Insomnia-related Sleep Disturbances and Depression: A Case Study Approach

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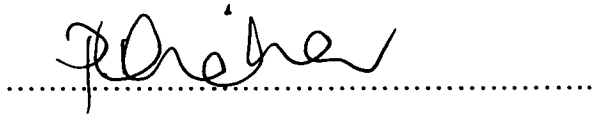
I declare that this thesis is my own work and that, to the best of my knowledge and belief, it does not contain material which has been accepted for the award of any other higher degree or graduate diploma in any other higher degree or graduate diploma in any university.



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Abstract

Insomnia, the most prevalent sleep complaint, is a common symptom of depression, as well as constituting a 'primary' diagnosis. Controversy remains about whether insomnia should be regarded as 'secondary' when co-occurring with depression, given that insomnia often occurs prior to other symptoms. This study investigated the extent to which insomnia is considered secondary to unipolar forms of depression using a qualitative case study approach to allow for individual differences and to address the phenomenology associated with these conditions. Seven participants (six with self-reported insomnia, four of whom had also been diagnosed with depression, and one suffering from depression only) were interviewed in a semi-structured format and asked to describe their experiences in terms of symptom onset and impact, and their thoughts about the nature of the relationship between insomnia and depression. The participants with both conditions mostly considered insomnia and depression to be independent, despite commonly experiencing insomnia alongside core depressive symptoms. They all had insomnia prior to depression, and they considered insomnia to be 'primary' rather than 'secondary'. Five out of six participants with insomnia reported having an overactive mind when attempting to sleep. Those with only insomnia potentially differed from other participants due to the content of their thoughts and the presence of factors in their life that may be protective in terms of developing depression. Despite experiencing negative and overactive thoughts, the participant with depression, but not insomnia, attributed having an active working life to avoiding insomnia. Further research investigating the complex interplay between life circumstances (risk and protective factors), the content of overactive cognitions, and endogenous versus reactive forms of depression, would be beneficial to better understand the nature of the relationship between insomnia and depression.

Insomnia, the most common sleep disturbance, affects the majority of people at some time in their lives and may or may not occur in the absence of any other pathologies (Drake, Roehrs & Roth, 2003). As well as constituting a primary diagnosis, insomnia often occurs comorbid with, or secondary to, other debilitating illnesses such as depression: a mood-altering or 'affective' condition that is characterised by low mood and a loss of interest or pleasure in usual activities (Sadock & Sadock, 2007). While insomnia is known to be a dominant symptom of depression, the nature of the relationship between the two pathologies remains inconclusive. The scope of this research is limited to exploring the nature of the relationship between insomnia and unipolar depression, as perceived by those affected by these conditions. The main focus will be insomnia, and its status as a secondary diagnosis or symptom (rather than a primary diagnosis). As the condition in question – insomnia – will be considered only in the context of uni-polar forms of depression, the findings cannot be readily generalised to bipolar mood disorders (which are also associated with depressed mood but are characterised by additional periods of elevated or expansive mood), nor other related or mixed pathologies (such as anxiety), given their unique relationship with insomnia. The rationale behind adopting the case study approach used in this research is to address the phenomenology of insomnia. That is, how it is experienced and what meaning it has for the individual, in the presence of depression. This methodology also provides a relatively novel approach to researching the relationship between insomnia and depression, while accounting for the heterogeneous nature of insomnia presentations, which are not easily controlled for in a quantitative analysis. As a result, the findings may well be unique to the individual research participants. Nevertheless, it is hoped that the research outcomes

provide qualitative insight that will better inform future investigations involving the relationship between insomnia and depression, and future preventative and treatment measures. The research aim is to investigate the individual meanings associated with insomnia and depression, and particularly the extent to which insomnia is considered secondary and/or prodromal to depression.

What is Depression?

Depression is a disorder of mood that is characterised by a loss of interest or pleasure in activities and/or low mood, occurring most of the day and nearly every day, to the extent that significant distress or impairment in functioning results (Sadock & Sadock, 2007). Other symptoms indicative of depression include weight fluctuations (typically, weight loss occurs), insomnia (or, less commonly, hypersomnia), psychomotor agitation or retardation, feelings of worthlessness or excessive/inappropriate guilt, diminished ability to think or concentrate, fatigue or loss of energy, and recurrent suicidal thoughts or suicidal ideation. According to the most recent National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2007) approximately 5.1% of women and 3.1% of men in Australia have a lifetime depressive disorder, with a depressive episode having occurred in the previous year. Having a family history of depression is one factor that is well known to genetically predispose an individual to depression (largely due to the biochemical makeup of the brain) however the influence of acquired negative thought patterns should not be discounted as a cause of depression. Factors known to be protective against the development of depression include socio-economic advantage, high education, sense of mastery, good emotional regulation, close social networks and meaning and engagement in life (Fiske, Wetherell & Gatz). While the aetiology of depression can be complex, depression is typically described as being either

endogenous (caused by an intrinsic biological or somatic process rather than an environmental influence) or reactive (precipitated by events or situational factors). However, some commentators argue that such forms of depression are not distinguishable (Hinton, 1963). Precipitating factors typically relate to stressful life events, substance use and long-term illnesses. Depression is commonly maintained by the continuation of precipitating factors, as well as social factors (e.g., relationship problems, poor housing).

The unipolar spectrum of mood disorders is distinguished from the bipolar spectrum by the absence of mania and/or hypomania (abnormally and persistently elevated, expansive or irritable mood that is clearly different from a normal non-depressed mood). Unipolar disorders include major depressive disorder (MDD: a complete depressive syndrome occurring for a duration of at least two weeks per episode), minor depressive disorder (incomplete but episodic depressive syndrome), recurrent brief depressive disorder (complete syndrome for less than two weeks duration per episode), and dysthymic disorder (incomplete depressive syndrome over a two year period, without clear episodes). In diagnosing a mood disorder, it is important to be mindful that such presentations may be substance-induced or caused by a medical condition (e.g., meningitis, hypoglycaemia or thyroid disturbance). Similarly, substance-related disorders, psychotic disorders, eating disorders, adjustment disorders, somatoform disorders and anxiety disorders are all commonly associated with the symptoms of depression (American Psychiatric Association [DSM-IV-TR], 2000; Sadock & Sadock, 2007).

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), the presence of five or more of the abovementioned symptoms must be present for the diagnosis of a depressive episode, with either 'depressed mood' or

'loss of interest or pleasure in activities' being one of them. The depressed mood associated with depression tends to have a quality that differentiates it from normal emotions and grieving. Approximately 75% of those with depression contemplate suicide, and nearly all experience reduced energy levels.

Szuba (2001) argues that sleep disturbances (primarily insomnia) are likely the most common subjective symptom of depression, and around 80% of depressed patients complain of difficulties sleeping. Depressed individuals often awaken too early in the morning and experience multiple awakenings during the night, at which time they tend to ruminate about their problems (American Psychiatric Association [DSM-IV-TR], 2000; Sadock & Sadock, 2007). Nowell and Buysse (2001) suggest that the demoralisation and lack of motivation associated with depression tends to encourage those with depression to spend more time in bed, and this tendency may condition them to view their bed as a place for activities aside from sleeping (e.g., worrying about problems). Moreover, the excessive opportunities for sleep may encourage brief and fragmented sleep patterns. Interestingly, sleep deprivation treatment has been shown to be effective for many individuals with a depressive disorder, and there have been instances in which serial partial sleep deprivation has alleviated the insomnia associated with depression. Sleep deprivation has also been shown to accelerate antidepressant responses in some instances. However, such outcomes are generally temporary because the effects are reversed when the individual returns to their usual pattern of sleeping. Depressed mood (particularly when in the presence of suicidal ideation) is the obvious treatment target, given the marked impact it has on an individual's distress and level of functioning, and unless other symptoms are viewed as particularly severe or independent, clinicians often

address them secondarily or they otherwise trust these symptoms will dissipate following treatment of the core symptoms (Sadock & Sadock, 2007; Szuba, 2001).

What is Insomnia?

Unlike the other individual symptoms of depression, insomnia and hypersomnia (referring to excessive amounts of sleep and/or excessive daytime sleepiness) can constitute a diagnosis in their own right. Insomnia may be defined as a perceived difficulty in initiating and/or maintaining sleep, or experiencing non-restorative sleep. The condition is considered the most prevalent sleep disturbance, affecting between 10 and 40% of the general adult population. While most people experience transient insomnia symptoms at some point in their lives, chronic insomnia persists for approximately 10-15% of the population, and around 20% of those in late adulthood (Espie, 2002; Buckner et al., 2008). The disturbance presents in women about two times more often than men, and no clear ethnic or racial differences in insomnia rates are apparent. Insomnia symptoms may include difficulties falling asleep ('sleep onset insomnia'), waking during the night for long periods before returning to sleep ('middle insomnia') and early awakenings ('terminal insomnia'). These symptoms are each associated with adverse consequences in terms of daytime functioning, with fatigue, concentration difficulties, and disrupted mood and affect not uncommon. There is also a range of indirect costs associated with insomnia, such as a loss in productivity (Vincent & Walker, 2001).

Like depressive symptoms, insomnia can occur as a result of substance-related issues or general medical conditions (e.g., pain conditions, endocrine dysfunction or dietary factors), as well as being associated with environmental stressors and a range of mental illnesses (e.g., generalised anxiety disorder, adjustment disorder and attention-deficit/hyperactivity disorder). Generally, sleep onset insomnia is more

commonly associated with the anxiety symptoms of physiological hyper-arousal (e.g., increased heart rate and muscle tension) and excessive worry or concern. In contrast, depressive symptoms (e.g., negative cognitive distortions and feelings of worthlessness and guilt) are more commonly linked to middle and terminal insomnia presentations (Hinton, 1963). In addition to physiological and psychological arousal, negative conditioning for sleep is frequently evident in individuals suffering from insomnia. For example, the individual may not be partaking in activities that are conducive to sleep prior to going to bed, or they may be associating their bed too much with activities other than sleep (e.g., watching television).

Insomnia Measures and Classification Issues

It is perhaps surprisingly difficult to classify insomnia for diagnostic purposes. A lack of consensus is apparent in the literature in terms of the aetiology of various sleep disturbances, despite the widespread use of diagnostic instruments that define the disturbance based on the most likely aetiological factor(s). Moreover, symptom types commonly overlap, are characteristically unpredictable, often change over time, and differ between individuals. Further, it may be argued that there is a lack of psychometrically validated instruments for diagnosis, and insufficient data exists in terms of patterns of use and inter-rater concordance between the available instruments (Krystal, 2005; Nowell & Buysse, 2001). Polysomnographic measures (the primary technique used to characterise sleep physiology) are generally only used for diagnostic purposes if the presentation is uncertain, and this method is known to have a modest positive correlation with self-report measures of sleep disturbance. Typically, polysomnographic assessment involves electroencephalography (EEG) and muscle activity monitoring, as well as measures of eye movement, respiration, and blood oxygen saturation, which are integral for ascertaining the presence of a

breathing-related sleep disturbance, such as Sleep Apnoea. In terms of alterations to sleep neurophysiology, an association between depression and a premature loss of deep, slow wave sleep has been established, and this is commonly reflected in the increased awakenings and overall reduction in sleep time that are characteristic of insomnia (Espie, 2002). In addition, depression-related reductions in REM sleep latency (a shortening of the sleep period prior to the first period of Stage 5 Rapid Eye Movement sleep) have been shown to persist following remission of depressive episodes (Hall, Buysse, Dew, Prigerson, Kupfer & Reynolds, 1997).

Structured interviews to obtain a thorough patient history are recommended in the assessment of insomnia. This method enables a consideration of the personal meanings associated with insomnia and the factors motivating a clinical complaint, which are commonly cognitive/affective rather than physiological. The use of self-rating scales and sleep diaries, which allow for night-to-night variations (and, like polysomnographic measures, have also been found to positively correlate with self-reports), may also be used to add to the assessment process (Espie, 2002).

Diagnostic classification systems, such as the DSM-IV, the International Classification of Diseases (ICD-10) and the International Classification of Sleep Disorders (ICSD) do not distinguish between symptom type and duration (i.e., transient, short-term, long-term). Rather, diagnosis is to be made with sub-classifications based on presumed aetiology, which may be extrinsic, intrinsic, or associated with another condition (Harvey, 2001; Krystal, 2005). Extrinsic factors may relate to adjustment issues, stimulant-dependence and poor sleep hygiene (non-specific lifestyle measures to induce sleep, such as avoiding caffeine and daytime naps). Intrinsic contributors to insomnia, when occurring in the absence of other sleep disorders (such as narcolepsy, sleep apnoea, and circadian rhythm disorder), are

generally thought to be psychophysiological, and are commonly associated with anxiety symptoms. However, Espie (2002) argues that physiological hyper-arousal alone is an insufficient explanation, given there is sometimes a discrepancy between objective and subjective accounts of sleep. Such discrepancies may be defined as 'sleep state misperception', or 'subjective insomnia', which is characterised by dissociation between an individual's experience of sleep and the (objective) polysomnographic recordings. It is thought that sleep state misperception can manifest in some individuals as a result of obsessional tendencies and/or ineffectively treated anxiety or depression. Despite the subjectivity, this condition still merits a diagnosis, as sufferers of sleep state misperception may be equally distressed or impaired and are not distinguishable from other insomnia patients on a clinical level (Riemann & Voderholzer, 2002; Sadock & Sadock, 2007).

Insomnia Theories

Insomnia resembles some other psychiatric disorders, including anxiety and depression (which also commonly co-occur), in that it occurs more commonly in women than in men. This adds weight to suggestions that insomnia may share a common diathesis with anxiety and mood disorders (Espie, 2002). Such theories also support the view that insomnia may (at least partially) represent a subclinical form of depression and anxiety. Interestingly, Voderholzer et al. (2003) demonstrated that the sex differences seen in insomnia might be explained by the presence of the comorbid disorder. The study assessed 86 participants with insomnia (their sole complaint) and 86 age- and sex-matched controls, and found no differences based on sex for subjective and objective (polysomnographic) sleep measures, despite significant differences between the insomnia and control groups. It was subsequently concluded that the clear sex differences associated with insomnia are predominantly

caused by sex differences in the presence of comorbid disorders, such as depression. It was also concluded that insomnia might be an early and independent prodromal symptom of anxiety and/or depression to follow.

In the absence of any known precipitant or maintainer, insomnia is commonly thought to occur as a result of faulty conditioning (relating to poor control of over-stimulation and an insufficient association between sleep and the bedroom environment) and/or irregular chronobiological timing (relating to delayed or advanced sleep phases that depart from typical light/dark cycles). Other theories about the factors contributing to insomnia symptoms include the traditional view that insomnia is a consequence of physiological hyper-arousal, and the cognitive hyper-arousal view, which is increasingly gaining support (Espie, 2002; Hall et al., 1997). Physiological hyper-arousal theorists suggest that sleep disturbances are a result of heightened autonomic activity (which is suggestive of an anxious presentation), and one of the contributors to sleep disturbance may be increased hormone levels resulting from adreno-cortical activity (Espie, 2002). Of interest is the view that hypersecretion of cortisol may represent a factor contributing to both insomnia and depression independently (Drake, Roehrs & Roth, 2003).

Cognitive hyper-arousal theories of insomnia, which consider issues such as over-active and intrusive thoughts, attitudes and dysfunctional beliefs, particularly implicate a link between depressive symptoms and sleep disturbances (Espie, 2002). For example, Vincent and Walker (2001) found 'fear of cognitive dyscontrol' to be associated with greater sleep impairment when controlling for psychiatric comorbidity and 'propensity to worry'. In further support of the cognitive hyper-arousal hypothesis are findings that intrusive thoughts and avoidance behaviours (which both relate to the clinical course of depression) are significantly associated with both

subjective and objective sleep disturbances (Hall et al., 1997). Lichstein and Fanning (1990) report that, using a sample of 30 participants, insomnia patients and matched controls judged the primacy of cognitive and/or somatic factors, and results strongly favoured the cognitive hyper-arousal hypothesis. The major outcome of this research was that insomnia participants showed a significant increase of skin conductance levels (attributed to cognitive ruminations) when a polygraph malfunction was staged, whereas controls relaxed even further. In further contrast to the physiological –hyper-arousal hypothesis are findings that, when attempting to sleep, poor sleepers do not differ from control participants in terms of a range of physiological measures, including heart rate, pulse volume and arousal on skin resistance. In addition, upon presenting information related to their experiences of insomnia, mentation and/or affect complaints are generally mentioned more commonly by poor sleepers than physiological symptoms (Espie, 2002).

Primary versus Secondary Insomnia: The relationship with Depression

In a broader sense, insomnia is known to be either 'primary' (due to its independence from any known physical or mental condition), or 'secondary' to another condition (e.g., psychiatric or organic illness; substance use). Psychiatric comorbidity is known to occur in at least 40% of those with chronic insomnia, with some reports based on clinical samples citing over 75% comorbidity. This contrasts markedly with the 16% of people experiencing psychiatric comorbidity with no sleep complaints (Drake, Roehrs & Roth, 2003; Nowell & Buysse, 2001). Thirty-five percent of chronic insomnia patients are diagnosed with a mood disorder, which is thought to represent the most common cause, and all standard diagnostic systems include insomnia as a major criterion for the depressive syndromes (as described previously in reference to the DSM-IV). Insomnia symptoms, which represent the

majority of sleep-related complaints in depressed individuals, are included in most depression rating scales, and have been found to discriminate over the full range of items on the Hamilton Depression Rating Scale, with increases in insomnia mirroring depression severity (Vaccarino et al., 2008). Insomnia may also play a role in the presentation of other depressive symptoms, such as concentration difficulties, depressive retardation and reduced energy levels (Szuba, 2001; Volderholzer et al., 2003).

While classifying primary insomnia is relatively straightforward (given the absence of any other known condition), there is some controversy in the literature about whether or not insomnia should be regarded as 'secondary' to other diagnoses. Many findings challenge the notion that effective management of the main diagnosis successfully alleviates 'secondary' insomnia symptoms. For example, insomnia is often refractory to the successful removal of core depressive symptoms (that is, insomnia commonly remains a problem even when other symptoms of depression have been treated effectively), and this is particularly evident through the use of non-sedating drugs (Drake, Roehrs & Roth, 2003). Although many antidepressants effectively target components of the sleep-wake cycle that contribute to insomnia (e.g., REM latency), this contribution to reductions in depression severity may be underestimated. Individualising treatment and timing the intake of antidepressants based on the sleep disturbance is also worthy of greater consideration (Jindal et al., 2003; Krystal, 2005; Nowell & Buysse, 2001). Despite the 'primary' and 'secondary' distinction serving as a method of identifying aetiology and appropriate treatment, there is an apparent tendency for insomnia to be trivialised in the presence of other syndromes, which leads to the misconception that independent treatment of insomnia symptoms is not justified. Moreover, Harvey (2001) suggests that more self-report

information from those with insomnia would be beneficial to address a gap in the research literature relating to the level of distress and dysfunction caused by insomnia relative to comorbid disorders.

A further challenge to the idea of insomnia as secondary to depression is the growing evidence that depression is predicted by a preceding history of insomnia. Although it remains possible that prior insomnia is simply a prodromal symptom of subsequent depression, insomnia has been found to present prior to a first depressive episode 41% of the time, and follows other depressive symptoms only 29% of the time (Drake, Roehrs & Roth, 2003). Riemann and Voderholzer (2002) report that, when controlling for physical illness and substance use, patients with insomnia (but no depression) at baseline had an adjusted odds ratio of depression of 39.8 at follow-up, compared to 1.6 at follow-up for those with resolved insomnia. Various studies have attempted to ascertain the nature of cause-effect relations between insomnia and depression. A summary of these studies, which excluded the possibility of a common pathology, demonstrate that insomnia symptoms for at least two weeks duration are predictive of depression occurring at some point in the following two to three years (Ford & Cooper-Patrick, 2001; Nowell & Buysse, 2001). Insomnia has also been implicated as a predictor of suicide in depressed patients, an increased likelihood of relapse following treatment success, and MDD (Krystal, 2005). In terms of psychiatric comorbidity, insomnia is most strongly associated with MDD, with up to 90% of MDD sufferers endorsing some form of insomnia. Further, insomnia symptoms, above all depressive symptoms, may have the greatest predictive value in terms of new MDD cases, with symptoms shown to predate 47% of first-time episodes (Riemann & Voderholzer, 2002; Szuba, 2001).

The relationship between insomnia and depression is even more pronounced when considering relapses, with Drake, Roehrs and Roth (2003) suggesting insomnia predates depression relapse in 56% of cases, while following depressive episodes only 21% of the time. Such findings cannot be generalised to other psychiatric conditions. For example, insomnia typically follows onset and relapses associated with anxiety disorders, or otherwise occurs at around the same time as the anxiety presentation. In a study conducted by Buckner et al. (2008), which specifically investigated social phobia in association with insomnia and depression, depression was found to mediate the relationship between the anxiety and insomnia. This suggests that it is the depressive symptoms (commonly present in those with social phobia) that serve to disrupt sleep, and that the anxiety itself has an indirect influence. Such findings call theories of a common diathesis underlying insomnia, depression and anxiety into question, and highlight a unique relationship between insomnia and depression that merits further consideration.

Unresolved controversies about the status of insomnia as a 'secondary' diagnosis, and the arguably distinct relationship between insomnia and depression, form the rationale for the present study, which aims to investigate the extent that insomnia is considered secondary and/or prodromal to depression. A case study approach will adopted to serve the dual purpose of addressing the phenomenology of insomnia in the context of depression, while accounting for the heterogeneity (that is, the marked individual differences and presentation changes) associated with insomnia.

Method

Participants

Seven participants aged between 40 and 65 ($M = 52$) participated in this research. Five participants were male. Six participants self-reported as having long-term, and generally persistent, insomnia. For the purposes of this study, insomnia was defined as chronic or reoccurring difficulties initiating or maintaining sleep, or nonrestorative sleep (DSM-IV diagnostic criteria relating to levels of distress and impairment were to be investigated during the data gathering process). The other participant had been diagnosed with unipolar depression, as had four of the participants with co-morbid insomnia. None of the participants with depression had ever experienced periods of mania or hypomania. To their knowledge, any sleep disturbances participants have had were not a result of breathing-related sleep disturbances (such as sleep apnoea), parasomnias (such as nightmares and sleep walking) or a general medical condition that may contribute to sleep disturbance (such as restless leg syndrome, cramps, and pain conditions). Prior to participation, the seven individuals confirmed that they did not think that physical anxiety symptoms (such as accelerated heart rate or shaking, heartburn/reflux, sweating/chills, headaches, nausea, need to urinate during the night, etc) were the usual cause for any insomnia they had experienced. Use of substances (other than non-excessive alcohol intake) was confirmed to be limited to any medications participants were taking for either insomnia or depression (e.g., no substance abuse/dependence or use of illicit substances exists for these participants). For the purpose of research comparisons, the participants' insomnia and/or depression was categorised as either mild or moderate to severe. Participants were recruited through word-of-mouth and the media (The Mercury newspaper and ABC radio), and they received $30 to compensate for any

expenses relating to their participation. This study had ethical approval from the University Human Research Ethics Committee. The table below provides an overview of individual participants.

Table 1.

Overview of Participants and Perceived Condition Severity

Participant Code	*Sex*	*Age*	*Condition(s) / Severity*
Participant A	Male	62	Insomnia / Mod-Severe
Participant B	Male	40	Insomnia / Mild
Participant C	Female	54	Insomnia / Mild; Depression / Mild
Participant D	Male	47	Insomnia / Mod-Severe; Depression / Mod-Severe
Participant E	Male	65	Insomnia / Mod-Severe; Depression / Mild
Participant F	Female	52	Insomnia / Mod-Severe; Depression / Mod-Severe
Participant G	Male	44	Depression / Moderate to Severe

Apparatus

A computer was used for displaying the interview questions to be read, and for documenting notes. With participant consent, interviews were recorded with a tape recorder for the purposes of subsequently transcribing the interview questions and responses verbatim.

Procedure

Upon receiving confirmation from participants that they met the eligibility criteria of the research, they were invited to attend a one-on-one interview at the University of Tasmania. At this interview they were first provided with an information sheet, and all participants signed informed consent forms prior to commencing (these documents can be seen at Appendix A). Participants were seated comfortably and the proceedings and exclusion criteria were reiterated to them as outlined in Appendix B. Participants were then given an opportunity to ask questions

prior to commencing the interview, which was recorded for transcribing purposes with their permission.

Given that the majority of participants had a diagnosis of depression and they were asked about individual symptoms during the interview, there were admissions from some participants that they were currently experiencing thoughts of death or suicide. In these instances, as a duty of care, the interviewer asked some further questions to establish the likelihood of immediate risk (no cases were deemed by the interviewer to be at immediate risk). All participants were encouraged to seek professional assistance if they were not currently doing so, and contact details for the University Psychology Clinic were provided.

