Social Support and Schizophrenia: Comparison between Singapore and China

By

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Abstract

Schizophrenia is a debilitating psychiatric condition. Extensive studies across the Western world have found that social support and the emotional valence of the family impact on a sufferer’s psychosocial outcomes and quality of life. Interestingly, some literature suggests a more favourable prognosis of schizophrenia in developing and non-Western societies. The study reported in this thesis set out to explore how social support and emotional valence in the family affects the psychosocial functioning of sufferers with schizophrenia in two countries with similar cultural backgrounds but at different points in their socioeconomic evolution: China and Singapore. Based on an analysis of the research to date, it was hypothesized that: Singaporean patients would be more likely than Chinese patients to: (a) experience higher levels of expressed emotion; (b) perceive less social support; and (c) have poorer family functioning. It was also hypothesized that patients in Singapore would have a lower level of psychosocial functioning and poorer perceived quality of life than patients in China. Lastly, it was proposed that the degree of expressed emotion, perceived social support, and family dysfunction would have an impact on the patient’s level of functioning and quality of life in both countries. A total of 50 outpatients diagnosed with schizophrenia and their primary caregivers were recruited in each setting. They were interviewed using structured questionnaires, built around scales evaluating the family environment, and the patient’s functioning and perceived quality of life. Results revealed that patients in Singapore perceived a higher level of social support than their Chinese counterparts. Further, higher levels of expressed emotion were associated with lower patient functioning in both countries, but family dysfunction was found to be associated with functioning outcomes only among patients in China. It is concluded that the impact of detrimental family functioning on patient outcome is a cultural general phenomenon. Thus, it
is important to consider cultural traditions, beliefs and expectations when implementing psychosocial intervention plans.
Overview

For decades, social scientists have been trying to delineate the causes and find a cure for the debilitating symptoms of schizophrenia. Unfortunately, the exact causes of schizophrenia remain unclear today, although various theories incorporating biological, psychological and social factors have been proposed. Currently, the widely accepted approach is known as the “stress-vulnerability” hypothesis. It suggests that an individual has certain predisposing genetic vulnerabilities, which when triggered by stress leads to the development of the illness, which may plateau or be made worse by additional stressors in the environment that the person is experiencing.

At the middle of the 20th century, for various reasons the deinstitutionalisation of persons with schizophrenia started to occur. This meant that sufferers were released from psychiatric hospitals and returned into the community to live with their family. Researchers took the opportunity to start examining the family environment and its impact on patient outcomes and found that the emotional valence of the sufferer’s social environment had a significant impact on his or her recovery and quality of life. This included the relative's level of expressed emotion and social support provided to the sufferer.

However, much like the origins of the clinical term, most of these studies or findings have originated in the Western world. It is unclear whether these findings may be applied to non-Western societies who do not share their premises of culture.

Culture is a pervasive phenomenon that influences a society’s way of living. Relatively few studies have explored schizophrenia in developed or developing non-Western societies. The few studies that have done so have reported more favourable outcomes in non-Western countries. This thesis is interested in investigating the reasons for this difference, and begins by evaluating the differences, if any, in family environment and outcomes between developing and developed non-Western countries – China and Singapore.
Chapter 1 begins with a description of the clinical features of schizophrenia. The incidence and prevalence rates of this illness are explored, aetiological models are outlined and current treatment options are reviewed.

Chapter 2 provides a review and evaluation of research that has examined the benefits of social support, particularly for sufferers of schizophrenia. It also seeks to understand the reasons for diminished social networks for these sufferers.

Chapter 3 explores the concept of expressed emotion, and summarises studies that have examined this construct in relation to schizophrenia.

Chapters 4 and 5 examine cultural considerations in mental illness. They investigate the impact culture may have on the way that mental illnesses are perceived, supported and treated, in particular focusing on the cultural attitudes towards schizophrenia. They also discuss the primary differences in the concept of mental illness between Western and non-Western societies. The Chinese culture is explored in particular, with reference to aspects of traditional religious beliefs and practices. Confucianism is discussed at length because of the extensive influence it has on the Chinese.

Chapter 6 details the aims of the proposed study, including examining whether social support and expressed emotion impact on the psychosocial functioning of sufferers of schizophrenia and to determine the differences, if any, in the outcomes between Singapore, a developed South East Asian nation city with a predominantly Chinese population, and China, a developing country with a strong economy.

Chapter 7 outlines the methodology used to achieve the aims of this research. It describes the mental health systems in China and Singapore and in particular the settings of the current study. It also describes the participants, instruments used and recruitment process for this project. Chapter 8 details the statistical analyses used to test each hypothesis.
Chapter 9 delineates the results of the study including psychometric information for the instruments used in each setting, and comparative and separate analyses for each site.

Chapter 10 discusses the results of the project and examines key findings. Significant differences found between the countries are explained. Implications and limitations of the current study are explored, followed by recommendations for future research and concluding remarks.
Chapter 1. Schizophrenia

1.1. Introduction

Schizophrenia is a debilitating psychiatric disorder. First conceptualised as *dementia praecox* by Kraepelin (Defendorf, 1904), and then as *schizophrenia* by Eugen Bleuler (1911), its definition and scope have varied substantially over time (Nasrallah & Smeltzer, 2003). It is currently defined by a constellation of symptoms such as distortions in cognition and perception, emotional dysfunction, and difficulties in communication (Tandon, Nasrallah, & Keshavan, 2009).

1.2. Symptom Patterns and Clinical Features

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychological Association [APA], 2000), the diagnosis of schizophrenia requires the presence of two or more prescribed symptoms observed for at least a month. The wide array of symptoms associated with schizophrenia is often divided into two distinct but related clusters of positive and negative symptoms, which often manifest in different way across patients and throughout the course of the illness.

Fundamentally, positive symptoms are those that when observed, reflect an excess in normal functioning. They comprise of distorted reality testing, and include delusions, hallucinations, and other misrepresentations of reality (Tandon et al., 2009). Several types of delusions and hallucinations may occur with various degrees of persistence to influence the sufferer's level of functioning to different extents. Persecutory delusions and delusions of reference are among the more commonly diagnosed forms of delusion (Tandon et al., 2009). While delusions of persecution involve a delusional conviction that a person is being attacked or conspired against, ideas of reference refer to an idiosyncratic false belief that innocuous events or behaviours of others have a particular significance to the individual (Buchanan et
al., 1993). A range of other types of delusions may also occur, with the content usually heavily influenced by the person’s socio-cultural environment. Hallucinations may occur across any of the five senses and are defined as perceptual experiences that occur in the absence of external sensory stimulus (Woodruff, 2004). Auditory hallucinations have been reported to be the most commonly observed hallucination in schizophrenia, affecting more than 70 percent of its sufferers (Hugdahl et al., 2007). Individuals with schizophrenia often report hearing voices that speak among themselves or make threatening and accusatory comments.

Negative symptoms of schizophrenia are those that reflect a blunting or loss of a range of affective functions (Tandon et al., 2009). These include significant deficits in affective experiences and expressions, loss of motivation (abulia), poverty of speech (alalia), inability to experience pleasure (anhedonia), lack of initiative (avolition), lack of interest (apathy), and reduced social drive. Negative symptoms tend to be harder to evaluate than positive symptoms because they are often not exceptionally abnormal and they may arise as a response to other factors (e.g., as an adaptation to a persecutory delusion). For example, individuals with schizophrenia tend to exhibit disorganised thought and behaviour, often displayed through confusion, disorientation and poor memory (Cuesta & Peralta, 1995). It has been found that disorganised cognition and behaviour may be partially hereditary, manifest during episodes of acute exacerbations, be somewhat persistent, and be associated with poor outcomes (Romney, 1990).

Despite the division of symptoms into the positive and negative categories, no single symptom combination is definitive for the diagnosis of schizophrenia. Instead, it is a heterogeneous illness comprising of a variety of symptoms and significant functional deficits (APA, 2000). The symptoms not only have severe impacts on the sufferers, but also their families, other caregivers, and the wider community.
1.3. **Incidence and Prevalence**

The distribution of a psychiatric condition is often summarised in terms of incidence (new cases) and prevalence (total number of cases: existing and new cases) rates (Tandon, Keshavan, & Nasrallah, 2008). Essentially, incidence rates refer to the number of new cases that develop over a specific period among people who are at risk for developing the psychiatric condition. Incidence can sometimes be expressed as the likelihood that a person develops a particular psychiatric condition (also referred to as lifetime risk). Prevalence, on the other hand, refers to the total number of people in a community who have a particular psychiatric condition at a specific time, which includes both individuals who have been previously diagnosed and individuals who have recently developed this condition within this specific time frame (Tandon et al., 2008). Prevalence can also be referred to as lifetime morbid risk.

The reported incidence and prevalence estimates of schizophrenia vary significantly. In McGrath and colleagues’ (2008) meta-analysis of 158 studies conducted in different international contexts, the average incidence of schizophrenia was 15.2 per 100,000 people, but the distribution was asymmetric, and at least 80% of estimates varied over a range of 7.7 – 43.0/100,000. The average lifetime risk for developing schizophrenia is 0.72% in the general population (McGrath et al., 2008). There is also evident variation within the prevalence estimates. The ratio of males to females is reported to be 1.4 : 1 (McGrath et al., 2004). Women experience more pronounced mood symptoms, but have a better prognosis (Satcher, 1999; Tandon et al., 2009).

1.4. **Aetiology**

Our understanding of the aetiology of schizophrenia has substantially increased over the past two decades. It is now widely accepted that the development of schizophrenia can be
understood using a bio-psychosocial framework that incorporates three categorical dimensions:

Biological

Psychological

Social

Schizophrenia is likely to result from the interaction of these aetiological factors, though the relative influence may differ with sufferer.

1.4.1. Biological Factors

1.4.1.1. Genetics

There is a large amount of research across family, twin and adoption studies that consistently support the role of genetics in the aetiology of schizophrenia. As previously mentioned, the lifetime risk for developing schizophrenia is 0.72%. This risk has been estimated to escalate by 10% for children and siblings of an affected individual, and even up to 40% for the children of two affected parents (Hunter & Woodruff, 2005). The risk of developing schizophrenia in a dizygotic twin (non-identical twin) is similar to that of a non-twin sibling, and reported to be about 10%. However, the risk of a monozygotic twin (identical twin) developing schizophrenia if the other is affected is at least 40% (Hunter & Woodruff, 2005). These statistics suggest a very strong genetic component in the development of schizophrenia. Despite efforts to narrow the scope to identify the genes that increase susceptibility, details of the specific genes that contribute to this condition remain unclear.
1.4.1.2. Neuroanatomy

Brain imaging studies have demonstrated structural and functional abnormalities in individuals with schizophrenia (Royal Australian and New Zealand College of Psychiatrists, 2005). Literature suggests that the global size and weight of the brain is reduced in schizophrenia (Harrison & Owen, 2003). Magnetic Resonance Imaging (MRI) has shown that there is a global reduction in cerebral volume. This includes a drop in white and grey matter volume in the temporal lobe. A robust MRI finding shows an enlarged lateral ventricular volume (Lawrie & Abukmeil, 1998). Furthermore, functional imaging work (i.e. functional MRI) has also revealed anatomical abnormalities in a person suffering from schizophrenia (Mäki et al., 2005).

1.4.1.3. Neurochemistry

The ‘dopamine hypothesis’ has been used as the main explanatory model to describe the relationship between neurochemistry and the clinical manifestation of schizophrenia (Stone, Morrison, & Pilowsky, 2007). Dopamine is a neurotransmitter that regulates emotional responses, and controls the brain’s reward and pleasure centres. Copolov and Crook (2000) reviewed studies that evaluated the complex interactions between dopamine and the expression of psychotic symptoms. In particular, neurochemical factors such as the density of dopamine D2 receptor (Laruelle, 1998; Wong et al., 1986), the amount of dopamine released into the central nervous system following intoxication with amphetamine (Laruelle et al., 1996), and cerebrospinal fluid metabolites of dopamine (Copolov & Crook, 2000) have been put forward in explanations of the development of schizophrenia.
1.4.2. Psychosocial Factors

1.4.2.1. Life events and stresses

In the past decade, there has been mounting evidence to suggest the importance and the pervasive role of social/environmental factors in schizophrenia (Brown, 2011). These risk factors include prenatal exposure to infection (Brown & Derkits, 2010) and obstetric complications (Gordis, 2000), childhood trauma (Bebbington et al., 2004; Janssen et al., 2004; Spauwen et al., 2006), dysfunctional family environment (Tienari et al., 1994), and communication deviance within the family (Wahlberg et al., 1997). For example, it has been reported that communication deviance within the family increases the risk for developing schizophrenia (Goldstein, 1987). On the other hand, having a positive and supportive relationship with both parents might act as a buffer against schizophrenia amongst children who are at high risk (Schiffman, et al., 2002). These life events may either highlight sources of psychological stress, or be a consequence of a mental state that has already been deteriorating (Hunter & Woodruff, 2005).

1.4.2.2. Psychological stress – Degree of expressed emotion

Expressed emotion (EE) is a measure of responses and reactions exhibited by a relative towards a family member suffering from a mental illness (Hooley & Hoffman, 1999). Expressed emotion comprises of three attitudes known as over-involvement, hostility, and criticism. Families with high EE overly express critical comments and hostility, or emotional over-involvement with the sufferer. It is generally accepted that although high EE does not cause the schizophrenia to develop per se, it increases the risk of relapse in individuals with schizophrenia (Brown, Birley, & Wing, 1972; Butzlaff & Hooley, 1998). This will be discussed in the later chapters.
1.4.2.3. Cannabis use

Research consistently suggests that cannabis use is associated with an increased risk of schizophrenia (Arseneault, Cannon, Witton, & Murray, 2004; Zammit, Allebeck, Andreasson, Lundberg, & Lewis, 2002). In fact, in a review of five prospective population-based studies conducted by Arseneault and colleagues (2004), it was estimated that cannabis use increased the relative risk of schizophrenia at least twofold.

1.5. Onset and Development

The onset of schizophrenia generally occurs in late adolescence or early adulthood and often leads to clinically significant distress and problems in other areas of functioning (e.g., occupational and social impairments). Symptoms in men usually first appear in the late teens or early twenties, while symptoms in women tend to first appear during the late twenties to early thirties (Tandon et al., 2009).

The development of schizophrenia follows a sequential trajectory that involves several stages. Firstly, individuals enter a premorbid phase characterised by a range of subtle and vague cognitive, behavioural and social abnormalities (Schenkel & Silverstein, 2004). These abnormalities include attention deficits, impairments in receptive language and social interaction, delays in motor developments, and emotional detachment (Schenkel & Silverstein, 2004). Subsequently, the individual continues into a prodromal phase in which attenuated positive symptoms and a constellation of other clinical signs, including declining cognitive abilities, negative symptoms as well as depressive symptoms, become more prominent (Rossler & Rossler, 1998; Schultze-Lutter, 2009). Klosterkotter, Schultze-Lutter and Ruhrmann (2008) reported that clinical contact is typically made only after positive symptoms have been observed for at least a year. They also found that cognitive, negative,
and mood symptoms emerge approximately five years prior to the first clinical contact, and social disability occurs about 1 – 3 years after these symptoms.

It appears that attenuated positive symptoms, the most defined and significant prodromal signs continue into the first florid psychotic episode, which marks the formal onset of schizophrenia. However, the initial decade of illness is typically characterised by recurring psychotic episodes in moderate degree and in inconsistent cycles, as well as periods of inter-episode remission, with incremental deficiency in functioning with every episode of illness. Deteriorations in functioning levels are most pronounced in the first five years following the first episode of the psychosis (Bleuler, 1978). Finally, the illness plateaus, with the positive symptoms becoming less severe. Negative symptoms and cognitive deficits gradually stabilise.

Despite this pattern, recovery can occur in varying degrees across patients, throughout the course of the illness (Harding, Brooks, Ashikaga, Strauss, & Breier, 1987a). Thus, instead of an irreversible and progressive deterioration of the illness, a substantial proportion of sufferers exhibit marked improvement when appropriate treatments and adequate social support are provided. Studies have provided evidence that about half of the individuals with schizophrenia show signs of social remission, and up to a quarter demonstrate full psychopathological remission (Harrison et al., 2001; Rossler & Rossler, 1998).

1.6. Burden of Disease

The early onset of schizophrenia for many sufferers, coupled with its sinister symptoms and its chronic course makes it an especially disabling disorder for the sufferers and their families. Furthermore, its impact on society is disproportionately large relative to its prevalence rate because of its associated functional deficits and the variable efficacy of the range of treatments and interventions available for the disorder (Tandon et al., 2009).
Untreated schizophrenia is associated with increased mortality, impaired social problem solving, poor work performance and impaired interpersonal relationships, resulting in an overall poor subjective and objective quality of life (Eack & Newhill, 2007; Kooyman, Dean, Harvey, & Walsh, 2007; Tandon et al., 2009).

In this paper, the burden of disease refers to the suffering, disability, pain, death, and direct and indirect financial costs of a disease (SANE, 2002). In 2000, it was estimated that people with schizophrenia were 50 times more likely to attempt suicide than the general population (Fenton, 2000). In fact, suicide is the number one cause of premature death among people with schizophrenia. An estimated of 10 – 13% of patients successfully commit suicide, and at least 40% are reported to have attempted suicide at least once in their lives (Fenton, 2000). Schizophrenia reduces a person’s lifespan by an average of 10 years and has been ranked amongst the top 10 causes of disability in developed countries worldwide (World Health Organisation [WHO], 2009). The impact and cost of schizophrenia on the society is often quantified according to the following categories, (a) direct costs, for which payments are made, (b) indirect costs, for which resources are lost, and (c) intangible costs, which describe the drawbacks of the illness such as pain or depression. For example, the overall cost of schizophrenia in the United States was estimated to be $62.7 billion in 2002; of which $22.7 billion was related to direct health care costs ($7 billion outpatient, $2.8 billion inpatient, $5 billion pharmacological drugs, and $8 long-term care). The total direct non-health care costs including living costs subsidies were estimated to be $7.6 billion, and the total indirect costs amounted to $32.4 billion (Wu et al., 2005).

The increased severity in symptom expression and difficulties faced in functional and social aspects of life largely reduce both objective and subjective quality of life of people suffering from schizophrenia (Eack & Newhill, 2007). Some factors that impact the patient’s quality of life include the lack of consistent access to treatment, financial difficulties, the poor
quality of available social supports, and the lack of close relationships. Thus, about 70% of affected individuals have never been married, and people with schizophrenia have significantly reduced contact with families and friends for most of their lives (Thornicraft et al., 2004). Schizophrenia is often associated with a substantial increase in the likelihood of social isolation. In addition, sufferers of schizophrenia are at risk of unemployment and homelessness (Rosenheck, et al., 2006).

Family and caregivers often feel the impact of the disorder on an everyday basis. While the individual with schizophrenia primarily suffers the distressing symptoms of the disorder, families struggle with a broad range of difficulties including emotional reactions to the diagnosis, the stress of coping with the dysfunctional behaviour, changes in role, financial stresses, and stigma associated with illness (Rossler et al., 2005). Numerous studies have also reported the importance of the quality of caregiving in facilitating the patients' adaptation to illness (Hatchett, Friend, Symister, & Wadhwa, 1997), improving treatment compliance (Hauser et al., 1990; Sellwood, Tarrier, Quinn, & Barrowclough, 2003), and encouraging recovery (Trief, Himes, Orendorff, & Weinstock, 2001). However, caring for a person with schizophrenia by sharing a household and bearing responsibility for their well-being often creates significant distress for the caregiver (Rossler et al., 2005).

The availability and quality of caregiving inevitably affects the functioning and recovery of people with schizophrenia. This is especially relevant given that the majority of individuals with schizophrenia are now cared for within the community, instead of the long-term care provided for by mental health institutions. There are broad ranging impacts of family care on the clinical and social outcomes of mental disorders, and these are influenced by several factors including: (a) a supportive relationship between caregiver and sufferer (Christensen, Wiebe, Smith, & Turner, 1994; Trief et al., 2001); (b) caregivers’ degree of expressed emotion towards sufferer (Magliano et al., 1998a; Wearde, Tarrier, Barrowclough, Zastowny, & Armstrong, 2002); and (c) professional and social support (Brodaty, Green,
Koschera, 2003; Magliano et al., 2002). Given the high costs and detrimental consequences of schizophrenia, a priority is to provide early interventions for those afflicted by the illness.

1.7. Treatment Directions for Schizophrenia

To date, there is no medical cure for schizophrenia. Without a breakthrough, the best alternative is to manage its symptoms and to improve a sufferer’s functioning and quality of life. Hence, current treatment objectives for schizophrenia sufferers are aimed at reducing their frequency and severity of psychotic episodes, and improving their quality of lives by increasing their functional capacity (Tandon, Nasrallah, & Keshavan, 2010). Today, the most efficacious treatment model for this psychiatric illness appears to be a multi-modal approach comprising of pharmacological and psychosocial interventions coupled with Government financial, lodging and sustenance assistance. However, this model is relatively new and the shift in treatment direction has only occurred around the last decade. Traditionally, the standard treatment for schizophrenia was to provide individuals afflicted with this illness with a safe environment in the form of long-stay psychiatric hospitalisation (Tandon et al., 2010). This treatment method was later referred as institutionalisation. Such custodial care was the primary treatment until the 1950s.

1.7.1. Clinical Pharmacology

The emergence of modern psychopharmacology revolutionised care for individuals with chronic schizophrenia (Lavretsky, 2008). Chlorpromazine, the first effective antipsychotic drug, dramatically improved the prognosis of people with schizophrenia around the world. The drug promoted global improvements in an individual’s functioning and symptoms by reducing his or her agitation and depressive symptoms, psychotic symptoms, and some negative symptoms (Thornley et al., 2003). Compared to untreated individuals,
sufferers using this medication were found to require shorter periods of hospitalisation, experienced fewer relapses, and showed better recovery rates in terms of improved psychosocial functioning (Thornley et al., 2003).

Over 60 antipsychotic drugs have now been developed and have been classified as first- and second-generation agents (Kapur & Remington, 2001). The first-generation drugs, including chlorpromazine, also referred as “typical” antipsychotics, while effective, were associated with numerous adverse side effects (Baldessarini, 1996). Well-documented neurological side effects include dystonia (Winslow et al., 1986), akathisia (Gualtieri, 1993), tardive dyskinesia (McKim, 1996), and neuroleptic malignant syndrome (Pope, Keek, & McElroy, 1986). Some of these symptoms are irreversible and can be potentially life threatening, but all of them significantly reduced the sufferer’s functional capacity and general well-being. These severe side effects, coupled with the resultant poor quality of life, led to the development of second generation “atypical” antipsychotic agents that have relatively better therapeutic efficacy and produce fewer side effects, particularly Parkinsonism and extrapyramidal symptoms (Borison, 1995; Campbell, Young, Bateman, Smith, & Thomas, 1999).

Despite the reduction in side effects with the advent of “atypical” antipsychotic drugs, pharmacological interventions generally have several limitations. Firstly, they do not cure the illness or restore productive lives for individuals with schizophrenia. Rather, they are primarily used to manage positive symptoms of schizophrenia such as paranoia, hallucinations and delusions; these drugs also had very little effect on negative symptoms (White et al., 2006). As a consequence, they do not result in a better quality of life for afflicted individuals.

Secondly, not all sufferers respond positively to antipsychotic drugs and those who do often experienced unpleasant and occasionally disabling side effects, which in turn impacted on their quality of life. In fact, the impacts of antipsychotic interventions on subsequent
measures of functionality and quality of life for individuals with schizophrenia have yet to be fully defined (DeQuardo & Tandon, 1998). Although some recent studies (Eack & Newhill, 2007; Thirthalli, Venkatesh, & Naveen, 2010) have identified advantages of antipsychotics in relation to employment and increased functionality, these results are inconsistent with those of several other studies (Lehman et al., 2004; Marwaha & Johnson, 2004; Waghorn, Chant, White, & Whitehead, 2004). By far, the most robust positive effect of antipsychotic intervention that is reported is the reduced likelihood of suicide (Meltzer et al., 2003).

Thirdly, discontinuation of the drug can impact on the condition of many individuals with schizophrenia. For example, it has been found that the mental state of people with schizophrenia is likely to deteriorate if insufficient drugs are prescribed (Casey, 1991). This finding is further substantiated by recent research that reported negative outcomes including aggravation of symptoms, increased relapse rates, and reduced functional capacity associated with antipsychotic discontinuation (Dunayevich et al., 2007; Gitlin et al., 2001; Liu-Seifert, Adams, & Kinon, 2005).

Fourthly, insufficient daily living, social skills, or emotional support can undermine many of the successful outcomes of pharmacological treatments. Traditionally, there was little focus on the provision of reintegration services for patients, and little attention paid to the importance of emotional support from family and/or caregivers.

Subsequently, psychosocial interventions were introduced with the aim of providing a sustainable outcome for this population. This shift away from relying exclusively on pharmacological intervention stems from the recognition of the importance of environmental influences on the course of illness.
1.7.2. Psychotherapies and Psychosocial Treatments

As outlined above, the development of antipsychotics and their ability to control positive symptoms of schizophrenia initiated a shift away from the institutionalisation of patients with schizophrenia, and many patients returned to live with their families. Although antipsychotics allowed sufferers to return into the community, the problems of social and cognitive deficit are still unresolved. While pharmacological interventions remain the primary treatment for schizophrenia, but such intervention provides only limited improvement in a sufferer’s negative symptoms, functional capacity and quality of life. Furthermore, when patients fail to adhere to their prescribed medications, they continue to experience positive symptoms and relapses. As a result, psychosocial therapies must be and have been developed to work in conjunction with antipsychotics to alleviate symptoms and improve medication adherence, as well as social functioning and both subjective and objective quality of life (Patterson & Leeuwenkamp, 2008; Kern, Glynn, Horan, & Marder, 2009).

Psychosocial interventions include cognitive remediation (Eack et al., 2010; Medalia & Choi, 2009; Velligan, Kern, & Gold, 2006), social skills training (SST; Kurtz & Mueser, 2008), supported employment (Campbell, Bond, & Drake, 2009; Dixon et al., 2010), assertive community treatment (Bustillo, Lauriello, Horan, & Keith, 2001; Coldwell & Bender, 2007; Nelson, Aubry, & Lafrance, 2007), cognitive behaviour therapy (CBT; Gould et al., 2001; Pfammatter, Junghans, & Brenner, 2006; Rector & Beck, 2001; Tai & Turkington, 2009; Turkington, Kindgon, & Weiden, 2008; Zimmermann, Favrod, Trieu, & Pomini, 2005), family intervention therapy (Lehman & Steinwachs, 2003), and acceptance and commitment therapy (Gaudiano & Herbert, 2006). Each of these will be discussed briefly below.
1.7.2.1. Cognitive remediation therapy

It is not uncommon for individuals with schizophrenia to present with cognitive impairments in the domains of attention, retention and execution. These deficits may cause significant interferences with psychosocial functioning and outcomes, as well as interfere with other therapy (Evans, Heaton, Paulsen, Palmer, Patterson, & Jeste, 2003; Green, Kern, Braff, & Mintz, 2000). It was also recently discovered that there is a relationship between the degree of cognitive impairment and the presence and severity of negative symptoms (Greenwood, Landau, & Wykes, 2005). Cognitive remediation therapy aims to improve negative symptoms by employing strategies to compensate for cognitive deficits (Koren et al., 2006; Kurtz et al., 2007). These strategies include positive reinforcement, repetitive supervised exercises, and “errorless learning”, which is a procedure that begins from the easiest and progresses to the more complex tasks (Koren, Seidman, Goldsmith, & Harvey, 2006; Kurtz, Seltzer, Shagan, Thime, & Wexler, 2007).

Research on cognitive remediation therapy has consistently reported improvements in scores on neuropsychological tests of cognitive function including attention, retention, and executive function (Cochet et al., 2006; Pfammatter et al., 2006). However, because this therapy only focuses on cognition, its effects on global functioning are still unclear. Further, while several studies have reported significant improvements in cognitive function, interpersonal problem solving skills, social autonomy and symptoms (Cochet et al., 2006), other studies have reported no advantage over treatment-as-usual (TAU) (Nieznanski, Czerwinska, Chojnowska, Walczak, & Dunski, 2002). The mixed results from these limited studies are insufficient to lend support to the argument that cognitive remediation therapy can improve global functioning (Bellack, 2004). Nonetheless, based on the limited evidence, it appears that this form of therapy can be helpful if integrated to be part of a comprehensive treatment plan involving other psychosocial therapies.
1.7.2.2. Social skills training (SST)

Social skills training addresses the sufferer’s functional ability. Essentially, it aims to improve specific skills sets such as self-care, medication adherence and symptom management, and social, occupational, and recreational skills (Liberman, Wallace, Blackwell, Kopelowicz, Vaccaro, & Mintz, 1998). Training often takes place in a natural environment to facilitate a sufferer’s generalisation of skills after treatment. Social skills training has been shown to facilitate improvements in several domains including employment outcomes (Evans et al., 2004), functional capacity (Chien, Ku, Lu, Chu, Tao, & Chou, 2003), and symptom reduction (Chien et al., 2003). In particular, a study by Tsang and Pearson (2001) in Hong Kong reported improvements in the capacity of schizophrenia sufferers to keep a job as compared to TAU control group. This effect was also stronger when participants were provided with follow-up contact for 3 months. Nonetheless, because of the narrow focus in particular skill sets, generalisation beyond these abilities is still uncertain. For example, studies have shown mixed results in relation to medication adherence. In addition, while an earlier study (Shaner, Eckman, Roberts, & Fuller, 2003) indicated notable improvements in terms of medication adherence, psychiatric symptoms, and quality of life, a more recent study (Morken, Grawe, & Widen, 2007) found no significant advantage over TAU practices.

