Quality of Life and Perceived Social Support in People with Severe Mental Health Problems: A Comparison of Indians and Whites

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Abstract

The current study compared quality of life and perceived social support in Indians and Whites with severe mental health problems. Quality of life was assessed using the Manchester Short Assessment of Quality of Life and the Multidimensional Scale of Perceived Social Support assessed perceived social support. The sample consisted of 45 participants recruited from mental health services and voluntary organisations. There was a positive relationship between perceived social support and quality of life. Differences in the strength of the relationship between quality of life and perceived social support were found (relationship with perceived family support stronger in Whites and perceived support from friends stronger in Indians with severe mental health problems). These findings suggested different sources of support may have differing influences on quality of life for Indians and Whites with severe mental health problems. Between-group differences were not found for Indians and Whites with severe mental health problems on quality of life, overall perceived social support and perceived family support. The implications of these results were that there may often be more similarities than differences between Indians and Whites with severe mental health problems. The findings are discussed in terms of developing supportive and life-enhancing programmes for those with severe mental health problems. Future directions for research are also outlined.

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Introduction

The current literature review firstly discusses conceptual issues and theoretical developments in the construct of quality of life. A discussion of the concept of social support follows and the two main theoretical models in this area: the *main effects model* and the *buffer model* of social support. Leading on from this, the relationship between quality of life and social support is examined and how this relates to people with severe mental health problems.

Ethnicity and social support are also discussed in the current literature review. In particular, similarities and differences in the sources of and satisfaction with social support are explored with a particular focus on British Asians. Ethnic differences in the relationship between quality of life and social support are reviewed and the lack of research in this area is commented upon. The aims, research questions and Hypotheses follow the literature review.

The term *ethnicity* is used in the current study to discuss issues relating to shared cultural characteristics and national identity (Sheldon & Paker, 1992) among the two groups participating in this study: Whites and Asians. The term *ethnic* has generally replaced the term *racial* and it has been argued that it may mask issues of *race* as being *cultural* issues (Division of Clinical Psychology, 1998). Haskey (1996) showed that there were approximately 840, 000 people of South Asian origin living in Britain and they represented around half of the ethnic minority populations.

Within the current study the term "Asian" is used to describe people who originate from the Indian subcontinent (Pakistan, India, Sri Lanka and Bangladesh) and "immigrants" is used when referring to participants in studies which sought individuals who have emigrated from another country. The term "White" refers to indigenous Whites in the UK. The term "Caucasian" has been used in the current literature review to refer to indigenous White Americans.

1.1 Clinical Relevance

Quality of life and perceived social support were considered important subjects to study because there had been very little research looking at these topics in Asian people with severe mental health problems. Therefore this study aimed to address this shortcoming in the literature so that clinical interventions could be informed by more culturally specific research. It was also hoped that research of this nature would increase sensitivity to the needs of ethnic minorities and understanding of their family and home circumstances. The Division of Clinical Psychology (1998) Briefing Paper Number 16: *Services for Black and minority ethnic people*, recommended that services for Asian people should reflect their value base, culture and language differences. The lack of research in this area was also commented upon in this briefing paper. Furthermore, the National Institute for Mental Health in England (2002) strategy paper *Inside Outside: improving mental health services for Black and minority ethnic communities in England* commented that Black and ethnic minorities fared worse than the majority Whites on all aspects of mental health care. Service experience and outcome of service interventions were reported as being poorer for people from ethnic minorities. They also recommended that research should have an ethnic or cultural component so that it is relevant within a multicultural society. The current study aimed to address some of these issues.

Quality of life was considered an essential area to investigate because of its implications for the well-being of individuals with severe mental health problems. Within clinical practice it is difficult to "cure" people with severe mental health problems and often the objectives of interventions include improving aspects of quality of life. Therefore, research in this area could be used to help inform interventions and the development of services. Studying perceived social support in people with severe mental health problems was important because of the impact this factor had on the well-being and inclusion in society of people with severe mental health problems.

1.2 Quality of life

Quality of life and perceived social support are important factors in the lives of people with severe mental health problems (refer to section 1.1 on *Clinical Relevance*). Clinical psychology has a significant role in helping improve the quality of life of people with severe mental health problems.

The concept of quality of life has a long history, going back to the 1960's when social scientists, philosophers and politicians were showing an interest in concepts such as "standards of living" and "quality of life". This interest was in response to general concerns about the inequalities in the distribution of resources and well-being within society and also population growth and development in poorer countries (Albrecht & Fitzpatrick, 1994). Furthermore, the creation of the welfare state led to research being carried out in areas such as work, family life and leisure (Andrews & Withey, 1976). The recent trend of rehabilitating individuals with mental health problems in the community has led to an interest in improving services and also outcomes (Fabian, 1990).

Although the area of quality of life is developing and emerging with an increase in empirical knowledge about the topic, conceptual and theoretical work has been neglected (Lauer, 1999). Renwick and Friefeld (1996) proposed that conceptual approaches to quality of life were not well developed and that this was an area that was still in its infancy. Oliver *et al.* (1995) argued however that although quality of life was a useful clinical concept, it defied definition and measurement.

Early research on quality of life focussed on differences between disabled and non-disabled groups (Cameron *et al.* 1973). Research later moved on to examining differences between disabled populations, with the aim of assessing the effectiveness of treatment interventions and services provided (Lehman *et al.* 1986). Currently, researchers consider improved quality of life a key objective in treatment services for people with severe mental health problems (Dufort *et al.* 1997).

Quality of life has been a difficult concept to define but it is generally agreed that it is multi-dimensional (Coid, 1993). Franklin *et al.* (1983) defined quality of life as "a state of well-being that is reflected by life conditions, satisfaction with life conditions and adaptation to life conditions"(pp.378). Lehman (1988) argued that quality of life covered an individual's sense of well-being. It also had a functional component (looking at how they were doing) and it covered resources people had. The World Health Organisation (1993) said:

> "Quality of life is defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept incorporating in a complex way the person's physical health, psychological state, level of independence, social relationships, personal beliefs and the relationship to salient features of the environment" (pp.24).

1.3 Quality of life concepts

The concept of quality of life was introduced in the section above (1.2 *quality of life*). This section moves on to discuss different ways of measuring quality of life and how this has changed since the 1960's. This includes exploring: *economic indicators, social indicators* and *psychological indicators* of quality of life. The section explores the transitions from the different methods of measuring quality of life and the advantages and disadvantages of each. The relevance of the quality of life indicators to mental health is also examined.

Economic indicators

Early attempts to measure quality of life used economic indicators. According to this concept, well-being was determined by economic activity. Hence economic growth within a nation was seen as leading to an increase in well-being and welfare (Oliver *et al.* 1996). Hankiss (1983) showed that data collected from institutions such as banks, market research institutes and customs offices have been used to analyse and monitor economic progress. However, research has shown that economic indicators alone cannot reflect the quality of life or the level of happiness of a nation (Oliver *et al.* 1996). Campbell (1976) used the example of the United States of America as a way to illustrate this point. During the post war years America enjoyed economic prosperity and there was an increase in the standard of living of the average citizen. However, there was also a decline in levels of personal safety, family solidarity and due to factors such as crime and political misconduct, there was also a decline in confidence in the government. Thus economic indicators alone are not sufficient to determine the quality of life of the general population. In addition, economic indicators cannot be applied to individual cases, such as to individuals with severe mental health problems as they focus on the economic conditions of society in general.

Social indicators

The economic indicators approach of the 1960's and 1970's was replaced by the quantitative social indicators approach to measuring quality of life as this was considered to be more sensitive to change (Oliver *et al.* 1996). This approach focused upon the social welfare of society and relied on external factors and conditions such as housing, education, income and neighbourhood (Priebe, Oliver *et al.* 1999). For research purposes, these social indicators are usually grouped into separate categories called "life domains" (Oliver *et al.* 1996). There have also been cultural differences as to which domains are relevant in different countries. Nagpall and Sell (1985) carried out a study in India and interviewed a general population sample. They used life domains called "transcendence" and "moments of intense happiness such as ecstasy or bliss" in their study. Cox *et al.* (1992) noted that Western studies usually exclude spiritual dimensions.

A number of shortcomings of the social indicators approach have been identified. Najman and Levine (1981) argued that the social indictors approach had a vague conceptualisation of quality of life and what constitutes quality of life. They also pointed out that there was little agreement about which indicators were relevant to quality of life and that this approach showed a lack of understanding of the relationship between objective life conditions and the subjective perception of the conditions. Priebe, Oliver *et al.* (1999) also criticised this approach on the grounds that only objective information (for example living conditions and income) was collected and this was based on external conditions. Zautra and Goodheart (1979) noted that social indicators were measures of change and their manner of computation could be very culturally specific. Despite these shortcomings, the value of this approach has been demonstrated when assessing standards of living in different groups and societies (Priebe, Oliver *et al.* 1999). The social indicators approach could be useful in investigating the standards of living of people with severe mental health problems compared to the general population. Alternatively, Asians and Whites with severe mental health problems could be compared on general living standards as a measure of quality of life.

Psychological indicators

Direct information about how a person perceives their life is collated using a psychological indicators approach (Warr, 1978). Warr (1978) showed that psychological well-being was a concept which measured people's feelings about everyday activities and was a wide-ranging concept which included affective aspects of everyday life. Priebe, Oliver *et al.* (1999) showed that 50 per cent of the variance in quality of life was accounted for by concepts such as happiness, satisfaction and well-being. The term satisfaction has been used as a measure in place of other terms, such as happiness because it is considered to have more utility and relates more to cognitive aspects of psychological life rather than just the affective aspects (Oliver *et al.* 1996). Lawton (1984) proposed that "perceived quality of life" was a measure of satisfaction and as such represented a set of evaluations an individual made about major domains in their life.

Corrigan and Buican (1995) examined the concept and construct validity of subjective quality of life. They found that a number of factors were independently associated with quality of life. These factors were: social adjustment, depression, size of the support network and verbal intelligence. Furthermore, Cheng (1988) showed that subjective quality of life could be useful for evaluating and designing community support programmes for people with severe and chronic mental health problems.

Some problems with the psychological indicators approach, however, have been identified. These include the potential for social desirability effects when individuals report on their feelings (Day & Jankey, 1996). Also, idiosyncrasy in reports of feeling states by individuals was a shortcoming in using psychological indicators to measure quality of life (Priebe, Oliver *et al.* 1999).

The notion of quality of life has developed over the last few decades and has evolved from a general concept to one which relates to the needs of individuals at an everyday level. Quality of life is now generally considered to be a multidimensional concept. Although there are difficulties with defining and measuring quality of life, it is seen as a useful clinical tool. Its uses include the assessment of clients' perceptions of their everyday life, designing suitable quality of life improvement interventions and also for the purposes of service evaluation. This illustrates the utility of the concept of quality of life for clinical psychology and mental health services in general.

Further developments in the concept of quality of life may have important implications for its applicability in cross-cultural research (comparing different ethnic groups) and its reliability with severely mentally ill populations. Quality of life assessment could be useful in identifying clinical need in different cultural groups (for example, Asians and Whites) with severe mental health problems and tailoring interventions to meet these needs.

1.4 Theoretical models

There have been criticisms of the lack of conceptual and theoretical work in the area of quality of life. However, there have been theoretical developments that have impacted on empirical research in this area. These developments include: *the satisfaction model, the combined importance/satisfaction model, gap-discrepancy theories, the role functioning model, the dynamic process model* and *the mediational model of quality of life*. These models are discussed in the following section.

The satisfaction model

Lehman *et al.* (1982) and Baker and Intagliata (1982) developed the *satisfaction model* of quality of life. According to this model, quality of life consisted of three main components: objective life conditions, satisfaction with life conditions and also personal characteristics (Lehman, 1988). Lehman's Quality of Life Interview was based on this theoretical model. The author proposed that quality of life depends on whether the individual's living conditions comply with his/her needs (Lehman, 1988).

The shortcomings of this model are that it does not describe the needs and wants of the individual which could impact on their quality of life (Angermeyer & Kilian, 1997). For example, these may be the fulfilment of social roles, independence and needing security. Therefore, it is unclear why an individual might have high satisfaction scores on a particular life domain. Furthermore, Becker *et al.* (1993) felt that the *satisfaction model* did not allow for cultural diversity or reflect how individuals may differ in the importance they allocate to different life domains. In relation to clinical practice the *satisfaction model* would not allow for cultural or individual differences in the impact of specific problems on the lives of people with severe mental health problems and this could affect assessment, formulation and planning interventions.

The combined importance/satisfaction model

Due to the shortcomings of the satisfaction model, the *combined importance model* was created to address issues of importance that a particular life domain carries for an individual (Angermeyer & Kilian, 1997). The model showed that without an assessment of the importance of different life domains, it was very difficult to explain why individuals living under completely different life conditions could have the same satisfaction ratings (Angermeyer & Kilian, 1997). This model also has cultural and individual relevance to people with severe mental health problems. This is because it highlights that individuals living under different conditions can have the same quality of life ratings but it is the assessment of the importance of life domains that is relevant. However, the *combined importance model* has been criticised for not taking into account how individuals could change their values and preferences in the face of adversity, such as devaluing goals that appear unattainable (Angermeyer & Kilian, 1997).

Gap-Discrepancy theories

There are a group of theories that aim to explain the discrepancies between actual and perceived conditions. Two of these theories are described below: *adaptation level theory* and *social comparison theories.*

Adaptation-level theory described the process which involved an individual's internal standards of evaluation moving up or down in response to changes in conditions or environments (Fabian, 1990). Cameron (1974) showed that in the area of disability, adaptation-level theory could account for the way in which people can reset their internal standards in which aspirations, expectations and values are evaluated and modified.

