely to have experienced social-psychological abuse (OR=4.347, p<0.05), and
- nearly seven times more likely to have experienced non-physical abuse from their current partners (OR=6.764, p<0.05).

Women partnered to men reported to consume marijuana/cannabis at least twice a month or more were:

- nearly 21 times more likely than other women to have experienced physical abuse (OR=20.937, p=0.00)

- over 10 times more likely to have experienced physical abuse in the last 12 months (OR=10.100, p<0.05)
- over 27 times more likely to have experienced severe physical abuse (OR= 27.375, p=0.00)
- over nine times more likely to have experienced psychological abuse (OR=9.324, p=0.008), and
- five times more likely to have experienced non-physical abuse (OR=5.062, p<0.05).

3.4.4 Gambling

According to the Queensland Household Gambling Survey 2003-2004, more than 72 percent of the adult population of Queensland could be classified as recreational gamblers and nearly 0.55 percent of the adult population as having a gambling problem. While women and men gambled in equal numbers, according to this survey, women had a lower estimated problem gambling prevalence rate of 0.39 percent compared with 0.72 percent for men.

Tables 3.42 and 3.43 shows that while the majority of the women and their partners gambled, the majority of these did infrequently and at low levels. There were no significant relationships between the gambling habits of women or their partners and the reporting of abuse.

Table 3.42 Gambling frequency among women and their partners

	Women		Male partners	
Gambling habit	Frequency	%	Frequency	%
Never	149	28.0	214	40.2
1-2 times a year	72	13.5	65	12.2
Once every month or two	125	23.5	91	17.1
2-3 times a month	123	23.1	100	18.8
2-3 times a week	61	11.5	54	10.2
Daily or almost daily	1	0.2	4	0.8
Don’t know	1	0.2	4	0.8
Total	532	100	532	100

Table 3.43 Money usually spent on each occasion of gambling

	Women		Male partners	
Amount	Number	%	Number	%
< $ 10	204	53.4	130	41.4

$10 - $30	131	34.3	113	36.0
$ 30 - $ 50	34	8.9	35	11.1
$ 50 - $ 100	12	3.1	22	7.0
> $100	1	0.3	9	2.9
Do not know	0	0.0	5	1.6
Total	**382**	**100**	**314**	**100**

3.5 Reasons women continue in abusive relationships

The women were asked whether (in light of the preceding questions on abuse) they believed that they had ever been physically or non-physically abused by their current partner. Fifty-one (9.6%) of the total 532 women surveyed replied that they did believe they had been abused by their current partner, while four (0.8%) were unsure or did not know. Those who did believe they had been abused were asked whether they had ever considered ending the relationship. Forty-one (80.4%) had considered ending the abusive relationship, while ten (19.6%) had not.

The women who believed they had been abused were also asked why they had chosen to remain in the current relationship despite their belief that they had suffered abuse. Ten potential reasons were given and women asked to comment on whether each reason was very influential, moderately influential, a small influence or of no influence. As Table 3.44, below, shows the most influential reasons for continuing the relationship included the desire to give the relationship another try, love, the resolution of problems, concern for children, and the promise of the abusive partner to change. A number of women also felt the abuse was not serious enough to warrant leaving the relationship, that they had nowhere to go, or lacked financial security or self-confidence. While less influential than other factors, 21.6 percent of the women indicated that feeling too ashamed had some influence on their decision to stay in the relationship, and for 9.8 percent this was very influential.

Table 3.44 Relative influence of reasons for continuing abusive relationship (n = 51)

	Very influential	Moderate influence	Small influence	No influence	Don't know/ no response
Reasons	%	%	%	%	%
Wanted to give relationship another try	60.8	23.5	9.8	3.9	2
I still love my partner	60.8	23.5	3.9	7.8	4.0
Resolved problems with partner	51.0	27.5	5.9	13.7	2.0
For the sake of children	41.2	13.7	7.8	27.5	9.8
Partner promised to change	33.3	23.5	9.8	29.4	3.9

Felt that abuse was not serious enough	19.6	27.5	11.8	31.4	9.8
Feeling like I have no where to go	19.6	19.6	5.9	52.9	2.0
Lack of financial security/independence	13.7	19.6	7.8	56.9	2.0
Lack of confidence to live independently	13.7	11.8	7.8	64.7	2.0
Feeling ashamed	9.8	5.9	3.9	78.4	2.0

Additional reasons raised by women for staying in a relationship despite having suffered abuse included disruption to family businesses, religious beliefs, the difficulties and stresses involved in leaving (such as dividing assets and child custody matters), changes in partner behaviour following reduction in alcohol use, partner's experience of mental illness, length of time in the relationship (too late/too early to change), and threats of violence if the woman did leave.

3.6 Health status of women

The SF-12 Health Survey was used to measure the generic health status of women in the region. The SF-12 Health Survey is a multipurpose short form instrument with only 12 questions designed to measure eight concepts: physical functioning, role limitations due to physical health problems, bodily pain, general health, vitality (energy/fatigue), social functioning, role limitations due to emotional problems, and mental health (psychological distress and psychological wellbeing). From these, two summary scores are derived: the Physical Component Summary (PCS); and the Mental Component Summary (MCS) (Ware, et al. 1996, 1998; Ware et al. 2007). The norm-based scoring system used to derive these summaries is designed to generate a mean score of 50 and a standard deviation of 10 in the general US population. Several studies have shown that while developed and validated through US population surveys the SF-12 scale is equally suitable for the Australian population (Andrews 2002).

In the 1997 Australian National Survey of Mental Health and Wellbeing (n=10,641), the mean score among women for PCS was 48.75 and for MCS the mean score was 51.41 (McLennan 1998). Lower scores equal lower levels of physical and mental wellbeing. Table 3.45 shows that these were comparable with results from this survey of women in the Bowen Basin and Mackay.

Table 3.45 Descriptive statistics that measure the health status of women using the SF-12 Scale

SF-12	n	Mean	Minimum	Maximum	Range	Standard Deviation
PCS scale score	516	52.49	12.71	66.89	54.18	8.48
MCS scale score	516	52.16	18.88	65.93	47.05	8.89

Tables 3.46 and 3.47 show that while the experience of intimate partner abuse had no significant bearing on the overall physical health and wellbeing of women at a population level, this experience had a substantial bearing on women's mental health and wellbeing.

Table 3.46 Mean score on PCS by reporting of abuse

Type of abuse	Mean score PCS			
	Abuse	No abuse	t-value	Sig
Physical				
Ever in relationship	52.2	52.5	.289	ns
Last 12 months	53.2	52.5	-.411	ns
Severe	51.2	52.5	.547	ns
Sexual	53.3	52.5	-.329	ns
Non-Physical				
Economic	52.5	52.5	-.029	ns
Psychological	51.8	52.7	1.007	ns
Social-psychological	52.7	52.4	-.323	ns
Non-physical	51.8	52.8	1.270	ns

Table 3.47 Mean score on MCS by reporting of abuse

Type of abuse	Mean score MCS			
	Abuse	No abuse	t-value	Sig
Physical				

Ever in relationship	45.4	53.0	4.796	.000
Last 12 months	39.2	52.7	4.775	.000
Severe	39.9	52.3	3.866	.001
Sexual	45.0	52.3	2.958	.003
Non-Physical				
Economic	43.4	52.5	2.872	.010
Psychological	48.0	53.3	4.635	.000
Social-psychological	46.7	53.4	5.407	.000
Non-physical	48.2	53.9	5.981	.000

To place the mean scores of abused women on the MCS in context it is worth comparing them with results from the 1997 Australian National Survey of Mental Health and Wellbeing which examined the relationship between scores on the PCS and MCS scales with direct measures of mental disorder (see McLennan 1998). It found that women with anxiety disorders averaged MCS scores of 46.82, women with affective disorders averaged 44.48, women with substance abuse disorders 48.21, and women with a combination of mental disorders 37.70. While the SF-12 provides measures of general health and wellbeing only, and not of specific diseases, disorders, disabilities and such, it is of some importance to note that abused women in the Bowen Basin reported levels of mental wellbeing that were comparable with women from a national sample who also reported symptoms of specific mental disorders.

Based on analysis of the same database, Gill et al (2007) found that appropriate cut off scores for the purposes of epidemiological studies (that is, studies concerned with the prevalence of health conditions within the population as opposed to the clinical diagnosis of individuals) were:

- anxiety disorders and other common mental disorders ≤ 50
- depression ≤ 45, and
- severe psychological symptomatology ≤ 36.

Table 3.48 shows how many of the women reporting abuse fell within each of these categories. It indicates that over 40 percent of women reporting physical abuse within the last 12 months, and over 47 percent of women reporting severe physical abuse also displayed evidence of severe psychological symptomatology, as did more than 20 percent of women reporting physical abuse at any stage during the current relationship, economic abuse, or social-psychological abuse. Over 15 percent of women reporting sexual or psychological abuse displayed evidence of severe psychological symptomatology. By contrast, only 5.7 percent of women who reported no physical abuse and 3.6 percent of women who reported no non-physical abuse had MCS scores of ≤ 36.

Table 3.48 Reporting of abuse by MCS categories defined by Gill, et al. (2007)

Type of Abuse	MCS ≤ 36		MCS > 36 and ≤ 45		MCS > 45 and ≤ 50		MCS > 50			
	n	%	n	%	n	%	n	%	Chi square	Sig
Physical										
Ever in relationship	13	21.3	9	14.8	5	8.2	34	55.7	24.016	.000
Last 12 months	9	40.9	4	18.2	2	9.1	7	31.8	42.170	.000
Severe	8	47.1	3	17.6	1	5.9	5	29.4	43.295	.000
Sexual	2	15.4	4	30.8	2	15.4	5	38.5	11.666	.009
Non-physical										
Economic	5	25.0	4	20.0	1	5.0	13	50.0	13.849	.003
Psychological	19	16.4	15	12.9	14	12.1	68	58.6	24.676	.000
Social-psychological	21	20.6	15	14.7	11	10.8	55	53.9	41.645	.000
Non-physical	27	16.2	21	12.6	18	10.8	101	60.5	35.558	.000

Again, using Gill et al's (2007) proposed cut-off scores, logistic regression indicates the following chances of severe psychological symptomatology and/or depression among women who experienced the various forms of abuse from their current partner.

Physical abuse at any stage of the current relationship:

- 4.4 times more likely to show evidence of severe psychological symptomatology (OR=4.444, (CI 2.151, 9.180), Wald (df=1) 16.231, p=0.000), and
- 3.7 times more likely to show evidence of depression (OR=3.653, (CI 2.033, 6.565), Wald (df=1) 18.772, p=0.000).