Design and Data Analysis

A case study approach was adopted to obtain largely qualitative data. A semi-structured interview template consisted of open-ended questions followed by more structured yes/no questions, which, in order to avoid influencing earlier responses, were used toward the end of the interview for the purposes of clarification. Interview recordings were transcribed verbatim, excluding identifying information and some irrelevant discussion (see Appendix C), and the information that was considered to best address research aims was analysed qualitatively. A section of the interview required participants to rank order some common symptoms of depression in terms of perceived prevalence, order of onset, and impact.

Results

Case Study Findings

Following is an overview of the information gathered during each of the seven interviews:

Participant A (Male, 62)

Participant A appeared to be a polite and friendly man. He seemed at ease and talked openly throughout the interview. This man has reportedly never suffered from depression and has no known family history of depression, insomnia or other mental health problems. He has suffered from insomnia for "a long time", since he was in his early thirties. Since that time the insomnia has been persistent and chronic, rather than transient. Typically, he goes to bed at around 8.30pm and has no difficulty falling asleep in recent times. He tends to wake up between 12.30am and 2am and is unable to fall back to sleep for the entire night. He usually (around 80% of the time) sleeps for just three to four hours each night, and he reports a tendency to have a better night of sleep after four or five nights of poor sleep. He describes being "mentally exhausted" after his nights of poor sleep. When asked why he thinks he has insomnia, this participant could describe no obvious explanation: "I can't understand why I suffer from this lack of sleep". Although he lives a healthy lifestyle, he admitted to having a very active mind and sometimes feeling physically tense. His thoughts when trying to sleep tend to be related to objectively "trivial" real events (rather than hypothetical worries). However, he said "I think the insomnia comes first and then the mind comes second" and "what else am I going to do with my mind when I'm laying awake for hours and hours and hours...?". "Eventually...", he reported, "after a couple of hours I'll get absolutely sick of it and realise that I'm just not going to go to sleep, so I'll get up...".

Participant A considers himself to be a fairly light sleeper. On occasions he is woken by his wife going to bed, even though she is apparently very quiet and considerate, but he does not attribute his insomnia to external factors. This participant is fairly active and does not take naps during the day, and he no longer has a regular

daily schedule in his retirement. However, he reported noticing no difference in his insomnia based on age or work commitments (with the exception of some shift-work late in his career), and no difference based on his day-to-day level of exercise, nor the time of day he is active. Although he commonly drinks two to three glasses of beer or wine in the early evening, he says that this seems to help him fall asleep quicker, and he notes no difference in the quality of his sleep when he is abstinent. This participant reported having tried a range of techniques to help him sleep, including progressive muscle relaxation, breathing exercises and mental imagery. He stated that the only method that has worked for him is reading, but this only helps him fall asleep when he first goes to bed and when the reading material is not very interesting. During his working life, Participant A was prescribed some sleeping tablets (he could not recollect what they were) by his general practitioner, as he was "trying desperately to get sleep". He soon stopped taking them because he would "still lay awake for two or three hours" and then "feel awful... like death warmed up" due to the after-effects of his medication the next morning.

When shown a list of depression symptoms, Participant A reported that the only symptom that has affected him throughout his lifetime, and impacted on his daily functioning and sense of wellbeing, is insomnia. He did report experiencing a 'Loss of Interest or Pleasure in Usual Activities', just in recent times, but he attributed this to a "traumatic" experience he had when he was participating in a leisure activity. This participant put his depression-free life down to having a positive outlook and valued people to talk to, and to having enjoyed good health ("apart from this insomnia thing"), a happy marriage, wonderful children, and mostly managing financially. He speculated that something "very serious" would need to occur for him to be affected by depressive symptoms.

When asked to describe what insomnia had meant for him in his life, Participant A reported that it doesn't really affect him physically, apart from noticing that his eyesight deteriorates the tireder he gets. He mentioned that the effects of his insomnia are "more mental". Despite being "grumpy", "snappy", "short with people" and "less tolerant" he is generally able to keep doing things that he would otherwise do. He admitted that, assuming he never suffered from insomnia, he would probably not have done anything differently in life, but that he probably wouldn't have bags under his eyes. He agreed that insomnia can worry or distress him at times because he craves for "the oblivion of sleep". He answered, "Because I feel that I need to sleep, and to be honest it's pretty boring just laying there sleepless throughout all those hours".

Participant B (Male, 40)

Participant B seemed to be a quiet and generally reserved fellow. He seemed at ease and talked openly throughout the interview. This participant has reportedly never suffered from depression and apart from having a sibling who experiences "anxiety attacks" he reported no family history of mental illnesses, including depression. He has suffered from persistent insomnia since he was approximately 16 years of age, and he reported noticing that this had worsened just "a little bit" with age. He generally has four or five nights of poor sleep and six nights of not getting as much sleep as he would like. This participant noted, "if you ask my family, I never get good sleep". He typically falls asleep within 20 minutes of going to bed, but on occasion it can take him hours to fall asleep. After two to four hours of "pretty good sleep", he tends to wake up for between half an hour to "more than an hour" before returning to sleep briefly, waking again, returning to sleep, and so on. On a good night he might awaken twice and on a bad night he will awaken four or five times

between periods of sleep, before waking up "pretty early in the morning". He added that, lately, on the occasions when he does manage to sleep in a bit longer, one of his children might wake him at around 5.30am anyway. Having children in the house and other external factors was not considered to be a main contributor to insomnia for him, but he admitted that his young children might have altered the pattern of his sleep a little.

When asked why he thinks he might have insomnia, this participant said, "I don't know. It's just one of those things. It's just always been there". Despite this, he reported being a very light sleeper who wakes up following out-of-the-ordinary noises, or even simply having to roll over in bed. Although he is sometimes able to go back to sleep, and he "every so often" will have a good night's sleep after the tiredness "builds up", he said, "most of the time that doesn't happen". This participant said his mind tends to be quite active when trying to sleep – "irrelevant things". Although his lack of sleep can be a cause for worry, he does not experience tension or anxiety - "only anxiousness about not getting to sleep". In the daytime, he becomes "pretty tired", but he is generally unable to take a nap. He makes an effort to get more things done during the morning when he is not so tired. If he is really tired, this participant notices that his eyesight is not as good as it should be and he is forced to wear glasses when reading. He explained, "whereas, if I'm not tired, I don't need them". He also experiences a "shake in his head", "a sort of wobble" if he is tired and/or cold, but he is physically well apart from this.

Participant B was asked to imagine that he had never experienced any difficulties sleeping. The only difference he thought this might have made to his life is that he would have "more energy to get a few more things done". He admitted that his mood is probably "a little more grumpy and a little less accommodating" due to

his insomnia, but he also said, "I don't think I have missed out on anything" and "I just live with it now". Despite being affected by his parents' divorce, his father's death when he was aged 10, and four family members being afflicted with a hereditary brain aneurysm (including his sister), this participant reported that he has never suffered from depressive symptoms. He suggested that this is because he tends not to worry about things too much and he accepts that things go wrong at times, adding, "if I can do what has to be done I will do it, or say I can't" and "I don't think something like losing a job would make me depressed". He did not rule out the possibility of being affected by depression "if one of the kids became really sick or there was a death there or something like that". Participant B has never sought treatment or taken medications specifically to treat insomnia. He reported that his mother "doesn't sleep very much", but she is the only family member that he considered to have potential sleeping problems. He has tried only a few methods to try and sleep better, including progressive muscle relaxation, which works for him "occasionally" and reading. When shown a list of depression symptoms, this participant rated insomnia (most prevalent) and 'Difficulties Thinking or Concentrating and Indecisiveness' (least prevalent) as the only symptoms affecting him currently and throughout his lifetime, and impacting on his daily functioning and sense of wellbeing. His sleep disturbances were considered the cause of the other reported symptom.

Participant C (Female, 54)

This participant appeared to the interviewer to be an open and jovial character. She had been formally diagnosed with depression some 19 years ago and has reportedly suffered from transient bouts of insomnia since she was a child. She reported experiencing mainly sleep-onset and middle insomnia (with most difficulties

relating to falling asleep and waking up four to five times during the night, and rising at around 6am). She admitted to having some good nights (about 40 percent of the time) in between bad nights of three to four hours sleep, and to napping sometimes during the day. This participant also suggested that she sleeps better in the winter and that climate seems to influence her ability to sleep well.

From the discussions held it seemed that both her insomnia and depression are relatively mild in recent times, although she has experienced a few reactive episodes of more severe depression – the first time occurring after she was raped at age 17. Subsequent episodes have related to work stressors. Participant C stated that her insomnia first began in early childhood when she would occasionally wet the bed. She also recalled having difficulties at age eight when she developed shingles and times in her teenage years when she experienced difficulties sleeping due to worrying about school issues. She reported that, in more recent times, her mind is "going at a thousand miles an hour" when trying to sleep, and she associated both her ongoing insomnia and depressive symptoms with work-related stress: "I suppose because I am a single woman I have had to rely on my work so much... having to pay all of the expenses myself, so my job is very important to me. I always have a fear of being sacked", "When I don't have to go to work I seem to sleep okay". Despite this, she also stated: "If I'm excited I don't sleep. If I'm on holidays I don't because of the excitement". She reported that all of her three siblings have had long-term difficulties sleeping, but she was unable to recall whether or not her (now deceased) parents also did. When asked about a family history of depression or other mental illnesses, she described her entire family as "moody" and "volatile", with "highs and lows". She thought her brother might have clinical depression.

Participant C currently takes Efexor (Venlafaxine) medication to manage her depression, and she is also prescribed Temazepam and Stilnox (Zolpidem) to help her sleep, but she says one script of 25 tablets would last her six or seven months. She was uncertain whether Efexor also alleviated her insomnia, but she did not think it contributed to it. Although this participant reportedly has animals that sometimes wake her, and she consumes alcohol and nicotine on occasion (she is not currently smoking and does not drink alcohol routinely), she did not seem to think that these factors contributed to her insomnia or depression. The impact of depression on this participant's life was – like the aetiology - associated with work issues and "not liking the boss". Alongside other symptoms, she reported having had long-term difficulties with physical agitation ("I can't sit still"). When asked if there have been other ways it has impacted her life, she replied, "No, no. I think I do whatever I want to do. I'm pretty selfish being a single person". The impact of insomnia was also related to work: "I actually went home from work the other day early...very vague...I had a headache and I hadn't slept well the night before". She also reported that her resultant tiredness causes her to be "moody", "grumpy", "snappy", "agitated" and "shitty". However, when asked how her life might be different if she had no difficulties sleeping, she seemed to think there probably would be no difference, aside from her mood and "a bit of lethargy" the next day. She also suggested that her experience of depression would be exactly the same whether she had insomnia or not. This participant did not consider there to be a relationship between her insomnia and depression, even with the knowledge that insomnia is commonly a symptom of depression. She did not think that sleep disturbances may have played a role in the initial onset of her depression, nor did she see insomnia as a sign that she may be at risk of a depressive episode. When asked to explain why she considers the conditions

to be independent she stated: "well, insomnia, it could make me feel a bit depressed but I don't think that's depression". When asked about her thoughts relating to insomnia as a secondary diagnosis she said, "I think it's the major, major. I hate being tired".

Participant D (Male, 47)

Although rapport was easily established with this participant and he laughed on several occasions, his mood seemed sombre throughout much of the interview. Given that he reported an additional diagnosis of "a sort of PTSD" following a near-death experience and substantial injury occurring two years prior to the interview, it was agreed that his experiences of insomnia and depression following this incident would not be considered in the context of the present study. He reported having had depression since his teenage years, and insomnia since he was about 11 years of age. His insomnia was described as more transient than persistent, and his depression was associated with "about four or five" major depressive episodes per year, every year, since its initial onset. While he was unable to identify a particular reason why he began experiencing depression, at least two of his subsequent depressive episodes were considered reactive (e.g., occurring alongside his wife leaving him and extreme work-related stress). He described depression as "a big black cloud" moving over him, a sort of "physical thing you can feel and you can't stop it – it's like going down the road and you can't turn off". It was after his wife left him (in 2004) to be with one of her work colleagues that this participant was first prescribed the anti-depressant Fluoxetine by his general practitioner. Currently, he is not taking medication for depression, because he tried it again following his accident and it had adverse effects on his already disturbed sleep. He is currently taking sleep medication for the first time (formerly Temazepam, and now one per day of Avanza

[Mirtazapine], 30mg) with promising results in terms of relaxing him, but he said about Temazepam: "if disturbed I was awake though – up and about and fully with it".

When asked about his family history, this participant said that his father has got "a fairly big sleep disturbance issue at the moment" and that he has always been fairly active at night. His brother reportedly suffers from depression and his father is apparently "a fairly moody character". No other mental illnesses within the family were known of. Although this participant's work and sleep schedule has not always been conducive to having good sleep patterns, he reported having at least 15 years of his early working life with a regular schedule while still experiencing insomnia. He has experienced symptoms of excessive daytime sleepiness but does not generally take naps during the day. He attributed this daytime sleepiness to insomnia more than depression, but he added that, when depressed, "there have been times when I've been really, really down and just wanted to pull the covers over my head and sleep".

Participant D has reportedly suffered from a combination of sleep onset insomnia, middle insomnia and terminal insomnia, and he laughed at the idea of being able to fall asleep within 20 minutes. His usual method of trying to sleep is reading a book. However, he said that if he is reading a really good book he will keep reading until the morning. He once read a large novel in 18 hours. This participant described his insomnia as "like jet lag. Your brain is just going and going and going and you can't get to sleep, and it's five or six in the morning". When working during the day, he explained, "the last thing you want is to be wrecked... If you're trying to do some serious [work] it does not work at all", and, "after a night of insomnia you're a mess". Despite this, and having experienced "a month solid" of virtually no sleep, this

participant has always continued to go to work: "just got to do it". He described the impact of insomnia as "more annoying" than distressing.

When queried on his thoughts about the relationship between insomnia and depression, this participant seemed very uncertain: "It's not something that I have been aware of. I don't really dwell on cause and effect things... so it's really difficult for me to answer". He was asked if he thinks that his sleep disturbances may have played a role in the initial onset of his depression, to which he responded: "I couldn't say. Really interesting thought". This participant reported remembering times when he had experienced both insomnia and depression at the same time and initially suggested ("thinking about it that way") that the two might be linked, but he added, "But it's not exclusively linked to it because I have had it [insomnia] at other times when I am not depressed". He also reported having been depressed without having any difficulties sleeping - "Let's say 50% [of the time]", despite seeming uncertain of this, and he also said that he sees the two conditions as being two separate things for him: "sometimes they occur at the same time but generally they have been a separate event", "independent, but they can go hand in hand at times". This participant admitted that his insomnia has been known to worsen his depression: "on top of all the other issues I was confronting it brought on a big crisis". He was unsure whether his depression might worsen his insomnia symptoms: "I don't know about worsen. When you're awake, you're awake, but yeah, you can be awake badly".

Participant D agreed that he would still likely suffer from sleep disturbances if he no longer had depression, and he suggested that dealing with depression would be "a lot easier" if he did not have insomnia: "you're not feeling wrecked from lack of sleep and you're able to look at things with a clearer mind and try to deal with them. When you're bone tired, when you're really, really exhausted – it's not just the

physical side, it's the mental side that really ratchets things up another level – I think it would have made dealing with the episodes a lot easier".

Participant E (Male, 65)

This participant talked openly throughout the interview, in a very helpful and matter-of-fact manner, and seemed to be a very strong-willed and unique character. He reportedly developed insomnia in 1987 following a commitment to a lengthy work schedule, and he then had what was described as a "reactive" depression approximately nine to 12 months later. His insomnia has been ongoing and chronic ever since this time, and he did not know why it continues. Despite describing himself as being in a constant, work-related state of mild anxiety, he does not consider himself to have a particularly overactive mind when trying to sleep. He considers the two conditions to be independent, with both represented as a primary condition for him: "they've each got a stand-alone value", "they are of equal reduction in quality of life". He said that he had never been depressed without having any difficulties sleeping and that he does experience insomnia without any other co-occurring depressive symptoms. Sleep disturbances were not considered to play a role in the initial onset of depression for this participant.

Participant E described his depression as a "reduction in quality of life". He said he tends to become very "insular and withdrawn" and "mentally fragile" due to past hurts. He explained that he is well educated psychologically (despite no formal training), and that this helps him to understand and manage the depressive symptoms he has experienced over the years: "it's almost like I'm mentally rehearsing... that you can foresee what's coming. You become more analytical with life's experiences and you're not as reactive. You just tend to emotionally step back a bit". He added, "I believe by self-education I can modify how I think" and "without the education I

have given myself – this is psychological education – I could have been exposed to much more serious symptoms".

Despite no family history of insomnia and mental illnesses, and having had medical checks that have confirmed no physical and neurological abnormalities, this participant only sleeps for two hours in a 24-hour period. He reported just recently having no sleep for three days. One health professional reportedly said to him 'short of giving you an anaesthetic, you will not go to sleep'. This participant said that, irrespective of the time he lays down to go to sleep, he will wake around two hours later, and he is never able to go back to sleep. Although this participant is substantially sleep deprived, he said he hasn't allowed it to affect his working life: "I ignore it as an entity... I don't confront it... I don't allow it to affect me". He described being very regimented and having coping structures in place, which ensure he is able to work. This participant described his work as his life: "There is nothing outside of work", "I live where I work", "a normal day is 5.30am until midnight, seven days a week, 365 a year". He later admitted that his insomnia impacts him in terms of having "minimal energy to expend". He is therefore forced to "appropriate" his energy to what he needs it for, and he explained, "anything superfluous outside of that I just shut off, it doesn't exist". He added, "I've had to develop life skills to still be here now – to operate at this level – because there is no reserves of anything".

Participant E said that he now sleeps in a different bedroom to his wife due to his atypical "shallow" sleep, and he mentioned that his marriage might have been enhanced if he did not have insomnia. He also suggested that he would be more "mentally alert", "less intolerant" and that he would have a brighter disposition if he were able to sleep more. He explained that he is very considerate to his wife and is conscious of not impacting her quality of life, but he said she would sometimes

encourage him to talk about it. He reported describing his feelings about insomnia to his wife as follows: "I just wanted to be disassembled and put in drawers and in the morning reassembled". He reported that his "distress" resulting from insomnia has largely related to "extreme resentment" over having to go to bed, which he described as laying down on a "platform" until the clock says it is time to get up. At times he has had "such an aversion" to bedtime, and he likened his ability to sleep with that of an AFL football player's ability to sleep during a football game.

Participant F (Female, 52)

This participant, who has suffered from long-term and ongoing insomnia as well as depression, talked openly and seemed at ease throughout the interview. She had a sombre manner and was a little tearful at times. She recalled having insomnia since her teenage years when she attended 'matric', and suggested her insomnia might be because she "can't do a regular sleep pattern...it's almost like you've got to be absolutely dead tired before you can actually go to sleep". She suggested that another reason for her insomnia (and her depression) might be because she has a tendency to "worry unnecessarily over something that shouldn't require that much worry or any worry at all". When asked how her life might be different without insomnia, she explained that she would probably be more relaxed, happier, and even more confident: "I think it does knock your confidence around a lot". After "sort of managing it" and "just hanging on the hairline" for a number of years, this participant has recently had to resign from work, which has created "another stress", because of the physical dangers associated with her lack of sleep. On some occasions, this participant has been unable to sleep for a couple of days. She has most difficulty falling asleep, and often goes to bed late in the evening because there seems to be no point trying to sleep earlier in the night. She also often wakes during the night and

wakes too early in the morning (typically between 2am and 4am). She reported that she would soon be attending a sleep clinic to investigate her problem further. Despite no family history of insomnia or depression, this participant did have some concerns that her son may also experience sleeping difficulties and mentioned that her mother may have also.

Participant F first experienced depression in the late 1980s when she was around 30 years of age. Although she was uncertain about why she might have depression – "I haven't really got to the point of... working it all out yet" - she said it became "more prolonged" at around age 40 after the successful treatment of one of her children who was diagnosed with cancer. She also described having been in a "very negative relationship" for many years with a "controlling" partner, which has now ended, and this was also associated with her ongoing depression. Experiencing situations that are outside of her control seemed an important factor in this participant's depression, and when this was put to her she said, "yeah, and that's what the depression does: it takes almost everything away, and there's nothing left, and you just fight your way back".

This participant described depression as having "a changed outlook on things" and she added, "you just get into a big sort of hole". She said, "it alters your perception of everyday life" and then suggested that even the weather may be a factor for her: "you feel lighter when there's more light and you feel darker when you're living in a dark environment". The impact of her depression has been that "minute things can be big things", and she has been known to spend "all day crying" about relatively minor issues and not wanting to face another day. In the context of discussing suicidal thoughts, this participant indicated that having children is a good thing, because "when you have your kids, that's important, because then you can say

they need you". Although she has briefly taken anti-depressant medications in the past, this participant described being "nervous" about taking medications because of the potential "hold they're going to have on you". She has tried to use the principles of cognitive-behavioural therapy (obtained from Beyond Blue information and on DVD) to assist her in challenging negative thoughts, which she considered to be associated with her depression: "a person tries to maybe think too much, I don't know, but you try to fight it with your mind".

This participant was asked to imagine how her experience of depression might be different if she did not have insomnia. She suggested, "it might allow you to get on top of it. I think you would probably feel a lot healthier – healthier mentally, I think, getting to sleep". Of interest is that this participant could see a positive side to insomnia in that her subsequent tiredness provides a "form of escape", which she likened to someone using drugs. But she mentioned that it comes back to an avoidance of the "full reality of a terrible situation". She said: "you've got all your worry and stuff, but if you're tired that means you can switch off", "when you don't want to be in the situations that you are really in – say you're in a group thing where you can't escape – you can not be there" and "...it's your way of removing yourself from other people".

When considering whether there is a relationship between her insomnia and depression, this participant said, "...I thought 'I don't know which one comes first' but I think the insomnia did come first, so I would say perhaps that was more a contributing factor, or one of them." She suggested that her insomnia is also "probably one of the factors that prevents really successfully getting on top of it [depression]". Referring to her insomnia, this participant explained, "I think that goes with it [depression], because in that process you're either avoiding the next day

because you don't want to face another day or you haven't really finished with what you're doing". She thought that her depression may worsen her insomnia and vice versa ("because you've lost all of your strength"), but she was uncertain about a possible cause and effect relationship. She reported having had insomnia without any other depression symptoms and said she thought she would still suffer from insomnia if she did not have depression, but she was not sure that she had ever been depressed in the absence of insomnia. This participant did not see insomnia as a secondary symptom of depression, but rather as a primary condition and a potential warning sign for depression: "I think probably insomnia would be the precedent".

Participant G (Male, 44)

This participant has a severe speech impediment, and it seemed like a big step for him to come along to the interview. Although he seemed relatively relaxed and he talked openly throughout the interview, he was tearful on occasion. Participant G has suffered from a long history of major depressive episodes, which were formally diagnosed when he was around 30 years of age. He reported being hateful toward his general practitioner following the diagnosis, as he used to think that depression referred to someone who had "something missing in their head". He now holds the view that "anyone can" be affected by depression, and he stated that "we humans are all very fragile things". Despite a tendency to have thoughts racing through his mind when trying to sleep and being bothered occasionally at night by mild anxiety and tension, this participant does not suffer from insomnia. He reported having a bad night of sleep probably once per month and said he typically has between six and eight hours of sleep most nights. He didn't consider sleep problems to be a sign of a depressive episode, and he speculated that he has probably never had problems sleeping because he has always worked hard physically. This participant may be

considered fortunate to have avoided sleep difficulties, given his depression and his lifestyle, which is not all that conducive to sleep (e.g., he smokes cigarettes, he has had a pain condition, he drinks alcohol and smokes marijuana on occasion, he does not engage in much physical activity outside of his work, and he seems to enjoy an irregular schedule).

Currently, this participant does not take medication to treat his depression, and in the past he has been prescribed Zoloft (Sertraline) and Xanax (Alprazolam), which were minimally effective. He reported using marijuana for a while, which was the most effective substance for him in terms of pain relief and lifting his mood. He said of his wife: "she often would like me back on it because of my mood". This participant has no knowledge of his family's history, as he was adopted and lived in an orphanage until he was five years of age. His memory of the orphanage is poor: "I just have a few vivid flashbacks, but nothing nice". It seemed upsetting for him to discuss this matter, and he considered it a potential contributor to his depression. He stated, "when I regularly hear that the first five years are the most important, you think 'well, shit' my first five years I've got no idea".