Social comparison theories also attempt to explain discrepancies between actual and perceived conditions. According to this theory, individuals use external sources for comparison (Diener, 1984). Therefore, people use a number of reference standards to evaluate their own positions and these are based on internalised norms which prescribe the level of resources they ought to have (Fernandez & Kulik, 1981). Fabian (1990) argued that social comparison theories can account for the high levels of satisfaction individuals with mental health problems express in community rehabilitation programs, despite the levels of poverty they experience in areas such as health, finance and accommodation.

Gap discrepancy theories (Cameron, 1974; Diener, 1984; Fabian, 1990) can explain the processes within which individuals with severe mental health problems can adapt and reset their standards according to the resources and living conditions that are available to them. These theories can aid clinicians in understanding (with assessment and formulation) levels of subjective well-being in people with severe mental health problems.

The role functioning model

According to Bigelow *et al.* (1982) the physical and environmental conditions that are required to fulfil human needs are related to happiness and life satisfaction. The *role functioning model* is based on Maslow's (1954) hierarchy of human needs which states that human needs include food, shelter and safety and also higher order needs including esteem and self-actualisation. Bigelow *et al.* (1982) proposed that the environment provides opportunities to satisfy individual needs and that these can be material, such as housing and food or social opportunities, which are embedded in social roles. This model is described as a person-environment model of quality of life. The advantage of this model is that the assessment of needs is essential to understanding subjective quality of life. Therefore, assessing individual needs should inform clinical decisions regarding suitable services and this model could be very useful in designing interventions for people with severe mental health problems that take into account the needs of the individual and opportunities in the environment.

There have been criticisms of the role functioning model on the grounds that Maslow (1954) had stressed the dynamic nature of human needs and that they were culture-bound, but the role functioning model, on the other hand assumed that human needs were universal and also stable (Angermeyer & Kilian, 1997).

A dynamic process model of quality of life

The *dynamic process model of quality of life* is based on the premise that subjective quality of life is the result of an ongoing process of adaptation, within which individuals must come to terms with their own goals and desires and the conditions of their environment. It is also important to assess the individual's own ability to meet social demands which are associated with goals and desires (Angermeyer & Kilian, 1997). According to this model, satisfaction is seen as the "steering mechanism" rather than the outcome (Angermeyer & Kilian, 1997).

Support for the *dynamic process model of quality of life* comes from a number of studies which have shown that the satisfaction ratings of people with mental health problems remain relatively stable (Baker & Intagliata, 1982; Diamond, 1985). These studies have placed emphasis on the subjective aspects of quality of life and show that individuals adapt their goals and desires. Subjective quality of life assessments are valued in this model because individuals' value systems and their preferences are shaped by experiences and personal characteristics (Angermeyer & Kilian, 1997). This model is clinically useful because of its emphasis on subjective quality of life and how this is shaped. The relevance of assessing an individual's goals and desires to meet socials demands is also stressed. This is helpful in understanding the motivation of people with severe mental health problems to accept social support and to enhance this aspect of their lives which they often perceive as lacking.

A mediational model of quality of life

Barry (1997) attempted to link self-related constructs, such as self-esteem and self-efficacy, to the subjective evaluation of quality of life. The *mediational model of quality of life* proposed that the evaluation of objective life conditions was mediated by personal aspirations, expectations and standards of comparison. Zissi *et al.* (1998) carried out an empirical study to test the model with a group of psychiatric residents in Greece. A cross-sectional design was employed and they used a version of Lehman's Quality of Life Interview. Zissi *et al.* (1998) found that perceived improvements in lifestyle, greater autonomy and positive self-concept were related to better quality of life. However, there was no support for a relationship between objective indicators and subjective quality of life. This model has been criticised for being descriptive rather than analytically predictive and this limits its usefulness in interpreting quality of life data (Ritsner *et al.* 2000).

The clinical implications of this model are that interventions aimed at increasing self-concept such as enhancing self-esteem in people with severe mental health problems may also assist in improving subjective quality of life. Assessment of quality of life pre and post these types of interventions could aid further understanding.

Fabian (1990) conducted a review of theory and literature in the area of quality of life in people with long-term mental illness and found that this was a good way of examining subjective well-being in individuals with mental health problems. A number of authors showed that quality of life measures were as reliable and valid in their measurement of subjective well-being in this population as they were in their measurement of quality of life in the general population (Baker & Intagliata 1982; Lehman, 1988). This confirmed the generalisability of quality of life measures.

Conceptual developments and theoretical models of quality of life have been discussed above. These advances in the understanding of this concept show that further research is still required in order to develop a more complete understanding of quality of life and its applications to mental health. Many of the models of quality of life have clinical relevance and can be applied in mental health settings. However, not all the models have cross-cultural applicability and further developments with this would be useful in interpreting research and informing clinical practice. Further research with cross-cultural populations such as comparing Asians and Whites and with people with severe mental health problems could add to this concept.

1.5 Quality of life measures

Following on from the discussion of quality of life theories and concepts above, this section reviews a range of quality of life measures that could be suitable for assessing subjective quality of life in the current study. A number of these measures were developed for use with people with severe mental health problems. The measures that are reviewed in this section are: the Lehman Quality of Life Interview, the Lancashire Quality of Life Profile, the Satisfaction with Life Domains Scale and the Manchester Short Assessment of Quality of life.

The Lehman Quality of Life Interview (LQLI) (Lehman *et al.* 1982) assesses the life circumstances of people in terms of objective quality of life (what they do and their experiences) and subjective quality of life (feelings regarding their experiences). This interview is an assessment of a wide range of life domains such as living situation, leisure activities and finances and a global measure of life satisfaction is provided. The LQLI is a structured self-report interview, consisting of 143 items that takes around 45 minutes to administer (Lehman, 1996). The psychometric properties of the LQLI have been extensively tested. It has been shown to have good internal consistency for the scales and test-retest reliability with people with severe mental health problems (Lehman, 1996). Lehman *et al.* (1982) also found that the life satisfaction items discriminated between a general population sample and people with severe mental health problems. Criticisms of the LQLI have been that its use in clinical settings is restricted because its highly structured self-report format does not allow for interviewer judgement in the ratings generated (Lehman *et al.* 1993) This criticism can also be applied to the remaining quality of life measures reviewed here.

The Lancashire Quality of Life Profile (LQLP) (Oliver, 1991) is another structured self-report interview. It is based on the LQLI and has been modified so that it reflects cultural variation and can be used as a service-based evaluation of quality of life. The LQLP consists of 100 items and takes around one hour to administer. It measures objective quality of life domains such as family relations and work/education and it also measures general well-being and self-concept. Oliver *et al.* (1997) tested the LQLP with participants with severe mental health problems and showed that the LQLP had moderate internal reliability and test-retest reliability. This shows that the LQLP may not be the most reliable quality of life measure to use for the purposes of research. Furthermore, Priebe, Oliver *et al.* (1999) highlight the omission of questions regarding subjective well-being in terms of sexual relations and this is an important life domain.

The Satisfaction with Life Domains Scale (SLDS) (Baker & Intagliata, 1982) measures satisfaction with a number of life areas such as satisfaction with housing, food, clothing and people lived with. The SLDS consists of 15 items and takes around 10 minutes to complete (Lehman, 1996). The individual items can be used to obtain a total life satisfaction score. The advantages of this measure are that it is brief, easy to administer and convenient in terms of the time taken to administer. However, there is very little information available regarding the psychometric properties of this scale. Baker and Intagliata (1982) assessed the SLDS with a US sample of community support clients and they reported correlations between the SLDS and the Bradburn Affect Balance Scale (Bradburn, 1969) and the Global Assessment Scale and these are $r = .64$ and $r = .29$, respectively. Baker and Intagliata (1982) also found that there were some problems due to positive response bias in the US sample and this could lead to skewed responses. This shows that although the SLDS may appear to be a convenient and useful measure of quality of life, it may not be reliable.

The final measure to be reviewed in this section is the Manchester Short Assessment of Quality of life (MANSA) (Priebe, Huxley *et al.* 1999). This questionnaire was a shortened and revised version of the already well-established LQLP (discussed above). The MANSA measures subjective and objective quality of life. However, most of the items are concerned with subjective quality of life (Priebe, Huxley *et al.* 1999) and therefore its uses are most applicable to subjective quality of life research or clinical use. Participants are required to rate 12 life domains and these include amongst others: satisfaction with job, number and quality of friendships and financial situation. Satisfaction with life domains is rated on a seven point rating scale. This questionnaire takes approximately 10-15 minutes to complete. Priebe, Huxley *et al.* (1999) assessed the MANSA with a sample of community psychiatric patients. They found that the MANSA had high internal reliability and concluded that the MANSA was a valid instrument for obtaining quality of life data. There are no other studies at present that have assessed the MANSA.

A number of measures of quality of life have been reviewed above and these have included longer structured interviews and brief self-report questionnaires. A few of the questionnaires are linked to one another such as the LQLI, the LQLP and the MANSA. This represents attempts by researchers to refine and develop user friendly, concise and reliable measures of quality of life. The current review focussed on measures that are mainly concerned with subjective quality of life although objective quality of life data is also collated.

1.6 Social support and mental health

Continuing from quality of life, this section discusses social support and mental health. Social support is an important factor in the lives of people with severe mental health problems and they often identify difficulties in this area. Social difficulties and lack of perceived social support can impact upon quality of life in people with severe mental health problems. Subsequent sections will review studies which have explored both quality of life and social support in detail (1.8, *Quality of life and social support*).

A number of definitions of social support exist due to differences in the way that different authors have conceptualised it (Walsh & Connelly, 1996). Sarason *et al.* (1990) considered social support to be a cognitive or psychological characteristic of individuals. On the other hand, Veil and Baumann (1992) proposed that there were four components to social support: subjective beliefs, potential support, everyday support and actual crisis support. Walsh and Connelly (1996) have argued that the reason there are so many definitions of the concepts of social support is that much of the research in the area has been carried out in the general population and the nature of social support (received, perceived and the structure of support) is different in mentally ill populations. However, there is currently a growing consensus that the concept of social support can be divided into three parts that are weakly related: social network size, perceived social support and received social support (Barrera, 1986). A number of research studies have found that perceived social support or the subjective adequacy of social support prevents psychological distress more than the other two components of social support (Furukawa *et al.* 1999). Furthermore, Turner and Marino (1994) showed that perceived social support was persistently and powerfully associated with outcome measures and could therefore be considered an important dependent variable.

Research examining the effects of perceived social support has shown that it can be directly related to reports of the severity of psychological distress and/or acts as a buffer against the effects of stress (Zimet *et al.* 1988). There have been a number of studies that have shown the positive association between perceived social support and mental health outcomes (Veil & Bauman, 1992). Much of the research has been carried out with general population samples (Furukawa *et al.* 1999). However, a smaller number of studies have examined the role of perceived social support in people with mental health problems, such as depression (Brugha *et al.* 1990) and schizophrenia (Buchanan, 1995; Erickson *et al.* 1998). These studies have found that perceived social support affects the course and outcome of the mental health problems examined. Research on mental health populations has also shown that supportive social relationships can reduce the effects of stressors and prevent their occurrence (Vilhajalmsson, 1993). Faccincani *et al.* (1990) carried out a seven-year follow-up study in Italy with people with a diagnosis of schizophrenia and found that individuals with greater levels of perceived social support had reduced symptomatology, reduced dependence on inpatient facilities and improved social functioning. However, studies have also shown that this is a difficult area to research because individuals with schizophrenia may find it difficult to accurately perceive and evaluate their social support resources (Buchanan, 1995). Furthermore, some individuals with severe mental health problems may become overwhelmed rather than find social interactions wholly supportive (Beels, 1981). This could be due to people with psychosis finding social interactions too intensive and stressful (Beels, 1981). It also needs to be mentioned that most of the literature in this area has been based on correlational data (Erickson *et al.* 1998) and therefore issues of cause and effect are not clear.

Comparative studies examining satisfaction with social support have found that levels of satisfaction were higher amongst general population samples than psychiatric patients (Caron *et al.* 1998). Bengtsson-Tops and Hansson (2001) interviewed a sample of outpatients with schizophrenia and a non-clinical sample in relation to satisfaction with social support and social network. They also found that individuals with schizophrenia were less satisfied with their social support than a non-clinical sample. Furthermore, Furukawa *et al.* (1999) carried out a study in Japan using the Social Support Questionnaire and showed that a mixed psychiatric group reported significantly lower levels of satisfaction with social support than a sample of normal controls. These studies point to the potential dissatisfaction people with mental health problems experience in the area of perceived social support. Furthermore, people with mental health problems may have less social support as a result of these problems and therefore will be dissatisfied with their isolation

Overall, research has shown the beneficial effects of social support on mental health and how it relates positively to outcome. However, the dissatisfaction of people with mental health problems with this aspect of their lives has been apparent in the literature and indicates an area worth exploring in terms of developing interventions and services to target this problem. The cultural relevance of perceived social support and mental health will be discussed in following sections (1.10) and also how this relates to quality of life.

1.7 Theories of social support

There are two main models which attempt to explain the effects of social support on physical and psychological health. These are the *main effect/direct effect model* and the *buffer model*. These two models can be used to explain the positive effects of social support for people with severe mental health problems.

According to the *main effect model*, social support has a direct effect on mental health because it can prevent exposure to stressors, affect appraisals of threat so they become less threatening and increase morale and a sense of well-being in individuals

(Gottlieb, 1981). It is also proposed that social support can affect mental health regardless of the level of stress the individual is experiencing because support is seen as providing an overall beneficial effect (Olstad *et al.* 2001). Another explanation for this Hypothesis is that social support meets a human need and lack of social support can be psychologically damaging (Payne & Jones, 1987). Furthermore, social support is seen to improve well-being without an improvement in methods of coping with stress because of the beneficial effects of social integration (Cohen & Wills, 1985). Shumaker and Brownell (1984) showed that the esteem-enhancing components of social support were more relevant to health maintenance than the stress-reducing functions such as cognitive and instrumental support.