1.7.2.3. Supported employment

Supported employment involves allocating an individual with schizophrenia to an appropriate and individually-tailored placement, and providing ongoing job support that is integrated with clinical services. Existing research suggests that supported employment is an effective method for maintaining employment for people with psychiatric disorder (Campbell et al., 2009; Dixon et al., 2010). Randomised controlled trials have also demonstrated the efficacy of supported employment in assisting sufferers of schizophrenia to achieve competitive employment, increase working hours, and earn more wages as compared to
individuals who did not receive supported employment (Gold, Meisler, Santos, Carnemolla, Williams, & Keleher, 2006; Twamley, Jeste, & Lehman, 2003; Twamley, Padin, Bayne, Narvaez, Williams, & Jeste, 2005).

1.7.2.4. Assertive community treatment

Developed in the late 1970s, assertive community treatment aims to deliver clinical services to individuals with schizophrenia in the community using a multidisciplinary model. Research has suggested that assertive community treatment substantially reduces re-admission rates and improves accommodation stability as compared to usual care (Bustillo et al., 2001; Coldwell & Bender, 2007). Marshall and Lockwood (1998) reported that this treatment is particularly effective for patients with high baseline rates of hospitalisation. Unfortunately however, there is presently very limited research to support the efficacy of this treatment.

1.7.2.5. Cognitive behaviour therapy (CBT)

Despite pharmacological interventions, many individuals with schizophrenia continue to experience distressing positive symptoms including delusions and hallucinations, and emotional disturbance. As a result, cognitive behaviour therapy (CBT) has been applied to this problem. CBT for schizophrenia is based on the principle that positive symptoms stem from irrational beliefs and misinterpretations that are caused by cognitive impairments (Tandon et al., 2010). CBT therapists help their patients to evaluate their experience of symptoms and modify ways they respond to them, in a safe and accepting environment. In other words, patients learn how to recognise symptoms and identify signs of relapse in the early stages. They also develop coping strategies and cognitive restructuring techniques to help them manage their symptoms (Bellack, 2004). Several studies lend support to the efficacy of CBT for psychosis. For example, a pilot study that recruited 13 patients reported
that CBT helped to reduce the patients’ beliefs in their delusions (Garety, Kuipers, Fowler, Chamberlain, & Dunn, 1994). Subsequently, other studies showed that CBT treatment produced significant and lasting improvements in positive symptoms (Chadwick, Sambrooke, Rasch, & Davies, 2000; Kuipers et al., 1997). Meta analyses have also found CBT to be an effective intervention for targeting positive symptoms of schizophrenia (Gould et al., 2001; Pfammatter et al., 2006; Zimmermann et al., 2005). Other studies also observed a consistent improvement in both positive and negative symptoms (Gumley et al., 2006; Kemp et al., 1998; Kuipers et al., 1997; Sensky et al., 2000; Startup et al., 2005; Tarrier et al., 2004; Temple and Ho, 2005). More recent studies also observed a reduction in the frequency of symptoms and relapse episodes post-CBT intervention (Turkington et al., 2008; Tai and Turkington, 2009). Such effects of CBT have been found to be quite enduring, lasting between six months and two years after treatment was terminated (Drury et al., 1996; Sensky et al., 2000; Startup et al., 2005; Temple & Ho, 2005).

1.7.2.6. Acceptance and commitment therapy (ACT)

Unlike conventional CBT that challenges dysfunctional thoughts, acceptance and commitment therapy (ACT) focuses on changing the person’s relationship with his or her thoughts about themselves (Hayes, Strosahl, & Wilson, 1999). Essentially, ACT incorporates acceptance and mindfulness techniques into a traditional CBT framework (Linehan, 1993; Segal, Williams, & Teasdale, 2001). These techniques encourage a person to accept and experience emotions mindfully and non-judgementally while working towards goals and making committed actions that are value-driven (Hayes et al., 1999). Preliminary research has demonstrated the efficacy of ACT across a range of psychiatric disorders including depression, anxiety disorder, and substance use disorder (Hayes, Masua, Bissett, Luoma, & Guerrero, 2004). However, it was only in the last decade that social scientists considered using ACT to treat individuals with psychosis. The first randomised control trial (RCT)
involved 80 in-patients who were either assigned to a TAU or TAU group supplemented with five individual sessions of ACT (Bach & Hayes, 2002). During the individual sessions, patients were taught ACT strategies, with the aim of working toward valued goals despite their disease symptoms. At 4-month follow-up, the rehospitalisation rate of the ACT group was only half that of the TAU group. In addition, although patients receiving ACT reported more symptoms, they believed less in their hallucinations compared to the TAU group (Bach & Hayes, 2002). Guadiano and Herbert (2006) subsequently replicated the study and reported similar results. Improvements in mood symptoms, social deficits, distress related to hallucinations, and overall improvements were reported. A non-significant lower rehospitalisation rate was also obtained at 4-month post discharge. Lastly, believability in hallucinations also decreased with ACT intervention. To date, ACT appears to be a relatively effective psychosocial therapy for individuals with schizophrenia. However, research is still limited and further investigations with larger samples are warranted.

1.7.2.7. Family intervention therapy (FIT)

Unlike CBT, which does not typically include family members, family intervention therapy (FIT) involves family members and/or caregivers in the treatment of the sufferer with schizophrenia. FIT recognises the fact that families of persons with any mental illness, particularly schizophrenia, are often affected mentally, emotionally and financially. It is very likely that caregivers with a poorer quality of life have limited capacity to provide high quality of caregiving and may exhibit a higher degree of expressed emotion towards the patient. This, in turn causes the sufferers to experience relapse more often (Vaughan et al., 1992). FIT focuses primarily on psychoeducation to facilitate understanding of the disorder, the treatment plan, the importance of medication adherence (Pitschel-Walz et al., 2001), stress management, and crisis strategies (Lehman & Steinwachs, 2003). Furthermore, strategies for coping with schizophrenia are often suggested to the patients (Hogarty et al.,
1986). For example, Chien and Chan (2004) explored the effectiveness of FIT for patients with schizophrenia in Hong Kong and reported that mutual support groups can be an effective form of FIT for Chinese people with schizophrenia in terms of improving their functioning and reducing hospitalisation without increasing their use of mental health services. Meta-analyses suggest that FIT significantly reduces the degree of expressed emotion amongst relatives (Brown et al., 1972; Giron et al., 2010; Pitschel-Walz et al., 2001), re-admission rates and durations (Pfammatter et al., 2006; Pilling et al., 2002; Pitschel-Walz et al., 2001), as well as relapse episodes.

This is an important finding in light of the “push” by many governments and leading mental health bodies worldwide to encourage the deinstitutionalising of patients with schizophrenia. With this shift of mind-set, many patients are returned to their families and lack often the professional care of long-term institutionalisation required. Not only do these patients receive inadequate support if family members are prone to high degrees of expressed emotion and provide a poor quality of care, they may exacerbate the illness. This in turn, increases the risk of a sufferer’s relapse and rehospitalisation. It is therefore crucial to involve a sufferer’s family in the treatment of schizophrenia.

In general, group interventions that include family members have been more effective in reducing symptoms and relapse, and increasing the medication adherence of the patient (Lincoln et al., 2007; Pilling et al., 2002). Major limitations for FIT can include the unwillingness of family members to get involved in therapy, or even the lack of available people to participate. Lehman and Steinwachs (2003) suggested including non-family caregivers to resolve this issue.

1.7.2.8. Psychosocial rehabilitation program

It is now widely recognised that the psychosocial treatments outlined above address negative symptoms of schizophrenia and functional deficits that cannot be remedied solely by
pharmacological interventions (Mojtabai, Nicholson, & Carpenter, 1998). In the same vein, rehabilitation programs aim to support social function and personal well-being (Brekke, Hoe, & Green, 2009), and to assist sufferers in achieving their highest potential for independent functioning (Glynn, 2003). Hence, the development of community-based psychiatric rehabilitation services to address the needs of the individuals with schizophrenia living in the community. A recent study by Pan, Mellor, McCabe, Hill, Tan, and Xu (2011) evaluated the effectiveness of a rehabilitation program for people with schizophrenia in Shanghai. The rehabilitation program included psychoeducation, social skills training, and vocational training. It was found that participants demonstrated significant improvements over the course of the program as compared to the TAU control group.

1.8. Chapter Summary

Schizophrenia is a heterogeneous psychiatric disorder that usually manifests in adolescence or early adulthood. It affects perception, thoughts and behaviours and is to date incurable. More importantly, the debilitating clinical symptoms coupled with the chronic duration have profound implications for the sufferers, their family members and society at large. Not only does the family cope with the consequences and stresses of the illness on a daily basis, society is deprived of one of its productive members and often incurs disproportionate costs in supporting a sufferer. One of the more pronounced and observable costs are the astronomical healthcare funds that are channelled to the treatment and support of sufferers with schizophrenia.

For a long time, research on treating schizophrenia was predominantly medico-pharmacological in nature. This in itself has proven to be insufficient for sustainable recovery in schizophrenia. With no current cure for schizophrenia, all accepted treatment models are
focused on managing symptoms and improving the patient’s quality of life while further research is conducted in finding an actual cure.

There has been a wave of evidence in the recent decades to suggest the efficacy of adjunctive psychosocial interventions for schizophrenia. Consistent with the push for deinstitutionalisation, which resulted in many sufferers returning to the community, these therapies (e.g. social skills training, supported employment) focus on providing them with specific skill sets to manage the symptoms of the illness and maintain a functional lifestyle. Psychosocial rehabilitation provides sufferers with an opportunity to participate more fully in the community through an integration of social skills training, vocational training, and psychoeducation. Other therapies focused on modifying or improving patients’ cognition (i.e. cognitive remediation therapy, cognitive behaviour therapy, acceptance commitment therapy) because it was proposed that faulty or impaired cognitions interfere with the patient’s functional capacity and recovery. Another form of therapy, family intervention therapy, highlights the importance of including family members and/or caregivers in supporting sufferers with schizophrenia. This therapy is consistent with the findings from the literature that have established the importance and benefits of social support for sufferers of mental illnesses. One of the advantages of such therapy is that it reduces expressed emotion amongst caregivers, which has an immense impact on the subsequent recovery and quality of life of the individual with schizophrenia. The next chapter will explore in detail, the importance of social support from family members for sufferers of schizophrenia. In particular, it will examine how the level of expressed emotion from relatives can have an influence on the sufferer.
Chapter 2. Social Support in Schizophrenia

Medico-pharmacological treatments have been effective in managing positive symptoms of schizophrenia and are associated with the push for deinstitutionalisation and the return of individuals with schizophrenia to their families. However, this push inadvertently revealed a key factor related to the sufferer’s quality of life and daily functioning. This factor is called “social support”. This chapter will explore the construct of “social support” in general terms before examining the influence it has on those who suffer with schizophrenia.

2.1. What is “social support”?

With growing research on social support in the past two decades, it is not surprising that “social support” has been conceptualised in numerous ways. Some notable characteristics include: (a) structural aspects of social networks as reflected in the size of an individual’s social network, or the amount of resources provided, (b) functional aspects as measured by emotional or behavioural support, as well as (c) the degree of support perceived by the recipients (Cohen, 1988; House et al., 1988; Lakey & Lutz, 1996). The literature presents with three key types of social support, (a) emotional, (b) instrumental, and (c) informational (Antonucci, 1985; House & Kahn, 1985). Emotional support communicates care and concern, and facilitates the reduction of emotional distress while allowing for emotional expression. Instrumental support is reflected in the provision of material needs such as money and physical assistance, which may reduce the individual’s feelings of lack of control. Lastly, informational support provides individuals with coping strategies to manage their difficulties. Family, caregivers and friendship groups, mental health and medical professionals, or even religious institutions can provide social support. In essence, social support leads the recipient to believe that he or she is being cared for and loved, and is an important member of a social network.
2.2. Social Support for Mental Illness

Past research suggests that the strength and quality of social networks among members of the general community are directly associated with positive psychological well-being, including having better coping skills, self-efficacy, and quality of life (Berkman, Leo-Summers, & Horwitz, 1992; Berkman, 2000; Chan, Hon, Chien, & Lopez, 2004; Ell, Nishimoto, Mediansky, Mantell, & Hamovitch, 1992; Gili, Roca, Ferrer, Obrador, & Cabeza, 2006; Hammer, 1983; Taal, Rasker, Seydel, & Wiegman, 1993). The provision of social support has also been recognised as an important element in integrating the severely mentally ill in the community (Turner & TenHoor, 1978). The National Consensus Statement on Mental Health Recovery (Substance Abuse and Mental Health Service Administration [SAMHSA], 2004) further substantiated the importance of social support networks as part of any recovery process, particularly in helping mentally ill people to maintain their personal and social identity. Insufficient social support can impede the process of recovery by exacerbating pre-existing psychiatric symptoms and relapse rates (Resnick, Rosenheck, & Lehman, 2004), increasing the likelihood of rehospitalisation (Goldberg, Rollins, & Lehman, 2003) and affecting subjective quality of life (Tempier, Caron, Mercier, & Leouffre, 1998).

Unfortunately, individuals who are diagnosed with mental illness often experience loss or disruption of their social networks (Wright, Gronfein, & Owens, 2000). As one may naturally expect, research has confirmed that social support networks among those suffering from mental illness tend to be smaller and more confined, compared to those of the general population, and primarily consist of only family members (Perese & Wolf, 2005; Philips, 1981).

2.3. Reasons for Diminished Social Networks for Individuals with Schizophrenia

The size of social networks for individuals suffering from schizophrenia has been found to be smaller than for non-psychotic patients or healthy individuals (Macdonald et al.,
There are five relevant aspects of schizophrenia that may contribute to the diminished social network. Firstly, for individuals with schizophrenia, symptoms such as delusions and hallucinations interfere with social functioning and impede the formation of social relationships. Studies have reported a negative relationship between both positive (Salokangas, 1997) and negative symptoms (Hamilton et al., 1989) of schizophrenia and the size of social networks. That is, the more symptoms the individual exhibits, the smaller the network becomes. These earlier studies were further substantiated by a more recent study conducted by Sorgaard and colleagues (2001), which found that the less severe the negative symptoms are the more likely patients have access to social networks and more meaningful relationships.

Secondly, one of the negative symptoms often observed in schizophrenia is the lack of desire to form relationships. Often, this results in the limited growth of social skills, which are necessary to initiate and maintain relationships (Boydell, Gladstone, & Crawford, 2002; Combs & Mueser, 2007; Hamilton et al., 1989). In the same vein, the sufferer experiences restricted social networks that are limited to mostly family or mental health professionals (Hardiman & Segal, 2003). Unfortunately, psychiatric disorders, particularly schizophrenia, significantly reduce the potential number of social arenas in which sufferers may participate. The third aspect is that clinical staff and other patients, or family members are often the only people around persons with schizophrenia as a result of the sufferer’s illness. Hence, a sufferer lacks opportunities to form meaningful relationships outside of the clinical setting (Hardiman & Segal, 2003).

Fourthly, many individuals with mental illnesses, especially schizophrenia, have limited financial and practical resources. Often, they may not have access to resources such as cars and telephones and hence are often excluded from participating in social activities (Sorensen, 1994).
Finally, the negative stigma associated with mental illness also contributes to the sufferer’s shrinking social network. This has stimulated an entire body of research in the efforts to inform and educate the public about psychiatric disorders. Despite these efforts, stereotypes, negative attitudes and fears are still prevalent, discouraging the formation of social relationships with persons with schizophrenia (Link & Phelan, 2001; Sorensen, 1994).

2.4. Social Support and Schizophrenia

In light of the diminished social networks a typical sufferer would have access to, the quality of caregiving and social support are important considerations in the course and treatment of schizophrenia. There is a growing body of research that has documented many of the positive effects that high levels of social support has on mortality and morbidity, social functioning, and treatment adherence among people with schizophrenia (Cechnicki & Wojciechowska, 2007; Corcoran et al., 2003; Howard et al., 2000; Lam & Rosenheck, 2000; Norman et al., 2007; Norman & Malla, 1993; Norman, Malla, Manchanda, Harricharan, Takhar, & Northcott, 2005; Norman, Manchanda, Northcott, Harricharan, & Windell, 2012; Wojciechowska, Walczewski, & Cechnicki, 2001). On the other end of the spectrum, low levels of social support have been demonstrated to impact on mental and physical health outcomes (Bloom, 1990). Such convincing data suggest that social support acts as a protective role, if not, at least playing a part in the outcomes of mental illnesses.

Cross-sectional studies of patients with schizophrenia have reported a relationship between better social support and a higher quality of life and adaptation status (Howard et al., 2000; Lam & Rosenheck, 2000). Yet, few prospective studies have explored the effect of social support in psychotic disorders. It is fair to assume that social support is particularly important for persons with psychotic disorders given the strong evidence that the course of the illness is heavily influenced by environmental stressors (Corcoran et al., 2003; Norman &
Malla, 1993). Furthermore, research in other psychiatric populations has shown that social support has a positive effect for patients (Cohen et al., 2000; Cohen & Wills, 1985).

Three papers have examined the effect of social support in persons with first episode psychosis. Erikson and colleagues (1989) reported that higher levels of support from acquaintances, as reported by patients, predicted better social and occupational functioning 18 months later. Subsequently, Erikson, Beiser, and Iacono (1998) also reported that a sufferer’s perceived support from non-family members predicted better functioning after five years of treatment. Finally, Norman and colleagues (2005) recently reported that higher levels of social support from family and friends, and social organisations such as church or interest groups, correlated with lower levels of positive symptoms and fewer hospitalisations at three-year follow-up. These studies suggest that social support does indeed have a positive effect on subsequent functioning for persons with schizophrenia. However, these studies found either a non-significant or negative outcome when measuring support that patients received from their family. This is inconsistent with other research that provides compelling evidence of the beneficial effects of family relationships for subsequent functioning of patients with serious illnesses. Furthermore, these studies share an important limitation: all of them were conducted in Western societies.

2.5. Chapter Summary

Past research has consistently suggested a positive relationship between social support and higher quality of life across both clinical and non-clinical samples. Following this relationship, this chapter defined and examined aspects of social support, particularly those aspects relating to the family environment of individuals with schizophrenia. It also investigated the reasons that contribute to the diminishing social network for sufferers of schizophrenia. Thus, the chapter has highlighted the fundamental positive effects of social
support on mental illness. Such findings have important implications for therapeutic interventions for sufferers of schizophrenia. Accordingly, the next chapter will explore one of its key constructs, “expressed emotion”, to facilitate the understanding of how one aspect of the family environment relates to outcomes of schizophrenia.
Chapter 3. Expressed Emotion in Families with a Member with Schizophrenia

Following from the previous chapter, which highlighted the significance of social support from family members for individuals with mental illness, this chapter explores another important construct known as *expressed emotion*. Expressed emotion is a qualitative measure of emotion displayed within the family environment. It has demonstrable and significant implications on the quality of life of sufferers of mental illness, especially schizophrenia. This chapter will explore this concept in detail within the context of a sufferer and its family environment.

3.1. Family

With the lack of meaningful external social networks such as friendship groups, a sufferer’s family becomes not only an important but usually the only form of support available. Thus, it is **crucial to understand what “family” means** to a sufferer, and the elements of family functioning that influence the quality of life for individuals with schizophrenia.

The family is society’s **most basic** unit. This unit has many functions, and its influences are pervasive and broad ranging. According to the theory of functionalism, a **family assumes the responsibility of imparting society’s values and norms from one generation to the next** (Mackie, 2002). In particular, a family is expected to inform a new member on morality, social order, and cultural expectations. Such a concept of functionalist socialisation is consistent with Confucian teachings, which will be discussed in the next chapter. However the functionalist perspective has been heavily criticised by Parsons (1951) who referred to this phenomenon as the “warm bath theory” where functions are families are overly idealised. According to Parsons, the family modifies itself to meet the changed circumstances of contemporary society. Besides producing individual character and providing
a source of identity, another chief function of family is to meet each and every member’s emotional needs for love and security, and to provide support to each other in times of adversity. Thus, the quality of family support and its interactions is central to the healthy emotional growth of an individual. In the same vein, an impoverished quality of family support has negative consequences. In terms of psychiatric conditions, it has been reported that the way the family reacts and gets involved affects a patient’s recovery progress and quality of life. One way in which we may better understand family functioning is to examine the degree of expressed emotion in a family, which essentially reflects the amount of criticism and emotional over-involvement expressed its key family members towards another member with a psychiatric condition.

3.2. Expressed Emotion

Expressed emotion is made up of a cluster of mainly unhelpful ways in which a relative can behave towards a sufferer with mental illness, including criticism, hostility and emotional over-involvement. Expressed emotion is often measured as being high or low. This measurement was not designed to be precise but merely as an analytical tool for psychologists to identify key problem areas within a family unit.

Simply put, families with high expressed emotion are more likely to demonstrate increased criticism and hostility and be too emotionally involved. The opposite is true for families with low expressed emotion. Research suggests that relatives who exhibit high expressed emotion are often linked to a relapse in sufferers of psychological disorders such as schizophrenia (Marom, Munitz, Jones, Weizman, & Hermesh, 2005, Marom et al., 2002; Butzlaff & Hooley, 1998), depression (Hooley, Orley, & Teasdale, 1986), bipolar disorder (Kim & Miklowitz, 2004), and eating disorder (Medina-Pradas, Navarro, López, Grau, & Obiols, 2011).
3.2.1. Hostility

Hostility is described as a relative blaming the sufferer for the clinical manifestations of the disorder. For example, the family may believe that the sufferer is in control of the course of the illness, and is being selfish by choosing not to get better. Afflicted individuals are at the center of conflicts that occur at home. However, these sufferers often have a difficult time problem solving within the family because the disorder is frequently assumed to be the cause of all problems (Brewin, MacCarthy, Duda, & Vaughn, 1991).

3.2.2. Emotional over-involvement

On the other hand, family members may approach the mental disorder with emotional over-involvement. Humbeeck and colleagues (2003) defined emotional over-involvement as "self-sacrificing or overprotective behaviour, emotional display, excessive detail, positive remarks and statements of attitude" (p. 19). Instead of blaming the sufferer and the mental disorder, the family members blame themselves for everything. They believe that the sufferer has no control over the mental disorder. This belief then leads to overwhelming pity towards the family member. Over-involved caregivers lack objectivity. They accept a sufferer’s bizarre behaviours as reality and become caught up in the patient’s psychotic symptoms and become overly emotionally invested in a sufferer’s suffering. In this situation, the relative may become so overbearing that the sufferer finds it difficult to live with the stress from the pity. Consequently, the tremendous stress will then cause a relapse (Lopez et al., 2004).

Although emotional over-involvement may in theory be a safer environment as compared to a hostile environment, both types of family functioning are linked to a relapse of mental conditions.
3.2.3. Criticism

Generally, criticism is a combination of hostility and emotional over-involvement. Although family members may be more receptive to other factors contributing to the mental condition, they may still remain critical of the behaviours (Brewin et al., 1991). Sometimes, a critical relative can influence a sufferer to react more negatively towards the disorder (Bullock, Bank, & Buraston, 2002).

3.2.4. Levels of expressed emotion

It has been widely established that caregivers who display low expressed emotion are usually non-intrusive; they are more likely to be empathetic toward and accepting of the afflicted person’s feelings and desire for social distance. These caregivers believe that the ill person is genuinely unwell, and seek to understand the patient’s symptomatic behaviours. Additionally, they are generally tolerant of a sufferer’s bizarre episodes. A positive and warm environment is created when lower social expectations are coupled with higher levels of tolerance towards a sufferer’s psychotic behaviours and lower functioning (Leff & Vaughn, 1985).

High expressed emotion environments on the other hand are largely characterised by intrusiveness, impatience, criticism, and high social expectations of sufferers. Family members persistently attempt to elicit socially accepted responses even when the sufferer is withdrawn or exhibits distress. They are also usually intolerant of the sufferer’s reports of bizarre beliefs and delusions and consistently confront them with their thoughts. This type of caregiver makes few allowances for the illness or for a sufferer’s known deficits. They strongly believe that the sufferer is able to manage the psychotic behaviours if they exercise the will to do so. They are extremely critical and hence, make few allowances for the mental disorder or the individual’s impaired functioning. High expressed emotion families are also
more likely to ignore patient’s requests for privacy. For example, they discourage the closing of the patient’s bedroom doors and regularly walk in on the patient’s room unannounced (Leff & Vaughn, 1985). Deliberate attempts to supervise a patient’s daily routine activities, such as showering and eating, are also common.

3.3. Expressed Emotion and Schizophrenia

Research suggests that individuals with severe mental illness, schizophrenia in particular, have rather different emotional needs in terms of interpersonal relationships when compared with non-sufferers or even among sufferers (Leff & Vaughn, 1985; Vaughn, Snyder, Jones, Freeman, & Falloon, 1984). People with schizophrenia react strongly to sensory overload or deprivation and therefore will often attempt to reduce face-to-face contact or any form of communication as a way of dealing with their impairments (Ludwig & Stark, 1973). According to their family members, individuals diagnosed with schizophrenia frequently experience difficulties in interpersonal relationships even in households with little or no tension (Leff & Vaughn, 1985). They rarely confide in relatives and sometimes even appear uncomfortable with casual interactions. Thus, it is not surprising that these existing challenges are amplified when family environments in which there are high levels of expressed emotion.

As suggested in the previous chapter, it has been well established that expressed emotion is a significant and robust predictor of relapse in schizophrenia (Butzlaff & Hooley, 1998; Marom, Munitz, Jones, Weizman, & Hermesh, 2002). A substantial number of studies have repeatedly shown that patients residing in high expressed emotion environments are significantly more likely to relapse than those who live in households that are characterised by low expressed emotion (Butzlaff & Hooley, 1998; Kavanagh, 1992). In fact, information about family climate is a more useful predictor of relapse than knowing whether the patient is on medication, with risks of relapse as high as 70% when the patient is living in a stressful
family climate compared to 40% when he or she is not on medication (Hahlweg et al., 1989b). However, the majority of expressed emotion studies have followed patients for periods of approximately 9 to 12 months and sometimes up to 24 months (Kavanagh, 1992), with only a few studies of over 2 years (Huguelet, Favre, Binyet, Gonzales, & Zabala, 1995; Schulze Monking, Hornung, Stricker, & Buchkremer, 1997). A study conducted by Vaughn and Leff (1976) in the United Kingdom identified a lower relapse rate over the 9–month follow-up, with 16% in low compared to 58% residing in high expressed emotion households. The same study was replicated in the United States and produced similar results (Vaughn et al., 1984) with patients residing in low expressed emotion environments having a relapse rate of 17% compared to 56% in high expressed emotion homes (Vaughn et al., 1984).

The relationship between expressed emotion and relapse in people with schizophrenia is strong and undeniable. This association is also found in non-Western societies. Phillips and Xiong (1995) investigated the relationship between expressed emotion and relapse rates of schizophrenia patients in China and found that patients from high expressed emotion environments relapsed sooner than those from low expressed emotion households in the first 18 months following hospital discharge. Although expressed emotion was not significantly associated with earlier relapses in this Chinese sample, the results were consistent with studies on expressed emotions in Western countries. Cultural factors in relation to expressed emotion will be further discussed (see Section 4.4).

While the relationship between high expressed emotion and increased patient relapse has been consistently observed, it is apt to note that a family's expressed emotion levels are independent of the fact a member is suffering from schizophrenia or from other factors that have been identified so far. For example, related research suggests that the degree of expressed emotion is not related to the socioeconomic status of the family (Duarte, Weisman
de Mamani, Rosales, & Kymalainen, 2008), or to the functioning level (e.g., social, academic) of the ill individual (Kavanagh, 1992).

3.4. Chapter Summary

Expressed emotion refers to degrees of criticism, hostility and/or emotional over-involvement expressed by relatives towards the sufferer of a mental illness, and high expressed emotion often causes relapse in sufferers of a broad range of mental illness including schizophrenia. This chapter explored one of the key constructs of family functioning, expressed emotion, and how deconstructing a sufferer’s family environment and how relatives react towards a sufferer can increase the understanding of the impact of expressed emotion on that particular sufferer.

While research has consistently suggested a positive relationship between social support and higher quality of life across both clinical and non-clinical samples, the bulk of the existing literature on the impact of expressed emotion on schizophrenia has been conducted in Western societies and has little consideration for differences in cultural influences.

The next chapter will explore the influences culture has on the course of recovery and prognoses for schizophrenia. It will also discuss how mental illness is perceived in Western and non-Western societies because the perception inevitably impacts the way it is supported, or not supported by the society and responded to by the family.
Chapter 4. Culture and its Influences

The preceding chapters have introduced schizophrenia as a psychiatric disorder, the clinical manifestations associated with it and its aetiological factors. Despite its low prevalence rate, its effects have proven to be debilitating with broad ranging impacts on the sufferer, family and more generally upon society. Yet, there is still no medical breakthrough to cure this illness. Whilst schizophrenia was traditionally managed by placing sufferers in large psychiatric facilities, there is now a concerted push to keep afflicted individuals in the community, with psychotropic medications used to control positive symptoms.

The direction for treatment has subsequently moved from symptom reduction to improving the quality of lives of the sufferers. The push for deinstitutionalisation meant that these individuals returned into the community and lived with their relatives. Understandably, social support for these individuals with schizophrenia is then largely drawn from these resources. Therefore, it is crucial to look into the family environment and explore the level of expressed emotion relatives exhibit towards sufferers, and literature highlights (i) the importance of social support for persons suffering a psychiatric or medical condition, and that (ii) expressed emotion is a robust predictor for relapses in these sufferers.

Nonetheless, there is an important limitation to the existing literature. That is, these studies failed to consider the cultural context of the society. It is not erroneous to suggest that culture has an impact on psychopathology and the society’s impression of it. This chapter will discuss in detail, (i) the concept of culture, (ii) how mental illness is constructed in different cultures, i.e. Western versus non-Western societies, (iii) cultural differences in recovery, and (iv) how expressed emotion is constructed and shaped differently across cultures.
4.1. Culture

Culture is a social construct that emerges as a result of the interactions that develop between people and their environment (Triandis, 2007). It is an embodiment of a society’s common attributes, belief systems, and value orientations that influences the customs, norms, and practices of a group of people (APA, 2000). It shapes the way in which we perceive the world around us, and our interactions within it. It also helps us make sense of our experiences and our way of living. These elements are also informed by contemporary historical, political and economic circumstances. Therefore, because of culture’s potential influence on psychiatric disorders and the way in which it informs treatment plans, it is crucial to consider culture at the relevant time of diagnosis or treatment of mental illness to enhance a health practitioner’s understanding of the mental health and psychopathology of a given patient at the point of treatment. While this may be intuitive to some given that the process of diagnosis or treatment is done against a health practitioner’s own background and experiences within society, an express and careful consideration of culture as a distinct factor as part of diagnosis or a treatment plan enhances its potential benefits.