Physical abuse in the last 12 months:

- 10.7 times more likely to show evidence of severe psychological symptomatology (OR=10.675 (CI 4.236, 26.901), Wald (df=1) 25.213, p=0.000), and
- 8.8 times more likely to show evidence of depression (OR=8.787, (CI 3.624, 21.306), Wald (df=1) 23.129, p=0.000).

Severe physical abuse:

- 13.4 times more likely to show evidence of severe psychological symptomatology (OR=13.389 (CI 4.841, 37.032), Wald (df=1) 24.982, p=0.000), and

- 10.9 times more likely to show evidence of depression (OR=10.926, (CI 3.921, 30.443), Wald (df=1) 20.926, p=0.000).

Sexual abuse:

- not significantly more likely to show evidence of severe psychological symptomatology (OR=2.297 (CI 0.491, 10.739), Wald (df=1) 1.116, p>0.05), but
- 4.8 times more likely to show evidence of depression (OR=4.774, (CI 1.563, 14.579), Wald (df=1) 7.531, p=0.006).

Economic abuse:

- 4.5 times more likely to show evidence of severe psychological symptomatology (OR=4.533 (CI 1.557, 13.200), Wald (df=1) 7.683, p= 0.006), and
- 4.7 times more likely to show evidence of depression (OR=4.694, (CI 1.882, 11.708), Wald (df=1) 10.994, p=0.001).

Psychological abuse:

- 3.7 times more likely to show evidence of severe psychological symptomatology (OR=3.675 (CI 1.901, 7.104), Wald (df=1) 14.979, p=0.000), and
- 3.0 times more likely to show evidence of depression (OR=2.967, (CI 1.808, 4.871), Wald (df=1) 18.499, p=0.000).

Social-psychological abuse:

- 5.6 times more likely to show evidence of severe psychological symptomatology (OR=5.595 (CI 2.878, 10.876), Wald (df=1) 25.771, p=0.000), and
- 4.2 times more likely to show evidence of depression (OR=4.241, (CI 2.564, 7.016), Wald (df=1) 31.648, p=0.000).

Any form of non-physical abuse:

- 5.2 times more likely to show evidence of severe psychological symptomatology (OR=5.207 (CI 2.612, 10.382), Wald (df=1) 21.965, p=0.000), and
- 3.6 times more likely to show evidence of depression (OR=3.576, (CI 2.219, 5.763), Wald (df=1) 27.372, p=0.000).

3.7 Help seeking among women who experienced abuse

Women participating in the study were asked if they were aware of any support or counselling services available in their locality; and if they had ever sought assistance from any such services.

Among the 61 women who had experienced physical abuse from their current partner, 39 (63.9%) were aware of counselling/support services, but only 16 (26.2%) sought assistance from one of these services. That is, more than half (59.0%) of the women who had been physically abused, and who knew of support services available, did not seek help from a support service, as shown in Table 3.49.

Table 3.49 Awareness of, and assistance sought by experience of physical abuse

	Yes	No	Do not know	Total
Aware	39 (63.9%)	19 (31.1%)	3 (4.9%)	61 (100%)
Sought assistance	16 (26.2%)	23 (73.8%)	0 (0.0%)	39 (100%)

Similarly, of the 167 women who had experienced non-physical abuse, 64.7% were aware of support services in their locality but only 22.8 percent sought help, as seen in Table 3.50. In this case, 64.8 percent (70) of the women who had been abused and who knew support was available in their locality, did not seek help from a support service.

Table 3.50 Awareness of, and assistance sought by experience of non-physical abuse

	Yes	No	Do not know	Total
Aware	108 (64.7)	53 (31.7%)	6 (3.6%)	167 (100%)
Sought assistance	38 (22.8%)	70 (77.2%)	0 (0.0)	108 (100%)

In summary of the above data, a total of 54 women who reported physical or non-physical abuse by their current partner had sought help from a support service within their locality. However, of the total 532 participants, 358 (67.3%) were aware of support services in their locality, and 75 (14.1%) reported they had sought help from one of these services.

Notes:

[1]This compared with 37 and 54 percent among Gual et al's (2002) Spanish sample. It is important to note, however, that Gual et al's (2002) sample of 269 respondents of both genders was selected from primary health care settings in Catalonia, Spain. While no *a priori* criteria were used to guide selection, it is unlikely that this sample is representative and care should be exercised in drawing firm conclusions on the relevance of this data to the entire Catalonian adult population. Further, the estimate of risky drinking behaviour based here on the AUDIT-C instrument is significantly higher than the national estimate of risky drinking behaviour reported in the ABS National Health Survey 2004-05; specifically, 12 percent of women and 15 percent of men. The ABS National Health Survey bases its estimates on average daily consumption and is insensitive to the risk effects of binge drinking on which two of the three AUDIT-C questions are based. It is more likely, therefore, that the differences between these survey results and those reported in the National Health Survey are the result of differences in measurement than in exceptionally high levels of risky drinking among Bowen Basin residents.

Chapter 4: Discussion and conclusion

This study on intimate partner abuse in the Bowen Basin region (including Mackay) found that 11.5 percent of women suffered physical abuse at some time in their current relationship; and 4.1 percent of the women had suffered physical abuse (including 1.7% who had suffered severe physical abuse) in the previous 12 months. Although no such similar research has been conducted at the State level in Queensland, research conducted for the Australian component of the International Violence Against Women Survey (IVAWS) by Mouzos and Makkai (2004) provides a useful comparison. The data collection methods and survey instruments used in the Bowen Basin region study and the IVAWS were very similar. The IVAWS conducted a CATI survey of 6,677 women aged between 18 and 69 years. Within that sample were 5,074 women in current intimate partner relationships, enabling analysis of women's experiences of current intimate partner abuse, including physical violence, sexual violence and controlling behaviours. Each of these categories was defined in ways equivalent to the definitions used for the Bowen Basin study. However, the IVAWS included women with boyfriends (in non-cohabiting intimate partner relationships), while the Bowen Basin study did not.

Where comparisons are appropriate, the results of the Bowen Basin region study and the IVAWS are generally quite consistent. The IVAWS found that 10 percent of the women in the Australian study reported physical violence, including sexual violence, from their current partner at some stage of their relationship. This is slightly less than the 11.5 percent of women who reported physical abuse, including sexual abuse, in their current relationship. Similarly, 3 percent of women in the Australia study reported having experienced such violence in the previous year (Mouzos & Makkai 2004: 46-47), compared to 4.1 percent of women who had been physically abused by their current partner in the previous year in the Bowen Basin region. The IVAWS indicates a substantial difference in the percentage of women nationally (between 37% and 40%) reporting at least one form of non-physical abuse (controlling behaviour) over the lifetime of the current relationship, compared to the 31.4 percent of women in the Bowen Basin region who reported non-physical abuse at some time during the current relationship.

4.1 Socio-demographic, relational and behavioural correlates of abuse

4.1.1 Socio-demographic and relational factors associated with abuse

As with the IVAWS, the Bowen Basin study found a number of socio-demographic and behavioural variables associated with experiences of abuse, some of which were significantly associated across physical abuse, severe physical abuse and non-physical abuse. Women aged less than 30 years were at least twice as likely to experience physical violence perpetrated by their intimate partners, and they were more than four times more likely to experience severe physical abuse, and to have experienced physical abuse in the previous 12 months. As with the IVAWS study, and others, women in de facto relationships in the Bowen Basin region, compared to their legally married counterparts, were also found to be at greater risk of being physically abused. They were three times more likely to be physically abused in the past 12 months and nearly twice as likely to suffer non-physical forms of abuse. Being solely or mostly responsible for children was also found to be a significant risk factor for physical and non-physical forms of abuse in the Bowen Basin region study. Having children living

at home was a further risk factor for social-psychological abuse, with women in this situation being nearly three times more likely to be abused than women without children at home. This risk increased for women with more than three children living at home, with those women being nearly four times more likely to suffer social-psychological abuse than other women. Being solely or mostly responsible for children, and having children living at home, increases financial dependency and emotional investment in the relationship, which can be exploited by the male partner, whose abusive behaviour is less likely to result in separation or other consequences. The abuse itself may be explained by theories of masculinities and violence (Connell 1995; Gondolf 1995) as a means of asserting male authority in relationships based on traditional sex-role stereotypes. Mouzos and Makkai (2004) found such evidence in the IVAWS in the form of men's controlling behaviours as among the strongest risk factors for abuse. Further indications of the role of masculinity-based controlling behaviours and abuse of women in the Bowen Basin study is the greater likelihood of women to suffer social-psychological abuse if they do not have access to a joint bank account (2.2 times more likely), if their partner had no technical or higher education (1.9 times), and if their partner was employed in mining (1.8 times more likely to experience social-psychological abuse). In fact, if a woman was a resident of Mackay and her partner was employed in the mining industry, she was 3.5 times more likely to experience social-psychological abuse. A culture of male-domination and traditional sex-role stereotypes is likely to be challenged by the frequent and long absences of male miners from their families, with a subsequent perceived loss, or susceptibility to a loss of control. As discussed at 3.2.3 on page 32 women partnered to men who grew up in mining towns were more likely to report social-psychological abuse than women whose partners grew up in cities, towns, rural areas or elsewhere, another indication of an association between mining town culture and social-psychological abuse.

4.1.2 Behavioural factors associated with abuse

Cannabis use at least twice a month and cigarette smoking by one or both partners were significant correlates of all forms of abuse, although it is not possible to know the direction of causality in the relationships between these behavioural factors and the abuse. The male partner's use of cannabis was more strongly associated than the woman's as a risk factor for physical abuse; while the woman's use of cannabis was more strongly associated than her partner's with non-physical abuse. Women whose partners used cannabis at least twice a month were 27.4 times more likely to have experienced severe physical abuse; 20.9 times more likely to have experienced physical abuse at some time during the relationship; and 10.1 times more likely to have experienced physical abuse in the previous 12 months. Women's use of cannabis at least twice a month was also associated with experiencing physical abuse at some time during the relationship, but the association was not as strong (4.8 times more likely to experience abuse). However, the woman's consumption of cannabis at least twice a month was more strongly associated with non-physical abuse (6.8 times more likely that the woman would experience non-physical abuse), than was her partner's consumption of cannabis at least twice a month (5.1 times more likely). This was also true of a woman's likelihood of experiencing social-psychological abuse, which was 4.3 times more likely if she consumed cannabis, while there was no association between social-psychological abuse and a male partner's use of cannabis. VicHealth, in its study on the health costs of intimate partner violence (VicHealth 2004), found that alcohol problems, smoking, and use of non-prescription drugs, as well as tranquillisers, sleeping pills and anti-depressants are more likely to be present among women affected by intimate partner violence. Further research on the association between men's use of cannabis and abuse of female partners is required to understand the direction and nature of the relationship, particularly

given the significance levels of the association between men's use of cannabis and their physical abuse of their female partners.