A review by Cohen and Wills (1985) concluded that the literature strongly supported the view that social support had a direct relationship on physical and psychological well-being. However as noted by Coyne and DeLongis (1986), the relationship between social support and well-being may be more complex. Olstad *et al.* (1999) attempted to test the ***direct effect model*** and explored social support and social networks in a Norwegian prospective population sample, using a health survey. They found that after three years, both the size of the social network and perceived social support had very little direct predictive effect on mental health.

The ***buffer model*** of social support proposed that social support acts as a buffer against the harmful effects of stress (Cohen & McKay, 1984), by modifying stress and especially the negative effects of stress on psychological adaptation (Buchanan, 1995).

Thoits (1986) argued that social support was a coping strategy: the negative effects of stress could be modified when others help the individual change the situation, alter its meaning and/or help the person change their affective response to the stressor.

Support for the buffer Hypothesis comes from Olstad *et al.* (2001) who carried out a general population-based study in Norway, examining all types of stress, social support and social network. They found that having a good social network/social support buffered individuals from the overall effects of stress. They also found that social support could buffer the effects of work stress on individuals. However, this study can be criticised because the questions the researchers asked relating to stress and social support were a small part of a larger general health survey and therefore provided a crude estimate of the concepts of mental health and social support (Olstad *et al.* 2001).

A major difficulty in the research in the area of social support has been the lack of agreement about how the concepts involved in the two Hypotheses (*Main effects* and *Buffer Hypothesis*) should be defined and measured (Olstad *et al.* 2001). Researchers have experienced difficulties in defining stress when attempting to test out the buffer Hypothesis. Initially, the use of life events as stressors, in the form of life events checklists (chronic and acute stressors), were used by a number of researchers in order to test the buffer Hypothesis (Paykel, 1983). However, this strategy was criticised on the grounds that it presented as a "conceptual confusion" in identifying the social stressors and the attribution of their effect (Pearlin, 1999). Currently, there has been more effort into defining the actual nature of the stressors that affect people. Thoits (1995) has categorised stressors into three main areas: chronic strains, life events and daily stressors. Furthermore, Wheaton (1999) has argued that in order to assess stressors, the multiple sources of stress need to be examined as well as the interactions between the different stressors. At present, the debate on this topic has focussed upon whether the effects of one or more stressors, such as daily hassles/life events is important or if the cumulative effect of combined stress has more of an impact on individuals (Olstad *et al.* 2001).

Zimet *et al.* (1988) showed that both models could be useful in that social support may be effective in all aspects of life and also acts as a buffer during stressful periods of time. Furthermore, Flaherty *et al.* (1983) found that social support was a better predictor of psychiatric outcome than life events and hence may indicate that a direct effect can operate in addition to the buffering effect.

The *buffer effect* and *main effects* models of social support show that social support is beneficial for people with severe mental health problems in that it can be a very useful and effective coping mechanism. Alternatively, the overall effects of social support are shown to be esteem-enhancing and can have a direct effect in improving mental health.

Sources of social support

This section explores different sources of social support used by individuals as well as studies examining sources of support utilised by people with severe mental health problems. Examining sources of social support has relevance for the current study as one of the aims is to look at group differences in satisfaction with different sources of support (family support and overall perceived social support).

Zissi *et al.* (1998) showed that frequent family contacts were associated with perceived improvements in the functioning of people with severe mental health problems. Greenblatt *et al.* (1982) carried out a review of the social network and mental health literature and found that the support derived from close social ties could play an important role in modifying the potential course of mental disorders. Research looking into the support networks of people with severe mental health problems has shown that people with schizophrenia typically have fewer contacts with friends (Harvey, 1996). Thornicroft and Breakey (1991) also showed that social isolation was associated with poor outcome in people with schizophrenia. They also found that single marital status was associated with more chronic mental health problems. Furthermore, Kramer (1983) showed that very few people with severe mental health problems were married and typically around ten per cent were married at any point in time. Horwits and Reinhard (1995) also found that only a third of their U.S.A inpatient sample of people with severe mental health problems had been married at any point in time.

Salokongas (1997) carried out a five-year prospective study with a sample of patients with schizophrenia in Finland. Standardised interviews were conducted with the patients at the start of the study and after the first, second and fifth years. Salokongas (1997) found that those living with a spouse had the best clinical and functional outcome.

These patients also maintained a more intense interaction with extra-family members and friends. It was also found that there was a smaller difference between patients living with their parents and those living outside families. However, patients not living with their families had a higher likelihood of losing their social contacts. Reinhard (1994) argued that the declining availability of formal services (such as in the U.S.A and U.K), due to a reliance on community treatments, often leaves families as the only sources of support for people with severe mental health problems. This appears to be the case regardless of the capacity of the families involved to care for their relative (Reinhard, 1994). Goldman (1982) showed that the number of people with severe mental health problems who lived with their families varied from one-quarter to two-thirds.

It also needs to be mentioned that the families of individuals with schizophrenia are important parts of their support system but are not always supportive. Vaughan *et al.* (1992) carried out a predictive study with outpatients with schizophrenia, in Australia. They showed that expressed criticism, quarrels, hostility, feelings of tensions and emotional intrusion were also aspects of the relationship of people with schizophrenia who lived with their families. These family dynamics could lead to social withdrawal in people with schizophrenia (Bengtsson-Tops & Hansson, 2001), and can therefore be damaging rather than supportive. Erickson *et al.* (1989) examined the role of social relationships in participants with first episode schizophrenia and they used the Interview Schedule for Social Interactions. They found that family involvement could have a negative association with outcome in people with a diagnosis of schizophrenia. Zimet *et al.* (1988) also showed that there could be changes in the meaning of family as a source of social support across the life span. For example, for some respondents, family may mean their parents and siblings and for others it may mean spouse and children.

Heller and Lakey (1985) proposed that perceived social support from friends and family should be measured separately because they have different implications. Rook (1987) showed that different sources of support have different functions. Families, if available, may be the appropriate sources to give instrumental and tangible support. Friends are seen as suitable sources of emotional support. Horwitz and Reinhard (1995) showed that friends were a strong source of objective and subjective support for people with mental health problems. However, this study was carried out with a sample of patients who were about to be discharged into the community and therefore could have had inflated expectations about community support (Horwitz & Reinhard, 1995). Furthermore, Stopes-Roe and Cochrane (1990b) argued that ratings of support given by family and friends could be unreliable because of the different levels of support received from different members of these groups.

In summary, the literature shows that perceived social support is a very useful variable in research and clinically useful in preventing distress. The *buffer model* and *main effects model* of social support have strengths and weaknesses which have been discussed above but overall, the usefulness of both models has been acknowledged in the literature. Research has show that the family are an important source of social support in many cases but not always. It is also apparent that only a small number of people with severe mental health problems are able to rely on a partner or spouse for social support, as many are not able to sustain this type of relationship. The literature indicates that different sources of support have different functions. Difficulties in assessing perceived social support in people with severe mental health problems have also been discussed.

Future research needs to explore simple and effective ways in which people with mental health problems can evaluate social support. This could in turn lead to the development of effective clinical tools (for the purposes of assessing the effectiveness of social support enhancement interventions) to measure perceived social support in people with severe mental health problems. Research could also examine the satisfaction or perception of support from different sources in individuals with severe mental health problems.

1.8 Quality of life and social support

Literature relating to quality of life and social support has been reviewed separately in the sections above and studies bringing together these two variables are examined here. The relationship between quality of life and social support is discussed in the current section. Research stressing better quality of life in people with severe mental health problems who have close social ties and higher levels of perceived social support is also reviewed.

Stein (1992) noted that the concept of deinstitutionalisation for mental health patients, often assumes that the environment and especially the people surrounding the discharged patient will possess the ability to accommodate the individual and also improve his/her life. Hansson *et al.* (2002) showed that this was often in the areas of social relationships and health.

The relationship between quality of life and social support has been demonstrated in a number of studies. Dalgard (1985) carried out a general population survey of middle-aged women in Oslo. The study found that the quality of the social network was associated with quality of life, whereby the better the quality of the social network the higher the levels of satisfaction with life in general. However, a shortcoming with this study was that the sample limited the generalisability of the findings to men, and also women who are not middle-aged.

A small number of research studies have also found a positive relationship between quality of life and social support in people with severe mental health problems. Baker *et al.* (1992) carried out a study with a sample of community support clients (with a history of mental health problems) in the U.S, using the Satisfaction with Life Domains Scale. They found that the availability and adequacy of social support was positively associated with perceived quality of life. Bengtsson-Tops and Hansson (2001) also found an association between quality of life and satisfaction with social support in a sample of out-patients with schizophrenia. They found that higher levels of satisfaction with social contacts was related to better quality of life and also improvements in quality of life at follow-up. Furthermore, Dufort *et al.* (1997) carried out a study with a sample of people with severe mental health problems who were living in the community in France. Quality of life was measured in this study using the Satisfaction with Life Domains Scale. Dufort *et al.* (1997) found that social support was related to all components of quality of life, as well as satisfaction with life as a whole. They showed that the relationship between social support and quality of life could be bi-directional, whereby having a high quality of life could also make a person more sociable and vice versa. A drawback in this study was that the measures used to examine social support and quality of life had an overlapping content. This could have inflated the size of the relationship between the two variables (Dufort *et al.* 1997).

Bengtsson-Tops and Hansson (1999) used the Lancashire Quality of Life Profile with a sample of patients with schizophrenia and showed that unmet needs in the domain of social support were negatively related to subjective quality of life. Gupta *et al.* (1998) also found that social contacts are an area with which people with schizophrenia commonly express dissatisfaction. Furthermore, Caron *et al.* (1998) showed that people with severe mental health problems expressed less satisfaction with all aspects of social support (*attachment, social integration, reassurance of worth, reliable alliance, guidance, opportunity for nurturance*) compared to the general population. The lowest scores for the psychiatric groups were in the areas of *attachment* and *nurturance,* which were mainly provided by families and close relationships. Caron *et al.* (1998) noted that as most psychiatric patients are unemployed, this restricts their opportunities for establishing relationships with people in the workplace who share common beliefs and values. This in turn limits social integration and opportunities for guidance.

Zissi *et al.* (1998) showed that frequent family contacts were associated with positive changes in people with severe mental health problems who had moved from psychiatric hospitals to community-based hostels. Sullivan *et al.* (1992) also showed that more positive relationships between psychiatric out-patients and their families were associated with enhanced levels of perceived quality of life. A shortcoming in this study was that the population of the study was unique (young Black men, living with their families in the South of the United States) and this limited the generalisability of the findings of this study to wider populations.

Horowitz and Reinhard (1995) also found that mental health patients who were living with their families reported significantly higher quality of life than those who had other living arrangements. They found that patients felt better about a number of factors including: food, safety, freedom, privacy and also life as a whole.

In summary, the research in the area of quality of life and social support shows that there is a positive multifaceted relationship between social support and quality of life. Studies have shown the positive impact on quality of life of different sources of support. However, the shortcoming with much of the research in this area is that it is difficult to determine cause and effect with the majority of studies being cross-sectional. Another issue which affects the research in this area is that of social desirability. Fabian (1990) showed that quality of life self-report scales were susceptible to response bias and social desirability in particular. It was argued that individuals might respond in a certain manner because they believe it is culturally normative to do so. These criticisms can also be applied to perceived social support scales. However, Diener (1984) showed that social desirability was shown to have very modest effects in general population studies.

Future research exploring quality of life and social support in different groups such as such as comparing ethnic groups (Asians and Whites) would assist in examining these two concepts. Research on subgroup differences could also aid the development of interventions to enhance social support and quality of life in people with severe mental health problems. Furthermore, research exploring ethnic differences or similarities could aid in developing services which meet the needs of different cultural groups and increase service-user satisfaction.

1.9 Measures of social support

There are a number of measures of perceived social support that have been developed. The current section reviews a range of measures which could be used for the purposes of the current study and these include: the Social Support Questionnaire, the Interview Schedule for Social Interactions, Perceived Social Support from Family and Friends questionnaire and the Multidimensional Scale of Perceived Social Support.

The Social Support Questionnaire (SSQ) (Sarason *et al.* 1983) was developed to measure the dimensions of perceived availability of social support and satisfaction with social support. The SSQ consists of 27 items and each is a question for which two part answers are required. The first part of the item asks for a list of people the participant can turn to and rely on in a given set of circumstances and the second part of the item asks participants to indicate how satisfied they are with these social supports. Sarason *et al.* (1983) assessed the reliability and validity of the SSQ with a sample of University students and found that the questionnaire had favourable psychometric properties with high internal consistency and good levels of reliability. They also found that the SSQ was not biased by a social desirability response set that was used. Further support for this measure comes from Furukawa *et al.* (1999) who used the SSQ with Japanese psychiatric patients and a general population control group. They found that the SSQ had high internal consistency, reliability and construct validity with the Japanese psychiatric patient sample and the general population sample. This shows that the SSQ is a valid and reliable measure of social support which can be applied to people with mental health problems. However, there was a shortcoming in the design of this study in that the psychiatric sample were administered the SSQ while they were still in the acute phase of illness and the effects of illness could have distorted questionnaire scores and affected the results of the study (Furukawa *et al.* 1999).

The Interview Schedule for Social Interactions (ISSI) (Henderson *et al.* 1980) is a semi-structured interview schedule consisting of 54 questions on the availability and adequacy of social relationships. There are four scales provided by this interview: availability of attachment, adequacy of attachment, availability of social integration, adequacy of social integration. Henderson *et al.* (1980) tested the ISSI with a general population sample and found high internal reliability and test-retest reliability. This shows that the ISSI is a particularly adequate measure of perceived social support. A disadvantage with this measure is the lengthy time required to administer it is 45 minutes (Furukawa *et al.* 1999).