Fundamentally, the measure of prevalence of a particular psychiatric condition may be affected by the degree of acceptance of the disorder by the society, availability of social and practical support and the existing system of care in the community (Tseng & Streltzer, 1997). Schizophrenia as a major psychiatric disorder is believed to be largely brought about by biological factors and therefore tends to have a narrower range of variation in symptom presentation or prevalence among different societies (Tsuang et al., 1995). However, this is not to say that the way different societies perceive the illness and support the patient will be the same. The way the illness is being experienced by the patient may vary too.

Despite the importance of culture, the discipline of psychology has for the most part neglected cultural factors in its theoretical and applied approaches in the understanding and
treatment of mental disorders. It is only in the last couple of decades that culture has featured more prominently in psychology’s understanding of human behaviour and experience. A good example of this historical neglect is in relation to psychiatric diagnosis and treatment mechanisms in most parts of the world. Understanding and diagnoses of psychiatric conditions have been largely based on the Diagnostic and Statistical Manual of Mental Disorders [DSM] published by American Psychological Association in the United States, which has been widely criticised for being distilled primarily from Western experience and failing to take adequate consideration of the diversity of different cultures.

The DSM’s lack of consideration for cultural diversity has meant that psychiatric disorders may not be diagnosed correctly or that treatment regimens are less effective than they otherwise could be in some cultural contexts. For example, the Koro syndrome has only been found to be prevalent in Southeast Asian countries, with severe outbreaks being reported in Singapore in 1967 (Ng, 1997) and North Bengal in 1982 (Chowdhury et al., 1988). Koro syndrome is characterised by acute anxiety with an intense fear among men of losing their genital parts, leading to subsequent death. Only sporadic cases of Koro have been observed in Western countries in recent times (Ntourous et al., 2010). The occurrence of Koro syndrome in Southeast Asian countries and its lack of presence in the Western world strongly suggest the importance of culture in the development of psychiatric disorders.

“Frigophobia” is another example of a culture-specific syndrome. It is a clinical condition coined by Chinese psychiatrists that is characterised by an excessive fear of catching cold (怕冷; Rin, 1966). To date, only sporadic cases have been reported in China and Taiwan (Chang, Rin, & Chen, 1975; Chiou, Liu, Chen, & Yang, 1994). According to the Chinese traditional concept of yin (阴) and yang (阳), an imbalance of energies will result in medical and psychiatric disorders. The chilling sensation of cold perspiration is construed as a sign of physical weakness because of excessive yin energy. Based on these popular beliefs,
Chinese people will avoid eating “cold food” such as watermelon, and avoid cold rain or cold air. Individuals with frigophobia syndrome will then overdress to avoid contact with the cold air even in warm weather.

Given that culture has such potentially pervasive effects on psychiatric conditions, it is then essential to examine the underlying aspects of both Western and non-Western cultures that are driving the differences.

4.2. Mental Illness in Western and Non-Western Societies

In general, there is a stark and obvious contrast in the cultural orientations of Asian and Western communities. While Asian cultures celebrate collectivism, the West values individualism. According to Hofstede (1980), collectivist societies, such as Hong Kong, China and Singapore, focus on groups, contexts and interpersonal relationships, maintaining a ‘we’ identity (Hofstede, 1980). Triandis (1988) argues that in-groups, such as family or work units, are very important in collectivistic cultures. In such settings, the needs, goals, and beliefs of the in-group often take precedence over those of the individual. Essentially, the collectivistic aspects of Asian culture shape the communication process.

Within this collectivist cultural orientation, the multi-faceted Chinese framework of understanding mental illnesses, for example, is heavily influenced by several competing interpretive traditions, which are made up of both traditional (e.g. Confucianism, Buddhism, Taoism, traditional Chinese medicine) and biomedical models (Yang, Phillips, Lo, Chou, Zhang, & Hopper, 2009). Beliefs in cosmological forces, wrath of God and ancestors, possession by spirits, ancestral inheritance of misconduct, diet, or brain dysfunctions may all play a part in the framework for understanding mental illness (Lin, 1981).

The three major traditional philosophies mentioned above, Confucianism, Buddhism, and Taoism, share a common approach in understanding and managing life challenges. The
Chinese believe that life’s stresses and unfortunate events are predetermined by fate and therefore excessive emotional reactivity is considered unhealthy, and is generally shunned. The ability to tolerate such sufferings is highly valued because it is believed to repay the debts of previous lives and also to cultivate the present character. For example, the family is often held primarily responsible for the presence of mental illnesses because its onset is generally regarded as ‘retribution’ moral transgressions towards ancestors or social norms (Lin & Lin, 1981).

By contract, Western cultures place a strong focus on “self” and therefore embrace values such as independence, autonomy, responsibility, and goal achievement (Jenkins & Karno, 1992). This emphasis on self-actualisation, individual initiatives and personal achievements, translates into an “I” identity. In fact, a person’s sense of self-esteem is dependent upon his or her achievements that result from that individual’s personality traits, competence, and intelligence (Matsumoto, 1997). Furthermore, emotions hold greater intrapersonal significance in individualistic societies (Suh, Diener, Oishi, & Triandis, 1998). The free expression of personal feelings reaffirms the importance of the individual relative to interpersonal relationships. Unlike the Chinese, who have strong animistic beliefs, Western communities tend to perceive and understand mental illnesses within the limits of a biomedical and psychosocial framework and is commonly believed to be a disorder related to abnormalities in the brain and manifests in bizarre human behaviour and experiences..

4.3. Culture and Recovery

It has been consistently observed that the prognosis and the course of schizophrenia are better in developing countries than developed societies (Jabensky et al., 1992; Kulhara, 1994). The first cross-cultural study conducted by Murphy and Raman (1971) explored the outcome of schizophrenia in Asians and indigenous Africans living in Mauritius over a
period of 12 years. They compared their results with an earlier study conducted in the United Kingdom (Brown, Bone, Dalison, & Wing, 1966), and reported several important findings. Firstly, they found very similar incidence rates for schizophrenia in Mauritius and the United Kingdom. However, the proportion of patients functioning normally and symptom-free was higher in the Mauritian than British sample at follow-up. This non-European sample also showed fewer relapses in the period between discharge and follow-up. Taking into consideration various factors such as better treatment methods or environmental conditions, Murphy and Raman (1971) put forward the suggestion that the course of disease in a developing country is different from that in a developed country. In a later review of transcultural studies, Kulhara and colleagues (1994) also concluded that the course and outcome of schizophrenia is significantly better in non-Western and developing countries as compared to developed countries.

The above findings may however be due to the fact that the experience of schizophrenia itself varies profoundly across cultural settings. Past research has highlighted cross-ethnic differences in the ways that symptoms are expressed among people with schizophrenia (Brekke & Barrio, 1997; Dinges & Cherry, 1995). For example, Guarnaccia and Parra (1996) were some of the first researchers to examine families’ conceptions of mental illness across a multicultural sample of 90 family caregivers from various ethnic backgrounds. Of these 90 families, 45 were Hispanic-Americans, 29 were African-Americans, and 16 European-Americans. Guarnaccia and Parra reported that there were stark differences in the way family is defined between and within ethnic groups, the way caregiving is understood, as well as patterns of family growth and development. This suggests that there are fundamental culturally determined differences in the way families care for the mentally ill. An earlier study (Jenkins, 1988) also put forward a discussion of clinical and cultural factors related to the understanding of schizophrenia and family conceptions of
the illness. A recent finding reported poorer outcomes for the sufferer when the influences of sociocultural factors on treatment were not considered (Phillips, Barrio, & Brekke, 2001).

Overall, these findings suggest that different sociocultural backgrounds within the general population of a particular geography may have an impact on the expression, course, treatment outcome, and experience of schizophrenia. Unfortunately, cross-cultural research on schizophrenia has at least one severe limitation: most of the studies have been conducted in the United States and have compared Caucasians with either African-American or Hispanic samples within the United States. To date, research aimed at identifying the factors and processes for better outcomes of schizophrenia in developing countries is very limited. Thus, comparison of the lives of individuals and family functioning in families with schizophrenia in various socio-cultural environments is necessary. This has led to a growing interest over the past decade on how sociocultural factors influence schizophrenia and its outcomes.

In trying to understand the way culture may impact on the wellbeing of people with schizophrenia, it may also be useful to consider how the constructs of social support, such as, expressed emotion manifest in different societies. The following section of this thesis will therefore focus on how expressed emotion is conceptualised, and its interaction with culture and ethnicity. In particular, research on various cultural communication patterns, family values and other sociocultural beliefs and behaviours that may facilitate the development of a theoretical framework of the interplay among these constructs and their associations with prognosis for schizophrenia, will be reviewed.

### 4.4. Expressed Emotion and Culture

The prevalence of high expressed emotion families was generally observed to be lower in non-Western countries (Kymalainen & Weisman de Mamani, 2008). Kavanagh
(1992) also reported even within Western countries, Italy and Spain had lower expressed emotion as compared to the United States or United Kingdom. Hence, base rates of expressed emotion are thought to be different across cultures (Kavanagh, 1992; Weisman, 2005). Clearly, there are obvious differences in the way various cultures define expressed emotion.

**Culture shapes a person’s behaviour and his worldview.** Culture also affects a person’s understanding of and reaction towards mental illness. In other words, culture defines a person's range of behaviours such as receptivity to criticism, hostility or his or her tendency to become emotional over-involved. For example, while there is no relationship between hostility and criticism in certain cultures, such as India (Leff et al., 1990), the same cannot be said for Western societies where escalated levels of criticism, when displayed, are perceived as a form of hostility (Vaughn, 1989; Vaughn et al., 1984). In Singapore, parental criticism holds a different meaning compared to the West, as parents perceive it as a way of encouraging their children (Quah, 1999). In addition, although the construct of love exists in Singapore, it is operationalised differently as compared to the West. It is common for parents to express their love through more practical means as compared to emotional displays, which are more common in Western cultures (Koh & Chang, 2002). This is consistent with the results Jenkins and Kano (1992) reached, in particular that emotions, behaviours and thoughts are constructed differently across cultures. Nevertheless, expressed emotion has been thought to exist among families in Singapore (Healey, Tan & Chong, 2006).

As earlier flagged in Section 3.3, expressed emotion has an effect on the relapse rates on schizophrenia. Consequently, because society’s response and discourse about illness are likely to differ in various cultural contexts, it is important to examine the family as a key element in understanding clinical issues such as help seeking behaviours, socialisation, and labelling of deviance (Kleinman, 1980). Accordingly, this section will continue to explore how expressed emotion is exhibited towards individuals with schizophrenia across various cultures.
In an earlier series of studies comparing the level of expressed emotion among relatives of people with schizophrenia across Asian and Western cultures, none of the Indian caregivers were rated high on the emotional over-involvement scale (Leff et al., 1990), compared to 15 percent of Anglo-American (Vaughn, 1989), and 21 percent (Vaughn et al., 1984) of British caregivers. The same paper also reported that the overall rate of high expressed emotion in Indian caregivers is only 30 percent, which is less than half of that in the West (e.g. rates for Anglo-Americans are generally about 70 percent in the United States). Other research suggests that emotional over-involvement may be more culturally acceptable than hostility or emotional over-involvement in non-western societies such as India and Japan. Tanaka, Mino and Inoue (1995) reported that criticism was not predictive of relapse in the Japanese sufferers. Therefore while the common medical understanding of schizophrenia suggests a relationship between emotional over-involvement and relapse, no relationship was reported between emotional over-involvement and relapse in Egyptian sufferers (Kamal, 1995).

In a qualitative cross-cultural study on expressed emotion, Jenkins and colleagues (1986) reported that Anglo-American relatives living in an individualistic culture were more likely to criticise and attribute illness symptoms to internal characteristics, such as the personality traits of an individual, than were Mexican-American relatives from a collectivistic environment. Similarly, Weisman and Lopez (1997) found that Anglo-American participants more frequently attributed controllability to patient symptoms, and endorsed more negative emotions toward a hypothetical family member with schizophrenia than did Mexican family members.

Findings from social psychology research investigating how Chinese people interact within their families, and their perceptions of mental illness, may help elucidate the cultural factors involved in the expressed emotion-relapse relationship in China. Morris and Peng (1994) suggested that individuals from collectivist societies (e.g., Chinese) processed social
events differently than people in individualistic countries because of the stronger emphasis on the social group over the individual, as well as the shaping of social behaviour through relationships and roles in society. In particular, traditional Chinese beliefs about the aetiology of schizophrenia may shape the family climate and affect patient outcome. The attribution of symptoms to the illness or other external factors (i.e. animistic beliefs) may largely reduce the tendency of family members to believe that the sufferer is able to control their own psychotic episodes and bizarre behaviours.

Further, among the most frequently endorsed causes of schizophrenia by caregivers in China are environmental stress and conflicts in nonfamily relationships (Phillips, Yonghun, Stroup, & Xin, 2000). Thus, caregivers who ascribe to a social cause that absolves the patient of blame are less likely to react critically and more likely to have higher tolerance and lower expectations of the patient.

The differences in the way emotions are experienced and expressed across cultures can be related to elements of culture that have been identified by cultural theorists. For example, research suggests that one of the constructs of expressed emotion, emotional over-involvement, is more prominent among collectivistic cultures, which as described above, are defined by strong familial ties and social support, compared to individualistic cultures characterised by autonomy and independence (Phillips & Xiong, 1995; Azhar & Varma, 1996). This suggests that the use of Western samples in research about the relationship between expressed emotion and recovery from schizophrenia does not adequately address how these relationships may differ within other cultural settings.

One study conducted on Mexican American relatives of schizophrenia patients by Weisman and colleagues (1993) attempted to directly examine caregivers’ beliefs and expressed emotion. The results reflected previous studies in relatives who were highly critical or hostile had higher beliefs about controllability than low expressed emotion relatives.
However, the study did not examine the relationship between expressed emotion and the psychosocial functioning of patients with schizophrenia.

4.5. Chapter Summary

This chapter discussed the significance of considering cultural aspects in the understanding of psychiatric disorders. It also explored expressed emotion across various cultures and highlighted an important finding: different cultural orientations display expressed emotion and embrace caregiving differently. For example, the degree of emotional over-involvement deemed acceptable in one society may not necessarily hold true for another society. Further the relationship between emotional over-involvement with relapse observed in one culture may not be observed in another culture. It appears that there are stark differences in the way emotion is expressed in Western and non-western cultures. One way to understand this difference is exploring the cultural orientations of these societies. While non-Western countries celebrate collectivism, Western countries place emphasis on independence and individualism. Such orientations can help one to conceptualise how people respond to mental illness and embrace their role in caregiving.

Given that psychiatric disorders have an impact on human behaviour, and that human behaviour is culturally mediated, the way the illness is perceived, manifested or supported varies across cultures. Accordingly, a robust diagnosis or treatment plan must necessarily take into account these differences. One way of understanding culture is to look at the traditions, philosophies and religious beliefs that shape the society under examination. The following chapter will summarise some of the important traditions and religious beliefs that play a crucial role in understanding the dynamics of social support for mental health in a non-Western setting, particularly schizophrenia in the Chinese culture.
Chapter 5. Culture and Values (A Chinese Study)

Following the discussion of how socio-cultural factors exert influence on psychiatric disorders, and particularly schizophrenia, this chapter will examine in detail the differences in the culture of the countries in which this study was conducted. This is to understand the manner in which a non-Western society (i.e. Chinese culture) shapes the understanding and importance of family support towards sufferers of psychiatric conditions.

5.1. Aspects of Chinese Religious Traditions

The understanding of religion in the Chinese context differs significantly from that of the American and European contexts. While religion in the Western context is broadly recognised as a relationship between humanity and spirituality (Geertz, 1973), this definition is largely disputed in the Chinese culture (Ching, 1993). The Chinese worldview of religion stems from two major concepts; (i) theory of immanence, which suggests that spirituality can permeate the material world (Jenkins, 2001), and (ii) humanity. According to the theory of immanence, there is an omnipresence divine entity, and there are ways to manipulate the forces that shape the human world. These efforts have consequently become a central element in Chinese religious traditions. The virtue of humanity has also been advocated to govern orderly conduct in society. This will be further discussed in the section of Confucianism. The concepts of immanence and humanity are manifested in a complex interaction of various religious and philosophical traditions in the Chinese culture.

Stemming from the concept of immanence, three main religions followed by the Chinese are Confucianism (哲学), Taoism (道教) and Buddhism (佛教). Of these three religions, Buddhism is a clearly defined religion with a structured institution and practiced rituals. Taoism has elements of alchemy, divination and shamanism. On the other hand, Confucianism does not contain much religious context but has been recognised as a
humanistic philosophy, which has dominated Chinese society over the past 2000 years (Yang, 1961). Because these moral teachings have been used as operative systems for the regulation of social behaviour (Bodde, 1991), they have been recognised as “religions” although they may be more aptly considered as “moral teachings”.

5.1.1. Supernatural Beings

The Chinese believe that supernatural beings (i.e. Gods and spirits) have control over what goes on in the world and the lives and destinies of people. This cosmological world of supernatural beings is an invisible dimension of the world. It is believed that after death, a person’s soul continues to exist in the invisible world, but sometimes can appear in the visible world (Ma, 2000). These souls and spirits are known as ghosts (鬼). Such beliefs are consistent with the yin-yang doctrine that indicates that human beings are products of the yin and yang energies. At death, the yin returns to Earth and the yang ascends to heaven. The yin soul becomes a ghost if necessary burial rituals were not carried out. Sometimes an unhappy soul may cause suffering to the family. It is widely thought to manifest itself in the form of mental or physical illnesses, or be responsible for a failure of business, or a breakdown of marriage in in later generations (Ma, 2000). Although faith in ghosts is not widely discussed in the teachings of Confucianism, Taoism and Buddhism, the belief in ghosts has undoubtedly always been part of Chinese religious life.

5.1.2. Yin and Yang

Yin-yang (阴阳) is one of the most dominant concepts embraced by various schools of Chinese philosophies, but especially by Taoism. Yin-yang can be understood as a form of energy (气); yin denotes a form of dark and passive energy, while yang is the bright and active form of energy (Adler, 2002). These forces are complementary, and constant
interaction is necessary to create and develop change. The doctrine can be used to describe the phenomenon of day and night, positive and negative, male and female, hot and cold, fire and water, air and earth, respective to the yin and yang. For example, light cannot exist without darkness. As everything in the universe is created through the interaction of the yin and yang forces, human beings are also created when the man (yin) and woman (yang) come together (Thompson, 1996).

This regulation of yin and yang forces has also been used to explain the activities of the human body and mind. According to the traditional Chinese understanding, a person’s mental and physical health is maintained by ensuring a balance in yin and yang forces. Illnesses are thought to occur as a result of imbalance of these energies (E.g. See Section 4.1. on frigophobia).

5.2. Religious Traditions of China

5.2.1. Confucianism

Confucianism (哲学) is an integral philosophical and social tradition in the Chinese culture. The ideologies were based on the teachings of the Chinese philosopher, Confucius (孔夫子, 551 – 478 BC), and form a set of pragmatic rules for daily living, largely centred on human behaviour and conduct. In particular, Confucius was interested in how people behaved towards each other and how human beings tended to pay little attention to matters such as sin, salvation and the soul. Subsequently, he developed a system of thought predominantly characterised by what he considered were equitable morals for the society. This system was later christened as Confucianism. Recognised as the Chinese ‘gold standard’ for moral cultivation and social harmony, Confucianism has continued to evolve, and in present day, remains an integral and important part of Chinese civilisation. Today, it continues to influence cultures and countries far beyond the borders of mainland China, including large
parts of Asia such as Singapore, Taiwan, Vietnam, Korea and Japan, and in recent decades has gained popular traction in parts of Europe and North America.

Given the extensive influence Confucianism has had on political and social systems across numerous societies, it is also important to understand how it has influenced the Chinese subjects of this study and their understanding of mental illness. To set the stage, the basic guiding principles of Confucianism will first be introduced. Then, focus will be placed on family because it plays such a prominent role in personal wellbeing within this system of thoughts. Lastly, this section will explore how the Chinese families in this study may have interpreted and manage mental illness.

5.2.1.1. *Five virtues of Confucianism*

Despite the fact that Confucianism has undergone evolutionary changes throughout the decades, its teachings have been compiled in the Analects of Confucius (论语), which continues to be the essence of Confucian teachings. As it was originally written in the succinct and refined classical Chinese language, translation into English has generated confusion through using multiple words to represent a construct. Essentially, the Analects is made up of the Four Books (四书) and Five Classics (五经), which contain core values that are believed to be necessary for leading a moral life. These values were recognised as innate skills and goals to be fulfilled through guidance and self-cultivation (Lee, 1999a). In the broadest terms, the virtues include humanity (仁), righteousness (义), etiquette (礼), knowledge (智), and integrity (信). Confucius indicated that his philosophies primarily stem from the concept of humanity. Humanity is perceived to be the highest virtue a person can attain, and is the foundation of all human relationships. The other four virtues, righteousness, etiquette, knowledge and integrity are used together to support the virtue of humanity.
This concept of humanity puts forth an obligation of benevolence, compassion and goodness towards other individuals in the community (Eno, 2012). Cultivating such attitudes for others translates into self-deprecation, demonstrated through the rule of, “Do not do to others as you wouldn’t wish done to yourself”. The cultivation of humanity is developed from filial piety, which is learned from within the family. Filial piety involves the child serving their parents’ unconditionally such that they sacrifice themselves for their parents’ wellbeing, and strive to become established in the society so as to glorify their parents (Chin & Loh, 2008). It is also through the development of filial piety that a person learns how to behave within the household, to understand the importance of hierarchy, and to appreciate the importance of respect and the value of education. It is expected that behaviours learned from home be replicated in society. A respectful and harmonious family life is seen to contribute towards an orderly state. In essence, the family is viewed as the root of all humanity and the foundation of a harmonious society (Tien & Olsen, 2003).

Confucius indicated that one of the ways to exhibit humanity is by respecting accepted social etiquette. The ultimate goal of etiquette is to maintain social and moral order (McGreal, 1995). Etiquette generally refers to ritual propriety of personal conduct in all circumstances, ranging from ordinary daily activities to political and religious rites. However, “礼” is a broader concept than mere etiquette. Besides encompassing decent behaviour in social environments, it also refers to effective action choices, modes of education and self-cultivation (Park & Chesla, 2007).

The higher principle to govern etiquette is righteousness, which denotes the moral disposition that allows a person to make correct action choices. Righteousness can be further broken down into loyalty (忠) and reciprocity (恕). While loyalty refers to a cultivated feeling towards one’s superior or country, Confucianism also emphasises the importance of reciprocity, which may be more adequately explained by the term “empathy”, as it refers to
the ability of one being able to anticipate what others feel and that others have similar needs to ourselves (Gu, 1999).

Integrity is derived from the concept of being honest and reliable towards others (Eno, 2012). Lastly, the virtue of knowledge was added to Confucianism by Mencius (Confucius’ disciple). It refers to moral wisdom, in which one can innately differentiate between right and wrong moral conduct (Eno, 2012). This stems from the belief that all human beings are born good (人之初，性本善), and that any evil deeds are learned and influenced by external factors.

5.2.1.2. Five cardinal relationships

The five virtues discussed above have become the criteria for evaluating human behaviour in the Chinese culture. Violations of any of these virtues are perceived to be shameful (Lee, 1999b). In Confucian social theory, the family occupies a central position, and is the prototype of all social organisations (Hofstede & Bond, 2005). The process of learning these virtues is achieved with appropriate guidance through interactions and relationships within the family. Upholding harmonious relationships within the family translates into functional society, with social and political stability. Confucius defined five cardinal relationships to guide the society. These relationships are (1) ruler and subject; (2) father and son; (3) elder brother and younger brother; (4) husband and wife; and (5) friend and friend. As can be observed, three dyads describe relationships occurring within the family unit.

Within Confucianism, relationships are fair and reciprocal. While the younger family members are expected to show respect, the senior family members must behave in a benevolent and kind manner (Zhang, 2002). For example, the husband and wife relationship must be characterised by equality, rather than male dominance. Children are expected to be filial and obey their parents, but parents must first provide love and affection. Older siblings
are expected to be role models for their younger family members and will usually take up the role of care-giving and protection in the absence of their parents. Younger siblings must in turn respect their older siblings (Park & Chesla, 2007). By withholding personal needs and desires, and upholding filial piety, family harmony will be achieved.

5.2.2. Buddhism

Buddhism (佛教) is one of the most important religions for Chinese people. The history of Buddhism dates back to the 3rd century BC, but it was only actively promulgated in China during the Han Dynasty (25 – 220 BCE). A prince of India who renounced his opulent lifestyle to seek enlightenment, Buddha regarded himself as a teacher after his awakening and preached the four noble truths and the noble eightfold path, which if followed, is thought to liberate humans from suffering.

The essence of Buddhist teachings is largely represented by the (a) three principle aspects of the path; (b) four noble truths; (c) three higher trainings; and (d) noble eight fold paths (Chodron, 2001). Fundamentally, these teachings encourage mankind to avoid harming others and to help others as much as one can. Buddhist scholars also believe that these principles act as a guide for people to deal with their everyday challenges. Extrapolated from these teachings are key lessons, which will be discussed accordingly.

 Followers of Buddhism believe in the law of cause and effect, known as karma (Chodron, 2001). In every way, our thoughts and actions determine the quality of our lives. We are what we are now due to the things that we have done previously, and if we do good, we are likely to reap the rewards in the future. Buddhism also holds that the causes of our suffering lie not in the external environment, but in our own mind. According to the Buddhist philosophy, pleasure gained from the external environment is not true happiness but is a catalyst to heal physical suffering. True happiness stems from the human mind when needing
only minimal material happiness. Therefore, one should always share what one has with other people in need. To remedy physical suffering on a global scale is the goal of collectivism. The Buddhist teachings also highlight that the goal in life should not be material happiness, but the ability to devote oneself to do good and free the mind from the influence of material happiness (Changkhwanyuen, 2004).

Consistent with Confucianism, Buddhism places strong emphasis on affection, wisdom and compassion. The affection advocated by Buddhism is not of possession, but dedication, which promotes the compassion of giving and helping, rather than wanting and asking. Lastly, Buddhists do not believe that death is the end of life. There are different paths of rebirth, which depend on the actions that one has taken in the current life. If one has done evil, he will be born into the paths of animals, hungry ghosts, or hell-beings.

5.2.3. Taoism

Taoism (道教) is an intellectual, religious and cultural Chinese tradition that has a history of more than 1700 years (Peng, 2007). The founding of this tradition is attributed to Lao Tzu (老子), whose philosophies are based on the “dao” (道), which literally translates as the way. It is difficult to provide a precise and narrow definition of Taoism. Broadly speaking, Taoism espouses the belief that “dao” is the ultimate source and sustenance of the universe. All things, both living and non-living, are unified and connected. These things come from the “dao” and will ultimately return to it (Mitchell, 1988). The origin, history and evolution of all phenomena are based on the same universal laws.

As such, Taoism is a religion of unity and opposites, Yin and Yang, which were discussed in the previous section. The “dao” is not God and is not worshipped. However, Taoism includes several deities that are worshipped in temples. Taoist scholars believe that deities are part of the universe, and like everything, depend on the “dao”. Taoism promotes
achieving harmony with nature, pursuit of spiritual immortality and self-development. The influences that Taoism has had on popular religions are more extensive than those of Confucianism and Buddhism.

5.2.4. Popular Religion

Popular religions refer to religious traditions that are widely practised by people. They are regarded as an important aspect in the Chinese culture. These religions do not have distinctive traditions as do Confucianism, Buddhism and Taoism, and often vary with regions. One of the enduring aspects of popular Chinese religions is its tendency towards syncretism. That is, they cannot be exclusively categorised as a particular religion such as Buddhism or Taoism, but tend to include features of various religions, emphasising typical Chinese beliefs and values. In fact, most of the aspects that were adapted can be traced to the teachings of Confucianism, Buddhism and Taoism. For example, a lot of popular morality stems from the virtue of filial piety in Confucius' teachings. Beliefs about merit, karma and afterlife are largely influenced by Buddhism (Poceski, 2009). The influences that Taoism has had on popular religions are more far ranging than that of Confucianism and Buddhism. They cover most aspects of popular religions, from the arrangement of religious idols to the process of rituals. In fact, there is no longer a clear distinction between Taoism and popular religions. This is evident in official demographic and religious data compiled from Singaporean Chinese (Data Release No. 2, 2000, p. 4). Some of the distinct characteristics of these popular religions include the spiritual world and deities, as well as shamanistic rituals.

As mentioned above, Chinese believe that the universe is made up of the physical (visible) and spiritual (invisible) world. The spiritual world is then divided into three categories: Gods (神), ghosts (鬼) and ancestors (祖先). In popular religion, the patterns of interaction between the physical and spiritual worlds are based on the principle of reciprocity.
Human beings pray to the Gods in hope of receiving protection, good health and wealth, while the statuses of the Gods are safeguarded by their ability to respond to the requests of the worshippers and manifestations of miraculous events (Poceski, 2009). Another category of spirits is the ancestors. One is not automatically considered an ancestor after dying, but has to have received a proper funeral and rituals. Like Gods, ancestors are worshipped by the family with the hope of receiving protection. In times of crisis, Chinese families often pray and provide offerings to both Gods and their ancestors, and ask for their assistance in resolving their problems. While Gods are perceived to be helpful and benevolent, ghosts are perceived to be dangerous, and should be avoided. Basically, ghosts are spirits of dead people that continue to roam around and infiltrate the physical world. Many ghosts are presumed to possess evil predispositions and to have the ability to cause harm to human beings.