In addition to describing an unhappy marriage and alluding to an unconventional sex life, which have an impact on his mood, this participant considered his speech impediment to be the main reason he has depression. He recalled feeling "ashamed" and "incompetent" in his early school years, and he said tearfully, "school is obviously a big thing because kids can be extremely cruel." He added, "I would have thought that 'I'm older now, I don't care as much' but it's one of those deep down things". When his daughter was learning to speak and initially showed some speech difficulties, he recalled that "it scared the shit out of me", but fortunately her speech progressed normally. His fears that she may have had to face

similar issues as he did seemed to concern him greatly. This participant said that he was currently experiencing thoughts about suicide more commonly than in the past, but this was the least prevalent symptom of his depression after sleep disturbances. His difficulties with depression reportedly affect him "every day" of his life, and especially when he was in school when he worried about how he appeared to others. He also complained about ongoing anxieties about his speech impediment and a "lack of help, lack of understanding".

Participant Symptoms

Table 2 shows the order of symptom prevalence (limited to DSM-IV listed symptoms of a Major Depressive Episode) and impact as perceived by each participant. Participants, when given the opportunity, added no additional depressive symptoms. All reported sleep disturbances were described to be insomnia-related, and there were no cases of hypersomnia experienced in the context of depression or otherwise. Symptoms described as 'Depressed or Low Mood' and 'Loss of Interest or Pleasure in Usual Activities' were considered by participants on the basis that they occur for a period of around two weeks duration (e.g., rather than coming and going across the course of a day).

Table 2.

Depressive Symptom Prevalence (Current and Lifetime) and Impact as Perceived by Participants A to G.

	Participants' (A to G) Ratings (1-7)																				
	Current Symptom Prevalence (numerical order of prevalence)							Perceived Lifetime Prevalence (numerical order of prevalence)							Impact on Daily Functioning & Sense of Wellbeing (numerical order of impact)						
Symptom	Participant							Participant							Participant						
	A	B	C	D#	E	F	G	A	B	C	D	E	F	G	A	B	C	D	E	F	G
Depressed or Low Mood for 2+weeks	*NA*	*NA*	*NA**	*1*	*NA*	*4*	*3/4*	*NA*	*NA*	*4*	*1*	*5*	*1*	*2/3*	*NA*	*NA*	*1*	*1/2*	*5*	*1/2*	*2/3*
Loss of Interest or Pleasure in Usual Activities for 2+weeks	*2*	*NA*	*NA**	*NA*	*2/3*	*3*	*2*	*NA*	*NA*	*5*	*5*	*2*	*2/3*	*2/3*	*NA*	*NA*	*3*	*5*	*2*	*3/4*	*2/3*
Unusual Difficulties Thinking or Concentrating and Indecisiveness	*NA*	*2*	*1*	*2*	*2/3*	*1/2*	*1*	*NA*	*2*	*1/2*	*3*	*3*	*5/6*	*1*	*NA*	*2*	*2*	*3*	*3/4*	*3/4*	*1*
Physical Slowing or Agitation in Movement and/or Speech	*NA*	*NA*	*3*	*NA*	*4*	*5/6*	*3/4*	*NA*	*NA*	*3*	*NA*	*4*	*5/6*	*4*	*NA*	*NA*	*NA*	*NA*	*3/4*	*NA*	*4*
Weight Changes (when coinciding with other symptoms)	*NA*	*NA*	*NA*	*NA*	*NA*	*5/6*	*5*	*NA*	*NA*	*6**	*NA*	*NA*	*4*	*5*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*5*
Thoughts about Death or Suicide	*NA*	*NA*	*NA*	*3*	*NA*	*7*	*6*	*NA*	*NA*	*NA*	*4*	*NA*	*7*	*6/7*	*NA*	*NA*	*NA*	*4*	*NA*	*NA*	*6/7*
Sleep Disturbances (only Insomnia was reported)	*1*	*1*	*2*	*4**	*1*	*1/2*	*7*	*1*	*1*	*1/2*	*2*	*1*	*2/3*	*6/7*	*1*	*1*	*4*	*1/2*	*1*	*1/2*	*6/7*

NB: NA = Not Applicable; Some symptoms have been rated equally by individual participants;
** = medication influence; # = also consider effects of recent PTSD diagnosis*

As shown in Table 2, Participants D and F, who were two of the four participants suffering from both insomnia and depression, rated insomnia and depressed/low mood as the symptoms that equally have the greatest impact on them in terms of their daily functioning and general sense of wellbeing. Participant E rated only insomnia as having the greatest impact, but this participant has reportedly been managing his depression well. The other of these four participants (Participant C) had milder cases of each condition, and she rated depressed/low mood as having the greatest impact. All participants, with the exception of Participant A, noted a relatively high prevalence and impact relating to Unusual Difficulties Thinking or Concentrating and Indecisiveness. But, even when allowing for participants who do not have a depression diagnosis, insomnia heralded the highest ratings for perceived symptom prevalence across their collective lifetime. For Participant G, who suffers only from depression, insomnia and/or sleep disturbances was rated as the symptom having the least lifetime prevalence and impact, alongside suicidal ideation.

Order of Symptom Onset

In terms of timelines and the order of (lifetime) symptom onset, all four participants with both insomnia and depression rated insomnia as the first symptom/condition to present in their life. When asked about the timing of insomnia in terms of individual depressive episodes, these participants either noted that they had chronic insomnia anyway or that they were uncertain as to whether it appeared before, during or after other symptoms of depression. Only Participant C thought that insomnia might present before and during a depressive episode, but not after, and despite this she did not consider insomnia to be a sign of ensuing depression. While Participant F was uncertain about the order of symptom onset for subsequent

depressive episodes, she did consider insomnia to be a potential "warning sign" of depression.

Other Considerations

None of the participants considered alcohol intake, exercise patterns or international travel and jet lag to be factors influencing their sleep. Nor did they consider external factors, such as noise from children, pets or neighbours, to serve as contributors to their insomnia. However, many of them reported that others have complained at times about their sleep habits and/or their subsequent mood. Sleep pattern changes based on age were non-existent for all participants, with the exception of the youngest participant who reported that his insomnia had perhaps worsened a little over time. Any medication-related observations have been reported above on a case-by-case basis. Differences in opinion based on severity were minimal. Despite a greater intensity of symptoms, greater distress and impact on functioning, those participants with more severe insomnia and/or depression did not see the nature of the relationship between insomnia and depression to be much different to those with less severe presentations. Only one participant (with more severe insomnia and depression), Participant F, suggested that each condition might exacerbate the other. While the other participants saw the conditions as independent, Participant F was less certain of this. However, at one point during their respective interviews, Participant D mentioned that the two conditions go "hand in hand" at times, and Participant E made contradictory statements such as "[the insomnia] is driving the whole issue" and "they're all interlinked". In fact, despite earlier assurances that his insomnia and depression were independent and unrelated 'primary' conditions, Participant E later reported that his sleep disturbances likely make him "susceptible to the symptoms of depression or low mood".

Discussion

This study aimed to further explore the phenomenology of insomnia in the context of unipolar forms of depression, and particularly the extent to which insomnia is considered secondary and/or prodromal to depression.

All but one participant with insomnia reported symptom onset prior to adulthood and, for those diagnosed with additional depression, the insomnia was apparent prior to any other depressive symptoms in all cases. Three of the four participants with both insomnia and depression considered the conditions to be independent, despite their common co-occurrences, and the other participant seemed uncertain about whether they were related in some way. Two of these participants made further statements that contradicted their view that the conditions are unrelated. It is possible that the interview questions influenced later responses, or the questions may have allowed participants to see things from a new perspective.

Insomnia was not considered to be 'secondary' to depression, or vice versa, by any of these participants. Rather, insomnia was seen as a primary condition like depression. This highlights the importance of specifically targeting insomnia in treatment settings. Although evidence-based therapies aimed at treating depression often overlap with those targeting insomnia (such as cognitive-behavioural therapy), it should not be assumed that clients are able to generalise interventions to each condition without direction.

Despite viewing insomnia as a primary condition, and despite the reported prevalence and impact of insomnia on daily functioning and sense of wellbeing, not one participant had sought a formal diagnosis, nor a non-medicinal intervention to improve their sleep in the long-term. In contrast, all cases of depression had been formally diagnosed, and greater attempts had been made to manage the associated

symptoms. However, many of the participants seemed unaware that insomnia is a common symptom of depression. Only one participant was currently taking steps to investigate her sleeping problems further (by booking into a sleep clinic), yet this participant had reached the point of foregoing her employment and leaving her marriage before any action was taken.

The participants in this study did not assign priority to their insomnia symptoms over their depressive symptoms in terms of distress, and the majority of insomnia cases (including those who did not have depression) almost seemed to accept it as part of their identity and their everyday life. It therefore seems that the impact of insomnia may be overlooked or underestimated when compared to depression. It may be argued that this supports the view that insomnia is commonly trivialised when compared to conditions such as depression (Harvey, 2001). Despite 'wobbly legs' during the day, poor eyesight, and admissions that relationships might be improved, work-related pursuits would be easier and that greater happiness would be achieved if their insomnia were remedied, the majority had learned to live with the impact and considered their general lifestyle to be as it would be without any sleep complaints.

Many of the reported repercussions of insomnia, including mood changes, low tolerance, and even seeking isolation, are akin to symptoms that are typical in depression. It may be argued that such findings add weight to the idea that insomnia and depression are related to the same underlying pathology. Pathophysiological examples of this are seen in findings that abnormal cortiocotropin releasing factor (CRF) activity occurs in MDD, as well as mediating the hyperarousal seen in primary insomnia (Roth, Roehrs & Pies, 2007). In addition, having an overactive mind (e.g., running through scenarios and replaying incidents) was reported by the

majority of participants in this study, whether they had insomnia, depression or both conditions. Given that stress and related overactive cognitions have long been implicated as potential causes of both insomnia and depression, it could be argued that the subsequent symptoms simply present differently (e.g., insomnia versus depression, or both) in different people.

As well as refuting the idea that insomnia could be a secondary symptom or diagnosis in each of these cases, there was limited support for the idea that insomnia presented as a prodromal sign of depression. Only one participant suggested that a prominent bout of insomnia might signify the return of depression, whereas the remainder of participants did not seem to have considered the possibility of a relationship between the conditions (or they had at least not dwelled on the idea) prior to participating in the study. Further, the initial onset of insomnia occurred well before the initial onset of depression in each instance, with the exception of one case that involved onset of both conditions in the same year. This one individual was very definite about the timelines, and given that his depression followed an obvious precipitant it is unlikely that his insomnia was a prodromal factor. It may still be argued that having insomnia can predispose some individuals to depression, however. That is, the presence of insomnia and its impact, particularly on mood, may create a susceptibility to other problems. Well-known risk factors for depression include stressful life events, neurotic personality traits, and cognitive- and health-related impairment (Fiske, Wetherell & Gatz, 2009). While insomnia may also be regarded as a risk factor in its own right, the condition also shares many of these other risk factors.

School- and work-related stressors were a predominant topic of conversation in this study, in terms of both impact and potential cause of insomnia and depression.

The stressors associated with teenage school years were a cause for concern for at least four of the seven participants, and a further two participants cited their school-age years to be around the time they first experienced insomnia. This has implications in terms of highlighting the importance of early intervention for sleep complaints. In support of this are previous findings that sleeping difficulties and school-related stressors in adolescence are associated with subsequent depression. For example, in a study involving 1300 medical students, those who reported insomnia or poor quality sleep were at twice the risk for clinical depression than those with no sleep disturbances, even after controlling for class year, parental history of depression, and temperament (Ford & Cooper-Patrick, 2001). In a study involving data collected from 15,659 adolescents and parents, those with earlier bedtimes were significantly less likely than those with later bedtimes to suffer from depression and to think about committing suicide (Gangwisch et al., 2010). Correcting misperceptions about the effects of sleep loss, and discussing the implications of persistent sleep problems and the controllability of sleep has been found to be efficacious in reducing sleep problems in adults (Alfano et al., 2009). Given that persistent sleep problems may exacerbate problems for adolescents and ultimately contribute to the development of affective disorders (Alfano, et al.), such measures should also be undertaken with adolescents and their parents. However, further research would be beneficial to investigate whether the common features of insomnia in school age years, such as the presence of an overactive mind, are responsible for promoting affective disturbances or whether the effects of sleep deprivation (and not necessarily insomnia per se) are the main problem. The only participant in the present study to deny having a particularly overactive mind has only two hours of sleep per night, and he described having a later onset of chronic

insomnia (despite adding later that it has always been there) and seemed to be managing his depressive symptoms better than the other participants.

In the present study, it is important to consider any factors that are unique to the individuals suffering only from insomnia. In these cases, they had an over-active mind in common with the other participants, which is in line with cognitive hyper-arousal hypotheses relating to insomnia. However, it could be that the content of their thoughts made the difference: both participants with only insomnia reported thinking about mainly 'trivial' or everyday and realistic matters when attempting to sleep (although, one admitted that he commonly 'stews' over salient issues in his life, but countered this by reiterating that he generally has a very positive outlook),whereas those participants with comorbid depression seemed to have thoughts with consistently stressful and negative connotations. Some of them also reported doing a lot of 'unnecessary' and irrational worrying. Fiske, Wetherell and Gatz (2009) suggest that self-critical internal verbalisations, negative self-concept and rumination (an ineffective coping style that involves repeatedly but passively thinking about one's distress) are key cognitive factors associated with depression. Life circumstances are another important consideration. The participants with only insomnia had both a supportive family around them (partner and children) and highly fulfilling – yet seemingly less stressful – occupations. In fact, these participants were unique in that they seemed to have a quality of life involving many of the factors known to be 'protective' in terms of depression development. For example, they seemed to have socio-economic advantage, good emotional regulation, close social networks, and meaning and engagement in life. While the other participants enjoyed some of these factors in life, fewer applied or they experienced the extreme opposite

of one or two of these factors (e.g., minimal social networks and little engagement in life or limited education and socio-economic disadvantage).

The experiences of the participant who has suffered only from long-term major depressive episodes, serves as a reminder that depression – and even relatively severe forms of depression - can indeed exist in the absence of sleep disturbances. While this participant has endured a difficult battle in life with a range of depressive symptoms, including suicidal ideation, he related his lack of insomnia to simply having a very physical working life. It may be argued that this participant has experienced a largely reactive, as opposed to endogenous, form of depression, given his prominent speech difficulties and his childhood. However, given that his family history is unknown, the possibility of an endogenous depression cannot be ruled out either. Further research comparing endogenous and reactive forms of depression may be useful to address theories of a common diathesis underlying depression and related pathologies, including insomnia and anxiety. One previous study (Hinton, 1963) failed to find significant differences between patients classified with either reactive or endogenous depression ($N = 34$) on measures of sleep disturbance. However, those with a family history of affective illness had a greater reduction in length of sleep. The current participant with depression did claim to experience anxieties and to have an over-active mind sometimes when attempting to sleep. This indicates that having long-term major depression symptoms and negative, over-active cognitions at bedtime are insufficient for eliciting insomnia, at least for this individual. Unfortunately, the recruitment process of this study failed to bring forward any participants who suffered first from depression and later developed (comorbid or symptom-related) insomnia, which would have been useful for comparison purposes.

While the qualitative data gathering involved in this study is commonly achieved in therapeutic settings through client intake interviews, etc., the information obtained in a research context highlights important considerations for clinical practice and further investigation. The phenomenology of insomnia and depression, as investigated here, suggests that the nature of the relationship between these conditions is often not considered in any detail by those suffering from them. The present participants all experienced insomnia before depression and they largely considered them to be independent conditions. Insomnia was seen by participants to be a primary diagnosis, like depression, with similarly prevalent repercussions (yet the effects were generally not thought to be as intrusive as core depressive symptoms). There was also less effort on the part of participants to formally diagnose and remedy insomnia, suggesting that insomnia and its effects are more tolerable (or perhaps more acceptable) than depression, or there is little concern that its effects may lead to other problems. The importance of school and occupational stressors (including the absence of sufficient work) were highlighted as problematic in terms of the development and exacerbation of both conditions, despite a lot of uncertainty relating to potential causes of insomnia. Such findings suggest that targeting early insomnia symptoms should be a priority. Despite the view they are independent, reducing the likelihood of later depression by effectively treating insomnia cannot be ruled out, given that insomnia typically presented first. Through exploring the phenomenology of these conditions, it is acknowledged that this research has some limitations. Firstly, results cannot be easily generalised. Secondly, the self-report data collected does not provide a formalised assessment of objective versus subjective accounts of insomnia and depression. This may be particularly problematic when obtaining retrospective data, which may be

unintentionally skewed in light of more recent experiences. For example, although age-related influences on insomnia were considered to be a non-issue for these participants, age could still serve to compound their sleep-related complaints without their awareness. Also, the participant recently experiencing symptoms of post-traumatic stress may have insufficiently disregarded his trauma-related symptoms for the purposes of this research. Finally, while every effort was made to avoid interviewer and interpretation biases, the semi-structured nature of the study and the absence of corroboration mean that the robustness of interpretation may be disputed. As such, the verbatim interview transcripts are appended for further scrutiny. Further research investigating the nature of the relationship between insomnia and depression should consider the complex interplay between life circumstances (and the presence of risk and protective factors), the content of over-active cognitions (in general and when attempting to sleep), and endogenous versus reactive forms of depression, as well as considering differences between insomnia and sleep deprivation in the context of depression.

References

American Psychiatric Association (2000). Diagnostic and statistical manual of mental health disorders (4th ed., text revision). Washington, DC.

Australian Bureau of Statistics (2007). *National Survey of Mental Health and Wellbeing: Summary of Results 2007*. Canberra: ABS.

Alfano, C. A., Zakem, A. H., Costa, N. M., Taylor, L. K., & Weems, C. F. (2009). Sleep problems and their relation to cognitive factors, anxiety, and depressive symptoms in children and adolescents. *Depression and Anxiety, 26*, 503-512.

Buckner, J., Bernert, R., Cromer, K., Joiner, T. & Schmidt, N. (2008). Social anxiety and insomnia: the mediating role of depressive symptoms. *Depression and Anxiety, 25*, 124-130.

Drake, C. L., Roehrs, T. & Roth, T. (2003). Insomnia causes, consequences and therapeutics: an overview. *Depression and Anxiety, 18*, 163-176.

Espie, C. A. (2002). Insomnia: conceptual issues in the development, persistence, and treatment of sleep disorder in adults. *Annual Review of Psychology, 53*, 215-43.

Fiske, A., Wetherell, J., & Gatz, M. (2009). Depression in older adults. *Annual Review of Clinical Psychology, 5*, 363-389.

Ford, D. E. & Cooper-Patrick, L. (2001). Sleep disturbances and mood disorders: an epidemiologic perspective. *Depression and Anxiety, 14*, 3-6.

Gangwisch, J. E., Babiss, L. A., Malaspina, D., Turner, J. B., Zammit, G. K. & Posner, K. (2010). Earlier parental set bedtimes as a protective factor against depression and suicidal ideation. *Sleep, 33(1)*, 97-106.

Hall, M., Buysse, D. J., Dew, M. A., Prigerson, H. G., Kupfer, D. J. & Reynolds, C. F. (1997). Intrusive thoughts and avoidance behaviours are associated with sleep disturbances in bereavement-related depression. *Depression and Anxiety, 6*, 106-112.

Harvey, A. G. (2001). Insomnia: symptom or diagnosis? *Clinical Psychology Review, 21*, 1037-1059.

Hinton, J. M. (1963). Patterns of insomnia in depressive states. *Journal of Neurology, Neurosurgery and Psychiatry, 26*, 184-189.

Jindal, R. D., Friedman, E. S., Berman, S. R., Fasiczka, A. L., Howland, R. H. & Thase, M. E. (2003). Effects of sertraline on sleep architecture in patients with depression. *Journal of Clinical Psychopharmacology, 23*, 540-548.

Krystal, A. D. (2005). The effect of insomnia definitions, terminology, and classifications on clinical practice. *Journal of American Geriatrics Society, 53*, 258-263.

Lichstein, K.L. & Fanning, J. (1990). Cognitive anxiety in insomnia: an analogue test. *Stress Medicine, 6*, 47-51.

Nowell, P. D. & Buysse, D. J. (2001). Treatment of insomnia in patients with mood disorders. *Depression and Anxiety, 14*, 7-18.

Riemann, D. & Voderholzer, U. (2002). Consequences of chronic (primary) insomnia: effects on performance, psychiatric and medical morbidity – an overview. *Somnologic, 6*, 101-108.

Roth, T., Roehrs, T., & Pies, R. (2007). Insomnia: pathophysiology and implications for treatment. *Sleep Medicine Reviews, 11*, 71-79.

Sadock, B. & Sadock, V. (2007). *Kaplan & Sadock's Synopsis of Psychiatry* (10th ed.). Philadelphia: Lippincott Williams & Wilkins.

Szuba, M. P. (2001). The psychobiology of sleep and major depression. *Depression and Anxiety, 14*, 1-2.

Vaccarino, A. L., Evans, K. R., Sills, T. L. & Kalali, A. H. (2008). Symptoms of anxiety in depression: assessment of item performance of the Hamilton anxiety rating scale in patients with depression. *Depression and Anxiety, 25*, 1006-1013.

Vincent, N. & Walker, J. (2001). Anxiety sensitivity: predictor of sleep-related impairment and medication use in chronic insomnia. *Depression and Anxiety, 14*, 238-243.

Voderholzer, U., Al-Shajlawi, A., Weske, G., Feige, B. & Riemann, D. (2003). Are there gender differences in objective and subjective sleep measures? A study of insomniacs and healthy controls. *Depression and Anxiety, 17*, 162-172.

Appendix A: Information Sheet and Consent Form

PARTICIPANT INFORMATION SHEET
SOCIAL SCIENCE/ HUMANITITES
RESEARCH

Insomnia-related Sleep Disturbances and Depression

Invitation

We would like to invite you to participate in a research study being conducted in partial fulfilment of the requirements of a Master of Psychology Degree for Penny Minehan who is being supervised by Dr Frances Martin, Deputy Head of School (School of Psychology, University of Tasmania).

1. 'What is the purpose of this study?'

The aim of the research is to investigate the nature of the relationship between insomnia and depression.

2. 'Why have I been invited to participate in this study?'

You are eligible to participate in this study because you fit into one of the following groups.

- You have insomnia but not any other medical or psychiatric conditions;
- You feel depressed and have insomnia symptoms;
- You have been diagnosed with any form of unipolar depression;
- You have been diagnosed with recurrent major depressive disorder, which includes insomnia as a symptom.

If you have noticed any changes to your sleep that are likely to be age-related, or if you have any of the following issues, you should not volunteer to participate in this study:

- Mental illness (except for depression and major depressive disorder);
- Excessive substance use (prescribed medication for depression and mild medical conditions is suitable);
- Chronic general medication conditions that may disrupt normal sleep (i.e., severe back pain or tinnitus).

3. 'What does this study involve?'

If you decide to participate in this study you will be involved in a confidential interview of approximately one hour duration at the University of Tasmania. With your permission, we would like to tape-record the interview. You will be asked some questions relating to your experiences of insomnia (and your insomnia symptoms in the context of depression if this applies).

It is important that you understand that your involvement is this study is voluntary. While we would be pleased to have you participate, we respect your right to decline. There will be no consequences to you if you decide not to participate, and this will not affect any treatment you might be undergoing or your service from any agency. If

you decide to discontinue participation at any time, you may do so without providing an explanation. All information will be treated in a confidential manner. Your name will not be used in any publication arising out of the research. All of the research will be kept in a locked cabinet in the office of the Chief Investigator, Dr Frances Martin.

4. Are there any possible benefits from participation in this study?
Benefits resulting from participation in this study potentially include greater insight into the relationship between insomnia-related sleep disturbances and depression. It is hoped that the study will also generate some useful ideas and hypotheses for ongoing research into the relationship between insomnia and depression.

5. Are there any possible risks from participation in this study?
There are no specific risks anticipated with participation in this study. However, if you find that you are becoming distressed or uncomfortable you will be advised to receive support from a professional of your choice or alternatively, you can arrange to see a counsellor at the University clinic (Phone: 6226 2805) at no cost to you.

6. What if I have questions about this research?
If you would like to discuss any aspect of this study please feel free to contact either Penny Minehan via email: pminehan@utas.edu.au or the Chief Investigator, Dr Frances Martin, on ph 6226 2262 or email: F.Martin@utas.edu.au. Either of us would be happy to discuss any aspect of the research with you. Once we have analysed the information we will be placing a summary of the results on the Psychology web site which you can access at: http://fcms.its.utas.edu.au/scieng/psychol/. You are welcome to contact us at that time to discuss any issue relating to the research study.

This study has been approved by the Tasmanian Social Science Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study should contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. You will need to quote *HREC project number 10657.*

Thank you for taking the time to consider this study.
If you wish to take part in it, please sign the attached consent form.
This information sheet is for you to keep.