Another measure of perceived social support is the Perceived Social Support from Family and Friends (PSSFA-FR) questionnaire (Procidano & Heller, 1983). This questionnare asks participants to answer "yes", "no" or "I don't now" to a list of 40 statements. The PSSFA-FR measures the extent to which the participants' needs for support, information and feedback are fulfilled by family and friends (Sarason *et al.* 1987). Procidano and Heller (1983) tested the PSSFA-FR with University students and found high internal reliability and test-retest reliability for the questionnaire. They also showed the predictive validity of the scale when correlated with measures of psychopathology (Procidano & Heller, 1983). However, a problem with the PSSFA-FR was that the yes-no format could lead to ceiling effects and also problems with homogeneity of variance (Sarason *et al.* 1987). This shows that although the PSSFA-FR has been shown to be a reliable and valid measure of perceived social support its use may be limited because of shortcomings in its format.

The final measure to be reviewed in this section is the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet *et al.* 1988). This 12-item questionnaire rates support received from family, friends and a significant other. Items are rated using a seven-point rating scale ranging from "very strongly agree" (1) to "very strongly disagree" (7). Zimet *et al.* (1988) tested the MSPSS with a sample of college students in the U. S. and found good internal reliability and test retest reliability for the questionnaire. Furthermore, the MSPSS has also been tested with psychiatric patients. Cecil *et al.* (1995) found that MSPSS had high internal reliability and showed it was a psychometrically sound instrument to be used with psychiatric populations. On the other hand, the problem with this questionnaire was that it did not define what "significant other" meant for participants (Zimet *et al.* 1990) and there could be some ambiguity over this issue.

A number of measures of perceived social support have been reviewed above. They all show good psychometric properties with high rates of internal reliability. There are problems with some of the measures relating to the time it takes to administer the measure (for example, ISSI) and potential ceiling effects (for the PSSFA-FR).

1.10 Ethnicity and social support

The social support literature has been reviewed above and this section moves on to address social support in different ethnic groups, focussing particularly on Asians, for the purposes of the current study. Social support can be conceptualised and expressed differently in different cultures and this is an area which is emerging in the social support field.

Cultural Differences

Antonoucci and Akiyama (1987) put forward a convoy model of social relations whereby they proposed that individuals carry with them social norms which assist in maintaining emotional well-being and coping with stressors. Wilkinson (1993) argued that these patterns of behaviour continue to filter through the lifecycles of ethnic minorities.

Furnham and Sheikh (1993) showed that immigration often meant individuals from the Indian Sub-continent were leaving behind important sources of social support such as family, friends and neighbours, and hence social support was reduced, in their new country. Williams and Hunt (1997) found that Asian Muslims from the general population in Glasgow had high levels of psychological distress and this was partly due to a lack of social support. Furthermore, Beliappa (1991) carried out a community study and found that social isolation was related to depression in a group of depressed, mid-life Asian women. This was further supported by Creed *et al.* (1999) who carried out a population based survey with Hindus and Muslims from the Indian subcontinent living in Britain and found high levels of anxiety/depressive disorders. Creed *et al.* (1999) showed that lack of social support was a significant factor in the development of psychological distress in Asian people living in Britain compared to those living in India. This indicated that Asians in Britain have less social support than Asians in the Indian subcontinent and can be further supported by research which shows that people from ethnic minorities are less satisfied with social support than Whites. Sah (2000) found that Indian immigrants in the U.S.A experienced a greater loss of social support and higher rates of hopelessness and depression than indigenous, White Caucasian Americans. Perceived social support was measured in this study using the Multidimensional Scale of Perceived Social Support.

Research has shown that minority status can lead to social isolation and alienation. Smith (1985) argued that social isolation can imply that ones position in a community is impaired. On the other hand, Patel (1992) found that there was little difference in satisfaction with available support between Asians and Whites in a general population based survey, using the Social Support Questionnaire. Furthermore, Stopes-Roe and Cochrane (1990b) carried out a population-based study in the West Midlands in the UK and showed that the confidante networks of Asians consisted of fewer less-than-satisfactory members than the White sample. This showed that the White sample were less subjectively satisfied with their social support networks than the Asian sample.

The current review of literature relating to satisfaction with social support in different ethnic groups shows that although there are somewhat mixed results in this area, Asians generally appear to report a lack of social support and experience lower levels of perceived social support than Whites. This indicates that mental health services may benefit from targeting the social support needs of Asians in the UK, as this group appears to experience deficiencies in this area which can impact negatively on mental health.

Ethnic differences in sources of support

A number of studies have shown that Asian people with mental health problems often rely on their families to provide support (Burnett *et al.* 1999). Patel (1992) compared the social networks of Asian women and White women, in a general population community study and found that the social networks of Asian women were smaller and denser than Whites and consisted of mainly kin members. The support networks of the White sample had a more balanced composition of friends and family. Pinto (1970, as cited in Bhugra *et al.*, 1999) showed that Asian families were particularly cohesive and were very likely to care for family members with mental health problems at home. Thus, Asian individuals with mental health problems may rely more heavily on family members for support rather than other potential sources. Stopes-Roe and Cochrane (1990a) carried out a general population survey of Asians and Whites. They showed that Asian parents and young people were more likely to offer support to their siblings than White parents and young people. They found that Asians felt more of an obligation to support their siblings and to ease common burden whereas the White group felt they would help out if the need arose and the requirement was more to give "first aid" (immediate help when it was needed).

Kim and McKenry (1998) examined the social networks and support of Asian-Americans, Caucasians, African-Americans and Hispanics, using the data from a national survey of families and households in the USA. They found that there were differences between Asian-Americans and indigenous Caucasians in the support systems utilised.

Asian-Americans, in line with their collectivist orientation were more likely to spend social evenings with relatives and friends. Caucasians, on the other hand were more likely to go to a bar or restaurant. It was also found that, unlike other ethnic groups, Caucasians were least likely to turn to their children as sources of support. Caucasians were also different to other groups in that they were more likely to call on non-family members in crisis situations. This shows that there may be cultural differences in social networks and sources of social support. Stopes-Roe and Cochrane (1990b) also found that over 90 per cent of the Asian parents in their study turned to children for support when problems arose compared to 47 percent of White parents.

Research on mental health populations has shown favourable outcomes for Asians with schizophrenia who live with their families. Birchwood *et al.* (1992) carried out a retrospective case-note study, examining relapse in first-episode schizophrenia. They compared Asian, Afro-Caribbean and White mental health patients and found that family structure was an important variable in that a stable family environment had a protective effect. Nearly 90 per cent of the Asian sample with schizophrenia lived with their families in comparison to 70 per cent of Whites and 31 per cent of Afro-Caribbeans. Birchwood *et al.* (1992) found that the Asian sample with schizophrenia had the lowest rate of relapse/readmission compared to the other two groups. They proposed that better outcome in the Asian sample was due to the greater visibility of disturbed behaviour in extended families, whereby Asian patients were more likely to gain prompt access to services. Further support, for research showing favourable outcomes for Asians with mental health problems living with their families, comes from Burnett *et al.* (1999) who argued that Asians had a unique demographic presentation (compared to Whites and Afro-Caribbeans), whereby strong family networks were likely to be involved in delaying the onset, presentation or progress of schizophrenia. The majority of the Asian sample with schizophrenia in this study lived with their families which suggests that Asian individuals with schizophrenia generally benefit from family support.

However, there have been limitations in the research on social support and ethnicity. Birchwood *et al.* (1992) used retrospective case note data in their study and the reliability of this method comes into question. The use of case notes to determine first episode schizophrenia is likely to lead to inaccuracies because a number of clinicians wrote the case notes and errors could have taken place in recording symptoms and diagnosing cases (Birchwood *et al.* 1992). Errors could have also taken place in the reliability of case-note abstraction (Birchwood *et al.* 1992). There were also shortcomings in the study by Burnett *et al.* (1999); the sample size in this study was small and especially for the Asian group. There were further limitations to the generalisability of the Burnett *et al.* (1999) study in that the two health districts of Camberwell and Ealing, where patients were recruited from were predominantly urban. This may not be representative of the British population in general and applies particularly to suburban and rural areas (Burnett *et al.* 1999).

Husain *et al.* (1997) compared the social circumstances of a depressed group of Whites and people of Pakistani origin. Participants attending a GP surgery were screened to detect depression and were interviewed in their native language (Urdu) or English.

Husain *et al.* (1997) found that a greater number of the Pakistani group had no confidante compared to the Whites. However, the small sample size of this study restricts its generalisability.

Research in the area of social support in people from ethnic minorities who experience mental health problems shows that there are some interesting cross-cultural differences and also similarities. The reliance on support from families is clearly present in Asians and Whites with mental health problems, although the literature indicates that Asians may utilise this source of support more than Whites. Furthermore, the positive impact of living with the family on psychological well-being has been discussed. Further research in this area could confirm and further explore such findings. The reliance on different sources of social support could be compared between Asians and Whites with severe mental health problems. The relationship between reliance on or satisfaction with different sources of social support and quality of life could also be explored in different ethnic groups (for example, Asians and Whites with severe mental health problems). This type of research could have important implications for clinical practice in improving quality of life for people with severe mental health problems through implementing interventions that increase social support and quality of life.

Issues relating to the provision of support by Asian families

Difficulties faced by Asian families in coping with mental health issues have been explored by a small number of researchers as well as the stereotypes. Shams (1993) noted that social support and its effects on non-white minorities in Britain had not been researched very widely. Shams (1993) also argued that although there were widespread beliefs about the intact social support system among Asians in the UK, there had been very little empirical research supporting this view.

Beliappa (1991) examined the mental health needs of Asian people within the general population. It was found that only 13 per cent of the sample saw the family as a source of support and this was over concerns regarding health or childcare, rather than support in times of emotional distress. Hatfield *et al.* (1996) carried out a survey with Asian people who used mental health services or were family members of service users and Asian people from the general public. This study examined personal and social stressors and use of mental health services. Interestingly, Hatfield *et al.* (1996) found that the stereotype of Asian people wanting to cope with their problems within their own families did not hold true. A significant number of the Asian mental health service users and their families were desperate for professional help and support in coping with mental health difficulties. This showed that the needs of Asian families in coping with individuals with mental health problems may not be being met by mental health services. However, the sampling methods used by Hatfield *et al.* (1996) can be criticised. They recruited participants from the general public at places where Asian people tended to meet, such as mosques and community centres. This method of recruiting participants was not by random selection (Hatfield *et al.* 1996) and therefore limits the generalisability of the results of this study.

It also needs to be stressed that the concept of the extended family consisting of parents, grandparents and children is common in the Indian subcontinent (Webb-Johnson, 1999) but does not represent life in Britain for the majority of Asian people. Brown (1984) showed that only 16 per cent of Asian households in Britain could be described as extended families. This was also supported by Hashemi and Cochrane (1999) who pointed out that due to a transition from a collectivist culture to a much more individualistic society, the stability and support of the extended family were no longer so accessible for Asians in the UK. Webb-Johnson (1991) also showed that the idyllic image of the extended family as being caring and supportive of all its members did not hold true in all cases. Living in an extended family could be problematic because tensions could arise from a number of sources, such as the larger number of people living in one household or from intergenerational differences in behaviour and outlook (Webb-Johnson, 1991).

The difficulties posed for families caring for individuals with mental health problems is relatively misunderstood and highlights an area which needs further research. This type of research could inform service development and clinical practice as families may require support and assistance from services to cope with the demands of caring for a relative with mental health problems. The quality of family networks and how they are used (Birchwood *et al.* 1992) is another important topic, requiring research. Webb-Johnson (1991) also points out that research in this area has tended to focus on the problems of migration and this has resulted at times in studies perpetuating negative images of the Asian community and stereotypes. Therefore this indicates limitations in the scope of research in this area. The next section continues to focus on another issue which is pertinent when carrying out research with Asian participants with mental health problems and that is heterogeneity within the Asian community.

Differences in the Asian community

The issue of heterogeneity within the Asian community in Britain is important in the understanding of mental health problems in this group. Webb-Johnson (1991) points out that there are as many diversities within the Asian community as there are similarities. This includes differences in languages, culture, traditions, religions and historical legacies, within the Indian subcontinent (Webb-Johnson, 1991). Furthermore, Greenwood *et al.* (2000) carried out a qualitative interview study investigating carers' and patients' experiences of mental health services. They argued that heterogeneity in the Asian community is further complicated when considering differences between first and second-generation Asians, whereby issues may arise concerning whether an individual born in England to Indian parents considers him/herself to be Asian first and British second or vice versa. From this study, Greenwood *et al.* (2000) concluded that there was no uniform Asian identity, which transcended these differences. Bhui *et al.* (1993) also discussed the differences within the Asian community and how this added to the complexity of understanding mental health problems. They stressed that this could be due to unfamiliarity in the different ways in which people from the Asian community communicate distress.

However, there have been drawbacks in the research looking at differences within the Asian community. Greenwood *et al.* (2000) found that their qualitative methodology using semi-structured interviews may not have been the most appropriate method of gaining information from psychiatric patients. They interviewed patients just before discharge from hospital and the timing of the interview could also have been problematic for participants undergoing transition. Greenwood *et al.* (2000) found that it may have been quite difficult for patients to reflect upon their identity and the experience of illness when preoccupied fully with it.

Understanding differences within the Asian community could help mental health services meet the needs of this group. Improvements in quality of life could also be achieved with interventions that take into account differences within the Asian community. Future research exploring the many differences that exist would help towards this aim. In addition, research with larger Asians samples in the UK would also be useful.