Alcohol consumption among both men and women was also associated with physical and non-physical abuse. Women reporting physical abuse at any point in the current relationship, psychological abuse, social-psychological abuse, and all forms of non-physical abuse averaged significantly higher scores on the AUDIT-C scale of drinking frequency and intensity than did women who did not report these forms of abuse. However, while women reporting various forms of abuse averaged consistently higher levels of alcohol consumption, it is important to note that their average scores on the AUDIT-C scale still fell below the level suggestive of risky drinking behaviour. Conversely, the male partners of abused women averaged AUDIT-C scores that were both significantly higher than other males and above the threshold indicative of potentially risky drinking behaviour. This was the case across all forms of abuse except severe physical abuse and economic abuse, the results of which are likely to have been confounded by low sample sizes of abused women. Overall, women whose partners' drinking frequency and intensity was classified as risky were twice as likely to experience physical abuse and 1.6 times more likely to experience psychological abuse.

Similarly, the IVAWS found that women whose partners got drunk at least twice a month experienced higher levels of violence (between 4 and 7%). However, it also found that alcohol use was considerably less significant than other factors, including the male partner's controlling behaviours and male partner's violence outside the home (Mouzos & Makkai 2004: 58-60). Johnson also found that when negative attitudes supporting degradation of women were controlled for, the influence of alcohol was reduced to zero (Mouzos & Makkai 2004: 58).

4.2 Reasons for staying in the relationship

A question frequently asked about intimate partner violence in the wider community is 'why does she stay?' The reasons can be multiple and complex and although a more appropriate question might be 'why does he abuse her?', an understanding of the reasons women stay in abusive relationships can be helpful in planning support services and awareness campaigns. In this study, the first three reasons most frequently cited as being the 'most influential' reasons for staying in the relationship involved some kind of commitment to the relationship. More than half of the women who had been abused (60.8%) said that they wanted to give the relationship another try, and the same amount cited love as the most influential reason for staying. A further 51 percent said they stayed in the relationship because the problems had been resolved.

The above reasons for staying in an abusive relationship can be construed as 'motivations' for continuing the relationship, while other reasons can be construed as 'constraints'. In this study, the most commonly cited constraints described as most influential in women staying in abusive relationships included the presence of children (41.2%); having nowhere to go (19.6%); feeling that the abuse was not serious enough (19.6%); lacking financial security or independence (13.7%); lacking confidence to live independently (13.7%); and feeling ashamed (9.8%).

Constructing the reasons for staying in abusive relationships as 'motivation' or 'constraints' in this way illustrates the need to focus attention on interventions to stop men being abusive, as well as providing supports and strategies that enable women to leave abusive relationships. This is critical too, given the association between women's experience of abuse, their responsibility for caring for children and the presence of children living at home. However, it is also clear that ongoing

inequality, leaving women financially insecure and dependent upon men is still a significant facilitator of intimate partner abuse; and that the stigma of being a victim of abuse also remains a constraint to leaving an abusive relationship. This is in spite of more than 20 years of awareness campaigns seeking to reassure women that they are not to blame for violence against them and that men who use violence are solely responsible, and must be held accountable for it. Awareness and attitudinal change campaigns need to be designed to take account of these findings, including the evidence of a correlation between traditional sex-role stereotypes and notions of masculinity, discussed above. The latter points to the need for structural change at a broader societal level, to support efforts towards individual level change. Government campaigns, such as *Australia Says No* have exhorted individual perpetrators of abuse, and individual victims, to take action to stop the abuse, rather than focussing on the creation of gender equality or masculinities that reject abuse within the Australian community, generally.

4.3 Mental health impacts

This study on the abuse of women by their intimate male partners highlights the impact of such abuse on women's mental health status. Specifically, it highlights that women who experience any form of abuse, at any time in the relationship are at least three times more likely than other women to suffer depression and, except for sexual abuse, are at least three times more likely to suffer severe psychological symptomatology. Not surprisingly, the likelihood of experiencing these negative mental health outcomes is much greater where there is severe physical abuse. In these cases, severe psychological symptomatology is 13.4 times more likely, and depression is 10.9 times more likely. If physical abuse has occurred in the past 12 months, severe psychological symptomatology and depression are, respectively, 10.7 times and 8.8 times more likely to be present. However, women experiencing psychological abuse are also 5.6 times more likely to have severe psychological symptomatology, and 4.2 times more likely to have depression. A recent study by Mechanic, Weaver and Resick (2008) also found that 'emotional and verbal abuse was a significant individual predictor of depression' (Mechanic, et al. 2008: 650).

These results indicate the need for serious concern for the well-being of women and children in the Bowen Basin region. Being solely or mostly responsible for children and having children living at home were identified as significant risk factors for abuse of women by their intimate male partners. The harmful effect of exposure to intimate partner violence is well documented (e.g. Edleson 1999; Jaffe et al. 1990; Knowlton & Schultz 1999; Perry 2001), so the results of this study also have implications for the well-being of children. The results also have major implications for health professionals in the region, who should anticipate the likelihood that depression and severe psychological symptomatology present in female clients is associated with intimate partner violence. Such professionals require knowledge and skills to recognise and respond to intimate partner violence, to avoid situations where these symptoms are treated but the abuse goes undetected.

4.4 Help seeking among women who experienced abuse

Health professionals also must take a more active role in recognising and responding to intimate partner violence in the Bowen Basin region because of what the study has revealed about the women's use of counselling and support services. An effective response from mainstream agencies, generally, is critical in the region, given the shortage of specialist domestic and family violence prevention services, the distances involved in getting to those services, and the difficulty that the

specialist services in the region have had in recruiting and retaining suitably qualified staff. While the study demonstrates the harmful effects of experiencing abuse, less than half of the women who had been abused and were aware of counselling or support services in their locality sought help from those services. Women who had been physically abused were slightly more likely to seek help from these services, than women suffering non-physical abuse. A number of women (21) who did not report intimate partner abuse reported that they had sought counselling or support from a service within their locality, and presumably not one of the two Regional Domestic Violence Support Services. There are a range of mainstream services operating in the region, including Centacare, Relationships Australia, Lifeline and others. Locating domestic violence workers in these services may make specialist counselling and support for victims of intimate partner abuse more accessible, particularly to those women suffering non-physical abuse and its consequent negative health impacts.

Analyses of data from the Magistrate's Courts concerning police applications, and the spousal domestic violence matters recorded in CDFVR's Domestic and Family Violence Database, indicate that women in the Bowen Basin region seem more likely than women in Queensland generally to have police initiated DVPOs, and more likely to have no DVPO, and no current application for a DVPO, at the time of contact with a Regional Domestic Violence Service. The data on police applications for DVPOs also suggests that police applications in the Bowen Basin region have increased at a greater rate than police applications for DVPOs in Queensland generally. Interestingly, this disproportionate increase in police applications in the Bowen Basin coincides with increased mining activity in the region post 2002. This suggests that intervention in intimate partner violence in the Bowen Basin region is more dependent on police action and, therefore, probably occurring at the more extreme, or crisis end of the continuum of abuse. Increased attention to early intervention strategies, to stop men being abusive and to support women who have been abused, and their children, is required. Again this implies the need for a wider range of mainstream agencies to be able to recognise and respond appropriately to signs of intimate partner abuse, as well as the need for increased access to specialist services.

4.5 Conclusion

This study of the abuse of women by their intimate male partners in the Bowen Basin region has found evidence of physical abuse at slightly higher levels than intimate partner abuse nationally. Specifically, 11.5 percent of women in the Bowen Basin study reported experience of physical abuse at some point in their current relationship, compared with 10 percent of women in an Australian study employing similar methodology. Further, just over 4 percent of women in the Bowen Basin study reported they had been physically abused by their intimate male partner in the previous 12 months, compared to 3 percent of women in the Australian study. The most substantial difference in the prevalence of intimate abuse in the Bowen Basin study, compared to the national study, was the prevalence of any form of non-physical abuse over the lifetime of the current relationship. This was reported by between 37 percent and 40 percent of women in the Australian study (Mouzos & Makkai 2004: 48), and by just over 31 percent of the women in the Bowen Basin study.

A range of socio-demographic characteristics were found to be significantly associated with the experience of intimate partner abuse, including characteristics that indicate the role of dominant masculine culture. Women whose partners were in the mining industry were nearly twice as likely as other women to experience social-psychological abuse, and this increased to three and a half times as likely for women who lived in Mackay and whose partners worked in mining. However, and contrary to expectation, mining cultures have had little or no demonstrable association with women's experience of most forms of abuse. Other factors, such as drug and alcohol use (drugs

having a greater magnitude of impact, but partner drinking habits affecting more women), were found to be more strongly and consistently associated with women's experience of abuse. Overall, this study suggests that if mining cultures have any influence, they are limited and must be seen in the context of influences that are much more significant. The study did find evidence, however, of an association between traditional sex-role stereotypes and notions of masculinity. This demonstrates the need for intimate partner abuse prevention campaigns to address these broader societal issues, as well as exhorting individual level change in attitudes and behaviours. The findings also suggest the importance of prevention campaigns and programs that focus on non-physical forms of abuse, which also have significant mental health impacts, compromising the well-being of women and children in their care.

The Bowen Basin study found significant negative mental health consequences for women experiencing intimate partner abuse in the Bowen Basin, and a reluctance to seek counselling and support services. While there are two Regional Domestic Violence Services in the Bowen Basin region, a range of issues affects their ability to deliver services to women affected by abuse, including that a substantial percentage of women (19.6%) in the study said that they did not feel the abuse was serious enough for them to seek help. The study also reveals a greater involvement of police applications for DVPOS in the Bowen Basin, compared to such applications in Queensland, suggesting that there is less early intervention and less access to appropriate specialist support in the Bowen Basin region. A wider range of mainstream services, including health services, with staff trained to recognise and respond to intimate partner abuse is required to enable early intervention and appropriate support for women and children affected by intimate partner abuse.