CONSENT FORM

Title of Project: **Insomnia-related Sleep Disturbances and Depression**

1 I have read and understand the 'Information Sheet' for this study.

2 The nature of this study's procedure and requirements has been explained to me.

3 I understand that the study involves undertaking an interview, during which I will be asked to respond to questions relating to my experiences of insomnia and depression, and this will take approximately one hour to complete. I am happy to have this interview tape recorded: Yes No (Please circle one)

4 I understand there are no foreseeable risks associated with this study, and I anticipate that I will comfortably be able to discuss my experiences of insomnia and/or depression confidentially.

5 I understand that all research information will protect participant confidentiality and will be securely stored at the University premises for 5 years following publication of the data. The data will be destroyed after this time.

6 Any questions I have asked relating to research participation have been answered to my satisfaction.

7 I consent that research information gathered for this study may be published, provided that I cannot be identified as a participant.

8 I consent to voluntary participation in this research and understand that I may withdraw at any stage without prejudice, and that any data relating to me may be withdrawn from the research upon request prior to the finalisation of the interview.

NAME OF PARTICIPANT _____

SIGNATURE OF PARTICIPANT _____

DATE: _____

NAME & SIGNATURE OF WITNESS (if applicable)

_____

I have explained this study and the implications of participation in it to this volunteer and I believe the consent to participate is informed and that the implications of participation are understood.

NAME OF INVESTIGATOR _____

SIGNATURE OF INVESTIGATOR _____

DATE: _____

Appendix B: Interview Introduction

Interview Introduction

You are here with me today to answer some questions as per the information sheet. You have provided informed consent and understand the confidential nature of this interview. [You consider yourself to have experienced depression without periods of mania or hypomania] and/or [To your knowledge, any sleep disturbances you have had are not a result of breathing-related sleep disturbances, parasomnias (such as nightmares and sleep walking) or a general medical condition that may contribute to sleep disturbance (such as restless leg syndrome, cramps, pain conditions). You do not think that physical anxiety symptoms (such as accelerated heart rate or shaking), heartburn/reflux, sweating/chills, headaches, nausea, need to urinate during the night, etc., are the usual cause for any insomnia you have experienced]. Your use of substances (other than non-excessive alcohol intake) is limited to any medications you are taking for either insomnia or depression (e.g., no substance abuse/dependence or use of illicit substances exists for you currently).

This interview will begin with some broad, open-ended questions, which you are asked to answer as honestly and informatively as possible. This section of the interview will be followed by some more structured questions, which are mostly to be answered with a simple yes or no (you may be asked to briefly expand on your reasons for the yes or no answer at times).

Appendix C: Interview Transcripts

Participant A

The Participant: *62 year old male who suffers from self-reported 'persistent and chronic' insomnia.*

Transcribing notes:

Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.

Red writing indicates interviewer

Black writing indicates interviewee

[Introduction provided]

Please tell me a little about your experience of insomnia and what it means to you in your life... Well I suffered from it for a long time, and what its meant has been that, well, my wife tells me I'm very grumpy when I'm tired, which I tend to be after long periods of not sleeping. So, for example this week I've just been making a mental note this week – its now Thursday – and every night this week I've gone to bed around 8.30, I've woken at about 12.30, and I haven't slept again either at all that night, or sometimes I will go off into quite a deep sleep around about sunrise, at about 6.30 in the morning at this time of year. So during that time I just lie there and think and I think a lot – my mind races about all kinds of things....issues that are affecting me at the time. I'm a person that does tend to get wound up about issues. If somebody deceives me or annoys me or something like that I will stew over it to some extent and those things play on my mind. Or I will think about all kinds of things – any number of things that are happening in my life or have happened in my life...stare at the stars and the moon out through the window. Eventually after a couple of hours I'll get absolutely sick of it and realise that I'm just not going to go to sleep so I'll get up and maybe – like this morning I just checked the emails and you know... Just to do something else? Just to do... yeah, play solitaire on the computer, have a drink of hot Milo in the hope that it will help me go to sleep, and then I'll go back to bed and lie there for hours and hours and hours more. And that's pretty much every night? Often. Until eventually... see, I've gone through four nights this week since the weekend, and of course this lack of sleep will tend to build up and build up and build up and then I'm just as likely as not to have a better nights sleep tonight. So you do tend to catch up? I can do. Well, I finish up exhausted, virtually mentally exhausted I suppose. I'm fairly physically active despite the shape I'm in. I walk a minimum of half an hour everyday and twice a week I will walk for four hours. What time of day do you do that? Well, the days I walk four hours that's when I'm playing golf, so around about 9 o'clock until after lunch. That's a good time. Is it? Yeah. And, like for example today, when I go back home tonight, my walks are generally in the late afternoon to early evening. Are they? Right. You don't seem to have any trouble getting to sleep though? No, I get off to sleep pretty quickly. And so, does it affect your functioning the next day, do you think? Well, I get a bit short and grumpy – so my wife tells me, and I realise I do, I'm less tolerant - it doesn't affect me much physically. I keep doing things. I'm retired so I'm not doing a normal days work, but then I wonder how I ever found the time to go to work because I'm doing so much during the day... It sounds like you keep pretty busy. Yes. Yeah, physically it doesn't overly affect me. I mean, I've been through all the sleeping pill type things trying desperately to be able to get sleep. But I don't take anything at all now, because I found when I was – and the doctor did give me some tablets to take which I can't even remember the name of – I felt like death warmed up the next morning. Oh, the after effect? Yes. I mean, they didn't help me – what I wanted, what I was hoping the doctor would be able to give me was something which would knock me out, which I could take and within an hour I would go to sleep. But I didn't. I'd still lie awake for two or three hours, and then I would go to sleep. And the next

morning I was still under the effect of these things, and I would just feel so awful when I would wake up in the morning. It was working when you didn't want it to. That's right.
So, just grumpy? You don't think your attention is affected, or your concentration, driving? Well, the only physical effect that I have noticed is that my eyesight deteriorates the tireder I get. I've only been wearing reading glasses for a few years now, but I'm finding that I'm using them more and more, but particularly as I get tireder. Even though I haven't slept well for the last four or five nights, I have no trouble reading this information (refers to information sheet), nor the magazine I was reading out at the waiting room. But, I struggle to read the newspaper at this time of the day because the print is smaller. Do you find you are able to concentrate on what you're reading? Well, I don't really spend much time reading during the day. The times that I do read is at night when I go to bed. I go to sleep a lot quicker. I rarely finish a chapter in a book when I read at night.
So when you were working... you had insomnia when you worked? Oh yes. How did it affect you then? Those things that I've already mentioned: being short with people; being snappy perhaps. So it's more of a mental thing. And does it worry you or distress you at times? Well yeah, I don't like it. I crave for the 'oblivion of sleep', if you like, sometimes. Because I feel that I need to sleep, and to be honest its pretty boring just laying there sleepless throughout all those hours. I often think about doing other things – like getting out and doing some physical activities - but I've read in articles that I've read on sleep that its not good to go out and do physical activity. Yeah, exercise is good for sleep but not... but yeah, not at the time you're trying to sleep. And I've been through every, every, conceivable technique that people have suggested to me. Like, for example, going through the letters of the alphabet and putting a name to every one; imagining that I'm standing on the shore with the waves lapping at my feet; imagining that I'm standing at the bottom of the hill and looking up; going through all the colours of the.... yeah, you know, the counting sheep thing. Yes, all of those techniques - I've tried all of those techniques and none of them work. Have you tried to stay awake, like a paradoxical thing? Forcing myself to stay awake? No I haven't tried that one. Whatever you do don't fall asleep, and then the pressure is off. Well, okay, that's one you've heard of? That's one I've heard of. Well, that's certainly one I'll try. Have you done any relaxation techniques? Well, my daughter is a very good and active yoga person – I probably should really have a talk with her about it, but I haven't done that. Yes. There is some breathing techniques and there's one called progressive muscle relaxation.... Yeah I've tried that one. But none have worked? No. There's a question like that later on... but none of them have worked.

Okay, so why do you think you have insomnia? Have a think about why.
Well, I have a very active mind, and as I mentioned earlier on, I do stew on things that annoy me or upset me. But I figure that if I'm living well and eating well and I'm physically active – probably more so than a lot of other people - I can't understand why I suffer from this lack of sleep. You talked initially and the other day when we spoke about substance abuse. Now I don't know how you classify substance abuse, but I do drink alcohol fairly regularly, but I don't drink to excess. I'll have three drinks per day, most days, before my evening meal. As a rule? As a rule. I don't drink any before 5 o'clock and I don't have any after I've eaten. So, you know, I would have two or three at the most - beer or glasses of wine. But not to excess? Well I don't believe it's to excess, no. And are there occasions when you don't, and do you notice a difference if you don't? Yes, when I have my alcohol free days, which I do do. Do you notice any difference to your sleep? No, it doesn't make any difference at all. If I had got on to that one early I would have cut that out early (laughs). In fact, the alcohol helps me go to sleep. Yes, but they say that it can affect the quality of your sleep – you might have trouble getting into those deeper stages of sleep. Yeah, and I do tend to be a lightish sleeper. Although, I must say, in more recent years – well my wife, she's addicted to television, she sits up until late at night and watches television - I'm bored by television. I mean, after the [earlier news shows] there is

not very much that holds my attention, but I don't always notice when she comes to bed, but I do mostly. And sometimes that's the trigger to wake me up. Like for example, well she's very quiet and considerate when she comes to bed but if I wake when she comes in at say midnight or something like that, often that's the point where I stop sleeping and don't sleep again for the rest of the night. Oh, great. So that break, that break is sometimes the thing that tips me. Now, whether I don't wake... if I don't wake when she comes in, whether I would get another hour or two of sleep before I wake naturally and lie awake for the rest of the night, I don't think so, but that's often the case. A couple more hours? Possibly. It sounds like then, when thinking about why, it's perhaps because you're partly being a light sleeper and partly because, perhaps its your mind being so active. Yes, yes. But you're not really sure. No, I can't be sure.

Imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would have made to your life?
Assuming I don't suffer from insomnia? Yeah, would there be a difference to your life?
No I don't' think so. I don't think I would have done anything differently. I probably wouldn't have the bags under my eyes that I've got: the Paul Lennon bags under my eyes that I put down to insomnia. No, I mean, I probably wouldn't have snapped at people when I have– only little things like that though. So it hasn't stopped you doing anything you wanted to do? No, and I've always tended to be an early morning person anyway. Even when I'm tired I generally wake with the sun. So in the summer time when the sun rises at 4.30, if I've been asleep at that time that's when I'll wake. I'm inclined to get up and do things. So you've always been a bit of a morning person and early to bed? Yes, very much. I probably also should mention that I did a period of shift work for nearly 10 years. I worked at a [work place] – that was up until I retired. And, if you work shift work you can never really expect to get good patterns of sleep anyway. That didn't help, but I suffered from the problem long before I ever worked there. Did that make it worse then, after that time? Well the worst thing about that was, when you get home at 3 o'clock in the morning after you've done a night shift, and you go to bed and you still just lie there awake. I couldn't go to sleep. I would often not be able to go to sleep. That probably did complicate things, but of course you weren't always on night shift, but you were on a rotating shift so your pattern of sleep was all over the place. And so, I would just go to bed and lie there and lie there and lie there for hours and hours and hours and then eventually go to sleep, but I didn't get very much. By the time I did go to sleep it was approaching daylight.
So because you had insomnia, was that partly the reason you took a job like that? No, I took the job because [explained unrelated reasons why].

Okay, so, because you have never suffered from depression, what factors do you think have contributed to you having a depression-free life?
Well, I have a positive outlook on life. I've always enjoyed good health apart from this insomnia thing, which has just been a peripheral thing really. I've always been very active. I've had a happy marriage. Our children are wonderful and we're proud of them, and they've done well for themselves – we haven't had any hassles. We've managed financially – it hasn't always been easy, but we've managed financially. There have been times when I've had financial problems but I think everybody goes through those sort of pinches I think from time to time. You know, raising and educating kids and mortgages and that sort of thing, yeah, but we're financially independent, so...
So everything's gone fairly smoothly would you say? Yeah, I've enjoyed a happy life, yeah. So has anything ever happened in your life – experiences in your life that might cause somebody else to be depressed – you don't have to tell me what it is, but is there anything that might have caused someone else to be depressed? Yes, probably things that have gone over my head. Is that because of your positive outlook do you think? Do you think you handle things better than some people that might be more negative? Possibly so, yes. Yes, I have a fairly analytical mind so if

things are not right I'd be inclined to sit down and think things through or talk things through with people whose opinions I value, and work things out for the best. Yep, so you've got good people around you to talk to then? Yep.
So, talking about having a positive outlook – before you were talking about having a mind that races a lot when you're trying to sleep - so are they negative sort of thoughts that you're having when you're trying to sleep? Well one of the things I was thinking about last night – it might seem trivial to you or someone else – well I enjoy playing golf (talked about scoring and the recording of golf scores – somebody had entered the wrong score on his behalf and slightly altered the handicap).... And I lie in bed and I've worked out what I'm going to do: I'm going to talk to [person], I'm going to check the computer system (etc)... it's probably very petty, but that's the sort of thing that winds me up. Well, that's fair enough. Things can sometimes seem worse at night time though don't you think? Well, I think much clearer at night. That's interesting. And that's why I will often get up and do my emails and things at night because my mind is clear and concise and I can express myself more easily than I can during the day if I am tired, or whatever. So you're just worrying about real things then, things that have happened - you're not worrying about things that might happen? Yeah. So, that's interesting, because a lot of people worry unnecessarily about things that might never happen. Yes. So its quite realistic then would you say – your thoughts? Yes, they're about current issues that annoy me or affect me in some way. Sometimes they're about past issues – I mean, probably the nearest I've been to suffering some form of trauma was an incident when I was surfing once when I was bashed up in the water by some younger fellow – just because he was aggressive and a bully and so on and so forth. That sort of had an effect on me, and I still think about that a lot, and I've virtually given up surfing as a result of that. They can get quite nasty. Oh, they can – they have no manners.

Under what circumstances, if any, could you see yourself being at risk of depression or depressive symptoms?
If anything really serious happened to my family it would affect me, because I love my children and their children. So it would have to be something pretty serious then? Very serious, yes. Would things like – well, I know you're not working, but work-related problems or that sort of thing? No, no, I mean, I would stew – I did and I have in the past – stewed over work-related things – pettiness and silliness that goes on in the work place that annoys me. That's just been another reason for me lying awake in the past – thinking about those sort of things. So really it would probably have to be something pretty major – its hard to say though, I suppose. Yes.

Just out of interest, even though you don't have depression: If you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is? Or tell me if you don't think there is a relationship.
Well, I could well imagine that there is, for those people that suffer from depression, but as I don't, I don't know that I can really comment, but I would imagine – like, for example, as I described before: if there was some serious health issue with one of the members of my family, that would play on my mind and that would just be another trigger for my insomnia, but... Yes, that's really a question for people that have depression but I'm just asking anyway. Yes, I understand, yes.

Okay, this is the more structured questions now

You're not currently taking medications for insomnia? No. And the ones you had before you didn't like? I didn't like the effects so I stopped. And the side effects were just drowsiness the next day? Yes. And there hasn't been any taken for depression....
Do you consider yourself to have a family history of sleep disturbances?

I'm not aware of any other members of the family experiencing what I do, although it's not something that we've really discussed openly. They must realise when they get emails from me that I've written at two or 3.30 in the morning.... But what time do they reply? (laughs) no, they reply at normal time, within the next day or so, so no. The subject has never really been raised but I think it probably would have been if there was an issue with anybody else.
Do you have a family history of depression that you know of? No, I'd say no there isn't one.
What about any other mental illnesses? No. No mental illnesses.
When did you first start experiencing symptoms of insomnia? I would say in the late 1970s is as far back as I can sort of remember it. How old were you then? Well, I was born in 48, so say it was 78 – so about 30 odd years, over 30 years. So it would have been in my early thirties.
Would you describe your insomnia as mainly transient (occasional bouts of it) or more persistent and chronic? Persistent and chronic. More common than less in other words. More often than not? Yes, eighty percent of my nights I don't sleep.
So are you usually unable to fall asleep in 20 minutes or less? Not recently.
Do you regularly wake up more than once when you're trying to fall asleep? No. I go to sleep pretty quickly. I'm a restless sleeper. I revolve in one direction over and over and over all the time. If I went in the other direction I'd wind the doona off my wife, but I roll in her direction so I finish up with very little and she gets it all. I know that I do that when I am asleep, but when I'm not asleep I continue to do it. I just keep moving and moving into different positions all the time.
Do you regularly wake up during the night for long periods of time before going back to sleep? Well, no, not regularly. The pattern is more that I regularly wake up in the night for long periods of time and occasionally I will go back to sleep but not always.
So then do you regularly wake up too early in the morning and are unable to go back to sleep? Well, if you call 12.30am – between that and 2 o'clock early in the morning - then its yes. Its not like I wake up at 6 o'clock in the morning and want to sleep until 9. If I've managed to sleep until 6 'clock I'd be delighted and I'd be happy to get up at 6 'clock whether its light or dark.
Do you tend to have thoughts racing through your mind when trying to sleep... so that would be a yes? Yes.
Are you usually bothered by anxiety or tension when trying to sleep? Well, I often find that when I'm stewing over things – when things are racing through my mind – that I'm saying to myself 'try and relax'. Because this is part of me just trying to relax, just trying to get to sleep. And I realise that I have tensed up. You don't realise until you say to yourself 'just try to relax'. Your muscles just generally are tensed up. So you have noticed that? Yes.
Do you or have you experienced symptoms of excessive daytime sleepiness? Not really, not in the past, but in more recent times.... Although – that's something that I haven't mentioned too, I've just recently been diagnosed as Type 2 diabetic but very very marginal. I'm not taking any medication, I'm just working on improving my lifestyle to keep things under control. But I've just noticed that when – after I have anything to eat – whether its in the morning or lunchtime, any meal, I feel drowsy immediately after having a meal. I've asked my GP about that and asked whether it's a symptom of my diabetes. He said it's not really. But if I drive myself – if I say 'I'm not going to sit in the chair and snooze for five minutes or 10 minutes', and I just get up and go outside and work in the garden or do something, it's like I can override it. Its not so strong that it forces me to go and lie down, I just think to myself it would be nice to go and have a bit of a sleep. And this is just in recent times? Yeah, probably just in the last year or so. And you don't

think that this is associated with your insomnia? Its probably a hangover from it because I haven't sleep much during the night. It hasn't helped, put it like that.
So you don't take naps during the day then? No.
Have you ever been to see a professional specifically for sleep problems? No. What about when you had the medication before though? No, no, only – I raised it with my GP on a normal regular visit and asked for some medication to help me sleep, which as I say I tried and didn't like the side effects, so... I'd rather put up with the problem than put up with the side effects. So the symptoms persisted despite getting the treatment would you say? Yes, yes.
Do you keep a reasonably regular sleep schedule? Schedule, no. You go to bed at roughly the same time though? Yes.
I think you've already told me you go to bed at about 8.30? Roughly. If I'm aware of something on TV that is of interest to me later on, I'll watch it. Or the alternative is I'll ask my wife to tape it for me and I'll watch it later. And you fall asleep within about 20 minutes? These days, yes. And what time would you normally wake up? I would say three to four hours later. And what time would you normally get up? The latest I would probably get up would be 7.30, but the earliest would be – well I mean I may not go to bed after I wake up. If I lay there for a couple of hours and then I get up, and as I said earlier, do some emails or whatever, I may not go back to bed at all. I'll just watch the sun rise and then get dressed and then go outside and do things.
At the moment, do you have a regular schedule in the daytime? No. The only regular things I do are my two golf days – Saturday and Wednesday – but other than that I just do what comes along - we're on a big property and there's always plenty to do. But you did have insomnia with your regular work schedule? Yes, yes, even when I was a public servant I suffered from insomnia.
Do you regularly travel across different time zones? No, never.
Do you usually consume alcohol, nicotine and caffeine during the last four hours before bedtime? Yes. Alcohol. Yes, and we've already talked about that. What about caffeine? No, I don't drink coffee much, and certainly not in the evening. But there was no difference on the occasions when you haven't had alcohol? No, no, well, if anything, I don't go off to sleep as quickly so... it seems like it is actually be helping... Yes.
And we've already talked a bit about exercise too.? Yes, when I play golf. And every other day I'll walk for at least 30 minutes. And that's later in the day? Well, generally, but I might go at any time of the day really. Generally it will be 3 o'clock to quarter to five in the evening. And does exercise make a difference to your sleep? No, not that I've noticed.
And we've talked about methods to try and get you to sleep. So is there anything you want to add? No. Well, reading. Reading does help. If it's a good book though I might read a bit longer but if its not very interesting I'm inclined to doze off (talked about various books briefly). So that's the only thing that really has ever worked for you then? Yes.
Have others ever complained about your sleep habits? Well my wife has always complained about me snoring when I do sleep. But you don't have sleep apnoea so... No. Nothing wrong with a bit of snoring. (laughs).
Do others often wake you or prevent you from sleeping, such as children or pets or neighbours? No. But your wife can sometimes wake you when she goes to bed? Yes, but that's about it. Or if I've gone to sleep and the phone rings later in the evening or something like that it will wake me up, and depending how much sleep I've had will depend on whether or not I can get back off again. But it sounds like your wife is pretty quiet... Yes, she's very considerate of my sleeping. So, you don't think this is the primary contributor to your sleeping problems then – other people or things waking

you up? No, no.

Have you noticed your insomnia change with age at all? No. I've been the same, like it for years and years and years. So it hasn't got any worse then? No, I would have hoped that it would have gotten less. I would have hoped because, you know, the kids have grown up and are independent and not at home, so we don't have those things to worry about. We don't have a mortgage anymore. I don't know, maybe I just can't live without something to stew over. Maybe it's just me. And you're not working now, so you don't have work to worry about. Yeah, and there's always something. I mean, those things that just play on my mind are quite likely just peripheral to the insomnia, because what else am I going to do with my mind when I'm laying awake for hours and hours and hours to think about things? Do you think that's the way it is? It's the insomnia, and then that comes later? I do. I believe I just don't sleep, and because I'm not sleeping – I don't believe anybody can have a blank mind, you can't have a mind that doesn't have anything in it at all. My mind's got a lot in it all the time and so I think about things and I probably dwell on those things which annoy me or affect me – you know, wind me up, so to speak. So, as opposed to laying in bed thinking about these things and then that causes the insomnia.... No, I think it's the other way around. Yes, I think the insomnia comes first and then the mind comes second. Yep, okay, that's interesting.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)
1 Sleep disturbances (insomnia)
2 Loss of interest or pleasure in usual activities

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Sleep disturbances (insomnia)

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Sleep Disturbance (insomnia)

None of the other symptoms listed were relevant currently or previously. The current loss of interest or pleasure in usual activities was described as follows: I'm just not as easily motivated to do things that I used to get into in the past, like fishing and surfing and things like that.... but these days I don't go down. But that's partially because of the thing I mentioned to you before – that trauma I experienced. I don't feel so inclined to mix with those younger lads these days because they're so aggressive".

Participant B
The Participant: *40 year old male who suffers from self-reported insomnia.*

Transcribing notes:
Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.
Red writing indicates interviewer
Black writing indicates interviewee

[Introduction provided]

Please tell me a little about your experience of insomnia and what it has meant for you in your life…
As far as I can remember I've always been a very light sleeper. So any particular noise, I'll wake up. Sometimes go back to sleep, but most of the time it keeps me awake for a while and – eventually fall back to sleep. I seem to have a lot of periods where I'm quite aware of what's going on but I'm in that daydream type state. The eyes are closed and everything, but - you're sort of awake and aware of what's going on around you but you don't care (laughs). Because you're tired? Yeah.
I suppose the noises that sort of wake me up are generally sort of out of the ordinary noises that you hear. So I could be in a house that's got traffic going past and that's alright, but if the pattern of traffic changes that will wake me up. Oh really? Oh, okay.
When I was much younger – and this is kind of a good example I think – when I was asleep, I must have been about… oh, this is back in the early eighties – and this loud bang woke me up, and I went back to sleep and I didn't think much about it, but the next morning I found out that – it happened at the same time that Mount St Helens blew up – and I was living in [a country far away], so that sound actually travelled the distance and woke me up [laughs].
Wow.
So it's a very light sort of sleep. It sort of builds up where I'll – like, I'm generally awake pretty early of a morning but I'll just lay there and hopefully not get up for a while. But that tiredness builds up so that every so often I will actually have a super, good night sleep where nothing will wake me up really. But most of the time that doesn't happen.
So its usually other things that wake you up? Do you wake up if there are no other noises?
If I need to roll over or anything, yeah, I just wake up. Yeah, so tiny little things? Yeah. It doesn't have to be noise? Yeah, no.
So if you have to roll over that's enough to send you awake? Yeah. That's frustrating. It is.