1.11 Quality of life, social support and ethnicity

The literature on social support and quality of life has been examined separately in the current literature review. The social support and ethnicity literature focussing on Asians has also been reviewed and issues relating to the provision of support and heterogeneity within the Asian community have been discussed. The current section moves on to bring some of these topics together relating to studies which have explored the main focus of the current study: quality of life, social support and ethnicity.

There has been very little research examining quality of life and social support in people from ethnic minorities. However, Ramirez-Mella (1998) compared perceived social support, psychological well-being and quality of life in a USA sample of Hispanic and Non-Hispanic mental health, outpatients. It was found that the Hispanic sample did not have higher levels of perceived social support than Non-Hispanics, as was expected by the author. The study also confirmed that there was a relationship between perceived social support and quality of life.

Lehman *et al.* (1995) found unexpected results in their study which examined demographic influences on quality of life in people with severe mental health problems, using the Lehman Quality of Life Interview. They found that their non-Caucasian sample (consisting of 90 per cent African-Americans) reported higher levels of quality of life than the Caucasian sample. However, Lehman *et al.* (1995) showed that objective quality of life favoured the Caucasian sample, except for the domain of frequency of family contacts. This suggests that although materially/objectively the non-Caucasian sample had less (for example financial adequacy, employment, daily activities, amount spent each month) they were more satisfied (Lehman *et al.* 1995). However, there were limitations to this research whereby the data that was used was aggregated across a number of surveys and this has the disadvantage of not being epidemiologically representative of people with severe mental health problems and sample bias could have been a problem. On the other hand, the advantage of this type of study is that the data may be more generalisable because it was collected from a number of cities in the U.S.A.

International differences in quality of life have also been discovered. Gaite *et al.* (2002) carried out a study to compare subjective quality of life and objective quality of life indicators in five European cities (Amsterdam, Copenhagen, London, Santander and Verona) with participants with schizophrenia. They recruited a sample of 404 patients (aged 18-65 years) with schizophrenia. Participants were interviewed about quality of life using the Lancashire Quality of Life Profile. Gaite *et al.* (2002) found that there were differences according to subjective and objective indicators of quality of life. This was reported as being particularly marked between the London sample and the Copenhagen sample, in terms of friendships, leisure activities, employment, religious activity and violence. Participants in the Copenhagen sample reported more favourable quality of life on these indicators. This showed that there were differences between these two countries which could be accounted for by a number of factors such as cultural differences, economic differences, ethnic composition of the community or organisation of the healthcare system (Gaite *et al.* 2002). Methodological deficiencies in this study included the comparability of international samples and an example of this was that the London sample were older and more chronic compared to the remaining sites (Gaite *et al.* 2002). The cultural applicability of a common concept of objective and subjective quality of life could also be problematic (Gaite *et al.* 2002). Furthermore, the concepts of objective and subjective quality of life were compared between the sites involved in this study (participants with severe mental health problems), however, no comparisons were made with quality of life in the general population and this could affect the generalisability and interpretation of the findings (Gaite *et al.* 2002).

Research on quality of life and social support indicates that there may be cultural/international differences in social support and quality of life. Cultural differences in subjective and objective quality of life have also been found. However, findings have not been consistent and this is an area which requires further research in order to clarify these issues. Cross-cultural research with people with severe mental health problems on quality of life and social support would add depth to this area. Differences between Asians and Whites with severe mental health problems on quality of life and perceived social support could be explored as the studies above have not investigated/compared these two groups. This type of research would be useful in informing clinical practice for the purposes of developing quality of life improvement interventions and interventions aimed at enhancing social support. Service developments could also be informed by research examining cultural differences in quality of life and social support in people with severe mental health problems, as this type of research could highlight areas which may require funding or extra support.

1.12 Literature summary

The current review initially identified the conceptual issues and theoretical developments in the area of quality of life and how this applied to people with severe mental health problems. This was followed by a discussion of the complexity of the concept of social support in the literature and the two main theoretical models: the *main effects model* and the *buffer model* of social support. Leading on from this, research showing a consistent and positive relationship between quality of life and social support was examined and how this related to people with severe mental health problems. Ethnicity and social support were also discussed (focussing on Asians in the UK with mental health problems) and the research generally indicated that there were some similarities and differences culturally in sources of support and satisfaction with social support. The literature showed that the relationship between quality of life and perceived social support had not been researched cross-culturally in different ethnic groups with mental health problems and a few studies exploring aspects of this relationship were examined. Overall, this review indicated that ethnic differences (for example between Asians and Whites with mental health problems) are an important area to investigate in relation to quality of life and perceived social support and can inform clinical practice.

1.13 Research problem and aims

Quality of life and perceived social support are important subjects to study in the area of mental health because they have a major impact on the lives of people with severe mental health problems. Research on quality of life and perceived social support can be of benefit to clinical psychology because it can be used to inform clinical practice and service developments aimed at people with severe mental health problems.

The research questions were developed from gaps in the literature. The current study aimed to explore perceived social support and quality of life in people with severe mental health problems. Although this area had been researched recently, cross-cultural differences had not been examined in previous research and hence the current study compared Asians and Whites with severe mental health problems on measures of perceived social support and quality of life. The focus was also on people with severe mental health problems as research on this type of sample could be used to inform and improve clinical practice. It was expected that there would be differences in quality of life and perceived social support for Asians and Whites with severe mental health problems on the grounds that the literature suggests that Asians rely more on family support than Whites (Burnett *et al.* 1999; Patel, 1992; Stopes-Roe & Cochrane, 1990a). Therefore, it was predicted that Asians with severe mental health problems would rely more on family support than Whites with severe mental health problems

It was also anticipated that the relationship between quality of life and perceived social support would be stronger in Whites with severe mental health problems compared to Asians with severe mental health problems because studies have shown that Whites have higher levels of social support overall than Asians (Hussain *et al.* 1997; Sah, 2000) and this would influence the strength of the relationship between these two variables.

1.14 Research Questions and Hypotheses

Research Questions

1. Is there a relationship between perceived social support and quality of life?
2. Are there differences in perceived social support and quality of life between Asians and Whites with severe mental health problems?

Hypotheses

1. There will be a positive relationship between perceived social support and quality of life in people with severe mental health problems.
2. The strength of the relationship between perceived social support and quality of life will be stronger in Whites with severe mental health problems compared to Asians with severe mental health problems.
3. Whites with severe mental health problems will perceive higher levels of social support (as measured by the overall scale of the MSPSS) than Asians with severe mental health problems.
4. Asians with severe mental health problems will perceive significantly higher levels of social support from their families (as measured by the *Family* subscale of the MSPSS) than Whites severe mental health problems.
5. There will be differences in quality of life ratings between Asians and Whites with severe mental health problems.

Method

2.1 Design

The current study used a between-subjects survey design, whereby the same participants completed a number of measures (questionnaires).

The independent variable in this study was the ethnicity of the participant (Indian or White). The dependent variables were quality of life (as measured by the mean score of the MANSA), overall perceived social support (the overall score on the MSPSS) and perceived family support (as measured by the *family* scale of the MSPSS).

2.2 Participants

The population of the current study consisted of individuals with severe mental health problems. This included people with depression, bipolar disorder and psychosis. Participants were identified as having severe mental health problems via their mental health key workers and also with the use of the Brief Symptom Inventory (BSI) as a screening tool (Derogatis, 1993). Threshold scores over 63 on the Global Severity Index or on two of the nine primary dimensions of this questionnaire indicated a positive case for the presence of psychological symptoms.

The mean age of participants was 43.82 and ranged from 28 to 61 years. The sample was roughly equivalent in term of males and females with 22 males and 23 females in the final sample of participants with severe mental health problems. In terms of ethnicity, 24 Indians and 21 Whites participated in the study. Due to the final Asian sample consisting solely of Indian participants it will be labelled as the Indian sample in the rest of the current study. The mean age of Indian participants was 43.08 years (*SD* = 8.30) and 44.66 years (*SD* = 10.39) for the White sample. An independent samples t-test was carried out (Pallant, 2001) to find out if there was a significant difference in the ages of Indians and Whites. The t-test showed there were no significant age differences between the Indian and White samples ($t = .56$, $df = 43$, $p = .57$, two-tailed).

There were 12 men and 12 women in the Indian sample. The White sample consisted of 10 men and 11 women. The chi square test for independence (Pallant, 2001) was carried out to find out if the gender split in the Indian and White samples with severe mental health problems was significantly different. The chi square test showed there were no significant differences in the gender split in the two samples ($\chi2 = .00$, $df = 1$, $p = 1.00$). These findings show that the Indian and White samples with severe mental health problems were similar in terms of the age and gender split of participants.

Table 1 below shows the diagnoses of Indians and Whites with severe mental health problems. It can be seen that the greatest percentage of participants in the Indian (45.8 per cent) and White (71.4 per cent) sample with severe mental health problems were diagnosed with major depression. An equal percentage of the Indian sample (20.8

per cent) were diagnosed with schizophrenia and bipolar disorder. Within the White sample 14.3 per cent were diagnosed with bipolar disorder and a smaller percentage with schizophrenia (9.5 per cent). It is interesting to note that a larger proportion of the Indian sample (12.5 per cent) were uncertain of their diagnosis compared to the White sample (4.8 per cent) with severe mental health problems.

Table 1: Percentage of Indians (*n* = 24) and Whites (*n* = 21) with diagnoses of major depression, schizophrenia, bipolar depression and uncertain of their diagnosis.

	Major Depression	**Schizophrenia**	**Bipolar Disorder**	**Uncertain of diagnosis**
White Sample	71.4 %	9.5 %	14.3 %	4.8 %
Indian Sample	45.8 %	20.8 %	20.8 %	12.5 %
Total Sample	57.8 %	15.6 %	17.8 %	8.9 %

Table 2 below shows that the mean Brief Symptom Inventory (BSI) scores for participants ranged from 61.47 (White sample) on the *hostility* scale to 75.12 (Indian sample) on the *psychoticism* scale. The higher score for the Indian sample on the *psychoticism* scale could be due to a larger percentage of this sample being diagnosed with schizophrenia (see Table 1 above).

Table 2: BSI subscale mean scores and standard deviations for the White sample (*n* = 21), Indian sample (*n* = 24) and total sample (*n* = 45).

BSI Subscale	**Mean score**	**Standard Deviation**
Depression:		
White sample	69.19	8.97
Indian sample	70.29	10.51
Total sample	69.77	9.73
Somatisation:		
White sample	66.57	10.56
Indian sample	66.00	14.55
Total sample	66.26	12.71
Obsessive-Compulsive:		
White sample	69.38	9.85
Indian sample	72.75	7.23
Total sample	71.17	8.62
Interpersonal sensitivity:		
White sample	68.33	9.40
Indian sample	69.29	9.42
Total sample	68.84	9.32
Anxiety:		
White sample	65.80	12.24
Indian sample	68.70	10.21
Total sample	67.35	11.17
Hostility:		
White sample	61.47	12.60
Indian sample	66.58	9.70
Total sample	64.20	11.31
Phobic Anxiety:		
White sample	66.95	14.73
Indian sample	72.12	6.72
Total sample	69.71	11.36
Paranoid ideation:		
White sample	67.57	10.67
Indian sample	68.41	11.35
Total sample	68.02	10.92
Psychoticism:		
White sample	70.66	11.72
Indian sample	75.12	5.33
Total sample	73.04	9.08

The participant sample was recruited from a range of statutory mental health services and voluntary sector mental health organisations, in two counties in the Midlands. This included individuals allocated to mainstream mental health services such as Community Mental Health Teams (CMHT) and Assertive Outreach Teams (AOT) and individuals from voluntary sector mental health organisations. Participants were recruited from services which mainly covered inner city type areas so that there would not be a large discrepancy in socioeconomic status between groups.

Participants were selected on the basis of initial discussion with their key-worker or consultant, in order to identify individuals who met the inclusion criteria for this study.

Inclusion and exclusion criteria

White and Asian participants who were clients of NHS mental health services and from voluntary mental health organisations between the ages of 18-65 were included in this study. They had a reasonable grasp of the English language, in order to complete the questionnaires. Participants also had severe mental health problems (major depression, bipolar disorder and schizophrenia). Individuals with florid symptoms were to be excluded from this study. However, none of the participants presented with florid symptoms and this may have been due them being identified by their key worker.

Participants without mental health problems were excluded as were those who were psychiatric inpatients.

2.3 Ethical considerations

Ethical approval was sought from Ethics Committees from two counties in the Midlands (see Appendix A for approval letters). A Consent form and Participant Information sheet was designed and consent was obtained from each individual (see Appendix B and C) by mental health key workers. Organisations were initially consulted for their consent. The researcher made contact with Mental Health Service sector managers and managers of voluntary sector mental health organisations via telephone or email contact. They were consulted for consent to contact team managers (when this was relevant in mental health services) and key-workers to help recruit participants for this study. Each participant was given as much time as they needed to make their decision to participate. Participants remain anonymous as their names were not required and all information was password protected on computers so there was no way others could obtain information.

2.4 Measures/Questionnaires used

Manchester Short Assessment of Quality of life (MANSA)

Quality of life was measured using the Manchester Short Assessment of Quality of life (MANSA) (Priebe, Huxley *et al.* 1999), as shown in Appendix D. This questionnaire measured quality of life focussing on satisfaction with life as a whole and with several life domains. These life domains included: satisfaction with job (sheltered employment, training/education and unemployment), number and quality of friendships, financial situation, personal safety, leisure activities, accommodation, people that participant lives with or living alone, mental health, physical health, sex life and relationship with family. Satisfaction was rated on a seven point rating scale (1= negative extreme to 7= positive extreme). There were also four objective questions participants were required to answer. These included: the number of contacts with friends per week, the existence of a " close friend", victimisation by physical violence and accusation of a crime. The front sheet of this questionnaire recorded demographic information regarding the participant's age, gender, ethnicity, place of birth, diagnosis, age at onset of illness/mental health problems, and duration of current problem. Details regarding employment status, number of children and with whom participant lives were also collected from this front sheet. Most of the demographic questions were already present on the questionnaire and the researcher added three questions: "place of birth", "age at onset of illness/mental health problem" and "duration of illness/ mental health problem".