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Appendixes

Appendix 1: Advantages and disadvantages of different survey modes

Source: Information Paper: Measuring Crime Victimisation, Australia: The Impact of Different Collection Methodologies, 2002. ABS, Canberra

Mail / Self administered questionnaire

Disadvantages

- less flexible
- no control over the response process, for example the researcher has no control over who is present while the survey form is being completed
- cannot be long or complex
- wide variation in the reading and writing ability of respondents
- usually higher non-response

Advantages

- no interviewer effects
- good for sensitive behaviours
- response order and question order effects are reduced
- respondents have more time and room to consider answers

Telephone interview

Disadvantages

- can be affected by the presence of others
- social desirability bias whereby respondents may want to provide what they see as the socially desirable response
- potential interviewer effects
- limited control over the response process, for example the researcher may not know if another person is present whilst the interview is being completed
- needs to be short to prevent fatigue
- recency effects due to memory difficulty
- phone conversation rules severely limit information processing/records retrieval time

Advantages

- greater flexibility
- interviewer - can motivate or encourage responses
- interaction between respondent and interviewer for clarification/ meaning etc.
- interactive editing of data
- establishing trust and building rapport

Face to face interview

Disadvantages

- can be affected by the presence of others
- social desirability bias whereby respondents may want to provide what they see as the socially desirable response
- potential interviewer effects
- third party may be present whilst the interview is being completed

Advantages

- greater flexibility
- enables longer and more complex instruments compared to self administered questionnaires
- interviewer - can motivate or encourage responses
- interaction between respondent and interviewer for clarification/ meaning etc.
- interactive editing of data
- establishing trust and building rapport

Appendix 2: Risk management process

Who could be at risk	Nature of risk	How and when at risk	Risk Management (Mandatory) What to do?
Interviewee	a)Personal safety	i) Presence of an abusive male partner in the house	NB* The questions about experience of various forms of abuse are closed questions (mainly yielding a 'yes' or 'no' answer, sometimes requiring a response of 'always', 'often' or 'never'), so another person over-hearing responses would not know the nature of the questions. However, immediately before questions on experience of abuse, inform the interviewee that this set of questions is going to be asked and check if she is able to continue at this point, or would find it safer/more convenient to call back on the 1800 number provided. Do not continue the interview if there is any indication that it is unsafe to do so. The interviewee is to be advised that she should immediately hang up if she feels unsafe, with the option of calling back when it is convenient for her to do so.
		ii) Presence of any other adult in the house, and who could hear the conversation	As above
		iii) Unscheduled arrival of any adult person in the house, and who could hear the conversation	As above
	b) Psychological health and security	For respondents who are living in an abusive relationship,	1. Provide *dvconnect* **telephone number** to all the interviewees; and encourage them to contact the service at the earliest, if need be.

		certain questions could be distressing to them.	dvconnect' - statewide telephone service: Ph 1800 811811 2. **Training provided by Ms Kathryn Rendell to the interviewers**. Ms Rendell is an experienced lecturer and tutor in Social Work and Human Services, and she has an extensive counselling experience in the field of domestic and family violence prevention. The training will sensitise interviewers to the impacts of domestic and family violence and provide skills to monitor and check participants' anxiety/stress, and to make referral as appropriate.
Interviewer	Psychological health	Interviewer may be impacted by vicarious trauma.	1. The interview design, requiring only 'yes' , 'no' 'always', 'often' or 'never' responses will ensure this risk is very minimal. 2. Experienced and mature female interviewers shall conduct the interviews. 3. Ms. Rendell will also provide a de-briefing for telephone interviewers, and make referrals where necessary, to address any issues of vicarious trauma. 4. Prof. Kerry Mummery and Ms. Christine Hanley (Director and Manager of the PRL, respectively) will supervise day-to-day conduct of the interviews, and shall be in constant contact with the interviewers for the wellbeing of the later. 5. A **pre-testing** of the interview schedule shall be conducted on 20 respondents to identify and rectify any unforeseen/unintended/unexplored consequence/s of the interviews on the interviewers and interviewees.

Appendix 3: Odds ratio of the type of abuse and its correlates

A) Prevalence of Physical Abuse:

The prevalence of female partner physical abuse in the entire span of the current spousal relationship in the Bowen Basin region of Central Queensland.

		Prevalence					
Correlates	**Descriptive**	**Odds Ratio**	**(95 % Confidence Interval)**		**Chi-Square**		
(N=532)	**Statistics**	**OR**	**CI**		**Wald**	**df**	**Sig.**
Bowen Basin v. Mackay	78.4% Bowen	1.143	(0.586	2.229)	0.154	1	0.695
	Basin						
Miner v. Non-miner	54.5%	1.328	(0.770	2.290)	1.044	1	0.307
	Miners						
De facto v. Married	86.7%	2.163*	(1.121	4.177)	5.286	1	0.021
	Married						
Years in relationship							
Less than 5 Years	62 (11.7%)	1.249	(0.543	0.2875)	0.274	1	0.601
5 to 15 Years	187 (35.2%)	1.183	(0.664	2.107	0.324	1	0.569
Over 15 years	283 (53.1%)	Reference					
Place of upbringing of women n=398							
Born in metro, live in mining town	57 (14.3%)	0.323	(0.100	0.1043)	3.569	1	0.059
Born in town, live in mining town	114 (28.64%)	0.700	0.319	1.535)	0.793	1	0.373
Born in rural, live in mining town	(153 (38.48%))	0.365	0.159	0.835)	5.698	1	0.017

Born in mining , live in mining town	74 (18.6%)	Reference					
Place of upbringing of partner n=403							
Born in metro, live in mining town	53 (13.2%)	0.875	(0.335	2.285)	0.074	1	0.785
Born in town, live in mining town	110 (27.3%)	0.66	(0.287	1.515)	0.962	1	0.327
Born in rural, live in mining town	163 (40.4%)	0.463	(0.206	1.040)	3.482	1	0.062
Born in mining , live in mining town		Reference					
Age in years (respondent)		0.975*	(0.952	0.999)	4.246	1	0.039
Mean=42.27, SD=12.198							
Age groups							
Over 60 years	42(7.9%)	0.102	(0.013	0.805)	4.69	1	0.03
46 to 60 years	141(26.5%)	0.538	(0.250	1.157)	2.517	1	0.113
30 to 45 years	271(50.9%)	0.503	(0.254	0.996)	3.891	1	0.049
Less than 30years	78(14.7%)	Reference					
Education self: senior school		1.517	(0.831	2.766)	1.844	1	0.174
or less v. beyond							
(66% senior school or less)							
Education partner: senior school		1.468	(0.840	2.567)	1.813	1	0.178
or less v. beyond							
(57.5% senior school or less)							
Country ofb, n (%)							
Australia	486 (91.4%)	1.175	0.477	2.899	0.123	1	0.726

Others		46 (8.6%)	Reference					
Children								
Yes		474 (89.1%)	0.567	0.27	1.19	2.252	1	0.133
No		57 (10.7%)	Reference					
Have a paid job: respondent								
Yes		313 (58.8%)	1.172	0.676	2.029	0.319	1	0.572
No		218 (41.0%)	Reference					
Work part-time or casual								
Yes		188 (35.5%)	1.529	0.891	2.624	2.376	1	0.123
No		344 (64.7%)	Reference					
Hours worked in a week			0.995	0.972	1.018	0.219	1	0.64
Mean=28.69, SD=15.19								
Employment status of women n=524								
Home duties		137 (26.1%)	0.893	(0.473	1.684	0.122	1	0.727
Unemployed		73 (13.9%)	0.77	0.329	1.802	0.362	1	0.547
Employed		314 (59%)	Reference					
Income of women (per week) n=440								
Over $ 800		68 (15.5%)	1.221	0.48	3.105	0.175	1	0.676
$400-800		111 (25.2%)	1.542	0.707	3.363	1.183	1	0.277
$1-400		129 (29.3%)	1.114	0.502	2.473	0.071	1	0.79
No or Nil Income		132 (30%)	Reference					

Weekly income								
< $300		14 (2.6%)	0.844	0.391	1.819	0.188	1	0.644
$300 - $799		54 (10.2%)	1.667	0.769	3.611	1.676	1	0.195
$800 -$1499		136 (25.6%)	1.286	0.468	3.532	0.239	1	0.625
Over $1500		236 (44.4%)	1	Reference				
Run joint bank accounts								
Yes		455 (85.5%)	0.741	0.367	1.496	0.701	1	0.403
No		77 (14.5%)	Reference					
Women in debt n=489								
Less than $50,000		98 (20%)	1.325	0.692	2.54	0.721	1	0.396
Over $ 50,000		15 (3.1%)	1.988	0.539	7.333	1.065	1	0.302
No debt		376 (76.9%)	Reference					
Joint debt								
Less than $100K		101 (21%)	3.685	1.766	7.688	12.075	1	0.001
$100-200K		63 (13.1%)	2.205	0.894	5.441	2.945	1	0.086
Over $200K		131 (27.3%)	1.711	0.785	3.729	1.825	1	0.177
No debt		185 (38.5%)	Reference					
Smokers: women								
Yes		103 (19.4%)	1.73	0.943	3.172	3.135	1	0.077
No		429 (80.6%)						
Smokers: men								
Yes		134 (25.2%)	2.701*	1.56	4.679	12.575	1	0.000
No		398 (74.8%)	Reference					

Cannabis consumption: women								
Yes			4.821	1.123	20.698	4.476	1	0.034
No			Reference					
Cannabis consumption: men								
Yes		7 (1.3%)	20.937	3.969	110.46	12.849	1	0.00
No		525 (98.7%)	Reference					
Drinkers: women n=531								
Yes		427 (80.4%)	1.664	0.765	3.62	1.648	1	0.199
No		104 (19.6%)	Reference					
Drinkers: men n=531								
Yes		492 (92.7%)	1.604	0.479	5.374	0.586	1	0.444
No		39 (7.3%)	Reference					
Risky drinking: men n=489								
Yes		293 (59.9%)	2.075	1.119	3.851	5.361	1	0.021
No		196 (40.1%)	Reference					
Spouse (Male)								
Age in years			0.984	0.962	1.006	2.076	1	# ####
Mean=44.59, SD=12.798								
Country of birth, n (%)			1.359	0.547	3.377	0.436	1	0.509
Australia		491 (92.3%)	Reference					
Others		41 (7.7%)						

Have a paid job								
Yes		488 (91.7%)	0.756	0.261	2.192	0.265	1	0.607
No		44 (8.3%)	Reference					
Profession of spouse								
Non-mining job		199 (37.4%)	0.761	0.427	1.355	0.862	1	0.353
Unemployed / Retired		44 (8.3%)	0.681	0.23	2.014	0.482	1	0.487
Miner		289 (54.3)	Reference					
Household tasks: Laundry: mostly by women		n=532						
Yes		423 (79.5%)	0.848	0.448	1.605	0.265	1	0.613
No		109 (20.5%)	Reference					
Ironing clothes: mostly by women		n=467						
Yes		421 (90.1%)	1.976	0.591	6.602	1.224	1	0.269
No		46 (9.9%)	Reference					
House cleaning: mostly by women		n=525						
Yes		369 (70.3%)	1.215	0.664	2.223	0.4	1	0.527
No		156 (29.7%	Reference					
Meal preparation: mostly by women		n=532						
Yes		326 (61.3%)	1.338	0.76	2.355	1.018	1	0.313
No		206 (38.7%)	Reference					

Washing dishes: mostly by women		n=484						
Yes		240 (49.6%)	2.09	1.162	3.759	6.053	1	0.014
No		244 (50.4%)	Reference					
Mowing lawn: mostly by women		n=486						
Yes		83 (17.1%)	0.538	0.223	1.298	1.903	1	0.168
No		403 (82.9%)	Reference					
Car cleaning: mostly by women		n=502						
Yes		123 (24.5%)	1.085	0.58	2.03	0.066	1	0.798
No		379 (71.2%)	Reference					
Groceries purchase: mostly by women		n=531						
Yes		358 (67.4%)	0.885	0.503	1.556	0.18	1	0.671
No		173 (32.6%)	Reference					
Looking after children mostly by women		n =344						
Yes		158 (45.9%)	2.143	1.087	4.226	4.839	1	0.028
No		186 (54.1)	Reference					

B) The incidence of physical abuse:

The incidence of female partner abuse during the past 12 months in the current spousal relationship in the Bowen Basin region of Central Queensland.