And how does that impact you in the day time?
I think it makes me pretty tired by the end of the day. I normally get more things done of a morning when I'm not quite so tired. Yep, so you're not too bad of a morning? Yeah, not too bad.
So is it just tiredness, or are there other things that you've noticed that might be…?
Yeah. If – this is a couple of things – if I'm really tired, one is that my eyesight is not as good as it should be, so I have to wear glasses to do reading. Whereas, if I'm not tired I don't need them. Wow. And if I'm tired, and/or cold, I get a bit of a shake in the head type-thing. A shake in the head? Yeah, just a sort of a wobble every now and again. Oh - headaches? Not generally, although I did have a problem with any sort of alcohol a couple of years ago – any alcohol whatsoever, no matter where it came from, would give me a headache almost instantly. And you

attribute that to having insomnia? I don't know, it could be just a build up of things. I went to the doctor about it – they don't know either. So it could be related to lack of sleep or it could be something else? Yeah, it could be something else. Are you stressed much – say, at work, or? Yeah, work can be really busy and stressful, but I don't – yeah, I don't think I get too stressed with work.
You're alright physically, apart from...? Yeah, yes.
So how do you feel when you're unable to get to sleep? Does it cause you any distress or anything, or do you worry a lot about it? Yeah, I sometimes worry about it, thinking 'geez I need to get back to sleep' and that slows down the process of actually getting there I think. Yeah. I think it often does, yeah. Other than that, I mean, I just live with it now. Yeah? Okay, so it doesn't sound like you're in any great distress. Not great [distress]. You're not able to do things... I probably could, but I couldn't be bothered getting up. You know, as soon as you open your eyes – I think that's even worse. It takes much longer to get back to sleep once your eyes are open. So I just try and lay there with them closed – you know - find a comfortable position. And just hope you'll sleep. Yeah.

Okay, so why do you think you have had insomnia?
I don't know really. I don't know. It's just one of those things. It's just always been there.
You can't relate it to a certain time in your life when something in particular was happening?
Not particularly that I can think of.

Imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would have made to your life?
I don't know really – maybe more energy to get a few more things done. Although, I don't think I have missed out on anything. So I don't know if it would have changed my life much at all.
So, even though its annoying and difficult at times when you're tired during the day - do you get grumpy and things like that? Yeah, I get grumpy. Yeah, I get grumpy near the end of the day – if the kids are not doing what you're asking them to do – a hundred times (laughs). Yes, as they do. So you notice the difference at the end of the day? Yeah, my mood is probably a little more grumpy and a little less accommodating.

So because you have never really suffered from depression... do you know much about depression? Yeah, I know a little bit. So what factors do you think have contributed to you having a depression free life? Well, I tend not to worry about things too much. Well, I suppose I accept that things go wrong at times. You've just got to move. I try, I suppose, to be accommodating to people and not have them get on my back too much, to stress me out. If I can do what has to be done I will do it, or say I can't.
Have there been any events in your life that have been really bad that may have caused some people to be depressed, do you think? Well, my parents divorced when I was about 10 years old. My father died. Oh, how long ago? More than 10 years ago now. Was that expected or? Well, no it wasn't overly unexpected because he had cancer, so we knew that was happening. Other things? Well, I don't know if this could be a factor in someone's depression, but my sister had a brain aneurysm, and my uncle and aunt, and I think another relative, so about four of them. Oh, gosh, they're not entirely hereditary though are they? Well, they sort of can be. Right, oh, and are they are all okay, or...? Yeah, except for the dead ones (laughs), but they didn't die of that. Yeah, no, my sister is fine, so. That must have been a difficult time though. Yeah, well I was here and they were all in (another country) so, yeah that makes it a bit more difficult.
So you have sort of had some things in your life where it might contribute to depression for some people. Yeah, I suppose.

Under what circumstances, if any, could you see yourself being at risk of depression or depressive symptoms? Or, do you think the things that have already happened in your life – if you were ever going to get depressed do you think that would have done it?
No, I think there would be a possibility, if one of the kids became really sick, or there was a death there or something like that.
So, it would have to be something quite bad? Yeah, I think it would be, yeah. Well, this is just speculating, but, you know, just to get an idea of your thoughts.
Yeah, I don't think something like losing a job would make me depressed. It might make me a bit stressed but I don't think it would send me into depression. Whereas, yeah, for some people that might be just what it takes, yeah, so that's an important point.

Even though you haven't experienced depression, if you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is?
Yeah, I think there could be a relationship, but I think it would be more that the worry that I perceive comes along with depression would just keep that brain ticking over so much that you have a hard time relaxing to the point where you can't actually sleep. That's one thing my brain does a lot, just continually talks and keep me awake, so.
Are you thinking about – what sort of things? Just everyday things or are you thinking about positive things or negative things, or...? No. Just anything? Yeah, just anything – irrelevant things. And things that I even have no experience with. Yeah, so sort of irrelevant anythings.
Yeah. Okay. So for you, though, with your insomnia, do you relate it to depression sort of feelings, like low mood? No. If you're feeling down you're more likely to have insomnia? No.
Yep, so for you there is no relationship between...? No, I don't think there's any sort of relationship for me, or with exercise, or fitness....

Okay, so there's some more structured questions now.

Have you ever taken medications for insomnia: No, never. You get to skip a few questions now! (laughs)
Do you consider yourself to have a family history of insomnia? Well, my Mum's a very... she doesn't sleep very much. That's the only one I know of. My father was always a very early riser but my Mum's a very late going to bed person. I don't know about my brother and sister, what their habits are anymore.
Do you consider yourself to have a family history of depression at all? No. Well, my sister did have anxiety attacks but I don't think she really had depression. Right, some people say that they might be a different presentation of the same thing, but, you know, its controversial... Yeah (Laughs).
What about other mental illnesses, you know, other than depression, is there anything that you know of? No, not really, that I know of, no.
When did you first experience symptoms of insomnia? When I was pretty young: 16...ish. So you don't remember having troubles as a young child? Not particularly, I do remember times when I had weird dreams and woke up early, but I always thought that I got enough rest. So, at about 16 that changed. So have you noticed any more changes as you've gotten older? Yeah, I probably sleep even a little bit less now, yeah.
Would you describe your insomnia as mainly transient (occasional bouts of insomnia between longer periods of no sleep disturbance) or persistent (ongoing difficulties with limited times when there is no sleep disturbance)? Probably more persistent. How many bad nights sleep would you have, say, in a week? Typically? (laughs) If you ask my family I never get good sleep. So, 4 to 5 would be... probably 4 would be really poor; 6 nights - probably don't get what I would like.

Are you usually unable to fall to sleep in 20 minutes or less? Usually, no. I can fall asleep pretty quick. I usually do, and more unusually it would take hours. So that does happen on occasion? Yes.
Do you regularly wake up more than once when trying to fall into a deeper sleep? No. I suppose what would happen is, I would be awake until I actually do go to sleep and I would get somewhere between 2 and 4 hours of pretty good sleep and then I would be asleep and awake, asleep and awake, the rest of the time.
So do you regularly wake up for long periods of time before going back to sleep? I have periods where I would probably be awake for, I think, more than an hour. Generally it would be around half an hour. How many times a night do you wake up then? On a good night, probably twice; on a bad night, probably four or five.
Do you regularly wake up too early in the morning and are unable to go back to sleep? I do regularly wake up pretty early in the morning. If I do get a chance to get back to sleep, though, one of my kids might get up at 5.30, quarter to six, and wake us up anyway.
Do you tend to have thoughts racing through your mind when trying to sleep? Yes
Are you usually bothered by anxiety and tension when trying to sleep? Only anxiousness about getting to sleep
Do you or have you experienced symptoms of excessive daytime sleepiness? You get periods where you would just like to close your eyes and go to sleep. And you associate that with not being able to get to sleep? Yeah.
Do you sometimes take naps during the day? No. Do you feel like taking naps during the day? Yeah, well I do very occasionally take a nap. So if you feel like taking a nap you do? Well, I would, but generally when I do get a chance to take them I don't actually sleep. I go into that – aware of the surroundings, day-dreamy – its restful, but its not actually sleep, not what I would call sleep anyway
Have you seen a professional specifically to treat sleep problems? No.
Do you keep a regular sleep schedule? As regular as I can, yeah. But I do a bit of travel for work so sometimes I have got to catch the early plane out of town.
What time would you generally go to bed? Around 9.30pm What time do you go to sleep, generally? Fairly soon after that, then? Yeah, maybe 10. And what time would you normally wake up? five, 5.30. But you would often have been awake before that? Yeah. And what time would you get up? Quarter past six
So do you have a regular work schedule, apart from the mornings when you have to fly? It depends on the year. Sometimes its lots, sometimes its – probably average around 3 to 4 times a year – so not that much.
Do you regularly travel across different time zones? Yes. So that's international travel is it? And National. Do you get jet lag symptoms if you do? It depends which direction you go. Going East is okay but going West is more disruptive. So how long does it normally take you to come right if you're feeling jet lagged? Only a day, it doesn't take that long. My sleep patterns elsewhere are the same as they are here, so I don't think it affects me that much.
Do you normally consume alcohol, nicotine or caffeine within 4 hours of bedtime? No, I'd say no.
Do you regularly exercise Yes. And does this normally occur within four hours of going to bed? Once a week it probably would. With sport or something? Oh yeah, I do that too. I have a regular sport and I have another night when I might go for a run. Three days a week I ride my bike to work but that's in the morning. So you sort of said before that you don't notice a difference based on exercise anyway?

No it doesn't seem to change. And it also seems that you don't have much trouble getting to sleep anyway. Yeah, no.
Do you use any methods to help you get to sleep? No, not really, sometimes if I'm not that tired I might read a book. You don't count sheep or so things like – some people recite the alphabet or just try and keep the mind occupied? The only other thing I've occasionally done is.... you just try and lay there and relax every muscle of the body... Yes, the progressive muscle one? Yeah. Yeah, that's a good one for sleep apparently. Have you found that it helps you, though? Occasionally.
Have others ever complained about your sleep habits? (laughs) Yeah. Although I don't tend to get up so it's not that disruptive. So what sort of comments do they make then? Well, just if I'm irritable or a bit short in the morning. Or, if I prefer to go to bed earlier in the evening than others would. So you get in trouble for not going to sleep and then you get in trouble at night? (laughs). So certain family members would like you to stay up a bit later? Yeah, I think they all would, but, well, we get the kids to bed pretty early, so. So how many kids do you have? Two. Are they youngish? Yeah [talked about children].
So do others often awaken you or prevent you from sleeping, such as children or pets or neighbours? I suppose when our first came along, he would not go to the toilet by himself during the night so he would wake someone up. The youngest one has only just realised it is okay to stay in bed when you wake up, so. The neighbour has two dogs, but we don't tend to hear them in the night. We're in a fairly quiet street, so if we do get cars come along that might wake me up. Do you think that these things that do wake you up, that are outside your control, do you think they're a main contributor to your insomnia? Not a main contributor, but I do think they've changed the pattern because before kids I would probably stay in bed a bit longer, later if I could, and occasionally even sleep all the way through. I'm sure I've been conditioned to wake up earlier. But you would still have insomnia? Yeah, I think I would still be a very bad sleeper and be woken, yeah.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)
1 Sleep disturbances (insomnia)
2 Difficulties thinking or concentrating and indecisiveness

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Sleep disturbances (insomnia)
2 Difficulties thinking or concentrating and indecisiveness

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Sleep Disturbance (insomnia)
2 Difficulties thinking or concentrating and indecisiveness *(not on a daily basis)*

None of the other symptoms listed were relevant currently or previously. The difficulties thinking or concentrating and indecisiveness were attributed to the insomnia.

Participant C

The Participant: 54 year old female who suffers from self-reported 'transient' insomnia and GP diagnosed depression.

Transcribing notes:

Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.

Red writing indicates interviewer

Black writing indicates interviewee

[Introduction provided]

Please tell me a little about your experience of depression and what it means to you in your life…

Well I suppose the bulk of my depression has always been related to work. The first time I went on anti-depressants it was to do with, um, my, I became very stressed about work – not liking the boss – and that was probably 17 odd years ago.

So what has it meant for you? How has it affected your life?

Well I suppose because I am a single woman I have had to rely on my work so much. Because I am a single woman, I own my own home, buying home, buying car and having to pay all of the expenses myself, so my job has always been very important to me. I always have a fear of being sacked.

And that has happened probably twice in my life.

What's happened? Not liking your job?

When there have been issues, yeah.

OK, so if I ask 'why do you think you have had depression?' – you have sort of answered that already. Is that right? The stress at work?

Well I suppose that is when it was first diagnosed, that's where it came from; the doctor put me on anti-depressants and told me to have two weeks off work.

And how long ago was that?

Oh, perhaps 19 years ago – in the 90's.

Ok, can you think of any other ways it has impacted your life? Are there any things you have been unable to do, or… because of depression?

No, no. I think I do whatever I want to do. I'm pretty selfish being a single person.

Now could you please tell me a little about your experience of insomnia and what it means to you in your life?

Well I've just been thinking about that lately, because I have been coming to do this thing, and I think that it is also work-related. When I don't have to go to work I seem to sleep OK, and I do sleep better in winter also. I was talking about that this morning with my sister and she said she sleeps better in winter, and I said 'well so do I'.

How has it affected you in terms of your daily functioning and that sort of thing?

Well its not every night that I sleep badly – it's usually about confrontation at work with [employer].

So, when your insomnia is bad, how does it affect you?

Well I can be grumpy or moody – grumpy, moody, snappy.

Do you ever need to withdraw from activities because you're too tired?

Well I actually went home from work the other day early, and I hadn't slept the night before, but I had given up the cigarettes, so I don't know if it was because I had given up the cigarettes, or... I just felt very vague and had taken a couple of paracetamol; I had a headache and I hadn't slept well the night before.

The next question is 'Why do you think you have had insomnia?'
OK, I'll just go off here: when I was a young kid I wet the bed, and don't ask me how old – probably eight or something, and none of us – none of our family – have slept well. Right - we will come to family history shortly.
OK, now, I don't know whether, when I was raped, you know, made me a little bit unhinged.
Did it come about after that?
I can't remember what I was like as a young kid – I don't think I have ever been a good sleeper simply because of piddling the bed – you know being 'oh god I might have wet my pants', and I have never done that in my adult life.

Alright, so if you just imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your life?
Well I don't always have problems sleeping, but I don't know because if I have a bad sleep or two bad sleeps – I normally have a good one and a bad one - not every night through the week I have a bad sleep but I might only have three or four hours sleep during a night.
But what difference do you think it would make to your life? Do you think there would be any difference?
Probably not.
No?
And when you put that question to me – what difference does it make – yeah, if I haven't had a good sleep, I'm probably a bit lazy the next day, but...
So it's just really in the short term that it makes a difference?
Yeah, its just probably 'well, I didn't sleep very well last night, I won't go 'hell for leather' today, so I can't get the in garden' – so you have a bit of lethargy.

Now imagine again for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your experience of depression?
None, I don't think. None at all.
Your depression would be exactly the same whether you had insomnia or not?
Mmm [indicates yes].
Alright. If you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is? (or just tell me if you don't think there is a relationship).
I don't think there is a relationship, Pen.... due to our prior discussion. You know, you get tired and lethargic whether you're depressed or not. I guess everyone has a bad night's sleep sometimes.
But not all have insomnia. And insomnia can be a symptom of depression.
Well when I'm not sleeping – I know I have gone off this – but when I have bad nights the mind is going at a thousand miles an hour - and everybody says to have a notebook at the side of the bed, but I don't do that - and I think 'I mustn't forget that and I mustn't forget that' and 'what if this happens and that...', and I must say as you get older also – menopausal and all that – your memory goes a little bit. But then I think I have been like this all my life because – the family – and I think it is the bed wetting.

Ok, we might now go to the structured questions to find out a little more about that sort of thing.

Medications used for insomnia: I have some Stilnox in the cupboard and I only take half of one of those. You're told to take one, but I don't. Half a one doesn't give me a good night's sleep – that's the one where people go for a walk and drive the car. You're not meant to have them when you drink. I have – there's only once when I have woken up in the other bed, but... For me, one might be effective but I just take a half. I have taken them for a couple of years. A script - 25 in a packet - would last me six or seven months. And I take Temazepam – I have only just gone back to those. I took one the other night and that was good. I've had them about a month and I've taken four tablets. One tablet a time. [No side effects].
Medications used for depressive symptoms: Efexor [taken for three years]. I go off them every two or three years and if I get depressed they say 'you need to go back on them' It would have been 1998 I first started them. Twelve years ago I started. Not always Efexor – I have had a couple of different ones – I can't remember what they were now. When you get on this stuff you don't know if they're OK or not. You know, I've still had some highs and lows. [No side effects from anti-depressants] – perhaps weight - I don't know. [Previous ones] might have taken some sexual desire away.
If medications are used for core depressive symptoms (e.g., low mood/loss of interest or pleasure in activities), are they effective in alleviating your sleep disturbances? [hesitated – uncertain]. No, I can't remember, because when I first got them I probably had sleeping pills anyway - because I was stressed I'd have a bit of a sleeper too, so I wouldn't be worrying. Or, do the depression medications seem to contribute to the sleep disturbance? I don't think so.
Do you consider yourself to have a family history of sleep disturbances? Yes. I think if we all lived together in the one house, we'd all get up in the middle of the night and wander around. My brothers and sisters – every single one of us – five of us. In childhood and now – we're all the same. [Parents deceased – not sure about parents 'can't remember' or uncles and aunts]
Do you consider yourself to have a family history of depression? All of us are pretty volatile. Yes, I think [brother] has depression and [other brother], and probably even [sister]. Yes, I think she's up and down. None of us are calm.
Do you consider yourself to have a family history of mental illness? Highs and lows I think. Now, whether that's the aboriginal in us... [No disorders] – 'just a bit moody'. Mood swings and volatile.
When did you first experience symptoms of insomnia? You mentioned being approximately eight previously – but that was for bed wetting - so, just not being able to sleep for no apparent reason... I've got no idea... at school sometimes if there was exams coming up, but I suppose 14 or 15, you know. When I was a young kid I was very highly strung, I was like a flea – my brothers called me 'worm'. I was three stone for three years when I was a kid because I was just on the go all the time. Do you remember not sleeping at primary school age? Yes I remember because I was the youngest case the doctor had seen with shingles, and I was 10 or 11. I remember not sleeping because I had them up my arm and I'd just cry all night, it was

really bad. I used to take a thing called fisherfoss, which is a calmative – had fish oil in it. It was a sort of herbal thing.
Would you describe your insomnia as mainly transient (occasional bouts of insomnia between longer periods of no sleep disturbance) or persistent (ongoing difficulties initiating or maintaining sleep with limited periods of no sleep disturbance)? If I'm excited I don't sleep – if I'm on holidays I don't because of the excitement. If I drink I don't sleep a lot, and I drink more when on holidays. I don't know when I do sleep well. I didn't sleep well last night; I slept okay the night before. Has there ever been a whole month when you have slept well? (long hesitation) Yes, I have. But I only seem to sleep well in the winter. I think temperature is a contributing factor. In summer I would – I would have the fan on eight months in the year. The whirring sound helps me sleep. When I go to [interstate] I can't sleep, I'm up and down, having a drink.
Are you usually unable to fall asleep in 20 minutes or less? Sometimes – if I'm going to have a good night's sleep I will go early. If I'm not I will be up and down for an hour. If you had to give it a percentage... 60 [difficulties] /40 [no difficulty].
Do you regularly wake up more than once when trying to fall asleep? Yes, if it's a bad night I could get up four or five times in the night. [When falling asleep] - perhaps not, two or three [times].
Do you regularly wake up during the night for long periods of time before going back to sleep? Not really long periods – and not if I drink alcohol.
Do you regularly wake up too early in the morning and are unable to go back to sleep? The cat and the dog wake me if I'm asleep at six or 6.30 in the morning. But I have this inbuilt clock. Otherwise it might be 5 o'clock – it was five this morning. I do doze. Falling asleep then would be the biggest problem? Yeah.
Do you tend to have thoughts racing through your mind while trying to sleep? A lot of the thoughts are: 'I'm not getting to sleep'; 'why am I not sleeping?'; it might be half an hour but it seems like two hours, you just think 'oh, I'm not sleeping' – my main worry is about not sleeping and being tired the next day, and with work things that might go wrong at work.
Are you usually bothered by anxiety/tension when attempting to sleep? Yes
Do you, or have you, experienced symptoms of excessive daytime sleepiness? You know, I might be tired but not all that often. If yes, do you think this is primarily associated with insomnia (rather than other conditions, e.g., depression)? When I am, yeah, it's because of lack of sleep.
Do you often take naps during the day or feel like taking naps during the day? Every now and then, yes, love them. Only 40 or 60 minutes.
Have you seen a professional to seek treatment specifically for sleep problems? I suppose getting the pills – just from a GP. If yes, did symptoms persist despite treatment? Oh yeah, well, it was just occasionally that I would take a sleeping pill – it's not that I drop pills all the time.
Do you keep a reasonably regular sleep schedule? Yes, I try to go to bed between 9.30 and 10.30, except sometimes its 11 o'clock and I think that's a bit late. I get up before six or 6.30am.
Do you have a regular work/daily schedule (if applicable)? Not really [but no night work or shift work] – I go to work three days and there is not always the same start time: eight, 8.30. I have stopped smoking and have been exercising in the morning, so I am more organised.
Do you regularly travel across different time zones? Once a year. If yes, please provide some details and list any jet lag symptoms I like to have a stop over. I just try to fit in with the new time. I'm getting better at it. I can't

sleep on planes. I get agitated. I get agitated when I'm really tired: agitated is a good word. And 'shitty'.
Do you usually consume alcohol, nicotine or caffeine during the last four hours before bedtime? I have a cup of tea sometimes. Not coffee, I would never do that. I used to have a smoke – I'd get up at 5am and watch the planes come in, but not anymore. Has there been much difference since stopping smoking? No, but this time it's only been a little while. I don't usually have a drink – but if I have a drink I am cactus – straight to bed.
Do you regularly exercise? I have been lately. I've just started walking to work again. If yes, does this exercise typically occur within 4 hours of going to bed? No
Do you use certain methods to assist you to fall asleep? Oh yes, I've got a lavender spray for the pillow or the temples or I will use Tigerbalm – same thing. Do these work for you? Oh, yes. Do you try any strategies in your mind, like counting sheep? No.
Have others ever complained about your sleep habits? Yes. I turn like an elephant. Apparently I am dreadful to sleep with. Because of your movements? Yes.
Do others often awaken you or prevent you from sleeping (e.g., children, pets, neighbours)? Yes, the bloody pets. The cat comes onto the bed in the morning and wakes me up. Do you think this is a primary contributor to your insomnia? No.

When did you first experience symptoms of depression? Probably 1998 – I didn't have the same worries as a kid. So, when were you first prescribed antidepressants? Well, my first depressed mood was probably about when I was 17 – after [being raped]. I didn't have antidepressants then, but I did go to a psychiatrist.
So, then, do you think that something specific initially contributed to the onset of depression? Mmmm, I think it was that. Is this factor an ongoing issue for you? I don't know, I've never married, and I think that it's made me aggressive with men. Is that an ongoing issue as far as influencing depression? It could be – I'm frightened of men (laughs). Not frightened of men, but frightened of a relationship, and being hurt. Do you think that sleep disturbances may have played a role in the initial onset of depression? No.
Have you experienced more than one depressive episode in your lifetime? Yes. If yes, do you normally experience insomnia prior to each depressive episode, following each depressive episode, or at around the same time as each depressive episode? (all of these may apply) Oh, yeah. Before? Yeah, I don't know, I can't answer that. Can you have a think about that one? [long pause] Yes, yes, yes I do. Prior. During as well? Mmmm [indicates yes], well I probably have drugs [so less so]. Not following.
Do you consider your insomnia to be related to your depression symptoms? No. If no, do you consider your insomnia and depression to be independent conditions? Yes, independent. Please explain why you answer this way...why do you think they're independent? Well, insomnia, it could make me feel a bit depressed but I don't think that's depression. It can make me tired and I hate being tired because I get grumpy.
Do you see insomnia as a 'secondary' symptom of depression rather than a 'primary' diagnosis? I think it's the major, major. I hate being tired. So you're saying that it is a primary diagnosis and that it's independent? Like, it's not a secondary part of depression for you? It's primary in it's own right? Yeah, yeah.
Do you consider sleep disturbances to be a sign that you may be at risk of a depressive episode?

No.
Have you ever experienced insomnia without any other depression symptoms (e.g., when in remission/partial remission/prior to ever experiencing depression)? Yes.
Have you ever been depressed without having any difficulties sleeping (including being excessively sleepy)? (long pause) I can't answer that, I don't know. Can you think of a time when you've been depressed and been sleeping well? If I've been depressed I'll have help [medication] with sleeping. So it doesn't add to the depression, the sleeplessness.
If you did not suffer from depression, do you think you would still suffer from sleep disturbances? Yes.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)
1 Difficulties thinking or concentrating and indecisiveness
2 Sleep disturbances (insomnia)
3 Physical agitation (can't sit still)
Currently experiencing no depression-related weight changes, loss of interest or pleasure in usual activities, depressed or low mood, or thoughts of death or suicide.