Stemming from Buddhist mythology, it is believed that the best way to avoid any encounter with ghosts is to show respect and provide offerings. If someone in a Chinese family falls ill for a long time or presents with symptoms of mental illness, it is automatically presumed to be the doings of the evil ghosts. It is then, not uncommon to turn to shamans, or spiritual mediums, who use naturalistic and magico-religious elements such as rituals and amulets to "deal with" the ghosts and "heal" the sick.

Since popular religion is based on the Chinese worldview, it includes all the aspects typical in Chinese traditional beliefs stemming from Confucianism, Buddhism and Taoism. In a sense, understanding popular religion is important because not only does it encapsulate all the traditional religious beliefs, it explains why and how Chinese people seek help in adversity.
5.3. Religion and its Impact upon Mental Health in Chinese Culture

Research has consistently shown that Asians generally believe that mental illness is a form of punishment from God (Fogel & Ford, 2005), can be caused by supernatural powers (Lauber & Rössler, 2007), be the result of karma from bad deeds in the previous life (Raguram, Raghu, Vounatsou, & Weiss, 2004), or indicative of “bad genes” (Chen, 2005). These beliefs are prevalent in the Asian cultures, particularly in China (Lam, Tsang, Chan, & Corrigan, 2006). Such an approach to mental well-being is very different to the way it is understood in a Western society.

Because of the beliefs of Buddhism, Taoism, Confucianism or other popular religions, diagnosis and treatment of mental health disorders are difficult. In Asian cultures, the mind and body are inseparable. That implies that bodily and psychological or emotional distress occurs together. Numerous traditional Asian healing mechanisms are based on concepts of health that view the human being as a balance of “yin” and “yang” forces (Salimbene, 2000). Psychiatric illness is therefore attributed to an imbalance of these energies. As a result, people of Asian descent are more likely to turn to religion and seek help from a traditional healer instead of a psychologist or doctor (DHHS, 2001; Sanchez & Gaw, 2007; Wheeler, 1998). However, there is no evidence that religious activity of any kind is effective in healing mental illnesses such as schizophrenia.

5.4. Chapter Summary

This chapter considered the importance of culture and how pervasive it can be in shaping the way the society thinks and behaves. In the same vein, cultural beliefs and values influence the way people understand and react mental health conditions. For example, cultural beliefs have an impact on the way the society defines and understands schizophrenia. It also affects the way families care for their relatives with schizophrenia. In addition, this
chapter has sought to understand Chinese traditional concepts and religious values in the Chinese society. For example, the *yin-yang* energy has been an imperative element that is embraced by several Chinese philosophies and religions. The regulation of these energies is also commonly used in Chinese literature to explain medical and mental illnesses. In addition, Chinese people believe in the supernatural world (i.e. ghosts and spirits) and that a person who presents with symptoms of mental illness must have offended beings from the supernatural world. These beliefs then impact on the way Chinese people seek treatment. They are more likely to turn to shamans or spiritual mediums instead of psychiatrists and mental health professionals when their relative presents with psychotic symptoms.

Subsequently, it also examined how Confucianism and other religions shape the way Chinese people behave within their families. This is important but it helps us understand how individuals with mental illnesses, especially schizophrenia are supported. For example, Confucianism focuses on the importance of family ties, and hence, family members are encouraged to look after their mentally ill relatives. The next chapter will present with a summary of the literature that has been discussed thus far, leading to a study of family functioning and expressed emotion among Chinese and Singaporean families with a member with schizophrenia.
Chapter 6. The Current Study

6.1. Introduction

It is widely recognised that schizophrenia is a prevalent and costly psychiatric disorder. This condition imposes upon the sufferer, his or her family and on society at large. While a medical cure for this illness has not been developed, medical professionals must manage its symptoms and to aim to provide a functional quality of life for sufferers. With the advent of deinstitutionalisation, individuals with schizophrenia who were previously admitted into a long-stay psychiatric hospital and placed under the primary care of medical and mental professionals are discharged once their acute symptoms are contained with medication and sent back into the community.

Consequently, the focus of treatment for schizophrenia has shifted to managing these disease symptoms in the community. Psychosocial therapies such as Cognitive Behaviour Therapy (CBT), social skills training, and more recently, Acceptance and Commitment Therapy (ACT) have been introduced as treatment alternatives in aid of sufferers of schizophrenia. Alongside these therapies, it has been recognised that the family unit plays a significant part in the development, course of illness and recovery of the patient. In particular, the emotional climate as reflected in the degree of expressed emotion in terms of (i) hostility, (ii) emotional over-involvement, and (iii) criticism all appear to have a significant impact on subsequent relapse episodes the patient experiences. Studies have shown that high levels of expressed emotion at home often led to poorer outcomes and despite successful medical and institutional intervention, patients who lived in these environments had higher relapse rates. Most of these studies however were conducted in Western societies such as the United States and United Kingdom, while several others focussed on specific sub-cultural groups such as the European-Americans, African-Americans or the Hispanics. Very few studies have been conducted in Asian countries. At the time of the writing, to the best of our knowledge, there
are no studies directly comparing the concept of expressed emotion between Singapore and China.

Bearing in mind that psychology is a predominant Western concept until very recent times and is based on the experiences and observations of the Western phenomenon, more needs to be done before such concepts are imported without modification into a non-Western context. The absence of this necessary step renders any proposed diagnosis or treatment plan potentially irrelevant or even harmful to a sufferer. Expressed emotion is after all a Western term and may not be relevantly pertinent among Asian cultures. For example, unlike a Western family unit where autonomy and independence of individuals are treasured and cherished, a child’s submission and respect for parents, together with the acceptance of their parents’ criticism, are encouraged in Chinese philosophy. In fact, criticism in the Chinese culture is often perceived as a form of encouragement. While this notion may exist in varying degrees throughout Chinese communities throughout the world, this contrasts with the Western view that expressed emotion is destructive per se. The consequences for the treatment of schizophrenia may be profound.

Lastly, researchers have suggested that the prognosis and course of schizophrenia are better in developing than developed countries. This is an interesting finding because individuals with schizophrenia in developed countries have better access to more advanced Western medical facilities and psychosocial treatments, but do not appear to have a better quality of life or prognosis as compared to the sufferers in developing societies who do not have such ready access. Several studies have explored this phenomenon and attributed it to the difference in cultural values, family functioning and social support as received by the patients in these different socio-cultural environments. Asian communities generally celebrate collectivism where “we” identities are much emphasised. This orientation is heavily influenced by traditional Chinese cultural values and religious beliefs such as Confucianism, Buddhism and Taoism. On the other hand, Western societies embrace the importance of
“self” and independence, autonomy and responsibility. These differences lead to vastly different frameworks in the understanding of mental illnesses, the treatment plans to be developed to support the sufferer, and in conceptualising the family’s role in looking after the ill. Consequently, the understanding social support across various the cultures and subcultures for psychosis is a research area that requires imminent research if we are desirous to aid schizophrenia sufferers. This study has selected two sites with similar but distinct differences so as to explore this phenomenon and distil the essence of this difference: Singapore and Shanghai. Although Shanghai is part of developing China, as a city it has advanced significantly in the past few decades. Singapore on the other hand is a developed nation, with a large and localised Chinese population who are likely to adhere to Chinese cultural values and norms. Despite the enormous amount of research available today on expressed emotion, social support, culture, and development of site in regards to schizophrenia, no study has explored the relationship between family functioning, expressed emotion and schizophrenia in these countries. This study aims to investigate these interesting concepts as observed in everyday life.

### 6.2. Aims of Current Study

The overall goal of this study is to explore how family functioning and social support, and in particular expressed emotion, impacts on the psychosocial functioning of sufferers with schizophrenia in these cities. It seeks to examine and elucidate any differences between countries.

The hypotheses were constructed based on the following premises. Firstly, the manner in which the Chinese have traditionally understood mental illness is heavily influenced by religious traditions and popular beliefs (see Chapter 5). Their perceptions often revolve around karmic and animistic beliefs. Therefore, family members are more likely to take on
the blame for the illness and are less likely to express negative emotions toward the sufferer. In addition, Confucian philosophy and other religious practices encourage the society to maintain strong family relationships where each member of the family supports and respects the others.

On the other hand, the way Singaporeans understand mental illnesses is the result of a unique amalgamation of traditional Chinese beliefs and Western knowledge of psychiatric conditions. This claim is well supported by a few recent studies. For example, D’Rozario and Romano (2000) reported that Singaporean students are very different from those in other Asian countries such as China or Korea as a result of strong Western influences and the use of English as the primary working language (Gupta, 1994). Singapore was categorised by New Zealand in 2003, amongst other English-speaking countries, as one that provides a balance between both Eastern and Western perspectives on medicine (Ministry of Health, 2003). Along the same vein, the Singaporean family unit adopts similar Western attitudes towards the caregiving of sufferers with schizophrenia tempered by its unique Chinese background. As discussed, the Chinese generally adopt a collectivistic attitude while the Westerners celebrate individualism (see Section 4.2). Thus, in a Westernised context, personal values tend to supersede the family’s needs and beliefs, which might result in less emphasis on family relationships and less social support when needed. As a result of the Western influence on attitudes in Singapore, it was hypothesised that the patients would perceive lesser social support in Singapore than China. Accordingly, patients in Singapore should be more likely to report poorer family functioning. Further, because of the influence of Western attitudes in Singaporean culture, caregivers may have higher expectations of their sick relatives and therefore may be more critical of their experience of living with them. Hence, it was hypothesised that the degree of expressed emotion would be higher in Singapore than in China.
There is extensive literature in the Western society that explains the effects of expressed emotion, perceived social support and family dysfunction on the patient’s functioning level and quality of life (see Chapters 2 and 3). However this phenomenon is relatively less explored in developing and developed Asian societies. Therefore, the third hypothesis of this study proposes that these variables of interest would have an impact on the psychosocial functioning of patients with schizophrenia as measured by their functioning level and quality of life, regardless of location.

In summary, this thesis hypothesizes that:

1. As compared to China, Singaporean patients experience:
   a) a higher degree of expressed emotion;
   b) perceive less social support;
   c) poorer family functioning as measured by the sufferer’s experience as being a patient in the family, and the caregiver’s experience of living with the patient.

2. Patients in Singapore will have a lower level of functioning and poorer perceived quality of life.

3. In both contexts, the degree of expressed emotion, perceived social support, and family dysfunction will have an impact on the patient’s:
   a) level of functioning;
   b) quality of life of the patients.
Chapter 7. Introduction to Settings

The study was conducted in two countries, Singapore and China. In order to fully appreciate the nuances, differences and intricacies of culture of these two similar yet distinct cities, its respective mental health and support mechanisms are briefly explored.

7.1. Singapore

Singapore was only a fishing village with about 150 inhabitants when Sir Stamford Raffles founded the island in 1819. Today, the city-state Republic has a population of about 5.18 million people (Singapore Department of Statistics, 2010), and is characterised by a thriving economy and a stable political system. According to the World Bank, Singapore is now regularly ranked among high-income developed countries. At least 42% of Singapore’s population is made up of foreigners, which makes it the country with the sixth highest percentage of foreigners in the world (Singapore Department of Statistics, 2009). Singapore’s community can be described as a melting pot of various cultures, including Chinese, Malay, Indian, Caucasians, Eurasians, and other Asians of various descents. As such, Singapore is widely recognised as a multicultural, multilingual, and multi-religious country. According to the Census of Population 2010, the three major ethnic groups are Chinese (76.8%), Malays (13.9%), and Indians (7.9%) (Singapore Department of Statistics, 2010). The majority of the population are Buddhists (33%), followed by Christians (18%), Muslims (15%), Taoists (11%), and Hindus (5.1%). The remainder of the population is made up with persons without religious affiliation.

Despite the diverse cultural and religious backgrounds, former Prime Minister Lee Kuan Yew, who undoubtedly was the key architect of modern Singapore, stated that
Confucian ethics play a central role in the economic and social life of Singapore. The following is an excerpt extracted from his interview on 8 January 1986:\(^1\):

Looking back over the past 30 years, one of the driving forces that made Singapore succeed was: The majority of the people placed the importance of the welfare of the society above the individual, which is a basic Confucianist concept. The society is more important than the individual. The family is the most important unit and all the families together form society. There is a willingness to sacrifice individual gains for a common good. It means a certain social cohesion that enables us to avoid industrial strife, which has plagued so many countries, even developing ones.

Thus, as Singapore aligns herself with traditional Chinese values in which the values of the society are emphasised and placed above the self, the core belief systems and values of the Chinese population in Singapore largely take after the traditional philosophies such as Confucianism and Buddhism where strong emphasis is placed on the family in managing life stresses and preserving social harmony.

7.1.1. The mental health system in Singapore

With rapid modernisation, progressive values and growing affluence, Singapore’s mental health services have expanded considerably over recent decades. However, Singaporeans

\(^1\) Excerpted from Lee Kuan Yew’s interview with The New York Times on December 16, 1986 at Istana. For a full transcript of the interview, see The Straits Times, January 8, 1987, pg. 11.
regularly access both modern Western scientific and traditional forms of health care in a complementary manner. The former is the official source of health care recognised and provided by the Singapore government while the latter is a popular alternative and takes the form Traditional Chinese Medicine or TCM. Furthermore, common animistic beliefs including the beliefs in demons and spirits, as well as ancestral karma stemming from Taoist and Buddhist beliefs are prevalent in the Singapore society. As a result, sufferers of mental health disorders and their family members regularly turn to spiritual healers as their first port of call. Chong and colleagues (2005) reported that 24% of first admissions to a psychiatric hospital in Singapore for mental illness had sought the help of traditional healers at the first onset of the illness. This figure is largely reduced from 70%, which was reported in an earlier study (Teo, 1978).

7.1.2. How those with mental illness in Singapore are supported

Earlier studies report that family is the most important single unit in Singapore and still plays a central role in looking after their mentally ill members. Kua and Yang (1991) observed that the traditional Chinese value of family ties remains paramount to the average Singaporean. Children are raised to stay within the family and are socialised to be dependent on the group and make decisions that benefit the entire in-group. A person who places his or her own needs above the needs of the group is perceived to be amoral or a social deviant (Craig, 1993). In fact, family values, including responsibility for the family and kinship ties are strongly emphasised in several of Singapore’s social policies and its education system. Such values are strongly consistent with the government’s push for a Confucian society (see Section 7.1).

However, the reality is that the responsibility for the care of people with mental illness, particularly schizophrenia, in Singapore has rested almost entirely with specialist
services, complemented by voluntary welfare organisations (VWO) for the last couple of decades (Chong, 2007). There appears to be a lack of family involvement in that process of supporting individuals with schizophrenia. Nevertheless, this appears to be changing. In 2005, the government tasked a committee of policy makers together with mental health professionals to formulate the nation’s first mental health policy (Chong, 2007). Part of the brief was to encourage the involvement of families in the caretaking of individuals with mental illness. Subsequent studies have reported the efficacy of this policy. Conus and colleagues (2010) reported that patients with schizophrenia living with family members were less likely to disengage from treatment. In Singapore, most patients return to live with their families after discharge. Even if they live alone, the small geographical distances within Singapore provide easy access to family members. Unlike before, the treatment team now routinely involves the family in supporting the patients. This assists family members to play a supportive role in caring for the patients, as is socially and culturally expected of them.

7.2. China

Since the founding of the People’s Republic of China (China) in 1947, Chinese society has experienced some drastic changes. These changes were initiated by the Cultural Revolution (文化大革命) that was driven by Mao Zedong (then Chairman of the Communist Party of China), which took place between 1966 and 1976. Under Chairman Mao’s governance, the Chinese economy and society were closed to foreign interaction. As a result, China’s economy collapsed and this had widespread implications for socio-political, economic and cultural domains.

China is the world’s most populous country, hosting roughly 1.3 billion people and makes up for at least 19% of the world’s population (National Bureau of Statistics of China, 2012). At least 91.5% of China’s population are Han Chinese (Central Intelligence Agency, 2000). Shanghai is the most populous and developed city in China and is host to about 23
million people (National Bureau of Statistics of China, 2010). It is ranked as one of the fastest
developing cities in the world (Shanghai Statistical Yearbook, 2011). The majority of
Chinese are Taoist and Buddhist believers, with only about 4% affiliating themselves with
Christianity and 2% Islam (Central Intelligence Agency, 2002). Nevertheless, Confucianism
is the cornerstone of traditional Chinese culture. It has dominated a feudal society for more
than 2000 years and continues to influence the people and social structure of modern China.

7.2.1. Mental health system in China

The sudden economic growth and political changes brought on under Deng Xiaoping’s
governance between 1982 and 1987 resulted in numerous social challenges including income
inequality (Yang, 1999), inequalities in socio-economic resources (Ling, 2009), and increases
in the prevalence of mental illnesses (Chang & Kleinman, 1995). Most disturbingly, the
World Bank’s Global Burden of Disease and Injury Series estimated that there were about
350,000 suicides in China in 1990, equating to about three times the average number of
people who commit suicide in the rest of the world (Murray & Lopez 1996). Even a
conservative estimate would indicate that 600 to 800 people commit suicide each day (Lee &
Kleinman, 2000).

As a developing country, China has very limited mental health and social services. In
metropolitan regions at least, once an individual crosses the acute phase of illness, medical
attention is usually limited to drug treatment at outpatient psychiatric clinics (Phillips &
Pearson, 1994). However, this service is becoming increasingly unaffordable with the
withdrawal of medical insurance from the work force and the way in which the Central Party
of the Chinese government apportions social aid (Phillips, 1993). The situation is worse in
rural provinces where people may have to invest more time travelling to the nearest
psychiatric hospital for a follow-up visit (Pearson, 1993). With the lack of social services and mental health support, many schizophrenia patients are left at home.

7.2.2. How mental illness is supported in China

Family kinship is an important aspect in the Chinese culture. The responsibility to the family takes precedence over an individual’s interests. This takes the form of morality, filial piety, stemmed from Confucian teachings, as described above. Family members are bound, both in custom and law to look after its disabled and aged members. It appears that many facets of Chinese life are characterised by persistent family involvement. This pattern is reflected in the active participation of Chinese family members in medical and mental treatment decisions (Lin et al., 1991). For example, there is an extensive engagement of traditional healthcare methods and witch doctors in consultation with community leaders, as well as a general reluctance in accepting psychiatric referral. This leads to a long delay between the first onset of the disease and a sufferer’s eventual contact with mental health services (Lin et al., 1991). In addition, most outpatient psychiatric clinics require the presence of at least one relative before a patient is attended to (Pearson & Jin, 1992).

Seeking external help in the Chinese culture is highly discouraged because that would suggest that the family has failed to take care of its own issues, which in turns bring more shame to the family than the primary illness (Sue, 1993). Further, the 1981 Marriage Law in China mandated families to look after their disabled relatives. Thus, between 79% and 90% of patients with schizophrenia in China live with their families (Phillips, 1993; Phillips et al., 2000). This is significantly higher than 23.7% in the United States (Greenberg et al., 1993), which suggests both the cultural preference of families to provide caregiving to their own, the practical constraints of limited community resources for the Chinese patients, as well coping strategies such as family containment of problems. Furthermore, several authors have argued
that the strong social support and familial ties in China have positively impacted the quality of life of people with schizophrenia (Jenkins & Kano, 1992; Jenkins et al., 1986; Lefley, 1990).

7.3. Settings of current study

In Singapore, the study took place at Institute of Mental Health (IMH), a public psychiatric hospital that specialises in the treatment of patients with mental disorders. IMH is equipped with 55 wards for inpatients and two Outpatient Specialist Clinics. These settings provide psychiatry services to patients with psychosis. IMH treats the largest number of patients with schizophrenia in Singapore, offering treatment for approximately 2000 acute inpatients and more than 20,000 outpatients at any one point. The hospital also provides integrated and accessible care to the patients through three Behavioural Medicine Clinics and a Community Wellness Centre across the island. These satellite clinics offer a plethora of mental health services, from programmes preventing mental illness to its treatment and eventual rehabilitation. Further, OcTAVE Day Rehabilitation Centres provide occupational therapy facilities where persons with psychiatric disorders engage in skills based training and cognitive remediation. The clinical sample for this study was recruited from the (i) Specialist Outpatient Clinic in IMH, (ii) OcTAVE Day Rehabilitation Centre in IMH, (iii) Geylang Behavioural Medicine Clinic, and (iv) the Community Wellness Centre.

In China, the study was conducted at Shanghai Mental Health Centre (SMHC; 上海市精神卫生中心). The SMHC consists of a main hospital and a branch hospital. SMHC is equipped with 20 wards for inpatients and Outpatient Specialist Clinics across both locations, offering psychiatry treatment for about 2000 inpatients at any time. Like the IMH, this hospital also provides skills based training in a rehabilitation centre where patients with psychosis are managed in the community. The clinical sample for this study was recruited
from two locations within the main hospital, (i) the Rehabilitation Centre, and (ii) Outpatient Clinic.
Chapter 8. Methodology

8.1. Participants

To gain perspectives from both the patients and their family members about the family functioning, two groups of participants were recruited: patients and primary caregivers. Inclusion criteria for Group 1 *Patients*, included being clinically diagnosed by their treating psychiatrist with schizophrenia, residing in the community, and being between the ages of 18 and 55 years. Exclusion criteria for Group 1 *Patients* included full-blown florid psychotic state, and first episode schizophrenia within the last year. Group 2 *Caregivers* included individuals who have frequent contact with the patient, and accompany the patient to his/her clinic appointments. From November 2010 to January 2011, a total of 50 patients and 50 caregivers who gave their informed consent were recruited in Shanghai for the study. Between November 2011 and February 2012, a total of 50 patients and 50 caregivers were recruited in Singapore for the study.

It is important to note that less than five percent of the approached subjects refused participation in China, while approximately 30 percent approached in Singapore refused to participate. There was no way of finding out if the potential subjects who did not want to participate were in any way different from those who agreed to be part of the study.

8.2. Materials

Two sets of questionnaires were used to collect information from patients and their caregivers. Details of these questionnaires are provided in Table 1.
### Table 1

**Purpose of questionnaires**

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients</strong></td>
<td></td>
</tr>
<tr>
<td>Demographic profile</td>
<td>Collect demographic information</td>
</tr>
<tr>
<td>Brief Family Assessment Measure — <em>Self-rating scale</em></td>
<td>Assesses patients’ experience as being part of the family</td>
</tr>
<tr>
<td>World Health Organisation Quality of Life (Brief)</td>
<td>Evaluates patients’ perceived quality of life</td>
</tr>
<tr>
<td>Interpersonal Support Evaluation List</td>
<td>Ascertain patients’ perception of social support</td>
</tr>
<tr>
<td><strong>Caregivers</strong></td>
<td></td>
</tr>
<tr>
<td>Demographic profile</td>
<td>Collect demographic information</td>
</tr>
<tr>
<td>Brief Family Assessment Measure – <em>Dyadic relationship scale</em></td>
<td>Assesses caregivers’ perception of family functioning</td>
</tr>
<tr>
<td>Life Skills Profile</td>
<td>Determine caregivers’ perception of the patients’ current level of functioning</td>
</tr>
<tr>
<td>Family Questionnaire</td>
<td>Ascertain caregivers’ current level of expressed emotion</td>
</tr>
<tr>
<td><strong>Psychiatrists</strong></td>
<td></td>
</tr>
<tr>
<td>Global Assessment of Functioning scale</td>
<td>Psychiatrists’ assessment of patients’ functioning</td>
</tr>
</tbody>
</table>

8.2.1. **Demographics**

Demographical information was collected from all participants. Information collected from patients included age, gender, race, religion, relationship with caregiver, marital status, number of children (if any), highest education level, current occupational status, and present living arrangements. Further patient details collected included the age of first episode and hospital admission, duration and frequency of hospital admissions, dosage and duration of current medications, and frequency, duration and quantity of past and current smoking and alcohol use (refer to Appendix A and A-I²).

² Mandarin appendices are indicated as –I.
Information collected from caregivers included age, gender, race, religion, relationship to patient, current occupational status, duration of care giving, marital status, number of children (if any), present living arrangements, and the presence of support networks (refer to Appendix B and B-I).

8.2.2. Brief family assessment measure (BFAM)

The Family Assessment Measure (FAM; Skinner, Steinhauer, & Santa-Barbara, 1995) is a self-report instrument that provides quantitative indices of family strengths and weakness. It evaluates 8 domains such as task accomplishment, role performance, communication, affective expression, involvement, control, values, and norms. The FAM consists 134 questions divided into three components: (1) a General Scale, which focuses on the family as a system; (2) a Dyadic Relationships Scale, which explores relationships between specific pairs; and (3) a Self-Rating Scale, which examines the individual’s perception of his or her functioning in the family (Skinner, Steinhauer & Santa-Barbara, 1983). The FAM takes about 40 minutes to administer. The BFAM is a briefer version of the FAM and can also be used to gain an overall idea of family functioning. It consists of 42 questions, with 14 questions in each scale, and usually takes about five minutes to administer. It was used in this study because patients with schizophrenia tend to have a limited attention span.

For the purposes of this study, only two parts of the BFAM were used. The patients filled in the Self-rating Scale (refer to Appendix C and C-I) and the caregivers filled in the Dyadic Relationship Scale (refer to Appendix D and D-I). The Dyadic Relationship Scale allows the caregivers to report their experience of living with the patient, while the Self-rating Scale allows the patient to report their role in the family, as well as their experience as a patient in the family. Questions from the Self-rating Scale include “My family and I usually
see our problems the same way” and “I argue with my family about how to spend my free time”. Participants are required to check strongly agree, agree, disagree, and strongly disagree to fourteen statements. There are also 14 questions in the Dyadic Relationship Scale (Appendix D; Refer to Appendix D-I for the Mandarin version of the questionnaire). Questions include “When this person gets angry with me, he/she stays upset for days” and “I often don’t know whether to believe what this person says.”

Responses are scored as 0-1-2-3, running from the leftmost (strongly agree) to rightmost (strongly disagree) anchor points. The scores are summed then converted to a T-score or a percentile using the conversion table as provided on the scoring sheet. These T-scores allow one to determine responses in terms of how they compare with what are ‘typical’ or ‘average’ responses. T-scores have a mean of 50 and a standard deviation of 10. If an individual’s raw score converts to a T-score of 50, he or she is responding at the average of the reference group. T-scores higher than 50 indicate more than average families difficulties, while T-scores lower than 50 suggest the existence of less than average family problems (Skinner, Steinhauer & Santa-Barbara, 1983).

8.2.2.1. Psychometric information

Item-total correlations between the 14 BFAM Self-rating Scale and the long 42 FAM Self-rating Scale have ranged between $r = .42$ and .66, with a median of $r = .52$. Item-total correlations between the 14 item BFAM Dyadic Relationship Scale and the longer 42 item FAM Dyadic Relationship Scale range from $r = .62$ to .75, with a median of $r = .71$ (Skinner et al., 1983).

The correlation between the BFAM subscales and those in the extended version of the FAM are extremely high. The correlation between the total score of the BFAM and FAM Self-rating Scale is $>.94$ ($p < .01$), and the BFAM and FAM Dyadic Relationship Scale is $.97$ ($p < .01$) (Skinner et al., 1983).
The inter-correlations between the three BFAM scales are statistically significant and moderate to high in magnitude. In particular, the correlation between the dyadic relationship and self-rating scales is $r = .53$ ($p < .01$) (Skinner et al., 1983). The moderate correlation is appropriate because both scales measure different perspectives of family functioning.

Cronbach’s alpha ($\alpha$) has been used to measure internal reliability of the BFAM. All alpha values for clinical and non-clinical populations are higher than .80, which suggests that the items of each of the BFAM subscales measure the same construct (Skinner et al., 1983). In particular, the Cronbach’s alpha for a clinical adult population who completed the BFAM Self-rating Scale and Dyadic Relationship Scale were estimated to be .81 and .92 respectively (Skinner et al., 1983).

FAM scores correlate with measures of family idealisation ($r = .94$), cohesion ($r = .82$), and expressiveness ($r = .83$) from the Family Adaptation and Cohesion Evaluation Scales (Olson et al., 1983), the Family Environment Scale (Moos, 1974; Moos & Moos, 1981), and the Family Concept Q Sort (van der Veen, 1965).

8.2.3. World health organisation quality of life – Brief (WHOQOL-BREF)

The WHOQOL-Bref was used to assess patients’ perceived well-being and health status in the past four weeks (refer to Appendix E and E-I). It is a short version of the WHOQoL-100 that can be used in situations where there are time constraints, and where respondent burden must be minimised (WHOQOL Group, 1998b). It is comprised of 28 questions that cover four domains: physical capacity (Domain I: 7 items), psychological well-being (Domain II: 6 items), social relationships (Domain III: 4 items), and environment (Domain IV: 9 items). Questions relating to Domain I include, “How satisfied are you with your sleep?” and “How satisfied are you with your ability to perform your daily living activities?”; while statements relating to Domain II include “How satisfied are you with
yourself?”, and “To what extent do you feel your life to be meaningful?”). Domain III includes questions such as “How satisfied are you with your personal relationships?” and “How satisfied are you with the support you get from your friends?”. Lastly, statements such as “How healthy is your physical environment?” and “How satisfied are you with the conditions of your living place?” are included in Domain IV. In addition, two global items enquire about overall QOL and general health. These are “How would you rate your quality of life?”, and “How satisfied are you with your health?”

Items are rated on a 5-point Likert scale format ranging from not at all/ very dissatisfied/ very poor (1) to an extreme amount/ very satisfied/ very good (5), designed and tested to reflect intensity, capacity, frequency and evaluation. A number of questions are reversed scored. A mean domain score is calculated and then each domain and global item score is amplified by an artificial factor of 4 (Lai et al., 2005). Accordingly, potential scores for each domain range between 0 – 100, with higher scores indicating a higher quality of life. The overall maximum score for each participant is 400.

8.2.3.1. Psychometric information

There are high correlations between the domain scores for the full version of the WHOQOL-100 and the WHOQOL-Bref. The correlations, as measured using 4802 people, ranged between .89 and .95 across four domains. In particular, correlations between both versions of the tests on the domain of physical health (I), psychological (II), social relationships (III), and environment (IV) were .95, .92, .89, and .94, respectively (WHO, 1998). A study conducted with 50 participants in China as part of the WHOQOL group reported Cronbach’s alphas for Domains I, II, and IV as .82, .89, .76, and .70 (Skevington, Loffy, & O’Connell, 2004). Another study conducted in Malaysia, as part of the WHOQOL group reported reliability coefficients of .81, .65, .59, and .74 respectively (Skevington et al.,
2004). For the total sample of 11,830 participants across 24 sites, the Cronbach alphas for the four domains in the WHOQOL-BREF were .82, .81, .68 and .80 (Skevington et al., 2004).