			Incidence (Past 12-months)					
Correlates		**Descriptive**	**Odds Ratio**	**(95% Confidence Interval)**		**Chi Square**		
(N=532)		**Statistics**	**OR**	**CI**		**Wald**	**df**	**Sig.**
Bowen Basin v. Mackay			1.252	(0.415	3.775)	0.159	1	0.690
(78.4% Bowen Basin)								
Miner v. Non-miner			1.215	(0.510	2.893)	0.194	1	.
(54.5% Miners)								
Defacto v. Married			3.252*	(1.277	8.281)	6.116	1	0.013
(86.7%Married)								
Years in relationship								
Less than 5 Years		62 (11.7%)	2.671	(0.863	5.266)	2.904	1	0.088
5 to 15 Years		187 (35.2%)	1.361	(0.515	0.3592)	0.387	1	0.534
Over 15 years		283 (53.1%)	Reference					
Place of upbringing of women n=398								
Born in Metro, live in mining town		57 (14.3%)	0	(00.00	0)	0	1	0.997
Born in town, live in mining town		114 (28.64%)	0.903	(0.276	2.958)	0.029	1	0.866
Born in rural, live in mining town		153 (38.48%)	0.466	(0.131	1.664)	1.382	1	0.24

Born in mining , live in mining town	74 (18.6%)	Reference					
Place of upbringing of partner n=403							
Born in metro, live in mining town	53 (13.2%)	1.5	(0.412	5.462)	0.378	1	0.539
Born in town, live in mining town	110 (27.3%)	0.543	(0.141	2.093)	0.786	1	0.375
Born in rural, live in mining town	163 (40.4%)	0.362	(0.094	1.389	2.193	1	0.139
Born in mining , live in mining town		Reference					
Age in years (respondent)		0.956*	(0.916	0.996)	4.564	1	0.033
Mean=42.27, SD=12.198							
Age groups							
Over 60 years	42 (7.9%)	0.187	(0.023	1.530)	2.445	1	0.118
46 to 60 years	141(26.5%)	0.282	(0.091	0.873)	4.816	1	0.028
30 to 45 Years	271(50.9%)	0.203	(0.073	0.565)	9.323	1	0.002
Less than 30 years	78 (14.7%)						
Education self: senior school or less v. beyond		2.392	(0.797	7.176)	2.42	1	0.12
(66% senior school or less)							
Education partner: senior school or less v. beyond		4.921*	(1.438	16.835)	6.446	1	0.011
(57.5% senior school or less)							
Country of birth, n (%)							
Australia	486 (91.4%)	1.059	(0.24	4.681)	0.006	1	0.94
Others	46 (8.6%)						

Children								
Yes		474 (89.1%)	0.523	(0.171	1.603)	1.286	1	0.257
No		57 (10.7%)	Reference					
Children living at home		n=474						
3 or more children		98 (20.6%)	2.115	(0.493	9.078	1.015	1	0.314
1 or 2 children		255 (53.8%)	1.605	(0.434	5.943)	0.503	1	0.478
No children		121 (25.5%)	Reference					
Have a paid job: respondent								
Yes		313 (58.8%)	0.829	(0.352	1.955)	0.183	1	0.669
No		218 (41.0%)						
Work full-time v. part-time/casual								
Yes		125 (39.9%)	0.489	0.13	0.1843	1.116	1	0.291
No		188 (60.15%)	Reference					
Work part-time or casual								
Yes		188 (35.5%)	1.28	0.537	3.053	0.31	1	0.578
No		344 (64.7%)	Reference					
Employment status women								
Full-time		125 (23.5%)	0.514	(0.139	1.904)	0.993	1	0.319
Part-time or casual		188 (35.3%)	1.051	(0.418	2.643)	0.011	1	0.916
Not working		219 (41.2%)	Reference					

Hours worked in a week	0.986	0.946	1.027	0.453	1	0.501
Mean=28.69, SD=15.19						
Number of hours worked	n=313						
Less than 7 hours	135 (43.1%)	0.692	(0.191	2.509)	0.314	1	0.575
More than 9 hours	36 (11.5%)	1.333	(0.258	6.900)	0.118	1	0.732
Between 7 to 9 hours	130 (41.5%)	Reference					
Shiftwork	n=312						
Yes	53 (17%)	1.024	0.218	4.812	0.001	1	0.976
No	259 (83%)	Reference					
Employment status of women n=524							
Home duties	137 (26.1%)	0.953	0.329	2.76	0.008	1	0.93
Unemployed	73 (13.9%)	1.459	0.457	4.66	0.406	1	0.524
Employed	314 (59%)	Reference					
Income of women (per week) n=440							
Over $ 800	68 (15.5%)	0.77	0.145	4.075	0.095	1	0.758
$400-800	111 (25.2%)	1.71	0.527	5.545	0.798	1	0.372
$1-400	129 (29.3%)	0.813	0.213	3.097	0.092	1	0.761
No or nil income	132 (30%)	Reference					
Weekly income							
< $300	14 (2.6%)	0.801	0.262	2.45	0.152	1	0.697
$300 - $799	54 (10.2%)	1.096	0.338	3.556	0.023	1	0.879
$800 -$1499	136 (25.6%)	0.381	0.043	3.347	0.757	1	0.384
Over $1500	236 (44.4%)	Reference					

Run joint bank accounts								
Yes		455 (85.5%)	0.274	0.111	0.677	7.78	1	0.005
No		77 (14.5%)	Reference					
Women in debt n=489								
Less than $50,000		98 (20%)	0.414	0.094	1.817	1.365	1	0.243
Over $ 50,000		15 (3.1%)	1.421	0.177	11.409	0.109	1	0.741
No debt		376 (76.9%)	Reference					
Joint debt								
Less than $100K		101 (21%)	2.187	0.769	6.219	2.155	1	0.142
Between $100-200K		63 (13.1%)	1.724	0.487	6.098	0.714	1	0.398
Over $200K		131 (27.3%)	0.394	0.081	1.929	1.32	1	0.251
No debt		185 (38.5%)	Reference					
Smokers: women								
Yes		103 (19.4%)	2.012	0.799	5.071	2.2	1	0.138
No		429 (80.6%)						
Smokers: men								
Yes		134 (25.2%)	4.644*	1.938	11.129	11.856	1	0.001
No		398 (74.8%)	Reference					
Cannabis consumption: women								
Yes			0.0000	0.000		0	1	0.999
No								

Cannabis consumption: men								
Yes		7 (1.3%)		1.846	55.266	7.112	1	0.008
No		525 (98.7%)	Reference					
Drinkers: women n=531								
Yes		427 (80.4%)	1.568	0.455	5.401	0.508	1	0.476
No		104 (19.6%)	Reference					
Risky drinking: men n=489								
Yes		293 (59.9%)	1.457	0.583	3.641	0.648	1	0.421
No		196 (40.1%)	Reference					
Spouse (Male)								
Country of birth, n (%)								
Australia		491 (92.3%)	1.961	0.555	6.926	1.095	1	0.295
Others		41 (7.7%)	Reference					
Have a paid job								
Yes		488 (91.7%)	1.806	0.513	6.36	0.847	1	0.357
No		44 (8.3%)	Reference					
Profession of spouse								
Non-mining job		199 (37.4%)	0.66	0.247	1.767	0.684	1	0.408
Unemployed / Retired		44 (8.3%)	1.553	0.424	5.686	0.443	1	0.506
Miner		289 (54.3)	Reference					
Household Tasks:								

Laundry: mostly by women		n=532						
Yes		423 (79.5%)	0.675	0.258	1.768	0.641	1	0.423
No		109 (20.5%)	Reference					
Ironing Clothes: mostly by women		n=467						
Yes		421 (90.1%)	0.983	0.221	4.376	0.001	1	0.982
No		46 (9.9%)	Reference					
House cleaning: mostly by women		n=525						
Yes		369 (70.3%)	0.73	0.3	1.776	0.483	1	0.487
No		156 (29.7%	Reference					
Meal preparation: mostly by women		n=532						
Yes		326 (61.3%)	1.371	0.549	3.422	0.458	1	0.499
No		206 (38.7%)	Reference					
Washing dishes: mostly by women		n=484						
Yes		240 (49.6%)	1.939	0.76	4.947	1.92	1	0.166
No		244 (50.4%)	Reference					
Mowing lawn: mostly by women		n=486						
Yes		83 (17.1%)	0.758	0.219	2.262	0.192	1	0.662
No		403 (82.9%)	Reference					
Car cleaning: mostly by women		n=502						

Yes		123 (24.5%)	1.814	0.742	4.432	1.705	1	0.192
No		379 (71.2%)	Reference					
Groceries purchase: mostly by women		n=531						
Yes		358 (67.4%)	0.839	0.345	2.04	0.149	1	0.699
No		173 (32.6%)	Reference					
Looking after children: mostly by women		n =344						
Yes		158 (45.9%)	1.185	0.407	3.455	0.097	1	0.755
No		186 (54.1)	Reference					

C) Severe Physical Abuse

The prevalence of severe physical abuse of the female partner in the current spousal relationship in the Bowen Basin of Central Queensland.