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Difficulties thinking or concentrating and indecisiveness (always there)
1 Sleep disturbances (insomnia always there)
2 Physical agitation
3 Depressed or low mood (comes and goes)
4 Loss of interest or pleasure in usual activities *(not prolonged – transient)*
5 Weight changes, when coinciding with other depression symptoms *(suggested that this could be related to the medication - Efexor)*
Never had thoughts of death or suicide

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Depressed or low mood
2 Difficulties thinking or concentrating and indecisiveness
3 Loss of interest or pleasure in usual activities
4 Sleep disturbances (insomnia)
Other symptoms are either not an issue or are not perceived to impact daily functioning and sense of wellbeing.

SYMPTOM ONSET ACROSS THE LIFETIME (in order of onset)
1 Sleep disturbances – early childhood (insomnia)
2 Difficulties thinking or concentrating and indecisiveness – early childhood
3 Physical agitation ('nervous energy') – approx 12 or 13 years of age
4 Depressed or low mood – 17 years
5 Loss of interest or pleasure in usual activities
6 Weight changes

TYPICAL ONSET OF SYMPTOMS FOR SUBSEQUENT DEPRESSIVE EPISODES
1 Sleep Disturbances (insomnia)
2 Depressed or low mood
3 Loss of interest or pleasure in usual activities
4 Difficulties thinking or concentrating

Participant D

The Participant: 47 year old male with (self-reported) long-term insomnia; diagnosed with (long-term) depression, meeting criteria for a major depressive disorder; and just recently also diagnosed with posttraumatic stress disorder in addition to depression.

Transcribing notes:
Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.
Red writing indicates interviewer
Black writing indicates interviewee

[Introduction provided].

Please tell me a little about your experience of depression and what it means to you in your life...
Well, I guess this has really come to the fore with me quite recently, because of what happened to me two years ago when I fractured my leg. I was living in [overseas] working in the [outdoor, manual work] industry and everything went on its head. Really, really bad fracture that required surgical stabilisation, and then had to come home. The first time home in Tasmania in 14 years, and sort of trapped, and waiting until I can get back to what I was doing. And that hasn't happened and that has been giving me a lot of grief. So I was referred by my GP to go and see a psychologist – or a psychiatrist – the one that doesn't use chemical intervention. Probably a psychologist then? Yeah, I can never remember which one. So I am sort of going through that. I am sort of diagnosed as having a sort of posttraumatic stress disorder – and still have traces of it now, and its sort of made me realise that, really, since I was about 15 I have been having bouts of depression, and back then to me it was like a big black cloud moving over me. It's sort of like a physical thing you can feel and you can't stop it – its like going down the road and you can't turn off.
And that was when you were around 15?
I'd say about 14 or 15, something like that.
And, do you know what brought that on at that age, or...?
I have no idea, it could have been anything I guess. I guess this is at matric - I wasn't – I didn't think I was coping that well with the demands of the studies.
So what sort of impact has the depression had for you then – not so much the posttraumatic stress - but the depression you have had throughout your life?
Well I get pretty moody, and normally I'm quite reasonably happy and able to deal with people okay, but at times like that I just don't want to know anybody or anything, just shut off and get on with it – that sort of thing. I guess that other really bad time that I had it was when – yeah my wife ran off with a [occupation] of the person she was working with. And then she had a problem and came running to me, and that is when I first heard about it. And this is when I was living in [overseas] and went and saw a GP and they put me on to an antidepressant that worked pretty well.
So, that was like a reactive sort of depression then? Yeah, it had been building, building, building to the point where I guess on weekends I was going through several bottles of good wine, which wasn't really helpful.
So, what year was that? I guess 2004-2005 – yeah, 41 or 42. But generally, never really serious suicidal thoughts until this latest episode. Mmm. And you sort of think of about it – suicide – at various times throughout the depressive cycle. Then you come out of it and you're on your way again. Sort of like you're dipping under the cloud and back out the other side. This time with

the leg, I thought if I walked over the bridge I would have difficulty trying to stop myself. Oh, and is this partly because of pain, or...? No, its more the impact of what has happened. The pain I can deal with, its... I have pain in both ankles now because of arthritis – I broke my other ankle once. And have you talked about suicidal thoughts with your psychologist? Are you managing that, or... ? Yeah, we sort of think that what was happening is that I had come up against a brick wall with getting to an acceptance stage of what was going on – and the impact as well. I had been on fluoxetene – the antidepressant I had had before. But it had a completely different effect with me this time. Was this just after you started taking it? It was about a month in. It really wired me up – completely screwed my sleep patterns beyond what was already happening. Since the crash, my sleep patterns have been all over the place. And coming back here, the first week it might be jet lag or something, but when it goes on and on and on... Yeah, it's too long. And previously to fluoxetene I hadn't noticed this effect. I was running a pretty full on lifestyle running the [work] in [two different countries]. It sounds really good there. Yeah, its brilliant, brilliant. I would love to get back there.

So, if I ask 'why do you think you have had depression'? then...
Yeah (laughs), well at the moment, an injury that's not healing, and being on the wrong side of the world, being unable to work or find work here at all.
Okay, but you have had depression in the past prior to the injury, haven't you? Yeah. So why do you think you have had depression then? You weren't really sure were you?
No, I can't really pin it down to some sort of cause. It might be – well, I was working in [indoor non-manual work] for fifteen years, and it was pretty stressful at times [talked about various things he did at work and 'having to get his head around' new tasks].
You have had episodes of depression on an off, though, have you?
Yeah, certainly in the fifteen years I was working there – they're not what I would call regular, but more than four times a year - put it that way.
So, more than four times a year. Every year?
Yeah, I'd say so.
Since matric?
Yeah.

Now please tell me a little about your experience of insomnia and what it means to you in your life?
Yeah, insomnia I've had off and on. Its just like you go to bed and it's a bit like, yeah, its like jet lag. Your brain is just going and going and going and you can't get to sleep, and its 5 or 6 in the morning and the alarm goes off and you go 'oh geez here we go'. And if you're looking at computer screens and [working] all day, the last thing you want is to be wrecked. It just does not work. If you're trying to do some serious [work], it does not work at all.
So this has impacted on your work? Yeah. After a night of insomnia you're a mess. And there was one stint there for a month – I had it for a month solid – and at the end of it I slept for 14 or 15 hours a night for two nights solid. And I can't pin that down to anything – no reason.
And were you distressed by that at all, or...? I wouldn't say distressed, more annoyed.
And how was your functioning the next day? Could you go to work at all? Oh yeah, I had to go to work. Got to prop your head up and tap away on the keyboard. Just got to do it. One thing that might have had a bearing on it was learning a new (work task), which remains the one I hate the most today (talked more about work tasks).
Mmm, a bit hard when you're tired... Yes, you must have your wits about you.

The next question is 'Why do you think you have had insomnia?'

I think it's probably stress or something – something in the background that might have been doing that. Um, with this last thing, well... the way this happened (talked about his injury and how it was caused by an accident while doing an extreme sport).
Wow. Did you think you were going to die? No, but later you realise 'shit – my job is gone, my money is gone and I'm going back to the other side of the planet', so. I was a mess really. And I knew my health insurance would not cover it because it is a lethal sport. Oh, you're not covered for it. So you're not all that sure about why, other than this latest event? No, no.

Okay, so, imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your life?
(long pause) Oh, I see what you're saying (pause).
Would it have been easier or no different, or...?
Certainly it would have been easier. There would have been days where it would have been much easier, for sure. I don't think I've sort of put too much emphasis on it in terms of it ruining aspects of life. It's more of an inconvenience for me. It's an annoyance.
So, it hasn't prevented you from doing anything?
Yeah, I generally just get on with things. You just get on with the job and give good service.

Now imagine again for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your experience of depression?
Ummmm.
Would your depression be different if you didn't have insomnia, or no difference?
I guess, yeah, the times when the two of them have been there at the same time it would definitely have made dealing with depression a lot easier. You're not feeling wrecked from lack of sleep and you're able to look at things with a clearer mind and try to deal with them. When you're bone tired, when you're really, really exhausted – its not just the physical side, it's the mental side that really ratchets things up another level – I think it would have made dealing with the episodes a lot easier.

If you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is? (or tell me if you don't think there is one).
I don't think, apart from the leg episode, I don't think there has been. Not that I can pin it down, a link between the two. One seems to occur independent of the other – I'm just trying to think back – I can't really. It certainly, sitting here now, I can't see a link between the two really. They have occurred independently. There might be cases when they haven't, but I can't see the link really.

Alright, lets start on the more structured questions now.

Medications used for insomnia: Only since the accident – I spent two weeks in hospital getting pumped up with stuff [including] one pill of Temazepam [per night]. [Effective in that] it relaxed me. If disturbed I was awake though – up and about and fully with it. [No side effects].
Medications used for depressive symptoms: [Previously had Fluoxetene with no problems; and Prozac] for about a year from 2005 to 2006. [This year in February started on Fluoxetene again]. [Sleeping maybe two hours per day] really, really bad. [Insomnia is] definitely a side effect. But since the injury my sleep patterns were already disturbed. This just exacerbated it to the point where I had reached a real crisis point.

[Switched to Avanza] for the past 3 months, which helps a lot with the sleep. It's pretty regular now, but I've got a bit of anxiety sneaking in. I am still not fit to go back to [overseas work], but there is not much other work in Tasmania". [Currently taking Avanza 30mg, one per day] - In terms of dealing with the depression side, you don't find yourself falling down that big hole. You don't find yourself filled with joy – there is no happy effect – you just have your day go by normally.
If medications are used for core depressive symptoms (e.g., low mood/loss of interest or pleasure in activities), are they effective in alleviating your sleep disturbances? Avanza is, yes. Or, do the depression medications seem to contribute to the sleep disturbance? [Found this previously with Fluoxetene].
Do you consider yourself to have a family history of sleep disturbances? Yeah, at the moment. My father has got a fairly big sleep disturbance issue at the moment. For the first time? I'd say not, I get the impression he has always been fairly active at night.
Do you consider yourself to have a family history of depression? My brother certainly does. And my father is a fairly moody character anyway. Would you describe your brother's depression as a reactive sort of depression – something's happened – or something that has been more in-built or long-term? Long term. He was diagnosed as having depression since he was a young kid.
Do you consider yourself to have a family history of mental illness? Oh, just depression. (gave examples) no, no, none of that.
When did you first experience symptoms of insomnia? Probably at about 11.
Would you describe your insomnia as mainly transient (occasional bouts of insomnia between longer periods of no sleep disturbance) or persistent (ongoing difficulties initiating or maintaining sleep with limited periods of no sleep disturbance)? Transient, I'd say.
Are you usually unable to fall asleep in 20 minutes or less? [laughter] It takes longer than 20 minutes!
Do you regularly wake up more than once when trying to fall asleep? Yep.
Do you regularly wake up during the night for long periods of time before going back to sleep? Not since I've been on the Avanza. But prior to that? Yeah. With the Avanza I can just sort of roll over and go back to sleep. So you still wake up? Yeah, but not as often as before.
Do you regularly wake up too early in the morning and are unable to go back to sleep? I used to, yeah. But not currently. So you have sort of had all different types of insomnia then – difficulties falling asleep, staying asleep and getting up early. Yeah, and it's interesting too when I've been on the [work] cycle – once I get locked into the cycle I'm quite okay with that [talked more about work tasks and travel overseas]. How long does it take you to adjust? Oh, a day. I don't know why it is, it has never been much of a problem. You get that highly structured sort of a day. Everybody hates the midnight until three. The evening is broken.
Do you tend to have thoughts racing through your mind while trying to sleep? Yep. Are they everyday thoughts or disturbing thoughts? Can be, yep, and a mixture with just everyday thoughts.
Are you usually bothered by anxiety/tension when attempting to sleep? If I'm anxious or tense, yes [laughs]. More often than not or less often? Less often – I guess it depends what is going on in your life.
Do you, or have you, experienced symptoms of excessive daytime sleepiness? Oh yeah, when you've got a good dose of insomnia that you're dealing with. Or you've had a bad night. If yes, do you think this is primarily associated with insomnia (rather than other conditions, like

depression)? Mainly insomnia, but I guess there have been times when I've been really, really down and just wanted to pull the covers over my head and sleep. And you attribute that more to depression? During the day, yeah. When it's not associated with insomnia – yes, I've had that happen when I've had depression. Depression on its own? Yeah.
Do you often take naps during the day or feel like taking naps during the day? No, but I have done [when on certain work cycles and in certain climates, the humidity] can take it out of you.
Have you seen a professional to seek treatment specifically for sleep problems? No.
Do you keep a reasonably regular sleep schedule? [laughs] Not in the past fourteen years, no. We will be working six months on one routine and six months on another cycle. I would normally go to bed at 9.15 or 11 o'clock depending if there is something on TV. What time do you wake up? Early in the morning – I have to Monday and Tuesday. What is early? 6 o'clock, and then sometimes I might get up at nine in the morning. If my [injury] is giving me grief or there's no sleep I will stay in... I can be quite slothful. I much prefer having to get up and earn some money.
Did you have a regular work schedule in the past? I guess I did for fifteen years
Do you regularly travel across different time zones? Not regularly, no, but it happens. So, you have experienced jet lag symptoms? Yeah. What have they been like for you? [described one case in 2000] fell into the time zone quite easily here but when I travelled back again I tried to get back into the time zone but was awake all night and tried to work and then [later in the day he thought] can't do this. It took two or three days after the first nasty day to get back into sync. Just tired, absolutely exhausted like really bad insomnia. [Discussed possibility of differences in east to west versus west to east travel].
Do you usually consume alcohol, nicotine or caffeine during the last four hours before bedtime? This is the least I have drank in my life currently, and it will probably stay this way. I'm not completely off it though. I don't smoke tobacco, and caffeine I never really drink after about midday.
Do you regularly exercise? I guess that is difficult for you at the moment, but did you used to? Yes that's impossible! I guess the life I was leading I didn't really need to. I used to walk a lot – a kilometre or two. Did you do that late in the day or earlier? All times really.
Do you use certain methods to assist you to fall asleep? Reading, just go to bed and read. Does this work? Yep, but if I start reading a really good book I will keep reading until the morning. I once read [a lengthy novel] in 18 hours [discussed book].
Have others ever complained about your sleep habits? Sometimes some snoring.
Do others often awaken you or prevent you from sleeping (e.g., children, pets, neighbours)? It hasn't really been an issue.
When did you first experience symptoms of depression? 14 years of age.
So, then, do you think that something specific initially contributed to the onset of depression? Sort of anxieties at matric. Is this factor an ongoing issue for you? No – [but referred to current injuries that are]. Do you think that sleep disturbances may have played a role in the initial onset of depression? I couldn't say. Really interesting thought.
Have you experienced more than one depressive episode in your lifetime? Yes. Do you normally experience insomnia prior to each depressive episode, following each depressive episode, or at around the same time as each depressive episode? (all of these may apply). Yeah, I can't really give it a correlation for the times before the leg episode, and I think with this [referring to injury] it's a really big subject and I think this should not really be taken into account for this situation. It's just such a really big thing that has had a really big impact. I can't really pin anything down. It's not something that I have been aware of. I don't really

dwell on cause and effect things, because I don't really dwell on it, so it's really difficult for me to answer. I could say that there could be a link between the two – but I can't – that's just a gut feeling about it. But to recall specific instances… Is there no time that you can remember when you couldn't sleep and then feeling depressed after, or vice versa? There have been some cases where I have had the two at the same time, yeah. But you can't recall which came first? While being down, just staying awake, yeah, it may have brought on the insomnia sometimes. I think that that has been a couple of times – when in the black mode, and then that [insomnia] sort of goes with it, yeah. But to say one induces the other – I couldn't say that.
Do you consider your insomnia to be related to your depression symptoms? I'd say yes, thinking about it that way, yeah, it's been there at the same time. But its not exclusively linked to it because I have had it at other times when I am not depressed. So, then, do you consider your insomnia and depression to be independent conditions? Yeah, independent, but they can go hand in hand at times. Do you think that depression may cause or worsen your insomnia symptoms? I don't know about worsen. When you're awake you're awake, but, yeah, you can be awake badly. It can maybe just make it all that more difficult to get to sleep. Instead of being awake three quarters of the night you may be awake all night or something. Do you think your insomnia may cause or worsen your symptoms of depression? Yeah, after a month of not sleeping – almost two hours a night – on top of all the other issues I was confronting it brought on a big crisis.
Do you see insomnia as a 'secondary' symptom of depression rather than a 'primary' diagnosis? So you're saying that it is a primary diagnosis and that it's independent? No, I see them as being two separate things with me – sometimes they occur at the same time but generally they have been a separate event.
Do you consider sleep disturbances to be a sign that you may be at risk of a depressive episode? I've never made the link – I've never really paid much attention. So, you don't ever have sleep problems and then think 'oh no, I might become depressed'. No, no.
Have you ever experienced insomnia without any other depression symptoms (e.g., when in remission/partial remission/prior to ever experiencing depression)? Yes.
Have you ever been depressed without having any difficulties sleeping (including being excessively sleepy)? [hesitates] Yeah. How often would that be the case? What percentage, say, of you being depressed – roughly – would there have been no sleep difficulties? Let's say fifty per cent. It is not something that has made me sit up and take notice – it is just something that happens. I don't sit up and think 'there is a link here'.
If you did not suffer from depression, do you think you would still suffer from sleep disturbances? Yeah, I'd say so.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)

1 Depressed or low mood

2 Difficulties thinking or concentrating and indecisiveness

3 Thoughts about death or suicide

4 Sleeping difficulties (because on the Avanza it's okay – there are still occasional difficulties getting off to sleep)

Any weight changes are not depression-related – 'just a winter or summer cycle anyway'.

Loss of interest or pleasure in activities and physical slowing or agitation are not currently an issue.

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Depressed or low mood
2 Sleep disturbances (insomnia)
3 Unusual difficulties in thinking or concentrating and indecisiveness
4 Thoughts about death or suicide
5 Loss of interest or pleasure in usual activities (greater than two weeks)
Depression-related weight changes and physical slowing or agitation 'have never really been an issue'.

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 depressed or low mood
1 sleep disturbances (insomnia is equal first – both have had a pretty big impact)
2 Unusual difficulties in thinking or concentrating and indecisiveness
3 Thoughts about death or suicide
4 Loss of interest or pleasure in usual activities (greater than two weeks)

SYMPTOM ONSET ACROSS THE LIFETIME (in order of onset)
1 Sleep disturbances (insomnia)
2 Depressed or low mood
3 Thoughts about death or suicide
4 Difficulties thinking or concentrating and indecisiveness
4 Loss of interest or pleasure in usual activities

TYPICAL ONSET OF SYMPTOMS FOR SUBSEQUENT DEPRESSIVE EPISODES
Uncertain

Note: Checked that suicidal ideation was currently being addressed – assured that the participant's psychologist had been working through this with him.

Participant E

The Participant: 65 year old male with (self-reported) long-term insomnia; previously diagnosed with depression, which has involved a 'reactive' major depressive episode.

Transcribing notes:

Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.

Red writing indicates interviewer

Black writing indicates interviewee

[Introduction provided].

Please tell me a little about your experience of depression and what it means to you in your life...

(pause) A lot of the questions won't be spontaneous because I have to search.

Yes, that's okay, take your time.

A reduction in quality of life. Tend to become very insular and withdrawn. I'm not a person who has – well I don't have any friends; I don't seek friendship for reasons unknown.. Very helpful to other people – I like to give but I don't ask in return. Possibly mentally fragile in as much as, have been hurt in the past, and because of that you tend to insulate – layer upon layer.

Yeah.

Yeah, okay, so you don't currently have depression? And so, why do you think you had depression in the past - because of the hurts that you just mentioned, or?

As old as my drivers license says I am now, I'm still immature: emotionally immature. And (long pause) I'm – being better educated psychologically and understanding symptoms you experience - it's almost like mentally rehearsing that you can foresee what's coming, you become more analytical with life's experience and you're not as reactive. You just tend to emotionally step back a little bit.

So it was just the one time that you had depression?

No (laughs) as far as depression, from '87 until 2000 or something.

And do you mind if I ask again how old you are?

Ahh, you'd have to calculate that.

You're not a birthday celebrator?

Well I came to Tasmania in '90, and we've been here ever since. Well, because my mind is like it is I don't tend to ask too much of it. I tend to deal with the existing present.

Do you know what year you were born?

Yeah, '44.

Okay, could you please tell me a little about your experience of insomnia and what it means to you in your life?

Essentially the insomnia started (long pause)...

Yeah, okay, we will get to when it started and that sort of thing, but...

Oh, how does it affect my life?

Yeah

I haven't allowed it to. Right. I ignore it as an entity: if you want to give it an identity, I ignore it. Therefore I don't confront it; I don't allow it to affect me.

What about your functioning during the day?

Because my functioning is so specific, I'm very astute and do my job very, very well. But again I work in isolation. Obviously in the daytime down in the [workplace] I switch on professionally and I act professionally. So what sort of work exactly? [described the nature of his job].
Okay, so it's not really a big factor in your daily functioning?
Because I'm so regimented, and I've got structures – coping structures in place. What sort of coping structures? It's almost like I step into an environment and I switch on, and I undertake all of those functions required, and then I step out and there is nothing.
There is nothing?
No, there is nothing outside of my work. I step outside – my work is my life I seek out constant employment. If I could get enough work to fill up 24 hours I'd be happy.
So, how does insomnia affect your functioning outside of work? Do you crash at the end of the day?
There is nothing outside of work. I live where I work. A normal day for me is –and you've seen the hours – a normal day is 5.30am until midnight, seven days a week, 365 a year.
And what do you do outside of these hours?
That's when I lay on this platform, and then when the clock says 'get up', I get up and undertake my duties.
You don't try and sleep; eat?
I do recognise that is – if I could relate it to you – and I say this to my wife sometimes: if, in the middle of an AFL football match, you took a player off the field and said 'lay down sweetheart, it's sleep time', and he's charged with adrenalin, and he's lying down and he lays there and looks at the ceiling and then clock will say and it's time to get up.
I never get yawning, sun goes down, your circadian rhythm says 'now it's time to sleep, roll in your cave – off you go'. You don't get it?
No, none of that, I don't experience any of that at all.
Have you ever? Not that I can remember.
So how would you say your sleep patterns have changed with age then - at all?
No they haven't. It's consistent. My life is the same as it was since '87 when we decided to come to Tasmania.
So why do you think you have insomnia?
It's not a subject I've researched at all. There will be interesting newspaper articles I see at times and I can identify with the text I'm reading. Why I don't sleep, I don't know.
Right, okay.
And I had a very structured life as a child, and a very normal house. There was nothing adverse in my childhood – no triggers or anything that I am aware of.
That's interesting, and that's important to know.

If you just imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your life?
It may have enhanced my marriage. I've got little timelines, like '83 I moved out of [interstate] and that's when we started the single beds – we just had single beds, but in the same room. And the situation now is two separate bedrooms. If I do get to sleep, I'm extremely sensitised and the slightest noise – even a building movement – even the creak of a building movement, my level of consciousness when I sleep is so shallow that the slightest noise will cause me to wake – not in alarm, not as, you know, like a...
Yeah
It will cause me to waken from my level of consciousness. And, once I've dozed, even when I was retired. I went to (Tas location) in '90 until '97 so I was retired for 7 years – working again, still getting up before dawn and not going to bed until after midnight and being extremely resentful when I had to go to bed. Very resentful.

Did you do it for your wife, is that what you mean?
No, just with – the clock had moved on in time and the clock said that this is the time you go and lay down. And caused extreme resentment.
And are the separate bedrooms because you disturb your wife in the night? No, it was the opposite – my wife is a noisy sleeper – but even if she turned...
You'd wake up?
Yeah, I would wake up, and I knew from past experiences that I would never, ever go back to sleep, until almost 24 hours later, before I had the opportunity to lay down again. I would be so resentful for those seven years. Two things I'll highlight there: one is that, when I would watch television I would lay on the floor with my back and put my legs up on the chair – and, I learned to read SBS upside down on the screen, but if I dozed then for a second – that's an exaggeration, I'll get a bit more precise when I'm speaking to you now if you're doing this – but if I dozed at all, it was a waste of time going to bed, because – past experience – I knew that if I dozed there even for microseconds, that I would not have any sleep pattern at all if I went for bed. And secondly, when I was so resentful when I had to go to bed, I would vocalise – I can't remember being angry – but I would vocalise. I'm very considerate to my wife. If I'm like this that shouldn't impact on her quality of life, I'm very conscious of that. But she would encourage me to say something she could see, and I would just say that I just wanted to be taken apart and put in drawers – like, disassembled as a body - and then in the morning she would take me out and put me back together. That was my way of describing my distress at 'now its dark, now it's midnight, we can't stay up any longer, you have to go and lay down'. But I was so resentful that I had such an aversion to it - I just wanted to be disassembled and put in drawers and in the morning reassembled, and that was the way I described how I was feeling. Wow.
With no psychosis. No psychosis, yep.
But that is extreme.
So, have you been formally diagnosed with insomnia?
No. No, most people haven't.
I wouldn't go there because, it is such a minefield and such a door-opening experience. If I go there I may not come out....because there's nothing people can do. I've been told in [interstate] with a person, and this person said to me that – 'short of giving you an anaesthetic, you will not go to sleep'.
Have you been to a sleep clinic or anything like that?
No, no, no.
So, you're sure that there is nothing else that might be causing it?
(indicates no)
Mmm, it's very interesting.
My acceptance of it is, that I would describe it – 'it is as it is'.