The WHOQOL-BREF has been shown to be comparable to the WHOQOL-100 in discriminating between ill and healthy individuals, with similar values and significant differences found in all domains (WHO, 1998).

8.2.4. Interpersonal Support Evaluation List (ISEL)

The ISEL was designed to provide a global measure of the patients' perceived availability of separate functions of social support across four principle domains: belonging, self-esteem, appraisal, and tangible help (Cohen, Mermelstein, Kmack, & Hoberman, 1985) (refer to Appendix F and F-I). It consists of 40 items, which fall into four 10-item subscales. Firstly, the tangible subscale measures perceived availability of existing material aid. Secondly, the appraisal subscale determines the perceived availability of someone to talk to about one's problems. The self-esteem subscale evaluates the perceived availability of a positive comparison when comparing one's self to others, and the belonging subscale assesses the perceived availability of people with whom one can engage in shared activities. The items are counterbalanced for desirability. That is, half the items are positive statements about social relationships (e.g. “If I needed help fixing an appliance or repairing my car, there is someone who would help me”), while the other half are negative statements (e.g. “I don't often get invited to do things with others”), that are reverse scored. Participants are required to check definitely true (3), probably true, probably false, and definitely false (0) to each of the forty statements. Scores for each domain are calculated by adding the responses to the relevant items. The range of subscale scores is between zero and 30. Higher scores indicate more perceived social support. Each of the subscales uses the same rating system. A total score is calculated by adding subscales, with scores ranging between zero and 120.
8.2.4.1. Psychometric information

The ISEL has demonstrated excellent reliability and validity across social support studies drawing participants from the general population (Brookings & Bolton, 1988), and diverse participant samples (Cohen & Hoberman, 1983; Cohen & Wills, 1985). Re-test reliability for the entire measure has been reported as .87, and the re-test reliabilities for the subscales range between .71 and .87 (Cohen & Hoberman, 1983). Internal consistency coefficients for all the subscales in the original study with a sample of the American college students ranged between .60 and .77 (Cohen & Hoberman, 1983). In a recent study with Taiwanese who were formally diagnosed with a major mental illness, the internal consistency coefficients ranged between .57 and .64 (Huang, Sousa, Tsai, & Hwang, 2007). Convergent validity has been demonstrated by moderate correlations ($r = .46$) between the overall score of the ISEL and the Inventory of Socially Supportive Behaviours (ISSB; Barrera, Sandler, & Ramsay, 1981), and with the involvement and emotional support subscales of the MOOS University Residence Environment Scale ($r = .62$) (Cohen & Hoberman, 1983).

8.2.5. Global assessment of functioning (GAF) scale

The GAF scale (APA, 2000) (refer to Appendix G) is a psychiatrist-administered assessment of a patient's level of psychological, social, and occupational functioning. Potential scores range from 1 to 100, and are divided into 10 ranges. A higher GAF score implies better overall functioning. For example, if the individual falls within the range of 81 – 90, this suggests that the patient presents with minimal symptoms, functions generally well in all facets of life, is motivated and involved in a broad range of activities, is socially active and generally satisfied with life (APA, 2000). However if an individual is rated within the range of 50 – 41, he or she exhibits serious symptoms (e.g., suicidal ideation, severe obsessionial rituals, frequent shoplifting) or serious impairment in social, occupational, or
school functioning (e.g., no friends, unable to keep a job). The GAF was only administered to the patients in China by the treating psychiatrist. In Singapore, it was not possible to have the psychiatrist complete the GAF for the purpose of the study.

8.2.6. Life skills profile – 39 (LSP-39)

The LSP-39 was developed by Rosen and colleagues (1989) to measure adaptation and functioning level (“life skills”) of chronically mentally ill patients in everyday situations and tasks of daily life (refer to Appendix H and H-I). The questionnaire can be completed by family members, or healthcare professionals. In this study, it was completed by caregivers who accompanied the patients to clinic appointments. It consists of 39 items broken down into five subscales: self-care (10 items), non-turbulence (12 items), social contact (6 items), communication (6 items) and responsibility (5 items). Questions that examine self-care include, “Is this person generally well groomed (e.g., neatly dressed, hair combed)?”, and “Does this person have habits or behaviours that most people find unsociable (e.g., spitting, leaving lighted cigarette butts around, messing up the toilet, messy eating)?”. Statements such as “Does this person get into trouble with the police?” and “Does this person abuse alcohol or drugs?” explore the degree of non-turbulence. Questions that investigate social contact include “Does this person generally make and/or keep up friendships?” and “Does this person generally have definite interests (e.g., hobbies, sports, activities) in which he or she is involved regularly?” Examples of questions that explore communication are “Is it generally difficult to understand this person because of the way he or she speaks (e.g., jumbled, garbled or disordered)?” and “Is this person’s appearance (facial appearance, gestures) generally appropriate to his or her surroundings?” Lastly, responsibility is assessed by questions such as, “Does this person generally look after and take his or her own prescribed medication (or
attend for prescribed injections on time) without reminding?” and “Does this person wear clean clothes generally, or ensure they are cleaned if dirty?”

All items are scored as 4-3-2-1, running from the leftmost to rightmost anchor points. The leftmost anchor points often suggest positive behaviour, such as *appropriate eye contact, no odd ideas, or considerable warmth*; while rightmost anchor points reflect negative behaviour such as *extremely reduced or no eye contact, extremely odd ideas, or no warmth at all*. Higher overall scores of the LSP suggest better functioning. The range of scores for each subscale are as follows, 10 to 40 for *self-care*, 12 to 48 for *non-turbulence*, six to 24 for *social contact* and *communication*, and five to 20 for *responsibility*. Scores are added to provide an index of life skills and can range from 39 to 156.

### 8.2.6.1. Psychometric information

The Cronbach’s alpha for the total scale has been reported at .78 and test-retest reliability at .89 (Parker et al., 1991; Clinton et al., 1998). High inter-rater reliability has also been reported, ranging from .53 to .72 across rating pairs. Parker and colleagues (1991) also further reported inter-rater reliabilities of .73, .75, .65, .63, and .68, as well as internal consistencies of .88, .85, .79, .67, and .77 for the *self-care, non-turbulence, social contact, communication*, and *responsibility* subscales respectively in a study of 23 caseworkers.

In a study conducted by Trauer, Duckmanton and Chiu (1995), the internal consistency of the scales was reported to fall within the range of moderate to good. However, the inter-rater reliabilities for the conventionally scored subscales were inferior to those reported by Parker and colleagues (1991). For example, the *communication* subscale had an inter-rater reliability of 0.25 in a later study (Trauer et al., 1995) as compared to 0.53 in an earlier study (Parker et al., 1991).

The LSP subscales exhibited several strong correlations with the Brief Psychiatric Rating Scale (BPRS), one of the most widely used and oldest rating scales used by
psychiatrists to measure psychiatric symptoms (Overall & Gorham, 1962). It explores behaviours such as emotional withdrawal, conceptual disorganisation, bizarre behaviour, unusual thought content, etc. There was a strong pattern of relationship between the self-care, non-turbulence/anti-social, and social contact/withdrawal subscales, implying that the LSP is a statistically valid test.

8.2.7. Family questionnaire (FQ)

The FQ is a 20-item self-rating scale, filled in by caregivers of individuals with mental illness. It is based on the theoretical model of expressed emotion developed by Vaughn and Leff (Vaughn & Leff, 1981; Leff & Vaughn, 1985) and assesses the expressed emotion status of relatives of patients with schizophrenia (Wiedemann, Rayki, Feinstein, & Hahlweg, 2002) (refer to Appendix J and J-I). Respondents are required to respond with never/very rarely (score = 1), rarely (score = 2), often (score = 3), or very often (score = 4) to twenty questions such as “I tend to neglect myself because of him/her” and “He/she is an important part of my life”.

8.2.7.1. Psychometric information

The FQ yields scores on two factors; criticism and emotional over-involvement. Subscale scores, which can range from 10 to 40, are obtained by adding responses to each item in the subscale. Higher scores indicate higher levels of expressed emotion. Adding scores from both subscales provides a total score of between 20 and 80. The FQ has shown excellent reliability, with test-retest correlation coefficients of .84, and Cronbach’s alphas of .92 and .91 for the criticism and emotional over-involvement subscales respectively (Wiedemann et al., 2002). The FQ has good construct validity, with 74% agreement with the Camberwell Family Interview (CFI) expressed emotion ratings (Wiedemann et al., 2002).
The FQ correctly identified relatives with a high-expressed emotion attitude (80% sensitivity) and relatives with low-expressed emotion attitude (72.5% specificity) as assessed with the CFI in Germany (Wiedemann et al., 2002). To date, the FQ has not been used in any studies exploring expressed emotion of family members with schizophrenia in Singapore or China.

8.3. Translation

The WHOQOL-BREF instrument has been officially translated by the WHOQOL group (Skevington et al., 2004). In designing the Mandarin versions of the remaining instruments, the author adhered to the guidelines as proposed in the literature on cross-cultural methodology (Brislin, 2000): independent/blind/back-translation, educated translation, and small-scale pre-tests. The author’s first language is English and has had twelve years of formal education in Mandarin. She made the first translation of the English versions of the questionnaires into Mandarin. Three independent bilingual colleagues in Shanghai then back translated the instruments into English. The (back) translators had at least a bachelor’s degree, and were medically and psychologically trained. Comparisons were then made with the original documents to check the validity of the translation. A final version was constructed to ensure uniformity between the source and new versions. The translated instruments were then pretested in a sample of 10 persons in both Singapore and China.

8.4. Procedure

The study was approved by Deakin University Human Research Ethics Committee (refer to Appendix K) in Australia, and in the following institutions in Singapore, (i) Clinical Research Committee of the Institute of Mental Health (refer to Appendix L), and the (ii) Research Committee of the National Healthcare Group (refer to Appendix M).
8.4.1. Singapore

After receiving the necessary ethics approvals, the student researcher attended a weekly team meeting where mental healthcare providers at the Institute of Mental Health, including psychiatrists, clinical psychologists and occupational therapists met and discussed case presentations and shared important information. At follow-up meetings, the student researcher asked the mental health team to provide a list of potential participants who attended the outpatient clinic and were deemed well enough to provide informed consent and to participate in the study. They spoke briefly with the patient and their caregiver about the study and requested permission from them to be contacted by the student researcher. Alternatively, potential participants could contact the student researcher. There is a “research area” within the outpatient clinic where researchers are located. Potential participants could also approach the student researcher in this area for more information regarding the study.

Once participants agreed to take part in the study, the student researcher provided a plain language statement and verbally explained the study to participants. The student researcher also ensured that both the patients and caregivers understood the study and what was required of them. After written informed consent was obtained, the patient and caregiver were separated into different rooms. The patient participants engaged in a structured interview and worked through the relevant questionnaires with the student researcher. Concurrently, caregivers independently completed a set of structured questionnaires. The entire interview (including explaining the plain language statement, explaining the study, signing the consent form, and filling in the questionnaires) concluded within an hour. Each pair of participants in Singapore received a shopping voucher of $S30 ($US25) in appreciation to their involvement in the study.
8.4.2. China

After receiving the necessary ethics approvals, the student researcher approached the psychiatrist at the Rehabilitation Centre in Shanghai Mental Health Center. The researcher explained the study and asked for his collaboration in identifying potential participants among his patients meeting the study inclusion criteria and with the capacity to provide informed consent. The psychiatrist made the initial contact with patients and their caregivers, and asked them about their interest in participating in the study. A list of patients and their family members who were interested in the study was generated and given to the investigator. A time convenient for the participants to meet the investigator in a private setting (examination room) in the hospital was arranged. The investigator provided both verbal and written information about the purpose, benefits and risks of the study, and data collection procedures. Both patients and their caregivers who agreed to participate signed an informed consent form.

After informed consent was obtained, the researcher ushered the caregiver into another examination room (separate from the patient) to complete the carer set of questionnaires. Patients completed their questionnaires either independently or in collaboration with the investigator through a face-to-face structured interview. The patient’s treating psychiatrist used the GAF to rate each patient’s global symptom severity and level of functioning at the point of data collection. Depending on the mental state of the patient, the entire interview took up to an hour. Each pair of subjects in China received an honorarium of 100 Yuan ($US16) for participation.
Chapter 9. Analytic Plan

This chapter describes the statistical analyses that were used in this study. The data analyses were conducted in four steps: data cleaning, internal consistency reliability analyses, demographic analyses and main analyses.

Preliminary assumption testing was conducted prior to all analyses to check for accuracy of data entry, normality, linearity, missing values, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no major violations noted. Minimal missing values were detected, and they were dealt with using the mean substitution method.

Internal consistency reliability analyses were conducted to check that each of the scales was reliable within our Singaporean and Chinese samples. Reduced subscales for instruments were used when the internal reliability was low (see Section 9.1).

The demographic analyses compared the demographic variables of both patients and caregivers across sites to identify any potentially confounding variables. As the sample that was recruited in Singapore was made up of Chinese and non-Chinese participants, it was important to determine whether there were differences on the variables between the two groups. If significant differences were present, the Singaporean sample could not be combined in subsequent analyses. To determine whether there were differences within the Singaporean sample, the analyses were subject to t-test, chi-square and MANCOVA.

The main analyses evaluated a series of hypotheses using a multivariate approach. A series of MANCOVAs was conducted to determine if there were differences between countries in terms of level of expressed emotion, perceived social support and family functioning, as well as patients' perceived quality of life and current functioning level. Initially, it was proposed to conduct a multigroup path analysis to determine whether the relationships between predictor variables and outcome variables (Hypothesis 3) were similar.
in China and Singapore. However, subsequent to the initial scale reliability analyses, this was not feasible, and multiple regression analyses were conducted by country to investigate the factors that were predictive of patients’ current level of functioning and perceived quality of life.
Chapter 10. Results

10.1. Psychometric Information for Instruments Used in Current Study

Investigations were carried out to determine if the reliability for the scales and subscales were adequate. According to Nunally (1978), a reliability coefficient of $> .50$ is acceptable in a clinical sample. However, Cicchetti (1994) proposed that the reliability coefficient should be at least .70 to be considered adequate. The results of our analyses are laid out in the following sections.

10.1.1. World health organisation quality of life (Brief)

The WHOQOL-BREF overall scale demonstrated strong internal consistency, with a Cronbach alpha coefficient of .92 for both samples. The internal consistencies of the subscales are reported in Table 2.

<table>
<thead>
<tr>
<th>Studies</th>
<th>Overall</th>
<th>Physical Capacity</th>
<th>Psychological Well-being</th>
<th>Social Relationships</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>.92</td>
<td>.76</td>
<td>.80</td>
<td>.73</td>
<td>.82</td>
</tr>
<tr>
<td>China</td>
<td>.92</td>
<td>.59</td>
<td>.85</td>
<td>.81</td>
<td>.80</td>
</tr>
</tbody>
</table>

As seen in the table, while the Cronbach alpha coefficient of the Physical Capacity domain was .76 for Singapore, it was marginal with only .59 in China. When one item was removed, the Cronbach alpha coefficients increased to .84 for Singapore and .64 for China. The item that was removed asked patients the degree of medical treatment they required to function in their daily lives. Although the alpha coefficient of .64 was still low and did not
reach an acceptable alpha according to Cicchetti (1994), it was still considered worthwhile to use this reduced scale with caution. The reliabilities of the other subscales, *psychological well-being, social relationships* and *environment*, were largely within an adequate range of .73 and .85. Thus, the seven-item subscales were used for *psychological well-being, social relationships* and *environment*, and a six-item subscale was used for *physical capacity*.

10.1.2. Interpersonal support evaluation list

The ISEL demonstrated adequate internal consistency, with a Cronbach alpha coefficient of .73 for the Singapore sample and a strong internal consistency of .91 for the China sample. The internal consistencies of the subscales are reported in Table 3.

**Table 3**

*Internal consistency coefficients for ISEL*

<table>
<thead>
<tr>
<th>Studies ( )</th>
<th>Overall</th>
<th>Appraisal</th>
<th>Tangible</th>
<th>Self-esteem</th>
<th>Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>.73</td>
<td>.37</td>
<td>.14</td>
<td>.43</td>
<td>.27</td>
</tr>
<tr>
<td>China</td>
<td>.91</td>
<td>.78</td>
<td>.71</td>
<td>.68</td>
<td>.75</td>
</tr>
</tbody>
</table>

As can be seen in Table 3, for the ISEL several subscales exhibited poor reliability. The Cronbach alpha's for *appraisal, tangible, self-esteem* and *belonging* in the Singapore sample, were .37, .14, .43 and .27 respectively. Removal of items failed to improve the Cronbach alpha for *appraisal, tangible* and *belonging*, so these subscales were not used in analyses involving Singaporean participants. Removing one item improved the alpha for *self-esteem* from .43 to .52 in Singapore, which was considered marginally acceptable according to Nunally (1978). However, the removal of this item from the *self-esteem* scale decreased the alpha from .68 to .63 in China.
The question that was removed asked patients to rate their perceived level of self-confidence. In the statistical analyses reported below, this reduced self-esteem scale was used cautiously for the Singapore sample, and for both groups in the analyses comparing the two samples. For the Chinese sample, the Cronbach alphas ranged from .63 to .78, and were considered acceptable.

10.1.3. Life skills profile

The LSP demonstrated good internal consistency, with Cronbach alpha coefficients of .86 and .87 for the Singapore and China samples respectively. The internal consistencies of the subscales are reported in Table 4.

Table 4

<table>
<thead>
<tr>
<th>Studies</th>
<th>Overall</th>
<th>Self-care</th>
<th>Non-turbulence</th>
<th>Social contact</th>
<th>Communication</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>.86</td>
<td>.79</td>
<td>.60</td>
<td>.74</td>
<td>.67</td>
<td>.37</td>
</tr>
<tr>
<td>China</td>
<td>.87</td>
<td>.75</td>
<td>.83</td>
<td>.62</td>
<td>.56</td>
<td>.27</td>
</tr>
</tbody>
</table>

As can be seen in the table, the internal reliabilities across the samples for the subscales of self-care, non-turbulence and social contact were from a weak to good range of .60 and .83, and were considered acceptable. However, the original Cronbach alpha coefficients for Communication domain were marginal at .67 for Singapore and .56 for China. When one item was removed, the Cronbach alpha coefficients increased to .69 for Singapore and .66 for China, which was considered adequate if used with caution. The item that was removed asked caregivers whether the patients generally make eye contact during a
conversation. Despite efforts to improve reliability by deleting items, the Responsibility subscale failed to attain adequate reliability. As a result, the subscale was not analysed independently in either country.

10.1.4. Family questionnaire

The FQ demonstrated excellent internal consistency, with Cronbach alpha coefficients of .92 and .90 for the Singapore and China samples respectively. The internal consistencies of the subscales are reported in Table 5.

| Table 5 |
|------------------|----------|----------|----------|
| **Studies ( )** | **Overall** | **Criticism** | **Over-involvement** |
| Singapore        | .92      | .86      | .86      |
| China            | .90      | .83      | .79      |

As can be seen, the FQ exhibited good internal reliabilities for both domains across both sites, ranging between .79 and .86.

10.1.5. Brief family assessment measure

The internal reliability of the BFAM scale for patient completion was adequate in Singapore, but not China, while for the BFAM scale caregiver-report, it was adequate in both countries. Details for each scale are reported in Table 6.
The original Cronbach alpha coefficients of the BFAM (self-rating) scale were .69 and .29 for Singapore and China respectively. As the 14 items were not reliable as an entity, three items were deleted for the purpose of analysis. After deleting these items, the internal reliabilities increased to .73 for Singapore, which was considered adequate as indicated by Cicchetti (1994), and .33 China. The deleted questions asked patients if they often understood the conversations with their family members, whether they were being responsible within the family, and whether they needed to be reminded about their duties in the family. While for the Singapore sample alpha was now good, for the China sample it remained unacceptable. Thus, this (reduced) scale was used only in the analysis of the Singapore data. In order to convert the reduced scale into t-scores suitable for comparison, they were pro-rated up to a 14-item scale. The BFAM (dyadic relationships) scale demonstrated acceptable internal consistency of .73 for Singapore and .71 for China.

10.2. Demographics

10.2.1. Patient demographics

Initial analyses assessed demographic differences between the groups. Demographic information about patients and their caregivers from Singapore and China are presented in Table 7.
Table 7

Demographic characteristics of the patients in China and Singapore

<table>
<thead>
<tr>
<th>Patients (N=100)</th>
<th>China (N=50)</th>
<th>Singapore (N=50)</th>
<th>Statistic</th>
<th>p values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean age (SD)</strong></td>
<td>38.48 (11.25)</td>
<td>38.14 (10.93)</td>
<td>t = .15</td>
<td>.88</td>
</tr>
<tr>
<td><strong>Age (First diagnosis)</strong></td>
<td>22.74 (4.44)</td>
<td>24.46 (8.25)</td>
<td>t = -1.30</td>
<td>.20</td>
</tr>
<tr>
<td><strong>No. of admissions (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>9 (18.0)</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>21 (42.0)</td>
<td>8 (16.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12 (24.0)</td>
<td>6 (12.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7 (14.0)</td>
<td>2 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 4</td>
<td>1 (2.0)</td>
<td>31 (62.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>34 (68.0)</td>
<td>23 (46.0)</td>
<td>$^2 = 4.94$</td>
<td>.03*</td>
</tr>
<tr>
<td>Race (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>50 (100.0)</td>
<td>36 (72.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>0</td>
<td>5 (10.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian</td>
<td>0</td>
<td>8 (16.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurasian</td>
<td>0</td>
<td>1 (2.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buddhism</td>
<td>5 (10.0)</td>
<td>12 (24.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taoism</td>
<td>0</td>
<td>16 (32.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christianity</td>
<td>5 (10.0)</td>
<td>8 (16.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>0</td>
<td>1 (2.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>0</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nil</td>
<td>40 (80.0)</td>
<td>10 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship with primary caregiver (%)</strong></td>
<td></td>
<td>$^2 = 37.58$</td>
<td>&lt;.00**</td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>35 (70.0)</td>
<td>6 (12.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>7 (14.0)</td>
<td>10 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>6 (12.0)</td>
<td>20 (40.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td>2 (4.0)</td>
<td>14 (28.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marital status (%)</strong></td>
<td></td>
<td>$^2 = 4.73$</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>34 (68.0)</td>
<td>33 (66.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>12 (24.0)</td>
<td>11 (22.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>4 (8.0)</td>
<td>2 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>0</td>
<td>4 (8.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No. of children (%)</strong></td>
<td></td>
<td>$^2 = .19$</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>39 (78.0)</td>
<td>37 (74.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>10 (20.0)</td>
<td>4 (8.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 (2.0)</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1 (2.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 5</td>
<td>0</td>
<td>2 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education (%)</strong></td>
<td>$^2 = 27.80$</td>
<td>&lt;.00**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>16 (32.0)</td>
<td>14 (28.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>20 (40.0)</td>
<td>21 (42.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than high school</td>
<td>14 (28.0)</td>
<td>15 (30.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Employment status (%)</strong></td>
<td></td>
<td>$^2 = .21$</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>31 (62.0)</td>
<td>17 (34.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>9 (18.0)</td>
<td>33 (66.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>10 (20.0)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Living arrangement (%)</strong></td>
<td></td>
<td>$^2 = 8.31$</td>
<td>.00**</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td>2 (4.0)</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervised</td>
<td>48 (96.0)</td>
<td>47 (94.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cigarette and alcohol use (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking status</td>
<td>8 (16.0)</td>
<td>5 (10.0)</td>
<td>$^2 = .80$</td>
<td>.37</td>
</tr>
<tr>
<td>Alcohol consumption status</td>
<td>12 (24.0)</td>
<td>2 (4.0)</td>
<td>$^2 = 8.31$</td>
<td>.00**</td>
</tr>
</tbody>
</table>

*Note. * = p < .05 (2 tailed); ** = p < .01 (2 tailed); N = 50
There was no significant age difference between the patient groups, or in the age of first diagnosis. However, there was a significant difference in the gender distribution across countries ($\chi^2 (1) = 4.94, p < .05$). In the Chinese sample, 68% (34/50) patients were male, compared to 46% (23/50) in the Singapore sample.

All patient participants recruited in China were Chinese. The Singapore patient sample comprised of 36 (72%) Chinese, 5 (10%) Malays, 8 (16%) Indians and 1 (2%) Eurasian. The majority (80%) of the Chinese patient participants reported that they did not have a religion, 5 (10%) reported that they were Buddhists, and another 5 (10%) were Christians. On the other hand, in Singapore 16 patient participants (32%) reported they were Taoists, 12 (24%) Buddhists, 10 (20%) had no religion, 8 (16%) were Christians, 3 (6%) were Hindu, and 1 (2%) was Catholic.

Demographics variables associated with relationships were also included in the questionnaire. Significant differences in the relationships patients have with their primary caregivers were observed ($\chi^2 (3) = 37.58, p < .01$). Seventy percent of the patients were looked after by their parents in China, while the majority of caregivers (40%) in Singapore were patients' children.

There were no significant differences in the marital status of the patients in Singapore and China ($\chi^2 (3) = 4.73, p < .05$). The majority of participants were single in Singapore (66%) and China (68%). Most of the participants in both Singapore (74%) and China (78%) did not have children.

Education and current occupation status, as well as living arrangements were also explored. No significant differences in education level were reported across the settings ($\chi^2 (2) = 0.19, p > .05$). It was reported that most patients had completed high school education. However, significant differences were found in the patients' current occupational status ($\chi^2 (2) = 27.80, p < .01$). The majority of Singaporean patients were currently employed (66%), while on the other hand, most of the Chinese patients were unemployed (62%).
Additional variables assessed included living arrangements and cigarette and alcohol use. Overall, there were no differences in living arrangements across countries ($\chi^2(1) = 0.21, p > .05$). Most the patients lived with their family members. There was also no significant difference in the number of patients smoking cigarettes across countries ($\chi^2(1) = 0.80, p > .05$). The majority of the patients denied smoking cigarettes. However, significant differences were reported in alcohol consumption ($\chi^2(1) = 8.31, p < .01$). While only 4% of the Singaporean patients consumed alcohol, 24% of the Chinese patients reported consuming alcohol on a regular basis.

10.2.2. Caregiver demographics

Table 8

Demographic characteristics of the caregivers in China and Singapore

<table>
<thead>
<tr>
<th></th>
<th>China (N=50)</th>
<th>Singapore (N=50)</th>
<th>Statistic</th>
<th>$p$ values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (SD)</td>
<td>58.88 (11.08)</td>
<td>54.06 (13.01)</td>
<td>$t = 2.00$</td>
<td>.05*</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15 (30.0)</td>
<td>19 (38.0)</td>
<td>$\chi^2 = 0.71$</td>
<td>.40</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>2 (4.0)</td>
<td>12 (24.0)</td>
<td>$\chi^2 = 11.04$</td>
<td>.01*</td>
</tr>
<tr>
<td>Married</td>
<td>36 (72.0)</td>
<td>33 (66.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>2 (4.0)</td>
<td>2 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>10 (20.0)</td>
<td>3 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support network</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9 (18.0)</td>
<td>19 (38.0)</td>
<td>$\chi^2 = 4.96$</td>
<td>.04*</td>
</tr>
<tr>
<td>No</td>
<td>41 (82.0)</td>
<td>31 (62.0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * = $p < .05$ (2 tailed); ** = $p < .01$ (2 tailed)

Initial analyses assessed caregiver demographics across the groups. The age difference between Singaporean and Chinese caregivers was significant ($t(98) = 2.00, p < .05$). The caregivers in Singapore had a mean age of 54.06 years (SD = 13.01), while caregivers in China were older and had mean age of 58.88 years (SD = 11.08). No significant difference between the groups was found for the gender distribution ($\chi^2(1) = 0.71, p > .05$). The majority were female. However, there was a significant difference in the marital status of
caregivers ($\chi^2 (3) = 11.04, p < .01$). Although the majority of caregivers in both sites were married, in China 20 percent (versus 6%) were widowed and four percent (versus 24%) were single. Lastly, significant differences were reported for the support networks for caregivers ($\chi^2 (1) = 4.96, p < .05$). A substantial majority (82%) of the caregivers in China reported having no support network as compared to 62% of caregivers in Singapore. Support networks were defined as immediate and extended family members, and friends.  