		Severe Physical Abuse				
		OR	**CI**	**Wald**	**df**	**Sig.**
Bowen Basin v. Mackay		2.108	(0.475, 9.355)	0.962	1	0.327
Miner v. Non-miner		0.734	(0.279, 1.934)	0.391	1	0.532
De facto v. Married		2.835	(0.968, 8.304)	3.61	1	0.057
(86.7% married)						
Years in relationship						
Less than 5 Years	62(11.7%)	2.005	(0.504, 7.980)	0.974	1	0.324
5 to 15 Years	187(35.2%)	1.533	(0.529, 4.445)	0.62	1	0.431
Over 15 years	283(53.1%)	Reference				
Place of upbringing of women						
Born in metro, live in mining town		XX	(0.000, --)	0	1	0.997
Born in town, live in mining town		1.786	(0.458, 6.963)	0.698	1	0.403
Born in rural, live in mining town		0.473	(0.093, 2.404)	0.814	1	0.367
Born in mining , live in mining town		Reference				
Place of upbringing of partner n=403						
Born in metro, live in mining town		0.967	(0.156, 5.997)	0.001	1	0.972
Born in town, live in mining town		0.931	(0.202, 4.282)	0.008	1	0.927
Born in rural, live in mining town		0.781	(0.182, 3.354)	0.111	1	0.739
Born in mining , live in mining town		Reference				

Age of respondent		0.952*	(0.907, 0.999)	4.039	1	0.044
Mean=42.27, SD=12.198						
Education self: senior school or less v. beyond		3.996	(0.904, 17.667)	3.336	1	0.068
(66% senior school or less)						
Education partner: senior school or less v. beyond		2.462	(0.792, 7.655)	2.425	1	0.119
(57.5% senior school or less)						
Profession of spouse						
Non-mining job	199 (37.4%)	1.281	(0.457, 3.590)	0.221	1	0.638
Unemployed / Retired	44 (8.3%)	1.673	(0.343, 8.145)	0.406	1	0.524
Miner	289 (54.3)	Reference				
Employment status of women n=524						
Home duties	137 (26.1%)	0.914	(0.282, 2.976)	0.022	1	0.881
Unemployed	73 (13.9%)	0.856	(0.184, 3.994)	0.039	1	0.844
Employed	314 (59%)	Reference				
Run joint bank accounts						
Yes	455 (85.5%)	0.39	(0.133, 1.140)	2.959	1	0.085
No	77 (14.5%)	Reference				
Women in debt n=489						
Less than $50,000	98 (20%)	0.958	(0.265, 3.463)	0.004	1	0.948
Over $ 50,000	15 (3.1%)	2.167	(0.263, 17.848)	0.516	1	0.472

No debt		376 (76.9%)	Reference				
Cannabis consumption: women							
Yes			4.536	(0.526, 39.078)	1.894	1	0.169
No			Reference				
Cannabis consumption: men							
Yes		7 (1.3%)	27.375	(5.592, 134.015)	16.679	1	0.000
No		525 (98.7%)	Reference				
Smokers: women							
Yes			3.930*	(1.478, 10.451)	7.522	1	0.006
No			Reference				
Smokers: men							
Yes			7.731	(2.671, 22.379)	14.225	1	0.000
			Reference				
Drinkers: women							
Yes		427 (80.4%)	1.141	(0.322, 4.047)	0.042	1	0.838
No		104 (19.6%)	Reference				
Risky drinking: men		n=489					
Yes		293 (59.9%)	2.747	(0.765, 9.865)	2.401	1	0.121
No		196 (40.1%)	Reference				

E) Sexual Abuse

The prevalence of Sexual abuse of female partner in the current spousal relationship in the Bowen Basin region of Central Queensland.

	Sexual Abuse				
	OR	**CI**	**Wald**	**df**	**Sig.**
Miner v. Non-miner	0.709	(0.235, 2.139)	0.372	1	0.542
De facto v. Married	1.99	(0.534, 7.412)	1.051	1	0.305
(86.7%Married)					
Place of upbringing of women					
Born in metro, live in mining town	0.423	(0.043, 4.174)	0.543	1	0.461
Born in town, live in mining town	0.861	(0.187, 3.960)	0.037	1	0.847
Born in rural, live in mining town	0.635	(0.138, 0.2915)	0.341	1	0.56
Born in Mining , live in mining town	Reference				
Place of upbringing of partner n=403					
Born in metro, live in mining town	0.565	(0.105, 3.026)	0.445	1	0.505
Born in town, live in mining town	0.404	(0.094, 1.742)	1.478	1	0.224
Born in rural, live in mining town	0.27	(0.063, 1.160)	3.097	1	0.078
Born in mining , live in mining town	Reference				
Age of respondent	0.994	(0.950, 1.041)	0.059	1	0.808
Mean=42.27, SD=12.198					
Education self: senior school or less v. beyond	0.821	(0.265, 2.547)	0.117	1	0.733
(66% senior school or less)					

Education partner: senior school or less v. beyond (57.5% senior school or less)		1.187	(0.383, 3.676)	0.088	1	0.767
Profession of spouse	n (%)					
Non-mining job	199 (37.4%)	1.216	(0.366, 4.039)	0.102	1	0.75
Unemployed / Retired	44 (8.3%)	2.246	(0.439, 11.496)	0.943	1	0.331
Miner	289 (54.3)	Reference				
Employment status of women n=524						
Home duties	137 (26.1%)	0.249	(0.031, 1.986)	1.721	1	0.19
Unemployed	73 (13.9%)	1.452	(0.383, 5.504)	0.301	1	0.583
Employed	314 (59%)	Reference				
Run joint bank accounts						
Yes	455 (85.5%)	0.554	(0.149, 2.061)	0.775	1	0.379
No	77 (14.5%)	Reference				
Women in debt n=489						
Less than $50,000	98 (20%)	2.243	(0.643, 7.823)	1.607	1	0.205
Over $ 50,000	15 (3.1%)	3.765	(0.433, 32.721)	1.444	1	0.229
No Debt	376 (76.9%)	Reference				
Cannabis consumption: women						
Yes		0.000	(0.000, --)	0.000	1	0.999
No		Reference				

Cannabis consumption: men							
Yes		7 (1.3%)	0.000	(0.000, --)	0.000	1	0.999
No		525 (98.7%)	Reference				
Smokers: women							
Yes			1.886	(0.569, 6.247)	1.077	1	0.299
No			Reference				
Smokers: men							
Yes			1.89	(0.607, 5.878)	1.208	1	0.272
No			Reference				
Drinkers: women							
Yes		427 (80.4%)	0.538	(0.162, 1.783)	1.027	1	0.311
No		104 (19.6%)	Reference				
Risky drinking: men n=489							
Yes		293 (59.9%)	2.039	(0.545, 7.627)	1.12	1	0.29
No		196 (40.1%)	Reference				

F) Economic Abuse

The prevalence of economic abuse experienced by the female partner in the current spousal relationship in the Bowen Basin region of Central Queensland.

		Economic Abuse				
		Odds Ratio	**CI**	**Wald**	**df**	**Sig.**
Inland Towns v. coastal town		1.107	(0.363, 3.379)	0.032	1	0.858
Miner v. Non-miner		1.021	(0.413, 2.505)	0.002	1	0.964
(54.5% Miners)						
De facto v. Married		1.66	(0.539, 5.116)	0.78	1	0.377
(86.7%Married)						
Years in relationship	n (%)					
Less than 5 Years	62 (11.7%)	2.005	(0.504, 7.980)	0.974	1	0.324
5 to 15 Years	187 (35.2%)	2.228	(0.833, 5.960)	2.544	1	0.111
Over 15 years	283 (53.1%)					
Place of upbringing & living in a mining town		n=398				
Born in metro, live in mining town	57 (14.3%)	0.972	(0.209, 4.528)	0.001	1	0.971
Born in town, live in mining town	114 (28.64%)	0.972	(0.265, 3.569)	0.002	1	0.966
Born in rural, live in mining town	153 (38.48%)	0.35	(0.076, 1.606)	1.824	1	0.177
Born in mining , live in mining town		Reference				
Place of upbringing of partner n=403						
Born in metro, live in mining town	53(13.2%)	0.228	(0.027, 1.948)	1.826	1	0.177
Born in town, live in mining town	110(27.3%)	0.683	(0.212, 2.202)	0.408	1	0.523

Born in rural, live in mining town	163(40.6%)	0.073	(0.009, 0.618)	5.769	1	0.016
Born in mining , live in mining town	77(19.1%)	Reference				
Respondent: age in years						
Mean=42.27, SD=12.198		0.994	(0.959, 1.030)	0.111	1	0.739
Education self: senior school or less v. beyond		1.212	(0.458, 3.208)	0.149	1	0.699
(66% senior school of less)						
Education partner: senior school or less v. beyond		1.758	(0.665, 4648)	1.294	1	0.255
(57.5% senior school or less)						
Children						
Yes		2.338	(0.307, 17.804)	0.673	1	0.412
No						
Children living at home						
3 or more children	98 (20.6%)	0.198	(0.023, 1.670)	2.218	1	0.136
1 or 2 children	255 (53.8%)	0.947	(0.347, 2.585)	0.012	1	0.915
No children	121 (25.5%)	Reference				
Weekly income						
< $300	14 (2.6%)	2.001	(0.558,7.176)	1.134	1	0.287
$300 - $799	54 (10.2%)	0.774	(0.153,3.917)	0.096	1	0.757
$800 -$1499	136 (25.6%)	0.648	(0.066, 6.380)	0.138	1	0.71
Over $1500	236 (44.4%)	1	Reference			

Profession of spouse							
Non-mining job		199 (37.4%)	1.059	(0.418, 2.681)	0.014	1	0.904
Unemployed / Retired		44 (8.3%)	0.588	(0.074, 4.668)	0.253	1	0.615
Miner		289 (54.3)					
Employment status of women		n=524					
Home duties		137 (26.1%)	1.152	(0.386, 3.434)	0.064	1	0.8
Unemployed		73 (13.9%)	2.235	(0.740, 6.751)	2.035	1	0.154
Employed		314 (59%)	Reference				
Run joint bank accounts							
Yes			455 (85.5%)	0.234*	(0.092, 0.592)	9.393	1	0.002
No			77 (14.5%)					
Women in debt		n=489					
Less than $50,000		98 (20%)	2.387	(0.846, 6.737)	2.701	1	0.1
Over $ 50,000		15 (3.1%)	0	(0, 0)	0	1	0.999
No Debt		376 (76.9%)					
Joint debt		n=480					
Less than $100K		101 (21%)	1.019	(0.332, 3.125)	0.001	1	0.974
$100-200K		63 (13.1%)	0.315	(0.039, 2.540)	1.175	1	0.278
Over $200K		131 (27.3%)	0.15	(0.019, 1.202)	3.191	1	0.074
No Debt		185 (38.5%)	Reference				
Smokers: women							
Yes				3.638*	(1.466, 9.029)	7.756	1	0.005
No								