Alright, now imagine again for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your experience of depression?
It would have – I would imagine – that I would be more mentally alert, my disposition would be brighter, I would be less intolerant – I'm very intolerant – but again, that's internalised, that's not externalised. I don't make demands on other people at all, I internalise a lot. That, physically, what can I say? Everything only works. I used to be 120 over 80 and now I think I'm 130 over 90 or something. I went out once for brain scans. And, from what they said - this is me trying to repeat what I was told as an example - they said that all the channels are flowing – you might know what that means, I don't know, but apparently all the head is good. Everything about me physically is good – heart, lungs, liver, no arthritis. So I can't say that my physical quality of life would be better if I had a normal sleep period in my 24 hour day. I don't see that I'm lacking

anything. When I gave that example of three days and three nights, my legs had become very, very wobbly. Mentally I'm still bright and astute. As bright as you would otherwise be? Yes, like, that's just like my base level sort of thing.
So, the 3 days and 3 nights – just to clarify for the recording – that was... how many hours sleep did you have? Zero. Zero? Right.
And, at that stage then we were looking after [a workplace], and they were staffing that up so I had everybody from [another workplace] coming through, interacting with them, recognising them, remembering their names and giving them their [goods]. You know, so there was nothing which caused anybody within my management structure any reason to question my ability to do anything.

Very good. Alright. If you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is? (but, if you don't think there is one...).
I don't... I can't correlate one with the other. I don't know from my personal life experiences whether one is dependent on the other and/or whether one triggers the other or not. The depression that I experienced in my life for a period of years was reactive depression to a set of specific circumstances rather than a genetic depression. But once I experienced those symptoms, I was consciously aware of them, I accepted them for what they were – that again, it is as it is. There's nothing - once you're wired up, as far as I'm concerned, you're wired up. For depression, or...? Yes. Depending on the therapy you choose, whether it be cognitive, or... essentially I see that you're like a piece of spring steel: you can bend it over and wire it down – with humans you can wire them down chemically. But as soon as you release those constraints you just go back to where you were. If you can't learn to manage your own circumstance well then there's really not a lot out there that can help you. You know, you can have talk therapy if you need your hand held, but then you just become dependent on your therapist and you can't, you can't work and... (pause).
That's not the idea of it, yeah, but it does happen. So, were you formally diagnosed with depression at this time?
Yes, as a generalisation, but it was only ever somebody's opinion thereof, but...
With a GP?
No, with a clinical psychologist.

Ok, so the following questions are going to be a bit more structured now, so just 'yes' or 'no' – some of them are a bit more than 'yes' or 'no', or 'unsure'.

Medications used for insomnia? Yes – [Stilnox prescribed currently - half a tablet once per day - used for 18 months but not effective] Better than nothing? No [No side effects]
Medications used for depressive symptoms? None ever So you saw the psychologist instead? Yes Did you find that effective at all? No That's not good to see!
Do you consider yourself to have a family history of sleep disturbances? The rest of my family is 'normal'
Do you consider yourself to have a family history of depression? No

Do you consider yourself to have a family history of mental illness? No
When did you first experience symptoms of insomnia? Approximately 1987. But there was no trigger at that time – or, no known trigger? That was when what natural circadian rhythm I had was totally messed up. Which was more normal before? Up to that point it was more normal.
Would you describe your insomnia as mainly transient or persistent and chronic? Persistent and chronic.
Are you usually unable to fall asleep in 20 minutes or less? Yes
Do you regularly wake up more than once when trying to fall asleep? I can go to sleep, but then it's so shallow that I'll wake up quite quickly
Do you regularly wake up during the night for long periods of time before going back to sleep? In my case, once I wake up I stay awake.
Do you regularly wake up too early in the morning and are unable to go back to sleep? My case is, in isolation, just so different to everybody's. Irrespective of the 24 hour day, from the time I lay down, whether it be now, I will wake within two hours, or if I go to sleep at midnight I will wake within two hours.
Do you tend to have thoughts racing through your mind while trying to sleep? No. I'm aware of what you're soliciting there. This is why I was being very analytical. No.
Are you usually bothered by anxiety/tension when attempting to sleep? I live in a constant state of some anxiety – work generated. On a scale of one to ten, with one being lowest anxiety and 10 being extremely anxious, where would you be? Only about four. All of the time? Constantly.
Do you, or have you, experienced symptoms of excessive daytime sleepiness? Not excessive.
Do you often take naps during the day or feel like taking naps during the day? No.
Have you seen a professional to seek treatment specifically for sleep problems? No.
Do you keep a reasonably regular sleep schedule? Yes. Yes? And that could sound – I'll qualify that by saying that I'm aware of what they write in the books. When I go to bed. Because of the example of the football that I gave you, when I make myself lay down, as in preparation for this is upcoming sleep time, I will listen to the radio. And that's laying on my left side looking at the radio, and then I switch the radio off and then I switch [his name in the third person] on to go to sleep, and I roll him onto his right side. And that's a formulated structure too - this is the commencement of your attempt to go to sleep. Okay, so as far as times go, then, what time would you normally go to bed? As it is now, at the moment I normally go to bed at midnight. And what time do you get up? Between two and 3 o'clock. I don't know how you do it! Or less. Do you have a regular work or daily schedule? Well the answer to that – believe it or not – is yes. I do lead a structured life. So what would you say about work times – start and finish? I have two work structures: at the moment when I'm principally within the [work location] I go to bed at midnight deliberately because I know I'm only going to have that little period and I have to get up at half past five, so I try to move that period closer to my get up time. Right, so you start work at 6 or something do you? Yeah, about half past five. And then, jobs such as [other work locations] where I work all night, I lay down at 7 o'clock in the morning and then I'll wake up between nine and 10, or less. And what time would you start work? As soon as I wake up, I put my feet on the floor and I'm working.

So, how often would this work routine change? It never changes, because I intentionally seek out what I'm doing now. I don't have to work, I choose to work, to keep my day full, to do something.
So when would it change, though, from the midnight sleep to 2am to 3am sleep from the lay down at 7am?
Once or twice a year. Okay, so it's not every other week then?
No, it's not like regular shift work. Being self-employed, what I describe [transient work patterns] whereby I will go on to jobs at 4 o'clock in the afternoon when they knock off and stay there over night until the others come back at seven in the morning, fill in the night and then come back to my real life, which is [near home] which is half past five in the morning until midnight - because my wife works with me, she will fill in when I'm not there. So wherever possible I will deliberately work all night.

Do you regularly travel across different time zones? No.

Do you usually consume alcohol, nicotine or caffeine during the last four hours before bedtime? No.

Do you regularly exercise? Yes, I walk around 21 hours a day!
More than most people! So it does occur within four hours of going to bed then? You're walking on the job? Yes, physically active. I have done a lot of weight training and – I'm familiar with that – and that did not alter what I'm describing to you as my lifestyle at all.

Do you use certain methods to assist you to fall asleep? No.
You sort of have a schedule happening, though, don't you? Like the radio. Yeah.

Have others ever complained about your sleep habits? No, because I don't mix with anybody else. What about your wife? Ah, no, she never complains, no.

Do others often awaken you or prevent you from sleeping (e.g., children, pets, neighbours)? No. My lack of sleep isn't dependent or influenced by noise generated by other people.

When did you first experience symptoms of depression? '87. So that's the same year as your sleep? Mmm, they're all interlinked. Which came first in that year? My sleep disruption was more driven by a 24 hour work period – my life is dictated to by the employment I seek out. In 24 hours I had two lots of four hours off. Yep. Did that happen before your depression onset? That preceded, that sleep disruption preceded the reactive depression by nine to 12 months.

Then, you do think that something specific initially contributed to the onset of depression?
You must prefix that with 'reactive' as opposed to... yes, yes.
Did you want to talk about that a bit more, or? Oh, it's just, it was a personal...(pause)
Yep, a personal matter. So, it was something pretty definite though?
Oh most definitely. Yep, a definite trigger. It was a date marked in my brain's calendar.
Is this factor an ongoing issue for you? I carry symptoms of that forward, yes.
Do you think that sleep disturbances may have played a role in the initial onset of depression? No, not in my case.

Have you experienced more than one depressive episode in your lifetime? Ah, no. But you have had ongoing...? Again, my situation is so personalised and unusual: I believe by self-education I can modify how I think.
Ok, so you think that, if you weren't able to do that, you may have...? Yes, without the education I have given myself – this is psychological education – I could have been exposed to much more serious symptoms, yes.

Do you consider your insomnia to be related to your depression symptoms? No.
If no, do you consider your insomnia and depression then to be independent conditions? Yes.
So, what is your reasoning for their independence?
I'm able to identify them each with individual markers and I'm very aware of the effect each of those conditions has on me mentally.
Alright, thank you.

Do you see insomnia as a 'secondary' symptom of depression rather than a 'primary' diagnosis? I'm taking it that you mean no, because they're independent? Again, I can only reference my own individual circumstance. So, your insomnia is not secondary to your depression? Not in my case. So, you would say they're both like a primary diagnosis? Yes, they've each got a stand-alone value. Equal value? (long pause) because often insomnia is considered to be a symptom... yeah, to identify each one, they are of equal reduction in quality of life.
Do you consider sleep disturbances to be a sign that you may be at risk of a depressive episode? No.
Have you ever experienced insomnia without any other depression symptoms? Yes.
Have you ever been depressed without having any difficulties sleeping? No.
If you had never suffered from depression, do you think you would still suffer from sleep disturbances? Yes.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)
The higher the number, the greater application to the participant (out of 10).
1 Sleep disturbance – *(insomnia 10 out of 10 prevalance)*
2 Loss of interest or pleasure in usual activities – *9/10*
2 Difficulties thinking or concentrating and indecisiveness – *9/10* (I have difficulty reading and comprehending – sometimes if I'm interested in the subject I will have to go back and re-read in order to absorb it)
3 Physical agitation *8/10*
Currently no depressed or low mood, depression-related weight changes or thoughts of death or suicide.
'My weight has never been dependent on how I feel psychologically'.
[Has never had thoughts of death or suicide]

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Sleep disturbances (insomnia always there) – *10/10*
1 Prolonged loss of interest or pleasure in usual activities – *10/10*
2 Unusual difficulties thinking or concentrating and indecisiveness – *7/10*
3 Physical agitation – *5/10*
4 Prolonged periods of depressed or low mood (2 weeks or more) – *4/10*

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Sleep disturbances – *(insomnia 10/10 impact)*
2 Loss of interest or pleasure in usual activities – *8-9/10*
3 Difficulties thinking or concentrating and indecisiveness – *7-9/10*
3 Physical slowing or agitation – *7-9/10*
4 Depressed or low mood – *4/10*

SYMPTOM ONSET ACROSS THE LIFETIME (in order of onset)
1 Sleep disturbances ('I would say the sleep disturbance is the primary driver, and because of that it makes me susceptible to the symptoms of depression or low mood')
2 Depressed or low mood
2 Loss of interest or pleasure in usual activities ('reduced value or quality of life')
3 Physical agitation or slowing *('slowed movement and speech would be equal' – related to depression?* – 'perhaps associated with withdrawal'*)*
4 Difficulties thinking or concentrating and indecisiveness...

...When I've got minimal mental energy to expend, I procrastinate...I can have limited number of bills and I just cannot walk up to the post office to pay them. For a whole year I didn't put in any accounts, and they demanded of me to give them the accounts. And once I had to get one of the secretaries 'round to write them out. Do you think that's related to, as part of the depressive syndrome, or insomnia for you? It is as a result of - I've only got so much mental energy and I appropriate that to what I need it for, and anything superfluous outside of that I just shut off - it just doesn't exist. Is that because of the amount of sleep you have, do you think, or depression? Somewhere back in the history that [insomnia] drove it, and now its such learned behaviour it's got its own identify. I compartmentalise so much – I'm very, very structured, and everything – my situation is tenuous in as much as its living on the edge all the time. So I've learned to put everything in boxes, and when I've got the physical and mental energy I will go to one of those boxes and action whatever that box is and give them a priority order – and that can change. I've had to develop life skills to still be here now – to operate at this level, because there is no reserves of anything. Because of your lack of sleep? Yes, that's driving the whole issue.

Participant F

The Participant: 52 year old female who suffers from self-reported insomnia and GP diagnosed depression (both have been relatively long-term and chronic conditions for the participant).

Transcribing notes:
Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.
Red writing indicates interviewer
Black writing indicates interviewee

Could you please tell me a little about your experience of depression and what it means to you in your life...
Well I think you notice a changed outlook on things and you see things differently than – you've almost got two minds happening. You think 'this is the way I should think – I'm thinking that way', and then you're looking at situations or people, and you're thinking something about their life, but it might not be true. You might be saying 'I feel so miserable – they look so happy', but you've got no reason to base it on that – you know? If you swap places, they might be feeling like you do. So I think it just alters your perception of your everyday life. Yeah - your reality? And you base it on – I suppose – people's reaction to you and what they say. See, younger people will say something like 'get over it, snap out of it'. Like, it's a cold or something? Yeah, like something is just happening and you can just ignore it. I think one side of you – I'd say there's some change to that: I think sometimes it might be weather affecting it. You might think, well, you feel lighter when there is more light, and you feel darker when you're living in a dark environment. So I think that's interesting. Yeah that's interesting. So I wonder about that you know – that it's related to the weather conditions - the season effects sort of thing. So, anyway, I'm not an expert in this - just how I feel. And you have a reduced capacity to deal with things. You might think that in a different stage of life you could have coped with things – like, I talked about my son's illness [cancer] – you've got five things happening, you could have had your house being half built and your children dying and your other kids have got to get to school and you're attacking everything. And then other times you think it's an effort to get through your day. You know, like, say something happens and the dog needs feeding and you've forgot it and you've got to catch a bus and – you know, things happening together -and rather than saying 'well, I can catch the next bus' – so your thought processes have jumped on top of the other and yet you can't prioritise, and then you just get a bit tearful and you don't know what you have got to do. You know, a lot of things happen like that - you don't cope with variations easily. Whereas other times I think 'that's no big deal' and other people might think 'why can't you cope with that? That's not a big deal'. So minute things can be big things. Yeah, that's a good way to put it. It is hard to explain. Yeah, no that's good.
Okay, the next question is 'why do you think you have had depression?'
Why? You may not know, but... You just get into a big sort of hole. Because a person tries to maybe think too much about depressing matters, I don't know, but you try and fight it with your own mind. I've looked at things like particular approaches – the medical approach and, you know, you've got that one that's called.... and it's on the information thing that comes with 'beyond blue' – cognitive something therapy. CBT? Cognitive Behavioural Therapy? Yeah, that one. So I looked at that one and I felt that – not that I've actually worked closely with that - but that would be more my approach. And when I heard, saw on the DVD, people who had done the two different ways of doing it, they felt more empowered I suppose by doing that one. Because I was worried that – you don't know the different drugs and things – how much a hold they're going to have on you and how much you might lose your capacity for thinking. So you

think that CBT works for you? Yeah, the little bit I've learnt about it, I've tried to apply that. So if we go back to the question 'why do you think you have had depression?' do you think its to do with your thoughts being negative, or..? Yes, and the dips in my behaviour and my feelings and my health in general, and my capacity is reduced. But as I've seen from people they sort of tell you – so that's an interesting point because I haven't really got to the point of really getting to the end of really working it all out yet, so...
So there's no specific thing that you think might have caused it for you? Caused it? Well, I think prolonged stress, I think, and probably worries over, first of all, my son's illness and then – whether that was a factor but whether it was just a natural factor in our home life - and I think - I had a very controlling partner. Right, yeah. So that was over many years where, you were trying to resolve all of the family issues rather than stepping back and saying 'oh, that's not my problem', you know, like, you adopt all the problems. You accept all of the problems. So just in the last two years I have ended that relationship. I've still got the backlash of all the children's issues, so... so I think that's a total stress thing. How many children do you have? I've got six. You've got six children? Wow. I mean, when they're younger they're not so stressful, but then there are illnesses, and then they grow up and then they become more stressful. But we're getting through it. Well, it sounds like you're trying to cope pretty well.

Now could you please tell me a little about your experience of insomnia and what it means to you in your life?
Oh, well I think that goes with it, because in that process you're either avoiding the next day because you don't want to face another day or you haven't really finished with what you're doing. And, indecision is another big one. And worry: you might just be worrying - it will stop you from going to sleep and then other things will wake you up and then you can't get back to sleep. So you have two ends of it. You have the – sometimes you might go totally all night and then you're sick of looking at nothing, so then you might do things. So then you might think of something you can do – read, or – do something why you're not being able to sleep. Take your mind of things? Yeah. Well you're just so tired that your body has got no option but to sleep because sometimes you might go a couple of days without sleep. Sometimes you go a couple of days? Wow. Yeah. You go right through and then your day starts and then you've got to keep going, so then you end up just having snatches of sleep, and it can probably take you a few days to catch up. And how does that impact on you in terms of your functioning? Well, it's physically dangerous for driving – that's one big thing. It's impacted on me because I've had to put off my work, which has created another stress. Because of that. Because one of my jobs was driving, and driving [other people] – so that was my responsibility. I was sort of managing it but it got to the point where I had too much stress and couldn't manage it. And this was from mainly insomnia, rather than depression, do you think? Yeah, more from the insomnia. Oh, that's difficult. So it has impacted on you quite significantly then? Just of late, yeah. So this is just lately? Well, I think I've just been hanging on the hairline, type of thing. Because then you learn to manage, because you can't go in a heap because you think – well, even if you would like to take a big long break from everything - you've still got all your kids and your daily life you've got to try and do, so you've sort of got two lives happening at once. Yeah, it's a lot to deal with at once too. Yeah.

The next question is 'Why do you think you have had insomnia?'
Because I think – I can't do a regular sleep pattern - that's one thing. And it's almost like you've got to be absolutely dead tired before you can actually go to sleep. One thing I've tried to do is have my electric blanket on to make it really, really hot. So if you've got a really hot bed it will just knock you out. So I've tried little tactics like that. That's one thing I did for a while. Yeah. Actually I've heard lately that actually a colder room is better. Yeah? Because your temperature

naturally drops when you're going to sleep – so if you do that in the external environment – make it a bit colder – not too cold so you're uncomfortable, but... So the air should be cold rather than warm air from a heater? Yeah. That's a thought, because I always thought when it gets warmer I drop off, so I hadn't thought of that. Yeah, well it might be worth a try anyway – I suppose different things for different people. Well I'm going to see the specialist [doctor to do a 24 hour sleep study]. Yes, they might be able to give you some good insights into what is going on. So you said you can't do a regular sleep pattern. What do you mean by that? Well, I don't have like a 9 o'clock bed time sort of thing. Because of work-type things or just your natural cycle? No, because I've just never been successful sleeping I don't think. So its not external things that force you to have a different sleep pattern? No, not always, no. Because there's no-one saying 'you've got to stay up until later'. So, in recognition of that I try to have a 9 o'clock bedtime for the kids to try to get them in the pattern of going to sleep early. Yep, good idea. They say, too, that getting up at the same time everyday is important – even on weekends – and often eventually the night time follows. Yeah, well that's what I'm thinking because I've got some kids that think its great to stay up – it's the big thing to do when you're a teenager [speculated about age-related changes in sleep].
So, you don't really know why then, that you've had insomnia? It's just something that you've had to deal with? Yeah, why? Yeah, I don't know, well, what would be a reason? Well, depression can sometimes be a reason for some people, or perhaps other problems, and vice versa... Yes, that's why I wouldn't know which would come from the other. But I think maybe both things maybe come from the other – being a personality of a worrier, because you worry about things that you don't need to worry about – I guess that's part of why you have the depression side of things because you're worrying unnecessarily over something that shouldn't require that much worry, or any worry at all. So they could both come from that one thing? Yeah, I'm not sure about that because some things, yeah - you're attending legal things and you know that if you do something wrong it could stuff up your whole life, or, you know? The things I've had to face – access to your children or custody, or settlement, or if you're selling a property you're going to get a certain income – it means you can either have a house or can't have a house – they're sort of life decisions that are outside your control. And you might write a document or you might provide information that could send that decision one way or another and so you might think 'should I say that or should I not say that?' and you might take all day worrying about it. [In one situation] I had to rely on another person to do their part so I could do my part. And then they refused to do that, which meant I couldn't do this other bit, which turned out that it wasn't really that important anyway. But I spent all day crying about it because I couldn't cope with how I was going to deal with it, because it involved another person who wouldn't cooperate. Yeah, outside of your control. You try and do everything yourself because if you rely on another person they might let you down. You might think 'I'm upset or angry about that' and then you might move on, but you wouldn't sit there six or eight hours stewing over the same sort of thing – because it's very unproductive - it doesn't actually improve your outcome in the end. Yeah, at least you know that, though – you can recognise it. But sitting there like 'I should be doing something else but I can't really do anything else but this' - it's really sort of stupid in a way. In a way awareness is probably bad for you - if you weren't aware... it's hard to know... Yeah, I see what you mean.

Okay, so just imagine for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your life?
Well I think I would probably be a lot more relaxed. Probably happier. Probably even more confident, because I think it does knock your confidence around a lot [long pause].
Yep. And obviously your work would be different now – your ability to work?

It would be because, what happens is, I work in an area where you can give a certain amount and nobody notices. But you give a certain amount because that's what you feel is required – or, you do your best effort sort of thing. But you look at all the people who are really slack, and it doesn't matter, they still get paid just the same [laughs].

Yeah, now imagine again for a moment that you have never experienced any difficulties sleeping. What difference, if any, do you think this would make to your experience of depression?
Well, it might allow you to get on top of it. I think you'd probably feel a lot healthier – healthier mentally I think, getting to sleep. Because I think tiredness, it becomes a given, sort of thing. And sometimes its like – its also an 'out', because if you don't want to relate to other people, if you're tired and you're sort of nodding off, its your way of removing yourself from other people. Yeah, I see. So it can be like an escape as well. So it can facilitate some of the things you get with depression? Insomnia can allow you to... Well, just when you have something with people or you – because you're not really there mentally, you can almost take yourself away bodily – you're there physically but you're mentally gone, sort of thing. So that can probably be negative in a way - that when you want to be alert, you're not alert - but on the other hand, when you don't want to be in the situations that you really are in – say you're in a group thing where you can't escape - you can not be there. Do you know what I mean? Yeah. Well, if you're not happy with the situation you're in. [Talked about being in a room that feels like a prison] So, I think your physical environment can make a big difference too, and feeling trapped, I think. Because that's what depression does: trap you, as well. And that could relate to the fact that a lot of things are taken out of your control. Like if your job is taken out of your control, if you've lost your house, lost your family. All of the things are out of control, and it just takes that away because you aren't in control of your life anymore.
Yep, so that's a big thing for you then? That's a big influence on depression for you – things being out of your control? Yeah, and that's what the depression does – it takes almost everything away, and there's nothing left, and you just fight your way back. And does the insomnia then make that worse, would you say? It does because you've lost all of your strength. And then I think because you can't cope you feel a failure – and you've got all your worry and stuff – but then if you're tired that means you can switch off. I suppose other people might do it with taking drugs and stuff like that. You know, that might be one way of doing it - like you're altering your experience, and if you're not a person that goes down that path... [talked about how some people who aren't very happy might smoke marijuana to 'go off in another land']. You know, if you haven't got that, like, if you can't get drunk and do something like that... then I suppose that's one way of altering your...[pause]
That's interesting. That's like a positive - almost. Well, yeah, because then you do have some control. No, well, it's hard to say. I suppose it comes back to the avoidance thing really, because you're not happy with where you are. If you're sitting there in full reality of a terrible situation going 'how bad can it get?' – and I think that's where some people get to the point where they're thinking suicidal – they're thinking 'this is my only way out – is to really go for it'. So I'm really conscious of those sort of thoughts. And if you really feel like giving up totally... well you can't. Then you have to hold onto something that's important in your life to be there. So when you have kids – that's important because then you can say, you know, they need you. But what if they didn't need you? Well, yeah. Well then that might be different. So if they tell you to get lost or, you know... I'm not saying this personally, but if you take it on personally then you can feel that you're not important – they don't need you. So, you send yourself down a very negative path. If they're what you're relying on to give you the strength to keep going and they pull that out from under you, well where do you go? Yes.