The MANSA was a shortened and revised version of the already established Lancashire Quality of Life Profile (LQLP) (Oliver *et al.* 1997). Priebe, Huxley *et al.* (1999) tested the MANSA with a sample of 55 community psychiatric patients. They described 20 of the patients as being from ethnic minorities. However, further information regarding which ethnic minority group was not provided in the study. Priebe, Huxley *et al.* (1999) found that the MANSA had a Cronbach's alpha of .74. Correlations between the MANSA and the LQLP were .89 and higher. They concluded that the MANSA was a valid instrument for obtaining accurate and condensed quality of life data. The Cronbach's alpha for the MANSA in the current study was .74.

This questionnaire was chosen to meet the aims of the current study because it provided an overall subjective measure of quality of life (mean score) and this was ideal for the Hypotheses and research questions raised for investigation. Questions relating to specific life domains were also provided by the MANSA and this could prove useful in obtaining detailed information concerning quality of life. The brevity of the questionnaire was also an advantage relating to engagement with people with severe mental health problems and difficulties with attention if a longer, more time consuming questionnaire was used. The reliability and validity of the MANSA have been discussed above and its background with the already well-established LQLP. The MANSA was also validated with participants from ethnic minorities, although it is unclear which minority groups these were. However, this lends support to the cultural sensitivity of this measure. Furthermore, Priebe, Huxley *et al.* (1999) have demonstrated the reliability and validity of this measure with people with severe mental health problems and this is useful given the participant sample of the current study also have severe mental health problems.

Multidimensional Scale of Perceived Social Support (MSPSS)

Perceived Social Support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet *et al.* 1988), as shown in Appendix E. This was a 12-item self-report questionnaire addressing support from family, friends and a significant other. A seven-point rating scale was used, which ranged from very strongly agree (1) to very strongly disagree (7). The MSPSS assessed the adequacy of social support, subjectively. Zimet *et al.* (1988) tested the MSPSS with a sample of college students in the U. S. They found that the MSPSS had good internal reliability (Cronbach's alpha was .88) and test retest reliability. The MSPSS has also been tested with psychiatric patients. Cecil *et al.* (1995) assessed the psychometric properties of the MSPSS with a sample of outpatients with schizophrenia, bipolar disorder and major depression. Sixty-six per cent of the participant sample were from ethnic minority groups (African-American, Asian and Mexican-American). Cecil *et al.* (1995) found that the MSPSS had good internal reliability (alpha coefficient .92) and concluded that this was a psychometrically sound instrument to be used with psychiatric populations. The Cronbach's alpha for the MSPSS in the current study was .88.

The MSPSS was used in the current study because it differentiated between different sources of perceived social support and overall perceived social support.

Therefore, it was easy to measure perceived support from family and overall support, and this was vital for the hypotheses in this study examining these aspects of perceived social support. The MSPSS is a brief measure of perceived social support (12 items) and this is also another benefit in using this questionnaire. The MSPSS has also been validated with ethnic minority groups (see Cecil *et al*, 1995) and this lends support for its cultural sensitivity. This is important for the current study as differences in perceived social support between Asians and Whites will be examined. The suitability of this measure for this study is also supported by findings of the reliability and validity of the MSPSS with people with severe mental health problems (Cecil *et al.* 1995).

Brief Symptom Inventory (BSI)

Symptom severity was measured using the Brief Symptom Inventory (BSI) (Derogatis, 1993), as shown in Appendix F. This is a 53 item self-report measure of psychological symptoms in psychiatric and non-patient community populations. The items on this checklist were rated on a five-point scale of distress, ranging from “not at all” (0) to “extremely” (4). The BSI was profiled in terms of nine primary symptom dimensions: *somatization, obsessive-compulsive, depression, anxiety, hostility, phobic anxiety, paranoid ideation* and *psychoticism*. The BSI was a well-established psychological/psychiatric symptom inventory which had been used widely and was the brief form of the Symptoms Checklist- 90- Revised. Croog *et al.* (1986) found the BSI had good internal reliability and obtained alpha coefficients ranging from .78 to .83, with a sample of males with hypertension. Derogatis (1993) tested the BSI with a sample of psychiatric outpatients and 36.6 per cent of the sample were Black and the remaining 67.1 per cent were White (0.3 per cent "other"). Derogatis (1993) also found that Cronbach's alpha coefficients for the nine dimensions of the BSI were all high ranging from .71 on the *psychoticism* dimension and .85 on *depression.* Furthermore, Aroian *et al.* (1995) examined the internal reliability of the BSI with three immigrant groups in the United States (Irish, Filipino and Polish). They found that the alpha coefficients for the combined sample ranged from .74 (*psychoticism* dimension) to .92 (*phobic anxiety* dimension) and .98 for the total scale. Aroian *et al.* (1995) concluded that the BSI was a valid cross-cultural measure of psychological distress. The overall Cronbach's alpha coefficient for the nine dimensions of the BSI in the current study was .97. Alpha levels for the items of the BSI ranged from .71 (*psychoticism* dimension) and .92 (*depression* dimension).

The BSI was used in the current study as a screening tool for the presence of psychological symptoms in participants. It was anticipated that participants with a threshold score of 63 or more on the Global Severity Index or alternatively a score of 63 or more on two primary dimensions would be included in the study. The detailed information from the BSI could also be used to describe the participant sample (see Table 2 above). The cultural sensitivity of this measure was also one of the reasons it was selected as it has been validated in a number of different cultural groups (see Aroian *et al.*1995; Derogatis, 1993). Furthermore, the reliability and validity of the BSI has already been demonstrated with people with mental health problems (Derogatis, 1993).

2.5 Procedure

The researcher initially contacted team managers from CMHT's, AOT's and community group programmes in two counties in the Midlands to discuss the study and with their approval the researcher approached Social Workers, Community Psychiatric Nurses and Occupational Therapists. Suitable clients were then identified through discussions with these mental health professionals. Consent to approach these clients was also sought from these mental health professionals. The researcher then gave Participant Information sheets and Consent forms to key workers to hand over to interested potential participants. Once consent had been obtained, the researcher gave questionnaires to participants to complete and they had the option of returning them to the researcher in person or posting them in a pre-paid envelope.

Voluntary sector organisations were also approached by the researcher in a similar manner and consent to approach clients was gained from organisation managers. The researcher visited these organisations and distributed Participant Information sheets and Consent forms to key workers to hand over to interested potential participants. After consent was obtained from potential participants they were given the questionnaire pack to complete. These participants also had the option of returning the pack to the researcher in person when it was completed or to return it in a pre-paid envelope. All participants had the option of asking the researcher to answer any queries regarding the research and were thanked for participating in the study.

Results

3.1 Statistical analysis plan

Data obtained from the measures mostly showed normal distribution and equal variance according to Kolmogorov-Smirnov tests and the Levene test for equality of variances. The results of these tests will be reported alongside the statistical analyses. A range of statistical techniques were used to analyse data. Independent t-tests were used to compare ethnic differences on quality of life and perceived social support. Pearson's Product Moment Correlation coefficients and Spearman's Rank Order Correlation coefficients were used to examine the relationship between quality of life and perceived social support. Pearson's Product Moment Correlation coefficients and Spearman's Rank Order Correlation coefficients were also used to examine this relationship according to ethnicity. Finally, Fisher's Z-Transform test was used to examine differences between Indians and Whites with severe mental health problems in the strength of the relationship between quality of life and perceived social support.

3.2 Sample characteristics

Data was collected from a number of different sources across the two counties under study. This included Community Mental Health Teams (CMHT's), Assertive Outreach Teams (AOT's), community group programmes and voluntary organisations. It was not possible to calculate the response rate because key-workers initially approached prospective participants.

The BSI was used because it is a reliable screening measure of the presence of psychological symptoms. It is recommended that in order to define a positive case participants need to have a Global Severity Index (GSI) score of 63 or more or alternatively need to achieve scores of 63 or above on two of the nine primary dimensions of this scale (Derogatis, 1993). All participants were identified by key-workers as having severe mental health problems (psychosis, bipolar disorder and major depression). Forty-three of the 45 participants scored above the threshold on the BSI and the scores of two participants were less than 63 on the BSI, which did not reach the threshold. One of the participants was male and the other was female. The raw GSI score of the male participant was .13 and this was within one standard deviation of the mean for the male sample (mean = .25, *SD* = .24). The raw GSI score of the female participant was .32 and this was also within one standard deviation of the mean for the female sample (mean = .35, *SD* = .37). These two participants had been recruited from AOT's and their key workers described their mental health problems as being severe as they needed regular input and support from this type of intensive service. Furthermore, analysis of the results with and without these two cases did not lead to different findings and therefore 45 participants were retained for the purposes of the study.

Table 3: Participants demographic characteristics for the total sample (*n* = 45) and according to ethnicity (Whites, *n* = 21 and Indians, *n* = 24).

	Mean	**Std. Deviation**
Age at onset of illness:		
Total sample	30.56	11.71
White sample	30.00	13.49
Indian sample	31.04	10.28
Duration of mental health problems:		
Total sample	12.56	10.40
White sample	14.05	11.22
Indian sample	11.33	9.72
Number of children:		
Total sample	1.2	1.27
White sample	1.14	1.19
Indian sample	1.25	1.35

Table 3 above summarises participant characteristics. The mean age for the onset of mental health problems/illness for Indian's, Whites and the total sample ranged from 30.00 years to 31.04 years. The table indicated differences between Indians and Whites according to duration of mental health problems with Whites (14.05 years) having a longer duration of mental health problems compared to Indians (11.33 years). The mean number of children for Indians (1.25) and Whites (1.14) with severe mental health problems were quite similar.

The place of birth for 53.3 per cent of the sample was the United Kingdom and 20 per cent of the sample were born in the Indian Subcontinent. 26.7 per cent of the sample were born outside these geographical locations and the majority of these were East

African born Asians (11) and one White born in Denmark. The White participant that was born in Denmark had British parents and returned to live in England again shortly after he was born.

The sample had a number of different living arrangements which are illustrated in Table 4. It can be seen that an equal percentage of Whites with severe mental health problems lived alone (38.1 per cent) and with a partner/husband/wife. Furthermore, an equal percentage of Whites (4.8 per cent) lived with their parents, with a partner and children or with siblings. Table 4 shows that 25 per cent of Indians were living alone and 16.7 per cent lived with a partner/husband/wife. It can be seen that a greater percentage of Indians (20.8 per cent) were living with their parents compared to Whites (4.8 per cent) and with a partner and children (Indians = 16.7 per cent and Whites = 4.8 per cent). An equal number of Whites and Indians (One in each group) with severe mental health problems lived with their siblings .

Table 4: Living arrangements of the total sample ($n = 45$) and according to ethnicity (Whites, $n = 21$ and Indians, $n = 24$).

Living arrangements	Frequency	Per cent
Living alone:		
Total sample	14	31.1
White sample	8	38.1
Indian sample	6	25.0
With partner/husband/Wife:		
Total sample	12	26.7
White sample	8	38.1
Indian sample	4	16.7
With parents:		
Total sample	6	13.3
White sample	1	4.8
Indian sample	5	20.8
With children under 18:		
Total sample	3	6.7
White sample	2	9.5
Indian sample	1	4.2
With children over 18:		
Total sample	3	6.7
White sample	0	0
Indian sample	3	12.5
With partner and children:		
Total sample	5	11.1
White sample	1	4.8
Indian sample	4	16.7
With siblings:		
Total sample	2	4.4
White sample	1	4.8
Indian sample	1	4.2

Table 5 below shows the employment status of participants. It can be seen that the greatest percentage of participants in the Indian (95.8 per cent) and White (66.7 per cent) samples were unemployed. Within the White sample with severe mental health problems 9.5 per cent were in paid employment and a further 14.3 per cent were retired. The smallest percentage of the White sample (4.8 per cent) were in training/education and classified as "other" in the Indian sample (4.2 per cent).

Table 5: Employment status of the total sample of participants (*n* = 45) and split according to ethnic group (Whites, *n* = 21 and Indians, *n* = 24).

Employment status	Frequency	Per cent
In paid employment:		
Total sample	2	4.4
White sample	2	9.5
Indian sample	0	0
Training/education:		
Total sample	1	2.2
White sample	1	4.8
Indian sample	0	0
Unemployed:		
Total sample	37	82.2
White sample	14	66.7
Indian sample	23	95.8
Retired:		
Total sample	3	6.7
White sample	3	14.3
Indian sample	0	0
Other:		
Total sample	1	2.2
White sample	0	0
Indian sample	1	4.2

3.3 Statistics

In order to determine sample size for this study Cohen's (1988) power tables were consulted and a 5 per cent significance level (α) was set for this calculation. In order to address this study's main aim (relationship between quality of life and perceived social support) it was decided that sample size would be based on the two-tailed Pearson's Product Moment Correlation coefficient. On the basis of finding a minimum association of $r = .4$ at 80 % power (.83), a sample size of 50 participants would be required.

Regarding the remaining hypotheses concerning differences between Indians and Whites it was decided that due to the difficulty in accessing a large enough sample of Asian participants (due to poor uptake of mental health services), a sample size of 50 would be acceptable and these results would be discussed with this in mind.

Hypothesis 1: There will be a positive relationship between perceived social support and quality of life in people with severe mental health problems.