Smokers: men								
Yes			134 (25.2)	3.129	(1.273, 7.693)	6.178	1	0.013
No			398 (74.8%)					
Cannabis consumption: women								
Yes				3.797	(0.445, 32.427)	1.487	1	0.223
No								
Cannabis consumption: men								
Yes			7 (1.3%)	0.00	(0.000, --)	0.000	1	0.999
No			525(98.7%)					
Drinkers: women			n=531					
Yes			427 (80.4%)	0.554	(0.208, 1.477)	1.394	1	0.238
No			104 (19.6%)					
Risky drinking: men			n=489					
Yes			293(59.9%)	1.589	(0.600, 4.028)	0.869	1	0.351
No			196(40.1%)					
Laundry: mostly by women				1.479	(0.426, 5.143)	0.38	1	0.538
Yes			423 (79.5%)					
No			109 (20.5%)					
Ironing clothes: mostly by women			n=467					
Yes			421(90.1%)	Not determined				
No			46(9.9%)					

House cleaning: mostly by women			n=525					
Yes			369(70.3%)	2.463	(0.711, 8.528)	2.024	1	0.155
No			156(29.7%					
Meal preparation: mostly by women			n=532					
Yes			326(61.3%)	1.181	(0.463, 3.010)	0.121	1	0.728
No			206(38.7%)					
Washing dishes: mostly by women			n=484					
Yes			240(49.6%)	1.135	(0.453, 2.845)	0.073	1	0.787
No			244(50.4%)					
Mowing lawn: mostly by women			n=486					
Yes			83(17.1%)	1.781	(0.623, 5.088)	1.162	1	0.281
No			403(82.9%)					
Car cleaning: mostly by women			n=502					
Yes			123(24.5%)	0.816	(0.266, 2.505)	0.127	1	0.722
No			379(71.2%)					
Groceries purchase: mostly by women			n=531					
Yes			358(67.4%)	1.133	(0.428, 3.000)	0.063	1	0.802
No			173(32.6%)					
Looking after children mostly by women			n =344					
Yes			158(45.9%)	2.748	(0.830, 9.102)	2.738	1	0.098
No			186(54.1)					

G) Psychological Abuse:

The prevalence of psychological abuse of the female partner in the region.

		Psychological Abuse				
		OR	**CI**	**Wald**	**df**	**Sig.**
Inland Towns v. Coastal town		0.782	(0.483, 1.267)	0.999	1	0.318
Miner v. Non-miner		1.238	(0.816, 1.878)	1.008	1	0.315
(54.5% Miners)						
De facto v. Married		1.371	(0.775, 2.427)	1.173	1	0.279
(86.7%Married)						
Years in Relationship						
Less than 5 Years	62 (11.7%)	0.855	(0.429, 1.706)	0.196	1	0.658
5 to 15 Years	187 (35.2%)	1.032	(0.662, 1.610)	0.02	1	0.888
Over 15 years	283 (53.1%)					
Place of upbringing						
Born in metro, live in mining town	57 (14.3%)	0.678	(0.312, 1.472)	0.964	1	0.326
Born in town, live in mining town	114 (28.64%)	0.417	(0.208, 0.833)	6.14	1	0.013
Born in rural, live in mining town	153 (38.48%)	0.446	(0.235, 0.847)	6.099	1	0.014
Born in mining , live in mining town						
Place of upbringing of partner	n=403					
Born in metro, live in mining town	53 (13.2%)	1.815	(0.830, 3.972)	2.227	1	0.136
Born in town, live in mining town	110 (27.3%)	0.737	0.355, 1.531)	0.67	1	0.413
Born in rural, live in mining town	163(40.6%)	0.829	(0.426, 1.613)	0.305	1	0.58
Born in mining , live in mining town	77 (19.1%)					

Respondent: age in years						
Mean=42.27, SD=12.198		0.997	(0.981, 1.013)	0.162	1	0.687
Education self: senior school or less v. beyond		1.13	(0.728, 1.754)	0.298	1	0.585
(66% senior school or less)						
Education partner: senior school or less v. beyond		1.465	(0.956, 2.2450	3.072	1	0.08
(57.5% senior school or less)						
Children						
Yes			2.133	(0.940, 4.840)	3.284	1	0.07
No						
Children living at home						
3 or more children		98 (20.6%)	1.307	(0.681, 2.507)	0.648	1	0.421
1 or 2 children		255 (53.8%)	1.398	(0.818, 2.3890	1.502	1	0.22
No children		121 (25.5%)					
Weekly income						
< $300		14 (2.6%)	1.185	(0.666, 2.111)	0.334	1	0.563
$300 - $799		54 (10.2%)	1.217	0.646, 2.292)	0.369	1	0.543
$800 -$1499		136 (25.6%)	1.654	(0.767, 3.568)	1.644	1	0.2
Over $1500		236 (44.4%)	1	Reference			
Profession of spouse						

Non-mining job			199 (37.4%)	0.782	(0.500, 1.223)	1.163	1	0.281
Unemployed / Retired			44 (8.3%)	1.104	(0.530, 2.303)	0.07	1	0.791
Miner			289 (54.3)					
Employment status of women			n=524					
Home duties			137 (26.1%)	0.778	(0.468, 1.294)	0.936	1	0.333
Unemployed			73 (13.9%)	1.315	(0.737, 2.347)	0.861	1	0.353
Employed			314 (59%)					
Run joint bank accounts								
Yes			455 (85.5%)	0.827	(0.470, 1.455)	0.434	1	0.51
No			77 (14.5%)					
Women in debt n=489								
Less than $50,000			98 (20%)	1.453	(0.874, 2.416)	2.073	1	0.15
Over $ 50,000			15 (3.1%)	1.389	(0.431, 4.482)	0.303	1	0.582
No debt			376 (76.9%)					
Joint debt			n=480					
Less than $100K			101 (21%)	2.337	(1.337, 4.086)	8.876	1	0.003
$100-200K			63 (13.1%)	1.084	(0.521, 2.255)	0.046	1	0.83
Over $200K			131 (27.3%)	1.31	(0.749, 2.289)	0.896	1	0.344
No debt			185 (38.5%)					
Smokers: women								
Yes				1.639*	(1.008, 2.666)	3.965	1	0.046
No								

Smokers: men								
Yes			134 (25.2)	1.54	(0.980, 2.420)	3.512	1	0.061
No			398 (74.8%)					
Cannabis consumption: women								
Yes				3.679	(0.906, 14.961)	3.318	1	0.069
No								
Cannabis consumption: men								
Yes			7 (1.3%)	9.324	(1.785, 48.705)	7.007	1	0.008
No			525 (98.7%)					
Drinkers: women			n=531					
Yes			427 (80.4%)	1.545	(0.877, 2.721)	2.265	1	0.132
No			104 (19.6%)					
Risky drinking: men n=489								
Yes			293 (59.9%)	1.609	(1.017, 2.547)	4.126	1	0.042
No			196 (40.1%)					
Laundry: mostly by women				1.966	(1.091, 3.542)	5.057	1	0.025
Yes			423 (79.5%)					
No			109 (20.5%)					
Ironing clothes: mostly by women			n=467					
Yes			421 (90.1%)	2.455	(0.944, 6.384)	3.392	1	0.066
No			46 (9.9%)					

House cleaning: mostly by women			n=525					
Yes			369 (70.3%)	1.69	(1.036, 2.757)	4.421	1	0.036
No			156 (29.7%					
Meal preparation: mostly by women			n=532					
Yes			326 (61.3%)	2.102	(1.329, 3.326)	10.072	1	0.002
No			206 (38.7%)					
Washing dishes: mostly by women			n=484					
Yes			240 (49.6%)	3.242	(2.027, 5.186)	24.107	1	0.000
No			244 (50.4%)					
Mowing lawn: mostly by women			n=486					
Yes			83 (17.1%)	1.267	(0.731, 2.196)	0.713	1	0.399
No			403 (82.9%)					
Car cleaning: mostly by women			n=502					
Yes			123 (24.5%)	1.575	(0.984, 2.519)	3.588	1	0.058
No			379 (71.2%)					
Groceries purchase: mostly by women			n=531					
Yes			358 (67.4%)	1.351	(0.857, 2.129)	1.678	1	0.195
No			173 (32.6%)					
Looking after children mostly by women			n =344					
Yes			158 (45.9%)	1.883	(1.142, 3.104)	6.147	1	0.013
No			186 (54.1)					

H) Social-psychological abuse of female partner

			Social-psychological Abuse			
		OR	**CI**	**Wald**	**df**	**Sig.**
Inland Towns v. Coastal town		0.815	(0.491, 1.354)	0.622	1	0.430
Miner v. Non-miner		1.777*	(1.133, 2.788)	6.258	1	0.012
(54.5% Miners)						
De facto v. Married		2.710**	(1.572, 4.674)	12.856	1	0.000
(86.7%Married)						
Years in relationship						
Less than 5 Years	62(11.7%)	4.028*	(2.142, 7.576)	18.686	1	0
5 to 15 Years	187(35.2%)	2.389*	(1.465, 3.896)	12.184	1	0
Over 15 years	283(53.1%)		Reference			
Place of upbringing						
Born in metro, live in mining town	57(14.3%)	0.583	(0.240, 1.418)	1.415	1	0.234
Born in town, live in mining town	114(28.64%)	0.874	(0.437, 1.768)	0.146	1	0.703
Born in rural, live in mining town	(153(38.48%)	0.495	(0.245, 1.000)	3.846	1	0.05
Born in mining , live in mining town			Reference			
Place of upbringing of partner n=403						
Born in metro, live in mining town	53(13.2%)	0.834	(0.367, 1.895)	0.188	1	0.665
Born in town, live in mining town	110(27.3%)	0.795	0.402, 1.572)	0.434	1	0.51
Born in rural, live in mining town	163(40.6%)	0.421	(0.212, 0.836)	6.108	1	0.013
Born in mining , live in mining town	77(19.1%)		Reference			