Alright, now, if you consider there to be a relationship between insomnia and depression, what do you think the nature of this relationship is? (or tell me if you don't think there is one).
Well I suppose, really, I'm wondering, and I thought 'I don't know which one comes first' – but the insomnia did come first – so I would say perhaps that was more a contributing factor – or, one of them. Because I think that's not the only one, in my case. So insomnia was a contributing factor to depression? One of the contributing factors? One of the contributing factors and also probably one of the factors that prevents really successfully getting on top of it as well – well, like keeping you there. So I don't know if there's some way of completely eradicating the insomnia – test what are the flow on effects, I suppose [talked about upcoming referral].

Ok, we are about to move on to the more structured questions now.

Medications used for insomnia: Never. I get nervous about that. [No formal diagnosis, but GP recently has referred on to further investigate].
Medications used for depressive symptoms: Have had in the past – MOCL... something. [Not sure if effective]. The doctor said it is like a 'placebo'. [Not currently] I could be but have chosen not to. GP diagnosed [depression]. [Not sure whether the former medication affected sleep] – was supposed to make you sleep more, but it didn't.
Do you consider yourself to have a family history of sleep disturbances? I don't know. I know my son has a problem. My mother might have done – she would often fall asleep during the day, but she used to be up late at night and early in the morning.
Do you consider yourself to have a family history of depression? Not that I know of.
What about other mental illness? Is there any history there? (pause) There was one possible case back a few generations – it was not really talked about and [not really sure what it was - alcoholism in the same family].
When did you first experience symptoms of insomnia? Probably 17 or something like that. It was probably when you study more... like at matric, and you don't know if you're doing enough to get it done.
Would you describe your insomnia as mainly transient (so, occasional bouts of it between longer periods where there is no problem) or it more persistent with ongoing difficulties? I've known it to be more ongoing – it has been weird. So it does come and go a bit? I think it can be less when my life's more in order. But its still there? It is actually. Whenever you change – if you take the kids on a holiday – you think it's more relaxing but you can't get to sleep then either. At least it's a nicer place to be. [talked about different things you can be doing – exposure to bright lights, and the release of melatonin].
Are you usually unable to fall asleep in 20 minutes or less? Yeah – that's if I make it to bed, you see. Most of the time you try to go to sleep if you're watching TV or something... listening to the radio... and you realise you've been asleep half an hour or something [talked about how others can go to sleep really easily]. So it sounds as though you don't really try to go to sleep unless you're really ready? Well sometimes I really focus on it and I try to set myself up for it – but then I wake up really early, so.
Do you regularly wake up more than once when trying to fall asleep? By the time I do get to

sleep, sometimes, it would be a deep sleep - but then I notice I have lots more dreams. Sometimes I have deep sleep before I get up – a good catch up sleep. [talked briefly about dreams and stages of sleep – catching up on stages of sleep].
Do you regularly wake up during the night for long periods of time before going back to sleep? I probably get up to go to the loo at probably about 3 o'clock and try to go back to sleep. Sometimes that's alright. Other times I can't go back to sleep.
Do you regularly wake up too early in the morning and are unable to go back to sleep? Yeah, probably 'regularly' I reckon. Sometimes way too early – like 2 o'clock or something. How often would that happen – say, 2 o'clock? I think I did it six to twelve months or something once. In a row? Yeah, fairly consistently - two, three, four or something.
You have said you tend to have depressing thoughts racing through your mind while trying to sleep? Yes, yes.
Are you usually bothered by anxiety/tension when attempting to sleep? Yes.
Do you, or have you, experienced symptoms of excessive daytime sleepiness? Yes. If yes, do you think this is primarily associated with insomnia (rather than other conditions like, say, depression or anything else)? No, I think I'm pretty well sleep deprived – most of my life. And you think it's the insomnia directly? Yes, and I relate a lot of the other illnesses you get in your life to the insomnia too. I think that's important. And I've noticed lately that I can't concentrate very well.
Do you often take naps during the day or feel like taking naps during the day? Not on purpose. I think I probably should. [talked about how daytime naps can have an adverse effect on insomnia – but if things like safety are an issue it may be necessary].
Have you seen a professional to seek treatment specifically for sleep problems? I am now. [never before - recently referred to a sleep clinic]. You just think you're weird.
Do you keep a reasonably regular sleep schedule? I am now trying to have a regular cut off time – 9 o'clock for 10. Usual get up time is 5.30am but [often wakes up before that - talked about taking steps to help children avoid any sleep problems].
When you were working, did you have a regular work/daily schedule? No – it's all over the place – [this is probably a contributing factor but] not a main contributor – just seemed to fit in with the pattern [finished work at 5.30 or 7.30pm so didn't cut into normal sleep time, but other schedule is out – takes it later into the night]. You never have a cut-off time – like sit down and watch the news at seven.
Do you regularly travel across different time zones? No
Do you usually consume alcohol, nicotine or caffeine during the last 4 hours before bedtime? No
Do you regularly exercise? Not regularly. I'm trying to [there is a small amount of walking and bike riding and a sport commitment once per week]. Does this exercise typically occur within four hours of going to bed? No – a lot earlier.
Do you use certain methods to assist you to fall asleep? [only tried electric blanket and hot wheat bags] - It did work for a little while.
Have others ever complained about your sleep habits? Sometimes - just being up and about and disturbing people.
Do others often awaken you or prevent you from sleeping (such as children, pets, neighbours)? Well, no, I'm normally up before them. Sometimes, if I'm sleeping at the wrong time, but not very often. Do you think this is a primary contributor to your insomnia? No, it's very minor [only when children were newborn babies].

When did you first experience symptoms of depression? I think I would have had a time in 1989 and '90. It was more prolonged from 1997 [age 40 - after son's illness in 1995] – I don't think it really came strong until then.
So then, the factors that contributed – are they an ongoing issue for you? They were until I got out of my relationship – it was a very negative relationship – very dysfunctional [and ended about two years ago]. Do you think that sleep disturbances may have played a role in the initial onset of depression? It's hard to say because (pause) see, I always put it down to worry. And worry stops you going to sleep, and then if you do that too long you get depressed. Yeah, I'd say it was a big, it was a contributing factor because, then the things you were worrying about, is the life you're living – you can't get out of that imprisoned life of a controlling person. You feel its all your blame so you're spending all that time working out what you can do, and you can't do anything. If you had realised that 10 years earlier it would have saved you a lot of hell. I think it has a lot to do with recognising things too – you might be thinking... baby factors, sleep factors. It seems like you can recognise things fairly well. Yeah, now I can. Yeah, hindsight. It's a good thing isn't it? It is. And also, I've had things pointed out to me as well, so that helped a lot.
Have you experienced more than one depressive episode in your lifetime? More than one, yes. So, if this is the case, do you normally experience insomnia before each depressive episode, following each depressive episode, or at around the same time? That was continuing. That was always there. And I think what happens is you have life experiences that come – happening – and you haven't got the resistance. And I think that's part of your lack of resistance... I suppose it's like your immune system being depressed and then, you know, you get attacked by illnesses, and then you pick them up. So, insomnia is like your mental immune system is down, and then you get the emotional overload – it just sets you right off.
Do you consider your insomnia to be related to your depression symptoms, then? Yeah, yeah, I think there is a connection. But I don't know which would come first. Do you think that depression may cause or worsen your insomnia symptoms? Oh, definitely worsen. Yep, so they both worsen each other? I think so. I don't know which is causal though, that's a hard one. They may not be causal. Do you think that depression may cause insomnia, or worsen, or both, or neither? I think it can worsen it, but I don't know if it causes it. Do you think that insomnia may cause and/or worsen your depression? Definitely [worsen], but I don't know whether it would cause it.
Do you see insomnia as a 'secondary' symptom of depression rather than a 'primary' diagnosis? Oh I see. Or do you see them to both be, like a primary condition? I think probably insomnia would be the precedent. So a primary condition? Yeah.
Do you consider sleep disturbances to be a sign that you may be at risk of a depressive episode? I think so. It can be a warning sign.
Have you ever experienced insomnia without any other depression symptoms (e.g., when in remission/partial remission/prior to ever experiencing depression)? Yes.
Have you ever been depressed without having any difficulties sleeping? I don't know. Do you have allowances for 'I don't know'? Yes, that's fine. You can't recall a time, though, when you were quite depressed without sleeping problems? (long pause) Yeah, I think I could have.
If you did not suffer from depression, do you think you would still suffer from sleep disturbances? Yes.

CURRENT SYMPTOM PREVALENCE (in order of prevalence)

1 Difficulties thinking or concentrating and indecisiveness
1 Sleep disturbances (insomnia)
2 Loss of interest or pleasure in usual activities
3 Depressed or low mood

4 Physical slowing or agitation (both experienced at times)
4 Weight changes (when coinciding with other symptoms)
5 Thoughts about death or suicide

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)
1 Prolonged periods of depressed or low mood (2 weeks or more)
2 Sleep disturbances (insomnia)
2 Prolonged loss of interest or pleasure in usual activities (2 weeks or more)
3 Weight changes (when coinciding with other depressive symptoms)
4 Physical slowing or agitation (both – more recent development)
4 Difficulties thinking or concentrating and indecisiveness (more recent development)
5 Thoughts about death or suicide

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Depressed or low mood
1 Sleep disturbances (insomnia)
2 Difficulties thinking or concentrating and indecisiveness
2 Loss of interest or pleasure in usual activities
Other symptoms are not perceived to significantly impact daily functioning and overall sense of wellbeing.

SYMPTOM ONSET ACROSS THE LIFETIME (in order of onset)
1 Sleep disturbances (insomnia has been there a long time)
2 Depressed or low mood
2 Loss of interest or pleasure in usual activities
3 Weight changes
4 Physical slowing/agitation
5 Thoughts and death or suicide
6 Difficulties thinking or concentrating and indecisiveness

Participant G

The Participant: 44 year old male diagnosed with depression (long-term), meeting criteria for a major depressive disorder. Sleep disturbances (insomnia and hypersomnia) are not considered to be a key feature of the depression, and any insomnia experienced by this participant may be considered relatively normal.

Transcribing notes:

Words such as 'um' 'mmm' and 'ah' have largely been excluded from the transcript, as well as any directly identifying information. Long pauses and other notes of interest, such as laughter, have been indicated in brackets.

Red writing indicates interviewer

Black writing indicates interviewee

[Introduction provided].

Please tell me a little about your experience of depression and what it means to you in your life...

My experiences I suppose are, every day of my life, especially in school when – because I have a [problem speaking] and feel very ashamed, and often how it makes one look – especially at my age, 44. And when I went to the school, it was often one of those things that, people would look at you as though you're incompetent, and when you know you have English lessons and when you have speech things or participate in class – soon one realises that, things like that, the old heart starts to pound.

So, you mentioned your heart pounding, is that sort of an anxiety?

Yeah, yeah and I guess at school it was a bigger thing.

I suppose when you're regularly confronted with lack of help, lack of understanding...

Yep, so you've sort of felt helpless, and this is at school, or ever since school? School is obviously a big thing because kids can be extremely cruel.

Yeah, yep, they sure can.

(long pause - tearful) Come on.

You're right, take your time.

And the older one is... I would have thought that 'I'm older now – I don't care as much', but its one of those deep down things that...

Yeah, so it's still there...

Obviously! (tears stop).

So you're thinking there was depression at school... has it led to depression over the years?

Well, when my local GP said that word many years ago, I hated him for it. I thought 'you bastard'.

What did he say?

That I was depressed, and at that stage I...(pause)

You didn't like that?

No - there were reasons. My speech is... it's hard for anyone to understand so, being labelled that, and I really thought that that word meant someone who was missing something in their head.

Yeah, right. When really that's not what it means at all.

Yeah, it's just someone really sad.

Anyone can be depressed. Anyone can. There would not be one single person who never shows any sign of that, you know, it's just a label that's been - maybe for those more open and honest about it.

I guess, too, labels are good – well, labels are bad in a lot of ways – you've got to carry the label around - but in another way you can understand then what you're experiencing and you know then what you need to be treated for if you've got a label. I guess that's a positive.
Yeah, but local doctors who have no [f] idea who label you that and prescribe you medication for [f] sakes. Without trying anything else? And that medicine will likely promote their cause and their supplier's cause and shit like that, you know, for [f] sakes. All things lead against and away from... that's why I started smoking marijuana. I've never used anything harder than that, but I suppose that will lead to other questions?
Yes, we will get to things like that.

Well, the next question is 'why do you think you have had depression?'
(laugh) Because I was told that!
By a GP...And I don't see him any more, I see someone else in that local surgery. His name is [GP's name], so I have no hassle in naming him. But because everyone, I suppose everyone's look, how they look at you – well used to, maybe – maybe not so much now days, but how they used to look at you and their eyes. As soon as they see that you're having issues they sort of make fun of you and use these labels. I mean, gee, how else am I supposed to think? We humans are all very fragile things. Yeah. And because I'm adopted - when I was five and a half.
So, we're putting this under a possible reason why?
Yeah, I am, I have been looking into aspects of that.
So at the age of 5 you were adopted?
Yeah, I was in an orphanage before that. And when I regularly hear that the first five years are the most important (pause to avoid tears), you think 'well, shit' - my first five years I've got no idea.
Can you remember prior to 5?
I just have a few vivid flashbacks, but nothing nice.
Nothing horrible either though?
Well, not that I can recall, but you know, considering my sexual nature I often think that maybe I was abused when I was in the orphanage as well, so maybe that.
So there is a bit of a question mark. There's a question mark there. So did you want to talk about sexual nature? Whatever, mate. Well, do you think it's a contributor to your depression? Because if it's not we don't need to talk about it.
Being in a marriage at the moment, it is, at the moment, yes. We all have needs and when you don't have those needs met then, after time, because of the speech you don't want to argue the point – you know, no words to express yourself, so you just hold back, you hold things within as I have all of my life. All these things play their parts.
Yeah, so there is probably a range of different things that have all been put together, and some of these are current things and some of them go from way back? Yep, yep.

Okay, so you have never experienced insomnia? That can be difficulties falling asleep, waking up in the middle of the night for a long time or waking up way too early and not being able to get back to sleep. Yeah, I have – not regularly – but you know maybe – it's hard to say – once a month maybe.
So, sort of one off nights? A night out of the blue? Yeah, yeah, maybe when I've had a lot on my mind and my mind is just working, working, working. I find it hard to sleep if I can't expel some sexual energy so that releases energy so I can easily fall asleep then. I don't think I wake up, but I'm very restless. I grind my teeth. Have you got one of those mouth guards? No, no. I think I snore but I don't think that's all the time. I think I did when I used to smoke, but I don't smoke anymore. Well done. I haven't smoked for months - months – stopped them both, marijuana and normal cigarettes– just like [clicks fingers] that... Excellent ...with a desire to

last a bit longer in my life. Good one, that's good. So, that's a focus I'm sticking with. But I'm also looking at enlisting in the army for reasons which - I don't know if they'll be explored here or not - but the army will likely reinitiate that smoking thing. I'd like to think I'd be strong enough, but... they're expensive now too ...exactly, and I'm a tight-arse at the best of times, so.

Okay, so you probably haven't suffered from insomnia in the clinical sense – I don't know, so – diagnosed, or ongoing, or times when it is almost every night? Yeah [indicates no]. So, because you haven't had that I might ask you some other questions, like, what sort of factors do you think have contributed to having an insomnia-free life? ...Because insomnia can be a symptom of depression.
Oh okay, so insomnia free? Well not entirely, but...Okay, yeah, maybe because of my speech I've always worked physically hard, so because I've worked long hours I've been physically tired. The marijuana smoking has been because I was tired.
You started marijuana because you were tired? Tired and - one thing in reality – because of the speech thing, because of the calm. I don't like being drunk with alcohol because of the effects. Much prefer the effects of marijuana, and the after-effects: no hangover and no spewing. But the marijuana would just keep me going - active. I could work long hours, I'd smoke - it would just make me more motivated to work.
Yep, okay, and then crash of a night?
Well, that's what I think.

Under what circumstances, if any, do you think you could be at risk of insomnia? Risk?
At risk of having it badly. You were saying before that your mind worked a lot when trying to sleep, so things like that... what sort of things would put you at risk of being unable to sleep, if anything?
I don't think anything would apart from some sort of mental disorder, or some sort of switch being activated in my head which I would then need some sort of medication or something, I don't know.
So, just an increase of worries or something like that probably wouldn't?
I don't think I, oh geez, well you can't increase the amount of worry I have now. Okay, yeah.
Well you could I suppose, but lately I've just been of the thought 'who gives a [f]'.

If you consider there to be a relationship between sleep disturbances and depression, what do you think the nature of the relationship is? But tell me if you don't think there is a relationship between them.
I think in my case there's not much of a relationship. My insomnia, or whatever, is just through having an active mind at that time of the evening. Apart from that, once I hit the sack I'm usually out within a minute.
So, off to sleep in a minute? Alright.

Structured Questions

So you don't take any medications to help you sleep (I know we've already talked about marijuana in the past)? No, no.
What about medications used for depressive symptoms? Used to, not currently. It's one of those things that local GPs will push medicines onto you and say you have to keep it up for at least three months. And you've got this added expense of this regular medication shit... Was it ever suggested that you see a psychologist or something? Yeah, and I have. You have? Okay, good. One of them gave me a book – what was it called? – something about manhood, or... I forget now. Can you remember what medications you were on for depression? I've had Zoloft; I've had

Xanax. Marijuana is one – and it's natural. It is. Was that the most effective one for you then? Most effective even as a pain killer. And what about your mood, did it lift your mood? Oh yeah, oh yeah. My wife has experienced me over the last five or six months without, and she often would like me back on it because of my mood, but I suppose – reality – if these other influences in life aren't there, then I'd be much... well, money makes me happy. I suppose there isn't much of that. Not enough to go around.
When you were taking the medications, did you notice any change to your sleep? Not specifically, no. I haven't had medications like that for a few years, so. You don't recall anything? No.
Do you know of any family history of sleep disturbances? I suppose being adopted you don't know? I've got no idea.
And same goes for depression? Yeah, no idea. So, that might give you some insight, too. Yeah, I wish I knew. Yeah, a lot of these things may be family history. Yeah, they used to say that [his speech problem] runs in the family and I experienced that when my daughter was learning to speak – she showed the primary signs of [having a speech impediment]. Did she? It scared the shit out of me. But she doesn't? No. Well that's good then. So, when does it normally come about? Is it different for everybody, or can it come about at any time? I think it's mainly when you're younger and you're learning how to speak, and an adult, and they push you or can scold you and it can compound it, you know? Adults usually have a way of [f] things up. They can do.
Okay, are you usually unable to fall asleep in 20 minutes or less? No
So you don't regularly wake up more than once when trying to fall asleep? No
Do you regularly wake up during the night for long periods of time before going back to sleep? No
Do you regularly wake up too early in the morning and are unable to go back to sleep? No
Do you tend to have thoughts racing through your mind while trying to sleep? Yes
Are you usually bothered by anxiety/tension when attempting to sleep? Yes
Do you, or have you, experienced symptoms of excessive daytime sleepiness? No
Do you often take naps during the day or feel like taking naps during the day? No
Have you seen a professional to seek treatment specifically for sleep problems? No
Do you keep a reasonably regular sleep schedule? Go to bed and get up at roughly the same time? Not really. Of late I've just wanted more time for me. Does that mean staying up later? Yes, yes, because that's when things are readily available and accessed. Okay, so does that mean you're getting enough sleep though, still? Yeah, well I think so. When I was working for others I'd be alright with sometimes five, six hours of a night. I suppose now that I haven't worked for anyone else for the last six months I've had a liberal attitude with when I sleep and wake up, well I don't have to sleep and wake up for work, so with that in mind I go to bed as late as I want to, after I've done things I want to do, so. Okay, so you used to have roughly five or six hours? In my working life, on and off, yes. And that was enough? It was then, you know. I'm 44, I've just stopped working for others for the last six months, so...(pause) Okay, so six hours is...? Maybe seven or eight now, but whilst I was working for someone else it would be less. I always have a mental attitude of wanting to be at my work early – always extremely conscientious, and always wanted to rock up early just in case... You sound like a good employee. Yes, extremely. So I wanted to rock up at work early to find a decent car park, wind up for work.
Do you regularly travel across different time zones? No.

Do you usually consume alcohol, nicotine or caffeine during the last 4 hours before bedtime? Yes.
Do you regularly exercise? Of late, more. I would do as part of my working but then I stopped exercising and suffered some episodes with my back, and that sort of often happened about every six months – I would have an episode - and that would also inflame the feeling of depression. Especially when I had the pain, because I thought, well, 'what else can go wrong?' But I have resumed exercise and have been feeling much better for it. Do you usually exercise within four hours of going to bed? No.
Have others ever complained about your sleep habits? Teeth grinding, snoring? (laughs) Well snoring I suppose has been mentioned, but.. Just mentioned though? Well, my wife snores herself so she can't ever say anything. There's nothing wrong with a bit of snoring I say (laughs).
When did you first experience symptoms of depression? (long pause) Well, when I first went to see my local GP about it, it was probably – maybe I was about 30 – so, say 14 years ago. Thirty? Yeah.
And, do you think that something specific initially contributed to the onset of depression? Yes [referring to his speech impediment]. Is this factor an ongoing issue for you then? Yes? Can I put marriage into all of that? Yes, that's a contributor – earlier in the interview. Do you think that sleep disturbances may have played a role in the initial onset of depression? No
Have you experienced more than one depressive episode in your lifetime? So that means do you go in and out of it, or is it more ongoing? Do you have really bad times and then in between feel a bit better? Yeah, I'd say 'in and out' I suppose - the 'out' would be influenced by external things. External influences? Yep. So, when you took marijuana because you were tired, was it because you were worried you wouldn't have been able to sleep without it? No I don't think that specifically, no. No, for many years I would have a smoke because it would wake me up, it would warm me up. In the morning you mean? Yeah, it wouldn't be like huge amounts, it would just be a little bit, and that's it. Just enough to start the ball rolling and I'd be like 'oh yeah' ...and then work my butt off for someone else. Not anymore. Not anymore. So you don't consider sleep problems to be a sign that you may be at risk of depression, from what you've said? I don't think I have really sleep issues – whatever happens whilst I'm asleep, I will be filming that one day. See what goes on. 'Cause, yes. I'd be extremely interested in that. Well, okay, I think the rest of the questions don't really apply. (pause) So, when you're depressed you don't necessarily have difficulties sleeping, or you don't feel like sleeping more, as well? (indicates no).

CURRENT SYMPTOM PREVALENCE (in order of prevalence)

1 Difficulties thinking or concentrating and indecisiveness
2 Loss of interest or pleasure in usual activities
3 Depressed or low mood
3 Physical slowing or agitation in movement and/or speech ('speech is in everything' slowing or agitation? 'well, both really')
4 Weight changes, when coinciding with other depression symptoms
5 Thoughts about death or suicide (currently more prevalent than before)
6 Sleep disturbances

PERCEIVED LIFETIME PREVALENCE (in order of prevalence)

1 Unusual difficulties thinking or concentrating and indecisiveness
2 Prolonged loss of interest or pleasure in usual activities
2 Depressed or low mood
3 Physical slowing or agitation in movement and/or speech
4 Weight changes, when coinciding with other depression symptoms
5 Thoughts about death or suicide (not as prevalent across lifetime as more recently)
5 Sleep disturbances

IMPACT ON DAILY FUNCTIONING & SENSE OF WELLBEING (in order of perceived impact)
1 Difficulties thinking or concentrating and indecisiveness
2 Loss of interest or pleasure in usual activities
2 Depressed or low mood
3 Physical slowing or agitation in movement and/or speech
4 Weight changes, when coinciding with other depression symptoms
5 Thoughts about death or suicide
5 Sleep disturbances

TIMELINES FOR ONSET OF SYMPTOMS (in perceived order of symptom onset)
1 Depressed or low mood
2 Difficulties thinking or concentrating and indecisiveness
3 Physical slowing or agitation in movement and/or speech
4 Loss of interest or pleasure in usual activities
5 Weight changes, when coinciding with other depression symptoms
6 Sleep disturbances
7 Thoughts about death or suicide

Note: As a duty of care – further discussed suicidal thoughts, assessed immediate risk - assurances were gained: no plans in place; "I don't think I would, because there is so much I want to do"; "Yeah, I would go and see somebody"; "Life is not that bad". Briefly discussed reasons not to – future plans and support systems, etc, and suggested participant attend the University Psychology Clinic to address further.