In order to investigate Hypothesis 1 Pearson Product Moment Correlation coefficients were used (Pallant, 2001). Preliminary analyses revealed no violations of the assumptions of normality and linearity. A scatterplot showed that the relationship between overall quality of life and the MSPSS total score was linear. The Kolmogorov-Smirnov test (Pallant, 2001) showed that the data for the quality of life overall score was normally distributed ($K = .11$ $n = 45, p = .20$). The MSPSS total score data also showed normal distribution ($K = .12$ $n = 45, p = .09$). The strength of all Pearson and Spearman's correlations were interpreted using Cohen's (1988) guidelines. There was a medium positive correlation between the two variables ($r = .42$, $n = 45, p < .01$, one-tailed). This shows that there was a moderate positive correlation between perceived social support and quality of life and supports Hypothesis 1. The results showed that high levels of perceived social support were associated with high levels of quality of life in people with severe mental health problems.

In addition to providing an overall score of social support, the MSPSS provided scores for three subscales: *family*, *friends* and *significant other*. The Kolmogorov-Smirnov test showed that the data for the *family* subscale was normally distributed (K = .08 n = 45, p = .20) and for the *friends* subscale (K = .07 n = 45, p = .20). However, the data for the *significant other* subscale was not normally distributed (K = .15 n = 45, p = .01) and therefore a non-parametric test: Spearman's Rank Order Correlation (Clark-Carter, 1997) was used for this correlation. Pearson Product Moment Correlation coefficients were used to examine the relationship between quality of life (as measured by the MANSA) and the *friends* and *family* subscales of the MSPSS. Scatterplots were used to examine the relationships between the perceived social support variables and quality of life and they showed linear relationships between the different sets of variables.

A small but significant positive correlation was found between quality of life and perceived social support on the *significant other* subscale (*rho* = .27, n = 45, $p < .05$, one-tailed test n = 45). Furthermore, a significant large relationship was found between participant's scores on the *friends* subscale of the MSPSS and quality of life (as measured by the MANSA) (r = .51, n = 45, $p < .01$). These findings suggest that higher ratings of social support from friends and a significant other were related to higher ratings of subjective quality of life, in people with severe mental health problems. This also provided some support for the relationship between perceived social support and quality of life (Hypothesis 1).

However, the Pearson Product Moment Correlation coefficient did not reveal a significant relationship between the *family* subscale of the MSPSS and quality of life (as measured by the MANSA) ($r = .23$, $n = 45$, $p = .06$). This suggests that ratings of social support from family members have little influence on quality of life.

The data for the remaining quality of life domains was also explored. The Kolmogorov-Smirnov test was used to find out if the data was normally distributed. Table 6 below shows the results of this test. It can be seen that most of the data for the life domains did not show normal distribution apart from *satisfaction with number and quality of friendships* ($K = .12$ $n = 45$, $p = .07$) and therefore Spearman's Rank Order Correlation was used to explore correlation coefficients between the MSPSS scales and the MANSA life domains.

Pearson's Product Moment Correlation coefficient was used to examine the relationship between the life domain *satisfaction with number and quality of friendships* and the MSPSS scales. Results showed that only the *friends* subscale correlated significantly with this subscale ($r = .49$, $n = 45$, $p < .05$) and the strength of the correlation was moderate. This could be due to the two measures (MANSA and MSPSS) assessing similar aspects of social support in this instance.

Table 6: Results of the Kolmogorov-Smirnov test for normal distribution of scores (*n* = 45).

MANSA life domain scales	**Kolmogorov-Smirnov test statistic**	**Statistical significance (*p* value)**
Life as a whole	.15	.009
Job/unemployment/retirement	.14	.01
Leisure activities	.17	.002
Number and quality of friendships	.12	.07
Personal safety	.17	.001
Accommodation	.26	.000
Living situation	.18	.000
Sex life	.15	.008
Family relationships	.16	.004
Physical health	.23	.000
Mental health	.21	.000
Financial situation	.17	.002

Table 7 below shows the correlation coefficients obtained from the Spearman's Rank Order Correlation and significance levels for separate life domains and the different scales of the MSPSS. The table shows that there were a number of correlations between different aspects of perceived social support and the separate life domain scales for people with severe mental health problems. The strength of the significant Spearman's Rank Order correlations ranged from small (.25) to large (.56).

The life domains of *satisfaction with life as a whole, accommodation,* and *mental health* did not correlate significantly with any of the scales of the MSPSS. However there were a number of significant positive correlations between life domains and MSPSS scales. The life domains: *personal safety, living situation, sex life* and *family* relationships correlated significantly with the MSPSS overall scale. This indicates that people with mental health problems who scored higher on the MSPSS were more satisfied with their personal safety, living situation and were also more satisfied with family relationships and their sex life.

There were significant correlations between the life domains *personal safety, sex life* and *family relationships* and the *significant other* subscale of the MSPSS. These findings show that these specific life domains were associated with higher ratings of support from a significant other for people with severe mental health problems.

A number of significant correlations were revealed with life domains: *Job/unemployment/retirement, leisure activities, living situation, physical health, personal safety, financial situation* and the *friends* subscale of the MSPSS. This subscale of the MSPSS had the highest number of significant correlations and the findings indicate that people with severe mental health problems who perceive their friendships as being more supportive may have better physical health, feel more satisfied with their personal safety, with their job, unemployment or retirement and may be more satisfied with leisure activities. These results also hint towards higher levels of satisfaction with finances in people with severe mental health problems who rate perceived support from friends highly. Overall, the significant correlation coefficients indicate some interesting relationships between different life domains and the subscales of the MSPSS.

Table 7: Correlation coefficients matrix between MSPSS subscales and MANSA life domain scales ($n = 45$).

MANSA scales	**MSPSS Total scale**	**Significant other scale**	**Family scale**	**Friends scale**
Life as a whole	-.01	-.11	-.11	.22
Job/unemployment/retirement	.08	-.003	-.06	.26*
Leisure activities	.15	.08	.09	.25*
Personal safety	.40**	.31*	.18	.56**
Accommodation	.17	.22	.18	.06
Living situation	.28*	.15	.21	.30*
Sex life	.28*	.39**	.23	-.03
Family relationships	.41**	.34*	.46**	.22
Physical health	.06	-.07	-.01	.31*
Mental health	.07	.03	.001	.20
Financial situation	.19	.18	.16	.25*

*Note: * = $p < .05$ (one-tailed tests) ** = $p < .01$ (one-tailed tests).*

Hypothesis 2: The strength of the relationship between perceived social support and quality of life will be stronger in Whites compared to Asians with severe mental health problems.

The data to explore Hypothesis 2 generally showed normal distribution apart from the scores of the Indian sample on the *significant other* subscale of the MSPSS. The tables below (Tables 8 and 9) show the results of the Kolmogorov-Smirnov test for the White sample and the Indian sample. Spearman's Rank Order Correlation was used to explore the relationship between quality of life and scores on the *significant other* subscale of the MSPSS and the Pearson Product Moment Correlation coefficient was used to examine the relationship between the remaining perceived social support scales (MSPSS overall scores, *friends* subscale and the *family* subscale) and quality of life. Scatterplots revealed that the relationships between the perceived social support variables and quality of life were linear.

Table 8: Kolmogorov-Smirnov test results for the White sample with severe mental health problems (*n* = 21).

Questionnaire scales for the MANSA and MSPSS	**Kolmogorov-Smirnov test statistic**	**Statistical significance (*p* value)**
MANSA overall score	.16	.13
MSPSS total score	.10	.20
Significant other scale (MSPSS)	.15	.19
Family scale (MSPSS)	.12	.20
Friends scale (MSPSS)	.09	.20

Table 9: Results of the Kolmogorov-Smirnov test for normal distribution of data for the Indian sample with severe mental health problems (*n* = 24).

Questionnaire scales for the MANSA and MSPSS	**Kolmogorov-Smirnov test statistic**	**Statistical significance (*p* value)**
MANSA overall score	.11	.20
MSPSS total score	.16	.09
Significant other scale (MSPSS)	.21	.007
Family scale (MSPSS)	.10	.20
Friends scale (MSPSS)	.13	.20

Fishers' Z-transform test (Pallant, 2001) was used to compare the difference between the separate Pearson Product Moment Correlation coefficients of each group (see Appendix H for the formula for this test). However, there were no significant differences between the two groups on quality of life (as measured by the MANSA) and perceived social support (as measured by the MSPSS) ($z = 1.15$, $n = 45$, $p = .12$). However, the Fisher's Z-Transform test compared the Pearson Product Moment Correlation coefficients for the *Family* subscale (as measured by the MSPSS) and quality of life (as measured by the MANSA) and showed that there was a statistically significant difference between the strength of the medium correlation of the White group ($r = .46$) and the weak correlation of the Indian group ($r = .01$) ($z = 4.92$, $n = 45$, $p < .001$). This finding indicated that the strength of the correlation between family support and quality of life was significantly stronger for the White sample and provides tentative support for Hypothesis 2. It suggests that family support may have more influence over quality of life ratings for the White sample than the Indian sample with severe mental health problems.

A further analysis was carried out to find out if there was a difference in the strength of the correlation between quality of life and support from friends (as measured by the MSPSS) for the White ($r = .32$, medium correlation) and Indian group ($r = .73$, large correlation). Fishers Z-Transform test showed that there was a highly significant difference in the strength of the two correlations ($z = 5.89$, $n = 45$, $p < .001$). This showed that the relationship between support from friends and quality of life was stronger in the Indian sample with severe mental health problems and does not support Hypothesis 2. These findings suggest that perceived support from friends could have more influence over quality of life ratings for the Indian sample compared to the White sample with severe mental health problems.

The remaining 12 quality of life domains were also explored in order to examine the relationship between these domains and perceived social support. The Kolmogorov-Smirnov test was used to find out if the data had normal distribution. Tables 10 and 11 below show the results of this test for the White sample and the Indian sample with severe mental health problems. Table 10 below shows that the scores of the White sample for the life domains: *number and quality of friendships, personal safety, accommodation, sex life, physical health* and *mental health* were not normally distributed and therefore the Spearman's Rank Order Correlation was used to explore the relationships between these life domains and the MSPSS scales. However, parametric tests (Pearson's Product Moment Correlation coefficient) were used to explore the remaining life domains.

Table 11 below shows that the scores for the Indian sample with severe mental health problems were not normally distributed on a number of life domains: *living situation, sex life, family relationships, physical health* and *mental health.* In accordance with the White sample these life domains that do not have normal distribution of scores were correlated with MSPSS scales using Spearman's Rank Order Correlation and the remaining life domains were correlated using Pearson's Product Moment Correlation coefficient.

Table 10: Results of the Kolmogorov-Smirnov test for MANSA life domain scores of the White sample with severe mental health problems (*n* = 21).

MANSA life domain scales	**Kolmogorov-Smirnov test statistic**	**Statistical significance (*p* value)**
Life as a whole	.18	.06
Job/unemployment/retirement	.17	.07
Leisure activities	.17	.08
Number and quality of friendships	.19	.04
Personal safety	.22	.008
Accommodation	.26	.001
Living situation	.16	.13
Sex life	.21	.01
Family relationships	.15	.18
Physical health	.24	.002
Mental health	.24	.002
Financial situation	.16	.11

Table 11: Kolmogorov-Smirnov test results for MANSA life domains for the Indian sample with severe mental health problem ($n = 24$).

MANSA life domain scales	**Kolmogorov-Smirnov test statistic**	**Statistical significance (*p* value)**
Life as a whole	.17	.06
Job/unemployment/retirement	.17	.052
Leisure activities	.17	.06
Number and quality of friendships	.14	.20
Personal safety	.15	.11
Accommodation	.29	.000
Living situation	.21	.005
Sex life	.18	.03
Family relationships	.21	.006
Physical health	.22	.003
Mental health	.17	.04
Financial situation	.17	.057

Tables 12 and 13 below show the correlation coefficients obtained by the White sample with severe mental health problems, on the MSPSS and MANSA scales. It can be seen that the strength of the significant correlation coefficients ranged from medium (.39) to large (.70). The correlations for the MANSA life domains of *satisfaction with life as a whole, job/retirement or unemployment, leisure activities, sex life, physical health* and *mental health* were not statistically significant for the White sample. It can be seen from the two tables that there were a number of positive significant correlations for the different life domains and the MSPSS scales. The life domains: *number and quality of friendships, personal safety, financial situation, living situation* and *family relationships* correlated significantly with the MSPSS overall scale. These findings indicate that the White sample with severe mental health problems who had higher overall scores on the MSPSS also had higher scores on these specific life domains.

There were fewer significant correlations between life domains and the *significant other* scale of the MSPSS, for the White sample. The significant life domains were *personal safety* and *living situation* and they indicated that higher scores for the White sample with severe mental health problems on the *significant other* subscale of the MSPSS were associated with higher levels of satisfaction with these life domains.

A number of significant positive correlations were found between the *family* scale of the MSPSS and specific life domains: *personal safety, accommodation, financial situation, living situation* and *family relationships.* This finding suggests that the White sample that perceived more support from their family were also more satisfied with these life domains. There may also be similarity in the two questionnaires (MSPSS and the MANSA) in assessing family relationships in the same life domain (of the MANSA) and the *family* subscale of the MSPSS.

The *friends* scale of the MSPSS was significantly correlated with three life domains: *number and quality of friendships, personal safety* and *living situation.* There may have been some overlap between the two questionnaires (MSPSS and the MANSA) in reporting on similar social relationships such as on the *friends* subscale of the MSPSS and on the MANSA life domain of *number and quality of friendships*. The other significant positive correlations between the life domains (*personal safety* and *living situation*) and the *friends* subscale indicate that higher scores for the White sample with mental health problems on these life domains were associated with higher perceived social support from friends.

It is interesting to note that the life domain *satisfaction with personal safety* was significantly correlated with all of the scales of the MSPSS. This suggests that higher ratings of personal safety were associated with higher levels of perceived social support for the White sample with severe mental health problems.