10.3. Sample Differences within Singaporean Patients

Given that the sample in Singapore consisted of different ethnicities (see Section 9.2.1.), analyses were conducted to identify any differences between the Chinese and non-Chinese participants. No significant differences in age were reported, $t (48) = 1.25, p > .05$. A chi-square analysis was then performed to determine if there were gender differences between these sub-samples. A significant difference was found, $\chi^2 (1) = 4.73, p < .05$. Therefore, a series of multivariate analyses of covariance (MANCOVA) controlling for gender was conducted to determine whether there were differences between the Chinese and non-Chinese patients in Singapore on all variables of interest. Table 9 presents the mean scores for each domain for all the instruments that were used in the study and the results of analyses. As can be seen, there were no significant differences on any variables between the sub-groups. Therefore, the data were combined in all subsequent analyses.
Table 9

Means, standard deviations, F-statistics and p values of various sub-scales of all instruments used in Singapore

<table>
<thead>
<tr>
<th>Domains</th>
<th>Chinese (N = 36)</th>
<th>Non-Chinese (N = 14)</th>
<th>F values</th>
<th>p values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family functioning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BFAM (Patient)*</td>
<td>52.06 (13.80)</td>
<td>53.29 (11.91)</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>BFAM (Caregiver)</td>
<td>59.67 (9.46)</td>
<td>57.00 (6.88)</td>
<td>1.30</td>
<td>.26</td>
</tr>
<tr>
<td><strong>Patients' perceived quality of life</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>200.94 (74.68)</td>
<td>231.81 (68.11)</td>
<td>1.66</td>
<td>.20</td>
</tr>
<tr>
<td>WHOQOL (Physical capacity)*</td>
<td>57.18 (16.63)</td>
<td>45.83 (19.88)</td>
<td>.46</td>
<td>.50</td>
</tr>
<tr>
<td>WHOQOL (Psychological well-being)</td>
<td>44.79 (19.25)</td>
<td>53.27 (18.57)</td>
<td>.89</td>
<td>.35</td>
</tr>
<tr>
<td>WHOQOL (Social relationships)</td>
<td>51.62 (26.93)</td>
<td>58.93 (27.44)</td>
<td>.24</td>
<td>.94</td>
</tr>
<tr>
<td>WHOQOL (Environment)</td>
<td>51.65 (22.80)</td>
<td>60.94 (17.11)</td>
<td>1.90</td>
<td>.18</td>
</tr>
<tr>
<td><strong>Patients' perception of social support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>65.47 (13.22)</td>
<td>61.64 (8.00)</td>
<td>.79</td>
<td>.38</td>
</tr>
<tr>
<td>ISEL (Self-esteem)*</td>
<td>12.94 (3.88)</td>
<td>11.14 (3.32)</td>
<td>1.83</td>
<td>.18</td>
</tr>
<tr>
<td><strong>Degree of expressed emotion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>50.31 (12.04)</td>
<td>48.07 (14.13)</td>
<td>.17</td>
<td>.68</td>
</tr>
<tr>
<td>FQ (Criticism)</td>
<td>24.86 (6.62)</td>
<td>23.43 (6.77)</td>
<td>.25</td>
<td>.62</td>
</tr>
<tr>
<td>FQ (Over-involvement)</td>
<td>25.44 (6.41)</td>
<td>24.64 (7.79)</td>
<td>.80</td>
<td>.78</td>
</tr>
<tr>
<td><strong>Patients' current level of functioning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>102.14 (16.77)</td>
<td>106.21 (22.96)</td>
<td>.18</td>
<td>.68</td>
</tr>
<tr>
<td>LSP (Self-care)</td>
<td>30.58 (5.41)</td>
<td>31.36 (6.78)</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>LSP (Non-turbulence)</td>
<td>40.56 (6.20)</td>
<td>42.50 (11.26)</td>
<td>.11</td>
<td>.74</td>
</tr>
<tr>
<td>LSP (Social contact)</td>
<td>15.67 (4.30)</td>
<td>17.43 (4.55)</td>
<td>.76</td>
<td>.39</td>
</tr>
<tr>
<td>LSP (Communication)*</td>
<td>15.33 (2.96)</td>
<td>14.93 (3.77)</td>
<td>.20</td>
<td>.66</td>
</tr>
</tbody>
</table>

*Note. * Reduced scale
10.4. Comparison between Countries

A series of multivariate analysis of covariance (MANCOVA) was conducted to determine if there were significant differences between Singapore and China in these variables:

- Level of expressed emotion;
- Level of perceived social support;
- Family functioning, as operationalised by the sufferer’s experience of being a patient in the family, and the caregiver’s experience of living with the patient;
- Patients’ perceived quality of life;
- Patients’ current functioning level.

As described in the Reliabilities section, the internal reliabilities for the full scales of the instruments across both sites were largely within acceptable to excellent range, and hence, they were used in the analyses. Because some subscales were not reliable in either sample, or both of the samples, cross-country analyses were not conducted at the subscale level for them. These were BFAM (patient report), and ISEL appraisal, tangible and belonging. The MANCOVA controlled for (i) patient gender, (ii) relationship patients have with their caregivers, (iii) patient work status, and (iv) patient level of alcohol consumption, as these variables differed across countries.

The following comparative analyses were carried out to test hypothesis 1, (i) the degree of expressed emotion is higher in Singapore than China, (ii) patients in Singapore perceive a lower degree of social support than in China, and (iii) family functioning is poorer in Singapore. The means and standard deviations are presented in Table 10.
Table 10

*Means and standard deviations of level of expressed emotion and social support*

<table>
<thead>
<tr>
<th>Domains</th>
<th>Country</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregivers’ level of expressed emotion</td>
<td>Singapore</td>
<td>49.68</td>
<td>12.55</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>48.56</td>
<td>11.95</td>
</tr>
<tr>
<td>Perceived level of social support*</td>
<td>Singapore</td>
<td>64.40</td>
<td>12.03</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>53.84</td>
<td>18.95</td>
</tr>
<tr>
<td>Caregivers’ report of family functioning</td>
<td>Singapore</td>
<td>58.92</td>
<td>8.83</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>56.56</td>
<td>7.56</td>
</tr>
</tbody>
</table>

*Note.* *Reduced scale used in both contexts*

The MANCOVA for main effect (country) was significant, $F(3, 92) = 3.30, p < .05$. Subsequent univariate analyses revealed that the difference in the level of expressed emotion was not statistically significant, $F(1, 94) = 1.93, p > .05$, but the difference in the level of perceived social support was statistically significant, $F(1, 94) = 3.49, p < .05$. These results suggest that there is no difference in the level of expressed emotion in Singapore and China, but the patients in Singapore perceive a higher level of social support being provided to them than their counterparts in China. There was no significant difference in the caregiver reports of family functioning across the sites, $F(1, 94) = 1.69, p > .05$.

Therefore, hypothesis 1 was not supported: there were no difference in the level of expressed emotion across sites, and there was also no difference in family. Further, contrary to expectations, patients in Singapore reportedly received more social support than their counterparts in China.

Hypothesis 2 predicted that the patients in Singapore would have a lower level of functioning and a poorer perceived quality of life than their counterparts in China. Table 11
presents the means and standard deviations of the patients’ perceived quality of life and functioning level scores in each country.

Table 11

<table>
<thead>
<tr>
<th>Domains</th>
<th>Country</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients’ current level of functioning*</td>
<td>Singapore</td>
<td>103.28</td>
<td>16.77</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>104.54</td>
<td>12.88</td>
</tr>
<tr>
<td>Patients’ perceived quality of life*</td>
<td>Singapore</td>
<td>209.58</td>
<td>73.55</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>220.98</td>
<td>61.53</td>
</tr>
</tbody>
</table>

*Note. *Reduced scale used in both contexts

The model was not statistically significant, $F (2, 93) = .35, p > .05$, partial eta-squared $= .007$, observed power $= .11$. There were no significant differences between countries in perceived quality of life: $F (1, 94) = .41, p > .05$; or patients’ current functioning level: $F (1, 94) = .74, p > .05$. These results suggest that the patients in China and Singapore have similar outcomes despite the difference in family environments found in the previous analysis. Therefore, hypothesis 2 was not supported.

10.5. Hypothesis 3

Hypotheses 3 predicted that in each location, the current functioning levels and perceived quality of life will be impacted by the three variables, expressed emotion, perceived social support and family functioning. It was proposed to conduct 2 multi-group path analyses to establish whether these three predictors were related to each of the two outcome variables in the same manner in each location. However, as reported in Section 9.1, the scales and sub-scales were not all considered reliable across locations. It was therefore
not possible to conduct the proposed analyses. Instead, as outlined in Section 9.6 and 9.7, two separate regression analyses were carried out in each location, using the scales that were reliable in those locations.

10.6. Factors Predictive of Patients’ Current Level of Functioning

10.6.1. Singapore

Multiple regression analysis was conducted to investigate factors that were predictive of the patients’ current level of functioning. The independent variables were (i) the reduced self-esteem scale of the ISEL instrument, (ii) full scale FQ, (iii) reduced scale of the BFAM patient-report, and (iv) full scale of the BFAM caregiver-report. The reduced LSP patient current functioning level scores were regressed on the four predictive variables. Results are presented in Table 12.
Table 12  
Summary of multiple regression analyses predicting patients’ current level of functioning in Singapore

<table>
<thead>
<tr>
<th>IVs</th>
<th>R²</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>sr²</th>
<th>p</th>
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<tbody>
<tr>
<td></td>
<td>.16</td>
<td></td>
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</tbody>
</table>

FQ  
Total level of expressed emotion  -.44  .19  -.33  -2.31  .11  .03

ISEL  
Self-esteem*  -.88  .72  -.20  -1.23  .03  .23

BFAM (Patients’ report)  
Degree of family’s dysfunction*  -.14  .21  -.11  -.65  .00  .52

BFAM (Caregivers’ report)  
Degree of family’s dysfunction  -.17  .29  -.09  -59  .00  .56

Note. * Reduced scale used in both contexts

Significant p’s are bolded

Results revealed that when taken together, the four predictive variables accounted for 16.3% variance in the patients’ current level of functioning, \( F(4, 45) = 2.20, p > .05 \). Despite the model being non-significant overall, the contribution of one of the predictor variables, level of expressed emotion was significant (  = .33, p < .05 ). It accounted for 11% of the variance in level of functioning. Hypothesis 3(a) was partially supported in Singapore. Only the degree of expressed emotion had an impact on the patients’ level of functioning, with higher levels of expressed emotion being associated with poorer functioning.
10.6.2. China

To investigate the factors that were predictive of the patients’ current level of functioning in China, a similar multiple regression analysis was conducted. The independent variables were (i) full scale of the ISEL instrument, with only the self-esteem subscale being reduced, (ii) full scale FQ, and (iii) full scale of the BFAM that caregivers filled in. Functioning level scores were regressed on the three predictive variables, and the results are presented in Table 13.

Table 13
Summary of multiple regression analyses predicting patients’ current level of functioning in China

<table>
<thead>
<tr>
<th>IVs</th>
<th>R²</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>sr²</th>
<th>p</th>
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<td>.37</td>
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</table>

FQ

Total level of expressed emotion | -.50 | .14 | -.47 | -3.61 | .22 | .00 |
BFAM (Caregivers’ report)

Degree of family’s dysfunction | -.47 | .21 | -.28 | -2.23 | .10 | .03 |

ISEL

Total level of perceived social support* | -.02 | .08 | -.02 | -.18 | .00 | .86 |

Note. * Reduced scale used in both contexts

Significant p’s are bolded

Results revealed that the three predictive variables together accounted for 37% variance in the patients’ current level of functioning, $F (3, 46) = 8.94, p < .01$. The strongest
unique significant individual predictor of functioning level was the level of expressed emotion as measured by the FQ (\( r = -.47, p < .01 \)), accounting for 22% of the variance. The caregivers' report of the level of family dysfunction also had a significant association with the patients' level of functioning (\( r = -.28, p < .05 \)). It accounted for 10% of the variance. Hypothesis 3(a) is therefore partially supported in China, with results of analyses suggesting that the higher the degree of expressed emotion and family dysfunction, the lower the patient's functioning level. However, the level of perceived social support had no significant relationship with patient's level of functioning in China.

10.7. Factors Predictive of Patients' Quality of Life

10.7.1. Singapore

To investigate the factors that were predictive of the patients' quality of life, a multiple regression analysis was conducted. The independent variables were (i) the reduced self-esteem scale of the ISEL instrument, (ii) full scale FQ, (iii) reduced scale of the BFAM instrument that patients filled in, and (iv) full scale of the BFAM that caregivers filled in. Table 14 summarises the analysis.
Table 14
Summary of multiple regression analyses predicting patients' quality of life in Singapore

<table>
<thead>
<tr>
<th>IVs</th>
<th>R²</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>s²r²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**FQ**

Total level of expressed emotion

**ISEL**

Self-esteem*  
-2.94  3.19  -.15  -.92  .02  .36

**BFAM (Patients’ report)**

Degree of family’s dysfunction*  
-1.44  .93  -.26  -1.55  .05  .13

**BFAM (Caregivers’ report)**

Degree of family’s dysfunction  
1.75  1.28  .21  1.36  .04  .18

Note. * Reduced scale used in both contexts

Results revealed that the four predictor variables together accounted for 14% variance in the patients’ quality of life scores, $F(4, 45) = 1.79$, $p > .05$. However, none of the independent variables contributed unique variance to the patients’ quality of life in Singapore. Hypothesis 3(b) was therefore not supported in Singapore.

10.7.2. China

As with Singapore, a multiple regression analysis was conducted to investigate the factors that were predictive of the patients’ quality of life in China. The independent variables were (i) full scale of the ISEL instrument, with only the self-esteem subscale being reduced,
(ii) full scale FQ, and (iii) full scale of the BFAM that caregivers filled in. Quality of life scores were regressed on the three predictive variables. Table 15 summarises the analysis.

Table 15

<table>
<thead>
<tr>
<th>Summary of multiple regression analyses predicting patients’ quality of life in China</th>
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<tr>
<td>IVs</td>
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<tr>
<td></td>
<td>FQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total level of expressed emotion</td>
<td>.23</td>
<td>.83</td>
<td>.05</td>
<td>.28</td>
<td>.00</td>
</tr>
<tr>
<td>BFAM (Caregivers’ report)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of family’s dysfunction</td>
<td>.13</td>
<td>1.27</td>
<td>.02</td>
<td>.10</td>
<td>.00</td>
</tr>
<tr>
<td>ISEL</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total level of perceived social support*</td>
<td>-.07</td>
<td>.50</td>
<td>-.02</td>
<td>-.14</td>
<td>.00</td>
</tr>
</tbody>
</table>

Note. * Reduced scale used in both contexts

Results revealed that the three independent variables together accounted for 0.4% variance in the patients’ quality of life, $R^2 = .004$, $F (3, 46) = .06$, $p > .05$, with no predictor variable accounting for a significant proportion of the variance in the quality of life scores. Hypothesis 3(b) was therefore also not supported in China.
Chapter 11. Discussion

Schizophrenia is a debilitating psychiatric disorder that can lead to significant and long-term deficits in functioning and quality of life. Unfortunately, there is as yet no medical cure for this mental illness. Hence, the next best treatment option is to manage the sufferer’s positive symptoms with the aims of maximizing his or her psychosocial functioning level and quality of life. The direction of management of schizophrenia has been largely influenced by the development of psychotropic medication and the subsequent move to deinstitutionalise patients. The variable outcomes for patients returning to the community, or being treated on an outpatient basis has led to a surge in research in the last three decades exploring the family environment and how it contributes to the sufferer’s functioning and well-being. Research has focused specifically on the concepts of (i) social support, (ii) expressed emotion and (iii) family functioning, demonstrating the impacts of these on the sufferer’s rehabilitation and recovery. However, the existing literature suffers from a severe limitation: the majority of studies have been conducted in developed Western countries. This results in a lack of understanding of the role of family environment in the sufferer’s recovery and outcome both in developed and developing non-Western settings. To date, only one qualitative paper on expressed emotion (Healey et al., 2006) has been published in Singapore.

Therefore, the purpose of this study was to identify in non-Western settings the role that (i) social support (ii) family functioning, and (iii) expressed emotion have on the outcomes of schizophrenia as measured by the (i) sufferer’s functioning level and (ii) quality of life.

This study was conducted in two culturally similar but developmentally diverse Eastern countries, Singapore and China. Considered against a backdrop of extensive analyses conducted on literature relating to development and culture of these two countries, a series of
hypotheses were developed. The following findings, related to these hypotheses, are reported in this chapter:

- There was no difference in the level of expressed emotion across sites;
- There were no differences in family functioning across sites;
- Patients' perceptions of social support were higher in Singapore than in China;
- There were no differences in patients' functioning level and subjective quality of life across sites;
- Higher expressed emotion was associated with poorer patient functioning in both Singapore and China;
- Higher family dysfunction was associated with lower patients functioning in China, but not Singapore; and
- Level of expressed emotion, family functioning and social support were not associated with patients' subjective quality of life in either Singapore or China.

Firstly however, the differences between patients and caregivers in China and Singapore are discussed. Next, the chapter examines the relationship between the family environment and the patients' levels of psychosocial functioning in each location. The limitations of the study are also discussed. Finally and more importantly, the benefits of considering the influence of cultural factors in understanding the role of the family in patient support and outcome are examined.

11.1. Sample Comparisons

11.1.1. Clinical sample

The groups were matched on characteristics such as age, age of first diagnosis, marital status, educational level, living arrangements and cigarette use. While attempts were made to match the groups on other factors including gender, race, religion, relationship with
caregivers, occupational status, number of hospital admissions and alcohol use, the two
groups were in fact significantly different in some of these areas (see Table 7). The primary
difference was that there were more male patients recruited in China than in Singapore (68% 
versus 46%). Also, while all the patients in China were Chinese and most reported that they
were not following a particular religious faith, the Singapore sample was comprised of varied 
groups of races and religions. The data in Singapore were nevertheless combined and 
analysed as a group because no statistical differences were found between the Chinese and 
non-Chinese patients on variables of interest.

In terms of employment status, 66 percent of the Singapore patient sample was 
working at the time of assessment, compared to only 18 percent in China. A possible reason 
for this difference is the presence of strong and established networks of community facilities 
and rehabilitation centres providing on-going job support to people suffering from mental 
illinesses in Singapore. On the other hand, China has limited social services and is still in the 
midst of developing its community resources to support the mentally ill (Jin, Wen, Fan, & 
Wang, 2012) which may explain the lower employment rates.

In addition, there was a significant difference in the number of admissions reported by 
participating patients from the two settings. Sixty-two percent of Singaporean patients as 
compared to only two percent of Chinese patients reported being admitted more than four 
times. This is possibly consistent with the strong psychiatric support that Singapore offers. 

However, there are other possible explanations for the disparity in these figures. For example, 
considerable stigma is attached to mental illness in China, and those with mental illness are 
perceived as dangerous and violent, and therefore they are shunned (Martin, Pescosolido, & 
Tuch, 2000; Mellor, Carne, Shen, McCabe, & Wang, 2013 ). This stigma may lead to the 
reluctance of both sufferer’s and their caregivers to seek medical intervention at the onset of 
the illness. Such stigmas are unhelpful in the treatment of schizophrenia and have detrimental
impact not only for the individuals with mental illness but also their family members (Luty, Fekadu, Umoh, & Gallagher, 2006). Thus, it is very likely that the stigma impedes those with mental illness and their families in seeking support and accessing mental health services in China (Rusch, Angermeyer, & Corrigan, 2005).

Another possible explanation for the difference in admissions is that Chinese families tend to approach witch doctors or shamans, who incorporate aspects of Buddhist, Taoist and animistic beliefs to deal with bizarre symptoms of schizophrenia as the first port of call (Chua, 2009). This stems from the cultural beliefs in the role of cosmological forces in precipitating and maintaining mental illness, which is thought to persist in China. In contrast, even though Chinese and other Asian traditions influence the Singaporean population, seeking help from traditional healers has reduced rapidly over recent times, with Chong and colleagues (2005) reporting that only 24% of first admissions to a psychiatric hospital in Singapore had sought the help of traditional healers at the onset of the illness, compared to 70% in the 1970s (Teo, 1978). The advanced and well-established healthcare system in Singapore may have contributed to this decline and a growing reliance on Western medicine.

11.1.2. Primary caregivers

The caregiver sample comprised of family members who have frequent contact with the sufferer, and who accompanies the patient to clinic appointments. The Chinese and Singaporean carer groups were matched by gender, but there were significant differences in age, marital status and support network size. Notably however, both groups reported having limited support networks made up of family and friends. However, overall support was more available in Singapore. As discussed above, Chinese families are reluctant to ask for help because of the stigma attached to mental illness. Families in both Singapore and China may
have the desire to “save face” and hence, not ask for support from their broader social networks.

11.2. Hypothesis 1

As compared to China, Singaporean patients experience:

a) Higher degree of expressed emotion.

b) Perceive less social support.

c) Poorer family functioning as measured by the sufferer’s experience as being a patient in the family, and the caregiver’s experience of living with the patient.

All three parts of hypothesis 1 were not supported. Firstly, our results indicated no difference in the level of expressed emotion between the countries. Contrary to expectations however, patients perceived more social support in Singapore than in China. Lastly, no differences were found in family functioning across countries. In fact, notably, family functioning scores were within the normal range in both samples. This implies that despite having an ill relative in the household, recruited families in Singapore and China were still functioning at the same level as other families, according to normative Western cut-offs for the test used to assess family functioning.

It is likely that the lack of significant findings related to hypotheses 1(a) [expressed emotion] and 1(c) [family functioning] are the result of cultural similarities between these settings. As may be seen in the literature reviewed in earlier chapters, culture plays a pervasive role in attitudes and response to mental illness. It determines the way families function and the way societies interpret normalcy and mental illness, which in turn affects the way people react towards sufferers of mental illness.
The recruited Singapore sample in our study was largely made up of Chinese ethnicity. Therefore, it is likely that the substantially shared Chinese cultural background accounts for the similarities in the way emotions are expressed and families function, despite the differences in the development statuses of the countries. There is a strong influence of religious and philosophical teachings (i.e. Confucian and Buddhism) in the Chinese culture, even if people are not religious. Thus principles of obligation, duty and subordination prevail (see Chapter 5).

These principles are also likely to affect the non-Chinese samples through cultural integration and communal living, which exists to this day. They are practiced especially within the family unit, which functions as a central social unit. Members of the family and in the broader sense, the society, are expected to fulfil their assumed roles so as to achieve social harmony. This implies individuals have to place the needs of other family members before theirs. Thus, relatives are expected to support each other by looking after their ill family member. In fact, this philosophy is even embedded in the political system in China, where families are mandated to look after their disabled relatives (see Section 7.2.2.). Singapore and China are also parent-child dominated societies (Hsu, 1973). Intergenerational dependence is encouraged in the Chinese culture, which means that parents are more likely to be responsible for the caregiving of their children. For example, Chinese parents are expected to provide their children education and support in the job searching process, as well as spousal selection and/or approval. Children in turn are expected to obey their parents and be accepting of criticism.

These patterns of family relationships are especially reflected when the child is ill and unmarried (Phillips & Xiong, 1995). Such practices stem heavily from Confucian philosophy. The Singapore population, Chinese or not, is also heavily influenced by Confucian ethics. Indeed, this was so and as Prime Minister Lee Kuan Yew prescribed that the island nation
should be built on this philosophy in 1986 and are applied to all races and cultures (see
Section 7.1). While some researchers have claimed that Singapore is less indoctrinated with
the Confucian philosophy relative to other Asian countries like China and Taiwan (Wong &
Wong, 1989), other researchers maintain that key Confucian values have been retained from
the Chinese forefathers who migrated to Singapore and passed on to their children despite
modernisation and accompanying Western influences (Kuo, 1987). This was achieved
through a variety of social engineering, government policies and circumstantial integration.

Our results indicated that patients in Singapore reported receiving more social support
than in China. This finding could be attributed to the reliance on Western medicine, widely
available psychiatric facilities in Singapore as well as higher employment rates in the
recruited sample in Singapore as compared to China (see Section 9.2). Modern mental health
facilities in Singapore offer a multidisciplinary approach to mental disorders, which includes
social work support, occupational therapy and psychological therapy support, as well as
rehabilitation centres where sufferers are given vocational support. These avenues also act as
a catalyst for sufferers to initiate friendships and expand their social network, thereby
increasing interaction and perceived social support for the mentally ill in Singapore. The
increased employment rates in Singapore also suggest that patients are likely to have more
social interaction, resulting in more perceived social support than the patients in China, where
affordable and accessible psychiatric facilities are lacking (Chang & Kleinman, 2002). As a
result, Chinese people may find it difficult to afford psychiatric or medical care especially
when schizophrenia is a chronic illness with a long duration.

It may also be that the concept of “face” and the negative stigma attached to mental
illness in China may have contributed to the lower level of social support reported there. Past
researchers have identified that in China, those who have a mental illness are perceived as
dangerous and violent and therefore, the public prefers to stay away from them (Martin et al.,
Such stigma attached to mental disorders can lead to patients and affected families feeling less supported. This has potential to significantly interfere with the sufferer’s recovery and impede the process of seeking support and using mental health services (Rusch et al., 2005). In fact, our demographic results show strong evidence of limited hospital admissions in China, lending support to the existing literature as discussed.

In contrast, although stigma toward mental illness has also been highly prevalent in Singapore, the government and policy makers have taken an active stance to reduce it in the past decade (Chong, 2007). The first National Mental Health Policy and Blueprint for the year 2007 and 2010 was formulated in 2005. A list of recommendations including reducing stigma and building a network of support in the community was put forward (Chong, 2007). These influences may lessen the impact of the issue of “face” in Singapore, and encourage help seeking behaviours in the mentally ill and their families, consequently, increasing the degree of social support perceived by individuals with schizophrenia in Singapore.

11.3. Hypothesis 2

Patients in Singapore will have a lower level of functioning and poorer perceived Quality of Life than the patients in China.

This hypothesis was not supported. Patients in China and Singapore appeared to have similar psychological outcomes despite differences in levels of perceived support and level of country development. This suggests that schizophrenia is equally debilitating regardless of country, development or level of adherence to traditional culture. This result is consistent with Kurihara et al.’s (2000) study, which compared the 5-year outcome of schizophrenia in patients in a developed (Japan) and developing (Indonesia) society and found that the psychosocial outcomes of schizophrenia were not necessarily better in a developed nation than in a developing nation.
The findings are inconsistent however with studies reporting better outcomes in developing than developed countries that attributed the better outcomes to factors such as stronger social support, lower expressed emotion, family structure and lack of urbanisation, etcetera. For example, an early study by Jablensky and Sartorius, (1988) reported that sufferers in less technologically advanced cultures have better outcomes because less intricate tasks are expected of them. In addition, the International Pilot Study of Schizophrenia (IPSS) reported that patients from developing cities such as Agra, Cali and Ibadan were more likely to be asymptomatic in comparison to patients from developed Western settings like Aarhus, London and Washington at the 2-year follow-up (WHO, 1973). However, there is increasing evidence to suggest a favourable clinical outcome for sufferers of schizophrenia from developed countries especially in Asia (Kua et al., 2003; Lee, Lieh-Mak, Yu, & Spinks, 1991; Lieh-Mak, Wong, Fung, Mak, & Lam, 1998; Patel et al., 2006; Tsoi & Wong, 1991).

Our results suggest that schizophrenia does not necessarily have poorer outcomes in either developing or developed societies. This highlights a fundamental characteristic of the illness – that despite the difference in the expectations of sufferers from both developed and developing countries and the stresses they face from their families and society, the role of the technological development of the country or culture may actually have a smaller impact than originally thought.

11.4. **Hypothesis 3**

The level of expressed emotion, perceived social support, and family dysfunction will have an impact on the patient’s:

a) Level of functioning.

b) Quality of life.
This hypothesis was only partially supported. Only the degree of expressed emotion had an impact on the patients’ level of functioning in Singapore. However, the degree of both expressed emotion and family dysfunction had an impact on the patients’ level of functioning in China.

11.4.1. Level of functioning

Our results in both Singapore and China were consistent with existing literature that suggests that a heightened degree of expressed emotion in the family affects a sufferer’s relapse rates and functioning levels (see Chapter 3). The results of our study in China also indicated a relationship between the degree of family dysfunction and patient functioning outcome. However, this relationship was not observed in our Singapore sample.

In the case of China, there are limited support services to assist caregivers in looking after their mentally ill relatives. Further, China’s delay in enacting nationwide mental health laws to guarantee the mentally ill access to medical treatment means that many Chinese are left without access to healthcare (Shan, 2007). Consequently, this delay coupled with the public reluctance to seek treatment, and a loss of “face” and shame will inevitably lead to the deterioration of the sufferer’s condition and burden the family. The resulting increase in stress may mean that the quality of the sufferer’s family relationship weakens. Stress in caregiving can only translate to the caregivers’ poorer quality of life, which then affects the quality of care being provided to the sufferer. This is consistent with the principles of family intervention therapy as discussed in Chapter 1, which recognises that schizophrenia can have a dramatic negative impact on the family, which in turns result in poorer caregiving, and poorer functional outcomes in sufferers.

Singapore patients on the other hand receive the support from government in terms of state subsidies (i.e. Medifund) for the mentally ill. In addition, the state hospitals offer
avenues of support such as social work and occupational therapy. Psychological therapy is also available to caregivers to help alleviate the stress of caregiving. While state subsidies do not always reach all needy patients, subsidies when received often help to buffer the negative effects of stress that impact upon the quality of family relationships. Hence, family dysfunction may not have a direct relationship with the functional outcomes of the sufferers.

In this study, no trend was observed between perceived social support and the patient’s functioning outcomes. The lack of significance could be attributed to the clinical nature of our sample. Data on medications, chronicity, severity or duration of the illness were neither available nor collected in our study. No doubt, these factors have an impact on the patient’s insight. For instance, a patient who presents with more severe positive symptoms is likely to perceive more hostility or less assistance from his or her family regardless of the actuality of the situation. Therefore, it is likely that he/she would perceive less social support. Also, patients who were on higher dosages of medication were likely to be more symptomatic as compared to patients who were administered lesser antipsychotics. Medication can also influence one’s perceptions. Social support was only measured by the patient’s report in our study. As discussed in Chapter 1, the clinical presentation of schizophrenia includes deficits in affective experiences and expressions. As such, the clinical nature of the disorder could very possibly influence the patient’s perception of social support. It could also be possible that perhaps social support may just be unrelated to patient functioning in these settings.

11.4.2. Quality of life

The hypothesis relating to quality of life was not supported in either Singapore or China. The degree of expressed emotion, perceived social support and family dysfunction did not impact on the patients’ self-reported quality of life. This finding is largely inconsistent with existing literature, although relatively few studies have examined the perspective of the
sufferer. Mubarak and Barber (2003) were the first to explore the relationship between emotional expressiveness of primary caregivers and the quality of life of patients with schizophrenia. The study was conducted in Malaysia and they reported that emotional over-involvement of caregivers significantly affected the quality of life of the sufferers. However, other factors such as control and attitude of rejection from the caregivers did not appear to have an effect on the patient’s quality of life.