Respondent: age in years						
Mean=42.27, SD=12.198		0.969*	(0.951, 0.988)	10.345	1	0.001
Education self: senior school or less v. beyond		1.16	(0.730, 1.843)	0.394	1	0.53
(66% senior school or less)						
Education partner: senior school or less v. beyond		1.9	(1.197, 3.019)	7.399	1	0.007
(57.5% senior school or less)			Reference			
Children						
Yes			0.629	(0.334, 1.186)	2.049	1	0.152
No				Reference			
Children living at home						
3 or more children		98 (20.6%)	3.801	(1.724, 8.381)	10.959	1	0.001
1 or 2 children		255 (53.8%)	2.843	(1.391, 5.814)	8.2	1	0.004
No children		121 (25.5%)		Reference			
Weekly income						
< $300		14 (2.6%)	2.609*	(1.226, 5.552)	6.198	1	0.013
$300 - $799		54 (10.2%)	2.921*	(1.317, 6.648)	6.954	1	0.008
$800 -$1499		136 (25.6%)	5.389*	(2.220, 13.082)	13.856	1	0
Over $1500		236 (44.4%)	1	Reference			
Profession of spouse						

Non-mining job		199 (37.4%)	0.532*	(0.328, 0.863)	6.545	1	0.011
Unemployed / Retired		44 (8.3%)	0.513	(0.208, 1.266)	2.098	1	0.148
Miner		289 (54.3)		Reference			
Employment status of women		n=524					
Home duties		137(26.1%)	1.07	(0.653, 1.754)	0.072	1	0.789
Unemployed		73(13.9%)	0.632	(0.307, 1.302)	1.547	1	0.214
Employed		314(59%)		Reference			
Run joint bank accounts							
Yes			455(85.5%)	0.457*	(0.266, 0.784)	8.072	1	0.004
No			77(14.5%)		Reference			
Women in debt		n=489					
Less than $50,000		98(20%)	1.76*	(1.044, 2.970)	4.493	1	0.034
Over $ 50,000		15(3.1%)	1.219	(0.334, 4.443)	0.09	1	0.764
No debt		376(76.9%)		Reference			
Joint debt		n=480					
Less than $100K		101(21%)	1.358	(0.747, 2.471)	1.006	1	0.316
$100-200K		63(13.1%)	0.974	(0.460, 2.066)	0.005	1	0.946
Over $200K		131(27.3%)	1.196	(0.679, 2.107)	0.383	1	0.536
No Debt		185(38.5%)		Reference			
Smokers: women							
Yes				2.311*	(1.417, 3.772)	11.25	1	0.001
No					Reference			

Smokers: men								
Yes			134(25.2)	2.183	(1.378, 3.4570	11.076	1	0.001
No			398(74.8%)		Reference			
Cannabis consumption: women								
Yes				4.347	(1.069, 17.684)	4.213	1	0.04
No					Reference			
Cannabis consumption: men								
Yes			7 (1.3%)	3.227	(0.711, 14.650)	2.304	1	0.129
No			525(98.7%)		Reference			
Drinkers: women			n=531					
Yes			427(80.4%)	1.817	(0.971, 3.400)	3.489	1	0.062
No			104(19.6%)		Reference			
Risky drinking: men			n=489					
Yes			293(59.9%)	1.299	(0.813, 2.075)	1.196	1	0.274
No			196(40.1%)		Reference			
Laundry: mostly by women				1.07	(0.623, 1.839)	0.06	1	0.806
Yes			423(79.5%)					
No			109(20.5%)					
Ironing clothes: mostly by women			n=467					
Yes			421(90.1%)	1.389	(0.600, 3.215)	0.588	1	0.443
No			46(9.9%)		Reference			

House cleaning: mostly by women			n=525					
Yes			369(70.3%)	0.944	(0.589, 1.513)	0.057	1	0.811
No			156(29.7%		Reference			
Meal preparation: mostly by women			n=532					
Yes			326(61.3%)	1.761	(1.099, 2.821)	5.543	1	0.019
No			206(38.7%)		Reference			
Washing dishes: mostly by women			n=484					
Yes			240(49.6%)	1.924	(1.204, 3.074)	7.487	1	0.006
No			244(50.4%)		Reference			
Mowing lawn: mostly by women			n=486					
Yes			83(17.1%)	1.63	(0.941, 2.824)	3.041	1	0.081
No			403(82.9%)		Reference			
Car cleaning: mostly by women			n=502					
Yes			123(24.5%)	2.034	(1.262, 3.2760	8.507	1	0.004
No			379(71.2%)		Reference			
Groceries purchase: mostly by women			n=531					
Yes			358(67.4%)	1.25	(0.777, 2.0110	0.847	1	0.357
No			173(32.6%)		Reference			
Looking after children mostly by women			n =344					
Yes			158(45.9%)	3.251	(1.903, 5.552)	18.628	1	0.000
No			186(54.1)		Reference			

I) Non-physical abuse of the female partner.

			Non-Physical Abuse				
			OR	CI	Wald	df	Sig.
Inland Towns v. Coastal town			0.744	(0.482, 1.148)	1.786	1	0.181
Miner v. Non-miner			1.375	(0.948, 1.993)	2.821	1	0.093
(54.5% Miners)							
De facto v. Married			1.852*	(1.112, 3.084)	5.611	1	0.018
(86.7% Married)							
Years in relationship							
Less than 5 Years		62 (11.7%)	2.003*	(1.133, 3.539)	5.718	1	0.017
5 to 15 Years		187 (35.2%)	1.513*	(1.014, 2.256)	4.123	1	0.042
Over 15 years		283 (53.1%)	Reference				
Place of upbringing							
Born in metro, live in mining town		57 (14.3%)	0.623	(0.299, 1.297)	1.597	1	0.206
Born in town, live in mining town		114 (28.64%)	0.623	(0.338, 1.151)	2.28	1	0.131
Born in rural, live in mining town		153 (38.48%)	0.485	(0.268, 0.876)	5.761	1	0.016
Born in mining , live in mining town			Reference				
Place of upbringing of partner n=403							
Born in metro, live in mining town		53 (13.2%)	1.148	(0.559, 2.360)	0.142	1	0.706
Born in town, live in mining town		110 (27.3%)	0.718	(0.386, 1.335)	1.096	1	0.295
Born in rural, live in mining town		163 (40.6%)	0.588	(0.328, 1.054)	3.176	1	0.075
Born in mining , live in mining town		77 (19.1%)	Reference				

Respondent: age in years						
Mean=42.27, SD=12.198		0.987	(0.972, 1.001)	3.131	1	0.077
Education self: senior school or less v. beyond		1.209	(0.817, 1.788)	0.901	1	0.342
(66% senior school of less)						
Education partner: senior school or less v. beyond		1.544	(1.058, 2.254)	5.064	1	0.024
(57.5% senior school or less)						
Children						
Yes		1.089	(0.598, 1.984)	0.078	1	0.78
No		Reference				
Children living at home						
3 or more children	98 (20.6%)	1.685	(0.940, 3.022)	3.068	1	0.08
1 or 2 children	255 (53.8%)	1.517	(0.931, 2.471)	2.8	1	0.094
No children	121 (25.5%)	Reference				
Profession of spouse						
Non-mining job	199 (37.4%)	0.704	(0.474, 1.045)	3.03	1	0.082
Unemployed / Retired	44 (8.3%)	0.793	(0.397, 1.583)	0.434	1	0.51
Miner	289 (54.3)	Reference				
Employment status of women	n=524					
Home duties	137 (26.1%)	1.165	(0.759, 1.789)	0.489	1	0.484
Unemployed	73 (13.9%)	1.201	(0.700, 2.060)	0.44	1	0.507

Employed			314 (59%)	Reference				
Run joint bank accounts								
Yes			455 (85.5%)	0.522*	(0.319, 0.855)	6.662	1	0.01
No			77 (14.5%)	Reference				
Women in debt			n=489					
Less than $50,000			98 (20%)	1.493	(0.940, 2.371)	2.883	1	0.09
Over $ 50,000			15 (3.1%)	0.857	(0.267, 2.749)	0.067	1	0.795
No debt			376 (76.9%)	Reference				
Joint debt			n=480					
Less than $100K			101 (21%)	1.723	(1.032, 2.877)	4.323	1	0.038
$100-200K			63 (13.1%)	0.894	(0.466, 1.718)	0.112	1	0.738
Over $200K			131 (27.3%)	1.422	(0.878, 2.303)	2.046	1	0.153
No debt			185 (38.5%)	Reference				
Smokers: women								
Yes				2.161*	(1.390, 3.360)	11.713	1	0.001
No				Reference				
Smokers: men								
Yes			134 (25.2)	2.023	(1.347, 3.039)	11.543	1	0.001
No			398 (74.8%)	Reference				
Cannabis consumption: women								
Yes				6.764	(1.351, 33.874)	5.409	1	0.02
No				Reference				

Cannabis consumption: men								
Yes			7 (1.3%)	5.602	(1.076, 29.176)	4.188	1	0.041
No			525 (98.7%)	Reference				
Drinkers: women			n=531					
Yes			427 (80.4%)	1.558	(0.952, 2.550)	3.108	1	0.078
No			104 (19.6%)	Reference				
Risky drinking: men			n=489					
Yes			293 (59.9%)	1.377	(0.925, 2.049)	2.488	1	0.115
No			196 (40.1%)	Reference				
Laundry: mostly by women				1.502	(0.930, 2.427)	2.766	1	0.096
Yes			423 (79.5%)	Reference				
No			109 (20.5%)					
Ironing clothes: mostly by women			n=467					
Yes			421 (90.1%)	1.794	(0.865, 3.719)	2.465	1	0.116
No			46 (9.9%)	Reference				
House cleaning: mostly women			n=525					
Yes			369 (70.3%)	1.374	(0.908, 2.079)	2.255	1	0.133
No			156 (29.7%	Reference				
Meal preparation: mostly by women			n=532					
Yes			326 (61.3%)	1.818	(1.228, 2.691)	8.914	1	0.003
No			206 (38.7%)	Reference				

Washing dishes: mostly by women			n=484					
Yes			240 (49.6%)	2.238	(1.508, 3.321)	16.011	1	0.000
No			244 (50.4%)	Reference				
Mowing lawn: mostly by women			n=486					
Yes			83 (17.1%)	1.357	(0.829, 2.221)	1.476	1	0.224
No			403 (82.9%)	Reference				
Car cleaning: mostly by women			n=502					
Yes			123 (24.5%)	1.683	(1.101, 2.574)	5.776	1	0.016
No			379 (71.2%)	Reference				
Groceries purchase: mostly by women			n=531					
Yes			358 (67.4%)	1.132	(0.763, 1.680)	0.379	1	0.538
No			173 (32.6%)	Reference				
Looking after children mostly by women			n =344					
Yes			158 (45.9%)	2.421	(1.532, 3.826)	14.336	1	0.000
No			186 (54.1)	Reference				