As discussed in Chapter 2, other studies have acknowledged the benefits of social support for persons with mental illness. (Berkman et al., 1992; Berkman, 2000; Ell et al., 1992; Gili et al., 2006; Hammer, 1983; Taal et al., 1993; Turner & TenHoor, 1978), but few studies have examined the association between perceived social support and quality of life for persons with schizophrenia. Existing studies purport that families contribute positively to the sufferer’s overall quality of life by displaying their support through recognising and affirming the sufferer’s strengths (Greeberg et al., 2006). Studies have also shown that in extended families with high level of support, there is better quality of life for these sufferers (Cechnicki & Wojciechowska, 2007). Nevertheless, our finding was consistent with a recent study conducted by Song and colleagues (2011) in Korea, which set out to investigate the factors that influenced the quality of life in first-episode schizophrenia. Like our study, they also measured perceived social support using the ISEL instrument. The researchers attributed the lack of relationship to their limited sample size. Unfortunately, our study was flawed in the same way.

The results of our study could possibly be explained in the following ways. Firstly, our hypothesis was largely focused on family factors. However, it is important to acknowledge that the existence and interplay with other non-family factors, such as political, economic and technological aspects could also have influenced the patient’s quality of life. To begin with, unlike China, there is strong state intervention in Singapore’s healthcare system. For
example, the Government established an endowment fund known as the Medifund, which among its mandates is to help the mentally ill to pay for their medical expenses. The largest and only state provider of mental healthcare in Singapore, the Institute of Mental Health (IMH), also provides social support services including rehabilitation and hiring social workers who can assist with financial burdens and therapy services. In addition, there are volunteer programs within IMH that encourage the volunteering public to develop friendships with the patients. Therefore, patients who do not receive adequate support from their family can still obtain the support from other avenues, i.e. hospital setting. As a result, low levels of family support may not necessarily affect patient's quality of life.

A second possibility is that the constructs of “love” and “caregiving” vary widely between the Chinese and Western societies. While Western societies focus strongly on emotional displays, Chinese parents often express their love and support through practical means such as the provision of accommodation or money (Koh & Chang, 2002). However, the quality of life was measured using Western benchmarks in the current study, which focuses on emotional and social support. Singapore and China, share cultural differences with Western culture, and using a scale that was developed for Western contexts could potentially impact on the relationship between the variables of interest and quality of life.

Lastly, patients may be so overwhelmed by the stigmatisation of their mental illness that it consumes them to the point that they lack insight to the availability of social support that has been provided, or the degree of expressed emotion that is displayed to them. Schizophrenia has high comorbidities with substance abuse, anxiety disorder and depression (Buckley, Miller, Lehrer, & Castle, 2009). Unfortunately, comorbid illnesses were not documented in this study. However, such a proposition would be consistent with our findings, and it is likely that such comorbid illnesses impair the sufferer’s judgement and interpretation of support being provided to them and thus affecting their perceptions of their quality of life.
11.5. Implications for Sufferers of Schizophrenia in Singapore and China

Overall, the current study demonstrates that there is a link between the emotional climate in the family unit of a sufferer of schizophrenia and the sufferers’ functioning level in both China and Singapore. It also highlights the importance of considering cultural beliefs and traditions when understanding the perceptions and attitudes towards mental illness, which affects the way and the degree to which social support is provided to sufferers. There are several implications arising from this project and will be discussed below.

11.5.1. Singapore

Firstly, the results of the current study indicate that patients in Singapore perceive a higher degree of social support as compared to the patients in China. This may result from an additional source of support derived from welfare and support services provided by the hospitals (i.e. social work, psychological support and rehabilitation services), which reduces the burden on families and allow them to be more supportive. It was also observed that the patients in Singapore had a higher employment rate, which might have an impact on their functioning capacity. Therefore, it could be helpful to increase rehabilitation services, and channel a portion of rehabilitation towards social activity whether economically productive or not.

Next, it was found that higher expressed emotion was related to poorer functioning in Singapore. This means that it is important to screen for high levels of expressed emotion within the family at assessment. The lack of medical cure means that frontline treatment of schizophrenia has been directed at managing symptoms. If the emotional climate is assessed to be unsupportive and unhealthy, and is known to affect adaptive functioning, family intervention therapy can begin early and can occur concurrently with the treatment that the patient is going to receive. Along the same vein, it is likely to be helpful to provide further
psychoeducation to the public about the benefits and importance of family support for suffers of schizophrenia, especially when there is public stigma and perception of schizophrenia as being dangerous as in the Asian culture. Psychoeducation about the illness through media, workshops and schools could be quite helpful to manage the public’s fears. This may improve the degree of support being provided to the sufferers.

11.5.2. China

As for Singapore, it was found that higher expressed emotion was associated with poorer patient functioning in China. In addition, patients’ functioning capacity was also influenced by the degree of family dysfunction. Therefore, like Singapore, similar assessment processes and public education should take place. On top of that, assessment on family functioning could help to provide important information about the patient and assist with treatment planning.

Patients in Singapore enjoy heavy subsidies by the government for medical treatment. It potentially reduces the detrimental impacts of economic stress on the family, which can also contribute to family dysfunction. Therefore, policy makers or hospitals in China may consider initiating national mental health legislation to support the treatment of the mentally ill.

These implications should not only encourage health professionals and clinical researchers to develop and implement these interventions in acute psychiatric settings, but should also become part of the mental health care model. In summary, to improve the functioning of the sufferer, it is first important to improve family functioning and attitudes towards mental illness. Therefore, by looking into family attitudes and introducing early intervention during the course of the illness, sufferers are more likely to benefit from a better
prognosis and higher functioning levels. Importantly, interventions must also be carried out carefully, modified to align with the cultural traditions and beliefs of the particular society.

11.6. Limitations and Recommendations for Future Research

The current study aimed to increase knowledge and understanding of the caregiving provided to sufferers of schizophrenia, and its effect on their psychosocial functioning. It was designed to explore whether there were differences between the way caregiving was provided in Singapore and China, and if they resulted in different outcomes.

Prior to the current project, the relationships between expressed emotion, social support and family dysfunction, and psychosocial functioning in individuals with schizophrenia had not been researched in Singapore and China. There were also no data on direct comparisons between two culturally similar, but structurally and technologically different Asian countries.

A major limitation of this study was the sample size. In total, the sample size of 100 dyads was modest, with only 50 patients and 50 caregivers from each site. Although the overall sample size was statistically adequate, the results cannot be generalised to or beyond the patient population of the hospitals in Singapore and China. Several attempts were made to increase the recruitment rate, though the lack of willing participants in Singapore and the short time span that the researcher had in China made it difficult. A longer time frame for recruitment may have helped to reduce the impact of this issue.

There were also limitations in how comparable participants in China and Singapore were, and the types of conclusions possible. Although there were general inclusion criteria, participants were not matched according to age, race, education and employment status. Further, the sample in Singapore did not comprise of entirely patients of Chinese race. Although no differences were found between the races in Singapore, future studies could consider eliminating confounding variables by only recruiting Chinese patients in Singapore.
Another mismatch in subject sample is attributed to the type of participants being recruited (see Section 9.2.1.). The disparity in the participation rates may be attributed to the fact that patients in China may be more compliant with requests from their treating psychiatrists. This is consistent with Confucius' teachings of the importance of hierarchy and respecting people with authority (Chin & Loh, 2008). Therefore, the attitudes and beliefs of the recruited participants may have differed between countries. Although it is unlikely to completely eliminate differences between the groups, it could perhaps be helpful to match participants more closely according to their demographics, which could improve the validity of the current results.

Another significant limitation of the study is that most of the findings either replicated prior research (e.g. higher expressed emotion was found to be associated with lower patient functioning), or were largely descriptive (e.g. patients in Singapore perceived higher levels of social support than did patients in China). No potential mediators (i.e. cultural beliefs and values) that might have elucidated the ethic differences in family functioning were assessed. It is then important for future studies to overcome this important limitation.

One more important limitation is the nature of the instruments that were used. All were developed by Western researchers and previously adapted for the Chinese population, or for the current study. As a result, we cannot be confident in the psychometric properties of the adapted instruments. Indeed, low reliabilities were observed in some of the subscales, and some of them could not be used in the analyses for one or both locations. Consequently, attempts to incorporate more comparisons between countries were restricted, and specifically, a more complex analysis aimed at evaluating whether the relationships between variables were the same in each location could not be conducted, and even the regression analyses conducted within each country could not include all relevant variables. Using established culturally validated instruments in future would be helpful. In addition, the GAF instrument
was only administered in China. It would be helpful to have understood the patients’ global functioning in Singapore to provide an additional comparative construct.

While it was not possible to obtain second opinions regarding diagnoses, all patients recruited for this study were diagnosed by their treating psychiatrist as suffering from varying degrees of a serious mental disorder. As noted in Chapter 1, schizophrenia is a heterogeneous disorder. Hence, the patients’ current psychopathology might have affected the way they perceived the levels of expressed emotion, family functioning and social support they receive. For example, a patient who is more chronically and severely ill may have perceived the family to be more hostile or critical towards him or her than they really were. In trying to eliminate such problems, this study was careful to avoid interviewing patients who were in a florid psychotic state. In addition, perceptions of expressed emotion, social support and quality of life are subjective and informed by the individual patient’s unique circumstances. These perceptions may vary due to cultural backgrounds, environments, socioeconomic status etc. What a patient perceives as low expressed emotion in China may differ significantly from another patient’s perspective in Singapore. Further, even patients with similar experiences within the same country may perceive a difference in the level of care and/or quality of life. Despite these difficulties, it is still important to consider the patient’s subjective perceptions because they are likely to have a strong impact on his or her psychosocial functioning level and quality of life.

This study also suffered from the same limitation that besets other studies on expressed emotion in that only one caregiver per family participated. While the patients’ perceptions of the family environment were measured as a global entity, the questions in the instruments were directed to one specific family member. Although efforts were made to ask about the same family member, often it was not possible throughout the entire interview. Also, the caregiver who participated in the study may not have been the same person about whom the
patient responded in the questionnaires. This could have impacted on the results. Future studies could consider incorporating a qualitative section and interviewing more than one caregiver to obtain a more rounded impression of the family emotional climate.

Despite the limitations, this study was able to highlight the importance of cultural considerations in understanding mental illness and the attitudes towards caregiving and support for patients with schizophrenia. This has important implications for treatment planning for sufferers of schizophrenia in the Asian culture.

11.7. Conclusion

Given that schizophrenia is incurable and debilitating, research efforts to understand how the illness could be better managed are crucial. Such efforts could lead to better outcomes for the sufferer and society in terms of emotional, social and financial costs related to the illness.

This study found that schizophrenia affects a sufferer's functioning levels regardless of the stage of development of a country. Despite having a family member with schizophrenia, it appears that families do adapt and apparently continue to function normally in these contexts. Perceived social support appeared to be stronger in the developed context, despite many cultural similarities, and this may perhaps be due to the greater availability of relevant psychiatric and community resources. Further, consistent with Western research, expressed emotion was found to impact on patients' functioning in developing and developed contexts of similar culture.

In conclusion, this study demonstrated the need for addressing expressed emotion, social support and family functioning in comprehensive psychosocial intervention plans that require careful consideration of cultural traditions, beliefs and expectations. Nevertheless, more research in non-Western countries, especially in developing and developed nations is
necessary.
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*Services, 58*(6), 810 – 815.


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of Psychiatry, 143, 706 – 710.


Demographic Profile of Patient

<table>
<thead>
<tr>
<th>Age:</th>
<th>_____ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>M / F</td>
</tr>
<tr>
<td>Race:</td>
<td></td>
</tr>
<tr>
<td>Religion:</td>
<td></td>
</tr>
<tr>
<td>Relationship to caregiver:</td>
<td></td>
</tr>
<tr>
<td>Marital status:</td>
<td>Single/ Married/ Separated/ Widowed/ Divorced</td>
</tr>
<tr>
<td>Number of children:</td>
<td></td>
</tr>
<tr>
<td>Educational level:</td>
<td>Less than high school/ High school/ More than high school</td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
</tr>
<tr>
<td>Living arrangements (for the past 5 years):</td>
<td>Independent/ Supervised</td>
</tr>
<tr>
<td>Clinical observations during the interview:</td>
<td></td>
</tr>
</tbody>
</table>
**Admission History:**

Age at first formal diagnosis: _____

Age at first admission: _____

Number of admissions: _____

<table>
<thead>
<tr>
<th>No.</th>
<th>Adm Date</th>
<th>Disch Date</th>
<th>Adm Venue</th>
<th>Period</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tr>
</tbody>
</table>

**Medication Information**

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Type of Drug</th>
<th>Mg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>3.</td>
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</tbody>
</table>

**Substance Use:**

**Alcohol**

1. Age first used: __________

2. Frequency per week: (Specify type and quantity by glass): __________

3. Years consumed alcohol: __________

4. Date last used: __________

**Tobacco**

1. Smoker? Yes / No

2. Age first used: __________

3. Cigarettes/day: __________

4. Packets/week: __________

5. Years smoked: __________

6. Date last smoked: __________
病人的背景资料

<table>
<thead>
<tr>
<th>年龄：___岁</th>
</tr>
</thead>
<tbody>
<tr>
<td>性别：男/女</td>
</tr>
<tr>
<td>民族：</td>
</tr>
<tr>
<td>宗教信仰：</td>
</tr>
<tr>
<td>与照顾者的关系：</td>
</tr>
<tr>
<td>婚姻状况：未婚/已婚/分居/丧偶/离婚</td>
</tr>
<tr>
<td>子女数目：</td>
</tr>
<tr>
<td>教育水平：低于高中/高中/高中以上</td>
</tr>
<tr>
<td>职业：</td>
</tr>
<tr>
<td>居住安排（在过去的5年）：独立/监督</td>
</tr>
<tr>
<td>临床观察：</td>
</tr>
</tbody>
</table>
入院历史:

第一次正式诊断时的年龄：______

第一次入院时的年龄：______

入院次数：______

<table>
<thead>
<tr>
<th>编号</th>
<th>入院日期</th>
<th>出院日期</th>
<th>医院 / 診所</th>
<th>总共留院时间</th>
<th>诊断</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>2.</td>
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<td>3.</td>
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<td></td>
</tr>
</tbody>
</table>

药物资料

<table>
<thead>
<tr>
<th>编号</th>
<th>日期</th>
<th>药物类型</th>
<th>毫克/日</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

药物使用：

饮酒历史

1. 首次使用年龄：
2. 每周使用频率：（注明类别及瓶数）：______
3. 酒精使用年数：______
4. 最后使用日期：______

吸烟历史

1. 吸烟的习惯？有/沒有
2. 首次使用年龄：______
3. 支香烟/日：______
4. 包香烟/星期：______
5. 吸烟年数：______
6. 最后吸烟日期：______
## Demographic Profile of Caregiver

<table>
<thead>
<tr>
<th>Age:</th>
<th>_____ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>M / F</td>
</tr>
<tr>
<td>Race:</td>
<td></td>
</tr>
<tr>
<td>Religion:</td>
<td></td>
</tr>
<tr>
<td>Relationship to patient:</td>
<td></td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
</tr>
<tr>
<td>Duration of care giving (years):</td>
<td></td>
</tr>
<tr>
<td>Marital status:</td>
<td>Single/ Married/ Separated/ Widowed/ Divorced</td>
</tr>
<tr>
<td>Number of children:</td>
<td></td>
</tr>
<tr>
<td>Living arrangements:</td>
<td>With/ Without patient</td>
</tr>
<tr>
<td>Presence of support networks:</td>
<td>Yes/ No</td>
</tr>
</tbody>
</table>

If present:
照 顾 者 编 号： __________________

日  期： __________________

照 顾 者 的 背 景 资 料

年龄： ___ 岁

性别： 男 / 女

民族：

信 仰：

与 病 人 的 关 系：

职 业：

持 续 照 顾 患 者 的 时 间（ 年）：

婚 姻 状 况： 未婚 / 已婚 / 分 居 / 丧 偶 / 离 婚

子 女 数 目：

居 住 安 排：是 / 否 与 患 者 同 住

支 援 网 络： 有 / 没 有

如有 有， 請 加 以 描 述：
Client ID: _______________

Date: _______________

**Brief Family Assessment Measure – Self Rating Scale**

Family Position (check one):

- o Father/ Husband
- o Mother/ Wife
- o Child
- o Grandparent
- o Other: _____________________

Directions: On this page you will find 14 statements about how you are functioning in your family. Read each statement carefully and decide how well the statement describes you. Respond by ticking one of the provided options (strongly agree, agree, disagree, and strongly disagree). Circle only one response for each item. Respond to every statement, even if you are not sure of your choice.

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>My family and I usually see our problems the same way.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>My family knows what I mean when I say something.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>When I’m upset, my family knows what’s bothering me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I often don’t understand what other family members are saying.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I have trouble accepting someone else’s answer to a family problem.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My family doesn’t let me be myself.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>My family knows what to expect from me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I am tired of being blamed for family problems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I’m not as responsible as I should be in the family.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10</td>
<td>I’m available when others want to talk to me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>I know I can count on the rest of my family.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I don’t need to be reminded what I have to do in the family.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td>I argue with my family about how to spend my spare time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>When I’m with my family, I get too upset too easily.</td>
<td></td>
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</tbody>
</table>
家庭评估简表（自我评估）

家庭岗位（选一个）：
- 父亲/丈夫
- 母亲/太太
- 子女
- 祖父母
- 其它：_____________________

以下你会看到14项陈述关于你在你的家庭所起的作用。小心阅读每个陈述，然后决定该陈述有多正确地形容你。请在提供的选择（十分同意、同意、不同意、十分不同意）上打圈。每项陈述只能圈一个选择。即使你不太肯定你的选择，也请选择最接近的一项。

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>十分同意</th>
<th>同意</th>
<th>不同意</th>
<th>十分不同意</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>我和我的家庭成员用同一个方式看待问题。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>我的家庭成员在我说话的时候都理解我的意思。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>当我伤心的时候，我的家庭成员都知道什么事情困扰我。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>我经常都不明白其它家庭成员的话的意思。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>我无法完全接受其它人对家庭问题的处理方式。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>我的家庭成员不准我做自己想做的事情。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>我的家庭成员知道可以盼望我做甚么。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>我很厌倦在家庭问题上受指责。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>在家庭内，我没有负应有的责任。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>当别人想和我说话的时候，我都有空。</td>
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<td></td>
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</tr>
<tr>
<td>11</td>
<td>我知道我可以依赖我的家庭成员。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>我不需要别人提醒我在家庭内应该做甚么。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>我和我的家庭在如何用我的空闲时间有争执。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>当我和我的家庭成员在一起时，很容易感到生气，不高兴。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Brief Family Assessment Measure – Dyadic Relationship Scale**

Family Position (check one):
- Father/ Husband
- Mother/ Wife
- Child
- Grandparent
- Other: _____________________

Directions: On this page you will find 14 statements about yourself and the patient. Read each statement carefully and decide how well the statement describes your relationship with this family member. Respond by ticking one of the provided options (strongly agree, agree, disagree, and strongly disagree). Circle only one response for each item. Respond to every statement, even if you are not sure of your choice.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>This person accepts what I expect of him/her in the family.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>This person and I aren’t close to each other.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>When I’m upset, I know this person really cares.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>When I have a problem, this person helps me with it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>This person complains that I expect too much of him/her.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>This person often ruins things for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>This person is available when I want to talk to him/her.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>When this person gets angry with me, he/she stays upset for days.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>This person gives me a chance to explain when I make a mistake.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>This person really trusts me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>This person is always on my back.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>There’s a big difference between what this person expects of me and how he/she behaves.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>This person and I have the same views about who should do what in our family.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I often don’t know whether to believe what this person says.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
病人编号：__________________

日期：__________________

家庭评估简表（双方关系评估）

家庭岗位（选一个）：

- 父亲/丈夫
- 母亲/太太
- 子女
- 祖父母
- 其它：__________________

以下你会看到14项陈述关于你和您家庭里病人的关系。小心阅读每个陈述，然后决定该陈述有多正确地形容你和这位家庭成员的关系。请在提供的选择（十分同意、同意、不同意、十分不同意）上打圈。每项陈述只能圈一个选择。即使你不太肯定你的选择，也请回复每一项陈述。

<table>
<thead>
<tr>
<th>序号</th>
<th>陈述内容</th>
<th>十分同意</th>
<th>同意</th>
<th>不同意</th>
<th>十分不同意</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>这个人接受我在家庭内对他／她的期望。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>我和这个人的关系不是很亲密。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>我伤心的时候，我知道这个人会很关心。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>当我有问题的时候，这个人会帮我处理。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>这个人抱怨我对他或她期望太多。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>这个人经常破坏我的事。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>当我想和他或她说话的时候，这个人都会有空。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>这个人对我生气的时候，他或她会伤心几天。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>这个人在我犯错的时候会给我机会解释。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>这个人十分信任我。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>这个人经常支持我。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>这个人对我的期望和他或她的行为有很大的差距。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>这个人和我在谁应该在家庭内做甚么有一样的看法。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>我经常都不知道应不应该相信这个人的话。</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WHOQOL-BREF

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. Please choose the answer that appears most appropriate. If you are unsure about which response to give to a question, the first response you think of is often the best one.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last four weeks.

<table>
<thead>
<tr>
<th>Question</th>
<th>Very poor</th>
<th>Poor</th>
<th>Neither poor nor good</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How would you rate your quality of life?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Very dissatisfied</th>
<th>Dissatisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Satisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. How satisfied are you with your health?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The following questions ask about how much you have experienced certain things in the last four weeks.

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>A little</th>
<th>A moderate amount</th>
<th>Very much</th>
<th>An extreme amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. To what extent do you feel that physical pain prevents you from doing what you need to do?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. How much do you need any medical treatment to function in your daily life?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. How much do you enjoy life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. To what extent do you feel your life to be meaningful?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>A little</th>
<th>A moderate amount</th>
<th>Very much</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. How well are you able to concentrate?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. How safe do you feel in your daily life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. How healthy is your physical environment?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Mostly</th>
<th>Completely</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Do you have enough energy for everyday life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11.</td>
<td>Are you able to accept your bodily appearance?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12.</td>
<td>Have you enough money to meet your needs?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>How available to you is the information that you need in your day-to-day life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14.</td>
<td>To what extent do you have the opportunity for leisure activities?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Neither poor nor good</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>How well are you able to get around?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Very dissatisfied</th>
<th>Dissatisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Satisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>How satisfied are you with your sleep?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17.</td>
<td>How satisfied are you with your ability to perform your daily living activities?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18.</td>
<td>How satisfied are you with your capacity for work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19.</td>
<td>How satisfied are you with yourself?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
20. How satisfied are you with your personal relationships?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

21. How satisfied are you with your sex life?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

22. How satisfied are you with the support you get from your friends?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

23. How satisfied are you with the conditions of your living place?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

24. How satisfied are you with your access to health services?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

25. How satisfied are you with your transport?  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

The following question refers to how often you have felt or experienced certain things in the last four weeks.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Seldom</th>
<th>Quite often</th>
<th>Very often</th>
<th>Always</th>
</tr>
</thead>
</table>

26. How often do you have negative feelings such as blue mood, despair, anxiety, depression?  

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

**Do you have any comments about the assessment?**

________________________________________

________________________________________
世界卫生组织生存质量测定简表（WHOQOL-BREF）

以下问题涉及您对生活质量、健康、或生活其他方面的看法。在我到达每一个问题的同时，请您做出选择。请选择最适当的答案。如果您暂时不能确定，则头脑中的第一反应往往是最正确的。

所有问题都请您按照自己的标准、愿望或自己的感觉来回答。注意所有问题都是您最近4周内的情况。

<table>
<thead>
<tr>
<th></th>
<th>很差</th>
<th>差</th>
<th>一般</th>
<th>好</th>
<th>很好</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 您如何评价您的生活质量？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>非常不满意</th>
<th>不满意</th>
<th>一般</th>
<th>满意</th>
<th>很满意</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. 您对自己健康状况满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

下列问题是有关您在过去4周中经历某些事情的感觉

<table>
<thead>
<tr>
<th></th>
<th>根本没有</th>
<th>有点</th>
<th>中等</th>
<th>很大</th>
<th>极其</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. 您因躯体疼痛而妨碍您去做需要做的事感到有多烦恼？</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. 您对保持日常生活的医疗治疗的需求程度有多大？</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. 您觉得生活有乐趣吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. 您觉得自己的生活有意义吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>根本不</th>
<th>有点</th>
<th>中等</th>
<th>很大</th>
<th>极其</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. 您能集中注意力吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. 日常生活中您感觉安全吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. 您的生活环境对健康好吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

下列问题有关您在过去4周中做某些事情的能力。
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>您有充沛的精力去应付日常生活吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>您认为自己的外形过得去吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>您有足够的钱来满足您的需要吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>在日常生活中，您需要的信息都能得到吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>您有机会进行休闲活动吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>很差</th>
<th>差</th>
<th>一般</th>
<th>好</th>
<th>很好</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>您行动的能力如何？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>非常不满意</th>
<th>不满意</th>
<th>一般</th>
<th>满意</th>
<th>很满意</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>您对自己的睡眠情况满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>您对自己做日常生活事情的能力满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>您对自己的工作能力满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>您对自己满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>您对自己的人际关系满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>您对自己的性生活满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>您对自己从朋友那里得到的支持满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>您对自己居住地的条件满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>您对您能享受到的卫生保健服务满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25.</td>
<td>您对自己的交通情况满意吗？</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

下列问题是关于您在过去4周中经历某些事情的频繁程度。

<table>
<thead>
<tr>
<th></th>
<th>从不</th>
<th>很少</th>
<th>有时</th>
<th>经常</th>
<th>总是</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td>您有消极感受吗？如情绪低落</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
您需要对以上评估进行解释吗？

<table>
<thead>
<tr>
<th>领域</th>
<th>领域分计算式</th>
<th>原始分值</th>
<th>转换分值</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. 领域1</td>
<td>(6-Q3)+(6-Q4)+Q10+Q15+Q16+Q17+Q18</td>
<td>a. =</td>
<td>b:</td>
</tr>
<tr>
<td>28. 领域2</td>
<td>Q5+Q6+Q7+Q11+Q19+(6-Q26)</td>
<td>a. =</td>
<td>b:</td>
</tr>
<tr>
<td>29. 领域3</td>
<td>Q20+Q21+Q22</td>
<td>a. =</td>
<td>b:</td>
</tr>
<tr>
<td>30. 领域4</td>
<td>Q8+Q9+Q12+Q13+Q14+Q23+Q24+Q25</td>
<td>a. =</td>
<td>b:</td>
</tr>
</tbody>
</table>

*参阅操作手册，13-15页*
Interpersonal Support Evaluation List (ISEL) - General Population

This scale is made up of a list of statements each of which may or may not be true about you. For each statement check “definitely true” if you are sure it is true about you and “probably true” if you think it is true but are not absolutely certain. Similarly, you should check “definitely false” if you are sure the statement is false and “probably false” if you think it is false but are not absolutely certain.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>definitely true</th>
<th>probably true</th>
<th>probably false</th>
<th>definitely false</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There are several people that I trust to help solve my problems.</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>If I needed help fixing an appliance or repairing my car, there is someone who would help me.</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Most of my friends are more interesting than I am.</td>
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<tr>
<td>4</td>
<td>There is someone who takes pride in my accomplishments.</td>
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<tr>
<td>5</td>
<td>When I feel lonely, there are several people I can talk to.</td>
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<tr>
<td>6</td>
<td>There is no one that I feel comfortable to talking about intimate personal problems.</td>
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<tr>
<td>7</td>
<td>I often meet or talk with family or friends.</td>
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<tr>
<td>8</td>
<td>Most people I know think highly of me.</td>
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<tr>
<td>9</td>
<td>If I needed a ride to the airport very early in the morning, I would have a hard time finding someone</td>
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<tr>
<td>10</td>
<td>I feel like I’m not always included by my circle of friends.</td>
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<tr>
<td>11</td>
<td>There really is no one who can give me an objective view of how I’m handling my problems.</td>
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<tr>
<td>12</td>
<td>There are several different people I enjoy spending time with.</td>
<td></td>
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<tr>
<td>13</td>
<td>I think that my friends feel that I’m not very good at helping them solve their problems.</td>
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<tr>
<td>14</td>
<td>If I were sick and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone.</td>
<td></td>
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<tr>
<td>15</td>
<td>If I wanted to go on a trip for a day (e.g., to the mountains, beach, or country), I would have a hard time finding someone to go with me.</td>
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<tr>
<td>16</td>
<td>If I needed a place to stay for a week because of an emergency (for example, water or electricity out in my apartment or house), I could easily find someone who would put me up.</td>
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<tr>
<td>17</td>
<td>I feel that there is no one I can share my most private worries and fears with.</td>
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<tr>
<td>18</td>
<td>If I were sick, I could easily find someone to help me with my daily chores.</td>
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<tr>
<td>19</td>
<td>There is someone I can turn to for advice about handling problems with my family.</td>
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<tr>
<td>20</td>
<td>I am as good at doing things as most other people are.</td>
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<tr>
<td>21</td>
<td>If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.</td>
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<tr>
<td>22</td>
<td>When I need suggestions on how to deal with a personal problem, I know someone I can turn to.</td>
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<tr>
<td>23</td>
<td>If I needed an emergency loan of $100, there is someone (friend, relative, or acquaintance) I could get it from.</td>
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<tr>
<td>24</td>
<td>In general, people do not have much confidence in me.</td>
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<tr>
<td>25</td>
<td>Most people I know do not enjoy the same things that I do.</td>
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<tr>
<td>26</td>
<td>There is someone I could turn to for advice about making career plans or changing my job.</td>
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<tr>
<td>27</td>
<td>I don’t often get invited to do things with others.</td>
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<tr>
<td>28</td>
<td>Most of my friends are more successful at making changes in their lives than I am.</td>
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<tr>
<td>29</td>
<td>If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).</td>
<td></td>
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<tr>
<td>30</td>
<td>There really is no one I can trust to give me good financial advice.</td>
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<tr>
<td>31</td>
<td>If I wanted to have lunch with someone, I could easily find someone to join me.</td>
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<tr>
<td>32</td>
<td>I am more satisfied with my life than most people are with theirs.</td>
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<td></td>
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<tr>
<td>33</td>
<td>If I was stranded 10 miles from home, there is someone I could call who would come and get me.</td>
<td></td>
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<tr>
<td>34</td>
<td>No one I know would throw a birthday party for me.</td>
<td></td>
<td></td>
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<tr>
<td>35</td>
<td>It would be difficult to find someone who would lend me their car for a few hours.</td>
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<tr>
<td>36</td>
<td>If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.</td>
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<tr>
<td>37</td>
<td>I am closer to my friends than most other people are to theirs.</td>
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<tr>
<td>38</td>
<td>There is at least one person I know whose advice I really trust.</td>
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<tr>
<td>39</td>
<td>If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.</td>
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<tr>
<td>40</td>
<td>I have a hard time keeping pace with my friends.</td>
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</tbody>
</table>
病人编号：________________

日期：________________

### 人际支援评估表（普通人口）

这份问卷有一些陈述。这些陈述可能或不可能适用来形容你。如果你肯定这些陈述是正确的，请在“十分正确”上打勾。如果你觉得这些陈述是正确的但不是十分肯定，请在“可能正确”上打勾。同样地，如果你肯定这些陈述是不正确的，请在“十分不正确”上打勾。如果你觉得这些陈述是不正确但不是十分肯定，请在“可能不正确”上打勾。

<table>
<thead>
<tr>
<th>序号</th>
<th>陈述</th>
<th>十分正确</th>
<th>可能正确</th>
<th>可能不正确</th>
<th>十分不正确</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>有几个我信任的人可以帮我解决问题。</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>如果我需要修理电器或维修车子，我可以找到人来帮我。</td>
<td></td>
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<tr>
<td>3</td>
<td>我大部分的朋友都比我有趣。</td>
<td></td>
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<tr>
<td>4</td>
<td>有一个人对我的成就觉得骄傲。</td>
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</tr>
<tr>
<td>5</td>
<td>有几个人在我觉得寂寞的时候可以和我谈天。</td>
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</tr>
<tr>
<td>6</td>
<td>我找不到一个我可以安心倾诉私人问题的人。</td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>我经常跟朋友或家人聚会或谈话。</td>
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<tr>
<td>8</td>
<td>大部分我认识的人都对我有很高的评价。</td>
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<tr>
<td>9</td>
<td>如果我需要在大清早到机场，我很难找到人送我去。</td>
<td></td>
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<tr>
<td>10</td>
<td>我觉得我不是经常被纳入我的朋友圈子。</td>
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<tr>
<td>11</td>
<td>我真的找不到一个人可以很客观地评价我</td>
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<tr>
<td>12</td>
<td>有几个人我都很喜欢和他们在一起。</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>13</td>
<td>我觉得我的朋友感觉我不是很擅长帮他们解决问题。</td>
<td></td>
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</tr>
<tr>
<td>14</td>
<td>我很难找到人 (例如朋友、家人或其他认识的人) 在我病的时候带我去看医生。</td>
<td></td>
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<tr>
<td>15</td>
<td>如果我想去玩一天 (例如爬山、沙滩或郊外)，我很难找到人陪我去。</td>
<td></td>
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<tr>
<td>16</td>
<td>如果因急事 (例如我家的水电都没有了) 我需要找地方住一个星期，我很容易可以找到人收留我。</td>
<td></td>
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<tr>
<td>17</td>
<td>我觉得我找不到人和我分担我最私人的烦恼及恐惧。</td>
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<tr>
<td>18</td>
<td>如果我病了，我很容易可以找到人帮我处理日常杂务。</td>
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<tr>
<td>19</td>
<td>我可以找到人向我提供如何处理家庭问题的建议。</td>
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<tr>
<td>20</td>
<td>我和大多数人一样做事可以做得很好。</td>
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<tr>
<td>21</td>
<td>如果在某日下午我想在晚上看电影，我很容易可以找到人陪我。</td>
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<tr>
<td>22</td>
<td>我有认识的人在我需要主意去处理一个私人问题的时候给我建议。</td>
<td></td>
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<tr>
<td>23</td>
<td>如果我很紧急的需要借一百元，我可以找到人 (例如朋友、亲戚或其它认识的人) 借给我。</td>
<td></td>
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<tr>
<td>24</td>
<td>整体来说，别人对我没有很大的信心。</td>
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<tr>
<td>25</td>
<td>我享受的东西跟大部份我认识的人不同。</td>
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</tbody>
</table>
| 26 | 有人可以在事业计划或转换工作上给我提
| 27 | 我不常被别人邀请去做事。 |
| 28 | 我大陪份的朋友改善生活都比我成功。 |
| 29 | 如果我有几个礼拜不在家，我很难找到人帮我照顾我的家（例如植物、宠物、花园等等。) |
| 30 | 我没有可以相信的人可以给我好的理财建议。 |
| 31 | 如果我想要找别人陪我吃午餐，我很容易就能找到人。 |
| 32 | 与大部分相比，我更满意自己的生活。 |
| 33 | 如果我离开家有十分钟的车程，我可以找到人来接我。 |
| 34 | 我认识的人都不会帮我办生日派对。 |
| 35 | 我很难找到一个人可以把车子借我用几个小时。 |
| 36 | 如果有家庭纠纷，我很难找到人给我提供处理建议。 |
| 37 | 我和我的朋友比大陪分人和他们的朋友都要亲密。 |
| 38 | 至少我认识一个我可以完全相信的人。 |
| 39 | 如果我需要搬家，我很难找到人来帮我。 |
| 40 | 我很难和我的朋友同步。 |
Global Assessment of Functioning (GAF) Scale

Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical (or environmental) limitations.

Code  (Note: Use intermediate codes when appropriate, e.g., 45, 68, 72.)

100  Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is ought out by others because of his/her many positive qualities. No symptoms.

90   Absent of minimal symptoms (e.g., mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with family members).

80   If symptoms are present, the are transient and expectable reactions to psycho-social stressors (e.g., difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g., temporarily falling behind in schoolwork).

70   Some mild symptoms (e.g., depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful relationships.

60   Moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or co-workers).

50   Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).

40   Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school).

30   Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day; no job, home or friends).

x All of this information was pulled from the DSM IV-TR.
20 Some danger of hurting self or others (e.g., suicidal attempts without clear expectation of death; frequent violent; manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears faeces) OR gross impairment in communication (e.g., largely incoherent or mute).

10 Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.
Life Skills Profile

Instructions:
Please complete the form as you assess your family member’s general functioning (i.e. not during crises when he or she is ill, or becoming ill, but his or her general state over the past three months. Answer all items by circling the appropriate description.

Example:
For example, if you consider that the person generally shows a particular behaviour only ‘rarely’ you would place a circle as below:

- Always
- Usually
- Rarely
- Never
1. Does this person generally have any difficulty with initiating and responding to conversation?

| No difficulty | Slight difficulty | Moderate difficulty | Extreme difficulty |

2. Does this person generally intrude or burst in on others’ conversation (e.g. interrupts you when you are talking)?

| Not intrusive | Slightly intrusive | Moderately intrusive | Extremely intrusive |

3. Does this person generally withdraw from social contact?

| Does not withdraw | Withdraws slightly | Withdraws moderately | Withdraws totally |

4. Does this person generally show warmth to others?

| Considerable warmth | Moderate warmth | Slight warmth | No warmth at all |

5. Is this person generally angry or prickly towards others?

| Not angry at all | Slightly angry | Moderately angry | Extremely angry |

6. Does this person generally take offence readily?

| Doesn’t take offence | Somewhat ready to take offence | Quite ready to take offence | Extremely ready to take offence |
7. Does this person generally make eye contact with others when in conversation?

| Appropriate | Slightly reduced | Moderately reduced | Extremely reduced/no eye contact |

8. Is it generally difficult to understand this person because of the way he or she speaks (e.g. jumbled, garbled or disordered)?

| Not at all difficult | Slightly difficult | Moderately difficult | Extremely difficult |

9. Does this person generally talk about odd or strange ideas?

| No odd ideas | Slightly odd ideas | Moderately odd ideas | Extremely odd ideas |

10. Is this person generally well groomed (e.g., neatly dressed, hair combed)?

| Well groomed | Moderately | Poorly | Extremely poorly |

11. Is this person’s appearance (facial appearance, gestures) generally appropriate to his or her surroundings?

| Unremarkable | Slightly bizarre | Moderately bizarre | Extremely bizarre |

12. Does this person wash himself or herself without reminding?

| Generally | Occasionally | Rarely | Never |
13. Does this person generally have an offensive smell (e.g. due to body, breath or clothes)?

| Not at all | Smells slightly | Smells moderately | Smells a lot |

14. Does this person wear clean clothes generally, or ensure they are cleaned if dirty?

| Maintains cleanliness | Moderate cleanliness | Poor cleanliness | Very poor cleanliness |

15. Does this person generally neglect his or her physical health?

| No neglect | Slight neglect | Moderate neglect | Extreme neglect |

16. Does this person generally maintain an adequate diet?

| No problem | Slight problem | Moderate problem | Extreme problem |

17. Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?

| Reliable | Slightly unreliable | Moderately unreliable | Extremely unreliable |

18. Is this person willing to take psychiatric medication when prescribed by a doctor?

| Always | Usually | Rarely | Never |
19. Does this person co-operate with health services (e.g. doctors and/or other health workers)?

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
</table>

20. Is this person generally inactive (e.g. spends most of the time sitting or standing around doing nothing)?

<table>
<thead>
<tr>
<th>Appropriately active</th>
<th>Slightly inactive</th>
<th>Moderately inactive</th>
<th>Extremely inactive</th>
</tr>
</thead>
</table>

21. Does this person generally have definite interests (e.g. hobbies, sports, activities) in which he or she is involved regularly?

<table>
<thead>
<tr>
<th>Considerable involvement</th>
<th>Moderate involvement</th>
<th>Some involvement</th>
<th>Not at all</th>
</tr>
</thead>
</table>

22. Does this person attend any social organisation (e.g. church, club or interest group but excluding psychiatric therapy groups)?

<table>
<thead>
<tr>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
</table>

23. Can this person generally prepare (if needed) her or his own food/meals?

<table>
<thead>
<tr>
<th>Quite capable</th>
<th>Slight limitations</th>
<th>Moderate limitations</th>
<th>Totally incapable</th>
</tr>
</thead>
</table>

24. Can this person generally budget (if needed) to live within his or her means?

<table>
<thead>
<tr>
<th>Quite capable</th>
<th>Moderate limitations</th>
<th>Totally incapable</th>
<th>Not at all</th>
</tr>
</thead>
</table>
25. Does this person generally have problems (e.g. friction, avoidance) living with others in the household?

| No obvious problems | Slight problems | Moderate problems | Extreme problems |

26. What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?

| Capable (full-time) | Capable (part-time) | Capable (Sheltered work) | Incapable |

27. Does this person behave recklessly (e.g. ignoring traffic when crossing the road)?

| Not at all | Rarely | Occasionally | Often |

28. Does this person destroy property?

| Not at all | Rarely | Occasionally | Often |

29. Does this person behave offensively (includes sexual behaviour)?

| Not at all | Rarely | Occasionally | Often |

30. Does this person have habits or behaviours that most people find unsociable (e.g. spitting, leaving lighted cigarette butts around, messing up the toilet, messy eating)?

| Not at all | Rarely | Occasionally | Often |
31. Does this person lose personal property?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>

32. Does this person invade others' space (rooms, personal belongings)?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>

33. Does this person take things which are not his or hers?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>

34. Is this person violent to others?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>

35. Is this person violent to him or her self?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>

36. Does this person get into trouble with the police?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
</tr>
</thead>
</table>
37. Does this person abuse alcohol or other drugs?

- Not at all
- Rarely
- Occasionally
- Often

38. Does this person behave irresponsibly?

- Not at all
- Rarely
- Occasionally
- Often

39. Does this person generally make and/or keep up friendships?

- Not at all
- Rarely
- Occasionally
- Often
**生活技能简介**

请您填写表格以评估您家庭成员的一般能力（即他或她在过去3个月的一般状况，不包括他或她生病或开始生病时的危急情况。）请圈出合适的选项，并回复所有项目。

**例子：**

如果你认为他极少作出某行为，请如下列所示圈起答案。

<table>
<thead>
<tr>
<th>经常</th>
<th>偶尔</th>
<th>很少</th>
<th>从来没有</th>
</tr>
</thead>
</table>

| 1. 一般来说，这个人开始跟人交谈和答覆别人的话题的时候有没有任何困难？|
| 来从来没有困难 | 很少有困难 | 偶尔有困难 | 经常有困难 |

| 2. 一般来说，这个人会不会在别人的谈话的时候打断人家的话（例如在你正在说话的时候插话）？|
| 来从来没有打断 | 很少打断 | 偶尔打断 | 经常打断 |

| 3. 一般来说，这个人会不会避免社会接触？|
| 来从来不避免 | 很少避免 | 偶尔避免 | 经常避免 |

| 4. 一般来说，这个人会不会对他人表现亲切？|
| 经常表现亲切 | 偶尔表现亲切 | 很少表现亲切 | 从来不表现亲切 |
5. 一般来说，这个人会不会对他人表现愤怒？

从来不会表现愤怒 | 很少表现愤怒 | 偶尔表现愤怒 | 经常表现愤怒

6. 一般来说，这个人会不会轻易被其他人触怒？

从来不会被其他人触怒 | 很少会被其他人触怒 | 偶尔会被其他人触怒 | 经常会被其他人触怒

7. 一般来说，这个人说话的时候会不会跟别人有眼神接触？

有适当的眼神接触 | 比较少眼神接触 | 很少眼神接触 | 极少或没有眼神接触

8. 一般来说，会不会因为这个人的谈话方式（例如混乱的、混淆的、杂乱的）令他很难让人理解？

一点也不难 | 稍微困难 | 中等困难 | 极其困难

9. 一般来说，这个人会不会谈论奇怪的想法？

没有奇怪的想法 | 有点奇怪的想法 | 比较奇怪的想法 | 非常奇怪的想法

10. 一般来说，这个人是否注意自己的打扮（例如穿戴整齐，头发梳理整齐）？

打扮十分好 | 打扮比较好 | 打扮比较差 | 打扮十分差
11. 一般来说，这个人的外表（面部表情、姿势）是否跟他或她的周围环境相符合？

<table>
<thead>
<tr>
<th>没有异常</th>
<th>有点异常</th>
<th>比较怪异</th>
<th>非常怪异</th>
</tr>
</thead>
<tbody>
<tr>
<td>常或适当</td>
<td>常或不适当</td>
<td>或不适当</td>
<td>或不适当</td>
</tr>
</tbody>
</table>

12. 如果没有提醒，这个人会不会自己洗澡？

<table>
<thead>
<tr>
<th>经常</th>
<th>偶尔</th>
<th>很少</th>
<th>从来没有</th>
</tr>
</thead>
</table>

13. 一般来说，这个人会不会有异味（例如由于身体、呼吸或衣服发出的味道）？

<table>
<thead>
<tr>
<th>从来没有异味</th>
<th>很少异味</th>
<th>偶尔有异味</th>
<th>经常有异味</th>
</tr>
</thead>
</table>

14. 一般来说，这个人会不会穿着干净的衣服，或确保他们的脏衣服有清洗？

<table>
<thead>
<tr>
<th>衣服十分清洁</th>
<th>衣服比较清洁</th>
<th>衣服偶尔不清洁</th>
<th>衣服经常不清洁</th>
</tr>
</thead>
</table>

15. 一般来说，这个人有没有忽视他或她的身体健康？

<table>
<thead>
<tr>
<th>没有忽视</th>
<th>很少忽视</th>
<th>偶尔忽视</th>
<th>经常忽视</th>
</tr>
</thead>
<tbody>
<tr>
<td>健康问题</td>
<td>健康问题</td>
<td>健康问题</td>
<td></td>
</tr>
</tbody>
</table>

16. 一般来说，这个人有没有维持足够的饮食？

<table>
<thead>
<tr>
<th>没有问题</th>
<th>很少有问题</th>
<th>偶尔有问题</th>
<th>经常有问题</th>
</tr>
</thead>
</table>
17. 一般来说，如果没有提醒，这个人会不会服用她或他自己的处方药物（或定时做处方注射？

<table>
<thead>
<tr>
<th>经常会</th>
<th>偶尔会</th>
<th>很少会</th>
<th>从来不会</th>
</tr>
</thead>
<tbody>
<tr>
<td>定时用药</td>
<td>定时用药</td>
<td>定时用药</td>
<td>定时用药</td>
</tr>
</tbody>
</table>

18. 这个人是否愿意服用由医生处方的精神科药物？

<table>
<thead>
<tr>
<th>经常</th>
<th>偶尔</th>
<th>很少</th>
<th>从来不会</th>
</tr>
</thead>
</table>

19. 这个人接受医疗服务时（如医生和/或其他健康工作者）是否合作？

<table>
<thead>
<tr>
<th>经常</th>
<th>偶尔</th>
<th>很少</th>
<th>从来不会</th>
</tr>
</thead>
</table>

20. 一般来说，这个人是否不活跃（例如花大部分时间坐着或站在一旁什么也不做）？

<table>
<thead>
<tr>
<th>适当活跃</th>
<th>有点不活跃</th>
<th>比较不活跃</th>
<th>极度不活跃</th>
</tr>
</thead>
</table>

21. 一般来说，这个人是否有明确而且定期参加某种活动（如爱好，运动，活动）？

<table>
<thead>
<tr>
<th>经常参与</th>
<th>偶尔参与</th>
<th>很少参与</th>
<th>从来不会参与</th>
</tr>
</thead>
</table>

22. 这个人有没有参加任何社会组织（如教会，俱乐部或兴趣小组，但不包括精神科治疗组）？

<table>
<thead>
<tr>
<th>经常</th>
<th>偶尔</th>
<th>很少</th>
<th>从来不会</th>
</tr>
</thead>
</table>
23. 一般来说，这个人可不可以准备（如需要）她或他自己的食物/餐？

<table>
<thead>
<tr>
<th>能准备</th>
<th>轻微的困难</th>
<th>比较有困难</th>
<th>完全没有能力准备食物/餐</th>
</tr>
</thead>
</table>

24. 一般来说，这个人可不可以为他或她的生活方式作出预算（如需要）？

<table>
<thead>
<tr>
<th>能作出预算</th>
<th>轻微的困难</th>
<th>比较有困难</th>
<th>完全没有能力作出预算</th>
</tr>
</thead>
</table>

25. 一般来说，这个人在家庭内与其他人生活有没有问题（例如摩擦，避免见面）？

<table>
<thead>
<tr>
<th>从来不会有问题</th>
<th>很少有问题</th>
<th>偶尔有问题</th>
<th>经常有问题</th>
</tr>
</thead>
</table>

26. 一般来说，这个人能够做什么样的工作（包括失业，退休或无酬的家务工作）？

<table>
<thead>
<tr>
<th>有能力做</th>
<th>有能力做</th>
<th>只有能力做</th>
<th>完全无能力做</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>全职工作</th>
<th>兼职工作</th>
<th>做庇护工作</th>
<th>法工作</th>
</tr>
</thead>
</table>

27. 这个人的行为是否鲁莽（例如不理会交通横过马路）？

<table>
<thead>
<tr>
<th>从来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

28. 这个人会不会破坏财产？

<table>
<thead>
<tr>
<th>从来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

29. 这个人会不会有冒犯的行为（包括性行为）？
### 30. 这个人有没有大多数人觉得不合乎社会标准的习惯或行为（例如随地吐痰，随处放点燃了的烟头，搞乱厕所，没有餐饮礼仪）？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

### 31. 这个人会不会遗失个人财产？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

### 32. 这个人会不会侵犯他人的空间（例如房间，个人财物）？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

### 33. 这个人会不会拿走不属于他或她物件？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

### 34. 这个人会不会对他人使用暴力？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>

### 35. 这个人会不会对自己使用暴力？

<table>
<thead>
<tr>
<th>再来不会</th>
<th>很少</th>
<th>偶尔</th>
<th>经常</th>
</tr>
</thead>
</table>
36. 这个人会不会跟警察惹麻烦？

| 从来不会 | 很少 | 偶尔 | 经常 |

37. 这个人有没有滥用酒精或毒品？

| 从来不会 | 很少 | 偶尔 | 经常 |

38. 这个人有没有不负责任的行为？

| 从来不会 | 很少 | 偶尔 | 经常 |

39. 一般来说，这个人会不会建立和/或保持友谊？

| 友谊建立和 | 稍微有困难去建 | 比较有困难去 | 从来不会建立 | 建立/或保持友谊 | 建立/或保持友谊 | 建立/或保持友谊 | 建立/或保持友谊 |

The Family Questionnaire

This questionnaire lists different ways in which families try to cope with everyday problems. For each item please indicate how often you have reacted to the patient in this way. There are no right or wrong responses. It is best to note the first response that comes to mind. Please respond to each question, and mark only one response per question.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Never/Very Rarely</th>
<th>Rarely</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I tend to neglect myself because of him/her</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I have to keep asking him/her to do things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I often think about what is to become of him/her</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>He/she irritates me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I keep thinking about the reasons for his/her illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I have to try not to criticise him/her</td>
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<tr>
<td>7</td>
<td>I can’t sleep because of him/her</td>
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<td>8</td>
<td>It’s hard for us to agree on things</td>
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<tr>
<td>9</td>
<td>When something about him/her bothers me, I keep it to myself</td>
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<tr>
<td>10</td>
<td>He/she does not appreciate what I do for him/her</td>
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<tr>
<td>11</td>
<td>I regard my own needs as less important</td>
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<tr>
<td>12</td>
<td>He/she sometimes gets on my nerves</td>
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<tr>
<td>13</td>
<td>I’m very worried about him/her</td>
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<tr>
<td>14</td>
<td>He/she does some things out of spite</td>
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<tr>
<td>15</td>
<td>I thought I would become ill myself</td>
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<tr>
<td>16</td>
<td>When he/she constantly wants something from me, it annoys me</td>
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<tr>
<td>17</td>
<td>He/she is an important part of my life</td>
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<tr>
<td>18</td>
<td>I have to insist that he/she behave differently</td>
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<tr>
<td>19</td>
<td>I have given up important things to help him/her</td>
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<tr>
<td>20</td>
<td>I’m often angry with him/her</td>
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</tr>
</tbody>
</table>
家庭问卷

本问卷中列出了各家庭应付日常问题的不同方法。请就每个题目表明你有多经常对您照顾的病人有某种反应。这些题目没有正确或错误的答案。最好能填上您第一个想到的答案。请回答所有题目，每个题目只需填上一个答案。

<table>
<thead>
<tr>
<th>题目</th>
<th>从来没有/很少</th>
<th>很少</th>
<th>很多时候</th>
<th>常常</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>我往往因为他/她而忽略我自己。</td>
<td></td>
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<tr>
<td>2</td>
<td>我要不断地叫他/她做的事情。</td>
<td></td>
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<tr>
<td>3</td>
<td>我经常会想到他/她的未来会是怎样的。</td>
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<tr>
<td>4</td>
<td>他/她使我烦躁。</td>
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<tr>
<td>5</td>
<td>我一直在想他/她患病的原因。</td>
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<tr>
<td>6</td>
<td>我需要尽量避免批评他/她。</td>
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<tr>
<td>7</td>
<td>他/她使我无法入睡。</td>
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<tr>
<td>8</td>
<td>我们很难有共识。</td>
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<tr>
<td>9</td>
<td>当有关于他/她的事困扰我，我不会说出来。</td>
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</tr>
<tr>
<td>10</td>
<td>他/她并不欣赏我为他/她做的事。</td>
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</tr>
<tr>
<td>11</td>
<td>我认为自己的需要不太重要。</td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td>他/她有时使我心烦。</td>
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</tr>
<tr>
<td>13</td>
<td>我很担心他/她。</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>他/她有时会故意做一些事情来气我。</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15</td>
<td>我认为自己也会发病。</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>当他/她不断地想跟我要东西，这让我感到很烦操。</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>他/她是我生命中重要的一部份。</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>我要坚持他/她需要有不同的表现。</td>
<td></td>
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</tr>
<tr>
<td>19</td>
<td>我为帮助他/她放弃了重要的事情。</td>
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<td></td>
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</tr>
<tr>
<td>20</td>
<td>我经常生他/她的气。</td>
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</tbody>
</table>
Memorandum

To: Dr David Mellor
   School of Psychology

Bcc: Miss Annabelle Chow

From: Deakin University Human Research Ethics Committee (DUHREC)

Date: 28 September, 2010

Subject: 2010-187
   Schizophrenia in Developing and Developed Countries
   Please quote this project number in all future communications

The application for this project was considered at the DU-HREC meeting held on 27/09/2010.

Approval has been given for Miss Annabelle Chow, under the supervision of Dr David Mellor, School of Psychology, to undertake this project from 27/09/2010 to 27/09/2014.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HRECs.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project. DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit research-ethics@deakin.edu.au Telephone: 03 9251 7123
Appendix L

INSTITUTE of MENTAL HEALTH

Loving Hearts, Beautiful Minds

Ref: CRC No 311/2010

24/01/2011

Ms Derina Chong Clinical Psychologist Department of Psychology IMH

Dear Ms Chong

APPROVAL OF PROTOCOL

Protocol Title: Social Support and Schizophrenia across cultures

We are pleased to inform you that the Clinical Research Committee (CRC) has approved the above-mentioned protocol.

Please proceed to submit the study to NHG DSRB for review.

The following documents were reviewed by the Committee:

(1) DSRB Application Form- January 2011
(2) Caregiver Information Sheet
(3) Patient Information Sheet
(4) Interpersonal Support Evaluation List (ISEL)- General Population
(5) Form- Demographic Profile of Caregiver
(6) Form- The Family Questionnaire
(7) Form- Brief Family Assessment Measure- Dyadic Relationship Scale
(8) Form- Brief Family Assessment Measure- Self Rating Scale
(9) Global Assessment of Functioning (GAF) Scale
(10) Document- The WHO Quality of Life- BREF
(11) Form- Demographic Profile of Patient

Please take note of the following:

(1) You are required to maintain an Investigator Master File including essential documents and the Investigator Self-Assessment Checklist for your study.
(2) Studies approved are subjected to inspection and monitoring. Please note that you are responsible for ensuring adequate preparation for an audit and appropriate follow-up including corrective and preventive action plans following the audit.
(3) Please submit a copy of the NHG DSRB Project Status Report Form to the IMH Research Division. The NHG DSRB Project Status Report Form should be submitted within 4 weeks of study completion or termination.

Thank you.

Yours sincerely

A/Prof Chong Siow Ann
Chairman, Clinical Research Committee
IMHIWH
Appendix L

Protocol Title: Social Support and Schizophrenia across Cultures

*The Institution Representative has been determined by your institution as the authority that declares whether your research is in keeping with the institution’s research objectives, reputation and standards. The role of the Institution Representative is not to evaluate the scientific or ethical aspects of your study, although they may offer their comments.

For a multi-centre study, a copy this section must be completed by each institution. Additional copies of this page can be downloaded at www.b2research.nhg.com.sg or http://research.singhealth.com.sg

Note: For SingHealth Institutions, please refer to ‘Application Form Instruction Sheet’ for the list of Institution Representatives.

Comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

I acknowledge that this research is in keeping with standards set by my Institution

[Signature]
Institution Representative’s Signature

[Date]
Date

Text Field

Text Field

AJ Prof Chang Siew Ann
Vice Chairman
Medical Board (Research)
25 May 2011

Ms Derina Chong Li Ling
Department of Psychology
Institute of Mental Health

Dear Ms Chong,

NHG DOMAIN-SPECIFIC REVIEW BOARD (DSRB) APPROVAL

Project Title: Social Support and Schizophrenia across culture

We are pleased to inform you that the NHG Domain Specific Review Board has approved the above research project to be conducted in Institute of Mental Health -

The documents reviewed are:

a) DSRB Application Form: Version 1
b) Participant Information Sheet and Consent Form: Version 1 dated 27 April 2011
c) Caregiver Information Sheet and Consent Form: Version 1 dated 27 April 2011
d) Demographic Profile of Caregiver
e) Demographic Profile of Patient
f) The Family Questionnaire
g) WHOQOL-BREF
h) GAF Scale
i) Dyadic Relationship Scale
j) Interpersonal Support Evaluation List (ISEL)
k) Self Rating Scale

The approval period is from 25 May 2011 to 24 May 2012. The reference number for this study is DSRB-A/11/242. Please use this reference number for all future correspondence.

Continued approval is conditional upon your compliance with the following requirements:

1. Only the approved Participant Information Sheet and Consent Form should be used. It must be signed by each subject prior to initiation of any protocol procedures. In addition, each subject should be given a copy of the signed consent form.

2. No deviation from, or changes of the protocol should be implemented without documented approval from the NHG DSRB, except where necessary to eliminate apparent immediate hazard(s) to the study subjects, or when the change(s) involves only logistical or administrative aspects of the trial (e.g. change of monitor or telephone number).
3. Any deviation from, or a change of, the protocol to eliminate an immediate hazard should be promptly reported to the NHG DSRB within seven calendar days.

4. Please submit the following to the NHG DSRB:

   a. All unanticipated problems involving risk to subjects or others should be reported. In order to assist the DSRB, all reports should be accompanied by the NHG DSRB Unanticipated Problems Involving Risk to Subjects or Others Reporting Form. Please find all forms and guidelines on reporting on the internet at www.reserach.nhg.com.sg

   b. Report(s) on any new information that may adversely affect the safety of the subject or the conduct of the study.

   c. NHG DSRB Project Status Report Form - this is to be submitted 4 to 6 weeks prior to expiry of the approval period. The study cannot continue beyond 24 May 2012 until approval is renewed by the NHG DSRB.

      d. Study completion – this is to be submitted using the NHG DSRB Project Status Report Form within 4 to 6 weeks of study completion or termination.

5. The NHG Research QA Program was launched in May 2006. The program aims to promote responsible conduct of research in a research culture with high ethical standards, and to identify potential systemic weaknesses and make recommendations for continual improvement. This research project may be randomly selected for completion of self assessment worksheet or for a study review by the QA team. For more information please visit www.research.nhg.com.sg.

Yours sincerely,

Dr Sim Kang
Chairman
NHG Domain Specific Review Board A

Cc: Institutional Representative, IMH
c/o Research Division, IMH
Departmental Representative of Psychology, IMH