Table 12: Correlation coefficients matrix of the MANSA life domains and MSPSS scales for the White sample using Spearman's Rank Order Correlation (*n* = 21).

MANSA scales	**MSPSS Total scale**	**Significant other scale**	**Family scale**	**Friends scale**
Number and quality of friendships	.38*	.23	.07	.55**
Personal safety	.55**	.43*	.44*	.67**
Accommodation	.22	.19	.38*	-.07
Sex life	.27	.29	.32	-.11
Physical health	-.08	-.19	-.02	.06
Mental health	-.006	-.15	.02	.15

*Note: * = p < .05 (one-tailed tests) ** = p < .01 (one-tailed tests).*

Table 13: Correlation coefficients for MSPSS subscales and MANSA life domain scales for the White sample with severe mental health problems, using Pearson's Product Moment Correlation coefficients ($n = 21$).

MANSA scales	**MSPSS Total scale**	**Significant other scale**	**Family scale**	**Friends scale**
Life as a whole	.008	-.13	.05	.10
Job/unemployment/retirement	-.14	-.11	-.17	-.08
Financial situation	.43*	.30	.61**	.18
Leisure activities	.13	.08	.13	.12
Living situation	.50**	.38*	.41*	.50**
Family relationships	.49*	.26	.70**	.30

*Note: * = $p < .05$ (one-tailed tests) ** = $p < .01$ (one-tailed tests).*

Tables 14 and 15 below show the correlation coefficients for the subscales of the MSPSS and the separate life domains of the MANSA, for the Indian sample with severe mental health problems. The significant correlation coefficients of this group (Indians) on the two scales ranged from medium (.35) to large (.55). It can be seen that the *family* subscale of the MSPSS did not correlate significantly with any of the life domains of the MANSA. Furthermore, the MANSA life domains of *satisfaction with life as a whole, accommodation* and *living situation* did not correlate significantly with any of the MSPSS subscales.

A number of significant positive correlations between the MSPSS scales and the MANSA life domains emerged for the Indian sample with severe mental health problems. The MSPSS overall scale correlated significantly with the life domains *sex life* and *job/unemployment/retirement*. This finding suggests that Indians with higher levels of overall perceived social support were more satisfied with their job, unemployment or retirement and their sex life.

The *significant other* scale of the MSPSS correlated significantly with the life domains: *sex life, family relationships* and *mental health*. This indicates that Indian participants with severe mental health problems who perceived higher levels of support from a significant other also scored highly on these specific life domains. It is interesting to note that two of the life domains report on aspects of social relationships (*sex life* and *family relationships*).

The greatest number of significant correlations with life domains were with the *friends* subscale of the MSPSS. These life domains were: *physical health, job/unemployment/retirement, leisure activities, financial situation, personal safety* and *number and quality of friendships*. This finding shows that Indians with severe mental health problems who perceived higher levels of support from friends also had higher scores on a greater number of life domains.

Table 14: Correlation coefficients obtained by the Indian sample for MSPSS subscales and MANSA life domain scales, using Spearman's Rank Order Correlation (*n* = 24).

MANSA scales	**MSPSS Total scale**	**Significant other scale**	**Family scale**	**Friends scale**
Accommodation	.08	.14	-.16	.26
Sex life	.36*	.42*	.21	.14
Living situation	.01	-.04	-.14	.13
Family relationships	.31	.35*	.06	.18
Physical health	.17	.12	-.05	.53**
Mental health	.27	.35*	.09	.25

*Note: * = p < .05 (one-tailed tests) ** = p < .01 (one-tailed tests).*

Table 15: Correlation coefficients matrix between MSPSS scales and MANSA life domains for the Indian sample, using Pearson's Product Moment Correlation coefficients (*n* = 24).

MANSA scales	**MSPSS Total scale**	**Significant other scale**	**Family scale**	**Friends scale**
Life as a whole	.01	-.09	-.22	.29
Job/unemployment/retirement	.37*	.05	.17	.54**
Leisure activities	.24	.05	.04	.40*
Financial situation	.16	.07	-.17	.40*
Personal safety	.31	.19	-.002	.45*
Number and quality of friendships	.11	-.25	-.14	.55**

*Note: * = p < .05 (one-tailed tests) ** = p < .01 (one-tailed tests).*

Hypothesis 3: Whites with severe mental health problems will perceive higher levels of social support (as measured by the overall scale of the MSPSS) than Asians with severe mental health problems.

Tables 8 and 9 above (Kolmogorov-Smirnov test) show that the data for the overall MSPSS scale for the Indian and White sample with severe mental health problems was normally distributed. Therefore a parametric test could be used for this Hypothesis.

An independent t-test (Pallant, 2001) was used to investigate differences between Indians and Whites, in terms of perceived social support (as measured by the MSPSS). The main variable of interest was overall perceived social support (as measured by the MSPSS overall scale). The Levene test for equality of variances (Clark-Carter, 1997) showed that the variances of the two groups were equal ($F = 2.51$, $n = 45$, $p = .12$). The independent t-test comparing the overall scores of Whites and Indians on the MSPSS showed there were no significant differences in the scores for Indians ($M = 53.45$, $SD = 11.11$) and Whites ($M = 52.42$, $SD = 16.03$) ($t = -.253$, $df = 43$, $p = .80$, two-tailed). This shows that the two groups did not differ in terms of overall perceived social support. Thus Hypothesis 3 was not supported by the findings.

Hypothesis 4: Asians with severe mental health problems will perceive significantly higher levels of social support from their families than Whites with severe mental health problems.

The data from the Indian and White sample regarding perceived family support (see Tables 8 and 9 above) showed normal distribution and hence a parametric test was used to examine this Hypothesis.

An independent samples t-test (Pallant, 2001) was carried out to compare differences in perceived family support (as measured by the MSPSS). The Levene test for equality of variances was used and it showed that the variances of the two groups (Indians and Whites with severe mental health problems) were equal ($F = 3.24$, $n = 45$, $p = .07$). It was found that there were no significant differences between Indians ($M = 19.12$, $SD = 4.55$) and Whites ($M = 16.61$, $SD = 6.32$) in terms of perceived support from family members ($t = -1.54$, $df = 43$, $p = .13$, two-tailed). This finding does not support Hypothesis 4 as there are no differences between Indians and Whites regarding perceived family support.

Hypothesis 5: There will be differences in quality of life ratings between Asians and Whites with severe mental health problems.

It can be seen from Tables 8 and 9 above that the data for overall quality of life in the Indian and White samples with severe mental health problems showed normal distribution. Therefore an independent samples t-test was used to examine differences between Indians and Whites with severe mental health problems on quality of life ratings (as measured by the MANSA). The Levene test found that the variances of the two groups were equal ($F = .14$, $n = 45$, $p = .70$). However, there were no significant differences between Indians ($M = 47.04$, $SD = 8.41$) and Whites ($M = 50.00$, $SD = 10.02$) on quality of life ($t = 1.07$, $df = 43$, $p = .28$, two-tailed). This finding does not provide support for Hypothesis 5 as there were no differences in quality of life ratings between Indians and Whites with severe mental health problems.

Discussion

Quality of life and perceived social support in Indians and Whites were explored in the current study. This area was considered worthy of further exploration because it has implications for clinical psychology and mental health services in working with people with severe mental health problems.

4.1 Aims and main Hypotheses of the current study

The current study aimed to explore perceived social support and quality of life in people with severe mental health problems. A small number of previous studies with participants with mental health problems had shown there was a positive relationship between quality of life and social support (Baker *et al.* 1992; Bengtsson-Tops & Hansson, 2001). However, quality of life and perceived social support in Asians with severe mental health problems had not been examined in previous research and hence this area was considered worthy of further exploration because service provision which is informed by culturally relevant research is more likely to meet the needs of ethnic minority groups and of the general population.

It was expected that there would be differences in quality of life and perceived social support for Indians and Whites with severe mental health problems because previous research had shown Asians had lower levels of social support than Whites (Sah, 2000). Furthermore, a small number of previous studies had shown cultural and international differences in quality of life ratings (Gaite *et al.* 2002; Lehman *et al.* 1995).

It was also anticipated that the relationship between quality of life and perceived social support would be stronger in Whites compared to Indians because studies had shown that Whites have higher levels of social support than Asians (Sah, 2000) and this would influence the strength of the relationship between these two variables.

It was predicted that Indians would rely more on family support than Whites and these predictions were based on the findings of previous studies in the literature (Burnett *et al.* 1999; Patel, 1992).

The five main Hypotheses of the current study are described below and these will be discussed in more detail in section 4.3.

1. There will be a positive relationship between perceived social support and quality of life in people with severe mental health problems.
2. The strength of the relationship between perceived social support and quality of life will be stronger in Whites with severe mental health problems compared to Asians with severe mental health problems.
3. Whites with severe mental health problems will perceive higher levels of social support (as measured by the overall scale of the MSPSS) than Asians with severe mental health problems.

4. Asians with severe mental health problems will perceive significantly higher levels of social support from their families (as measured by the *Family* subscale of the MSPSS) than Whites with severe mental health problems.
5. There will be differences in quality of life ratings between Asians and Whites with severe mental health problems.

4.2 Summary of key findings

The sample consisted of 45 participants with severe mental health problems. There were 24 Indians and 21 Whites who participated in the current study. The mean age of participants was 43.82 and ranged from 28 to 61 years. There was an approximately equal gender split in the final sample consisting of 22 males and 23 females. The results showed that there were no significant differences in the age and gender split of the Indian and White samples with severe mental health problems.

In terms of diagnosis, the largest percentage of Indians (45.8 per cent) and Whites (71.4 per cent) in the current study, were diagnosed with major depression. It was found that an equal percentage of the Indian sample (20.8 per cent) were diagnosed with schizophrenia and bipolar disorder. However, 14.3 per cent of the White sample were diagnosed with bipolar disorder and 9.5 per cent with schizophrenia.

The results of the current study showed that there was a moderate positive correlation between quality of life (as measured by the MANSA) and perceived social support (as measured by the overall score of the MSPPS), in a sample of people with severe mental health problems. Furthermore, two of the subscales of the MSPSS (*friends* and *significant other*) also correlated significantly with quality of life. This showed that higher ratings of support from friends and a significant other were related to higher scores on quality of life. However, the *family* subscale of the MSPSS did not correlate significantly with quality of life and this indicated that participants' ratings of family support were not positively related to quality of life.

Analyses showed that there were no significant differences between Indians and Whites on quality of life (as measured by the MANSA) and overall perceived social support (as measured by the MSPSS). It was also found that there were no significant differences between Indians and Whites in terms of perceived support from family members.

Results also showed that the strength of the correlations between quality of life and overall perceived social support for Indians and Whites with severe mental health problems were not significantly different. However, further analyses using scores for the subscales of the MSPSS revealed significant differences between the strength of correlations between quality of life and perceived family support, which indicated that the positive correlation was stronger for the White sample. This indicated that family support could have more influence over quality of life for the White sample compared to the Indian sample with severe mental health problems. Furthermore, a significant difference was found in the strength of the correlations between quality of life and support from friends (as measured by the MSPSS), between the two groups (Indians and Whites with severe mental health problems). Here the positive correlation was stronger for the Indian sample and this indicated that perceived support from friends could have more influence over quality of life ratings for the Indian sample compared to the White sample with severe mental health problems. Hence there were some differences in the relationship between perceived social support and quality of life between the Indian and White samples.

4.3 Interpretation of findings

Hypothesis 1: There will be a positive relationship between quality of life and perceived social support in people with severe mental health problems.

The current study showed that there was a moderate positive correlation between quality of life and perceived social support, overall for the sample of participants with severe mental health problems. Furthermore, two of the subscales of the MSPSS (*friends* and *significant other*) also correlated significantly with quality of life. These findings support previous research with people with severe mental health problems that has demonstrated the relationship between quality of life and social support (Baker *et al.* 1992; Bengtsson-Tops & Hansson, 2001). Dufort *et al.* (1997) also showed that the relationship between social support and quality of life could be bi-directional, whereby having better quality of life could make a person more sociable and vice versa.

However, the current study found that the *family* subscale of the MSPSS did not correlate significantly with quality of life. This finding is not supported by studies in this area that show enhanced quality of life for individuals who have close positive relationships with their families or frequent contact with family members (Sullivan *et al.* 1992; Zissi *et al.* 1998). However, Stopes-Roe and Cochrane (1990b) commented on the difficulty in giving ratings of support for different family members and friends, which may render these measures unreliable. Therefore, the lack of significant relationship between perceived social support from family and quality of life could have partly been due to difficulty participants had in giving accurate ratings about support received from family members. Another explanation for the lack of a significant relationship between quality of life and perceived family support could be that support from family members may not always be a positive influence for people with severe mental health problems. For instance, research has shown that family relationships can be difficult for people with severe mental health problems (Vaughan *et al.* 1992), can lead to social withdrawal (Bengtsson-Tops & Hansson, 2001) and have been negatively associated with mental health outcome (Erickson *et al.* 1989). Therefore, the results of the present study could indicate that family support does not always have a positive impact on quality of life because of the problems people with severe mental health problems experience with family relationships.

In summary, Hypothesis 1 was supported because there was a significant positive relationship between quality of life and overall perceived social support, for the sample of participants with severe mental health problems. There was also a significant positive association between quality of life and the *friends* and *significant other* subscales of the MSPSS. However, *family* support did not correlate significantly with quality of life in the sample with severe mental health problems. The implications of these findings are that interventions and services that are designed to enhance social support (overall support/perceived support from friends/perceived support from significant other) could have a positive influence on increasing quality of life for people with severe mental health problems. This has implications for clinical psychologists working with people with severe mental health problems in formulating and considering the positive impact of enhancing one aspect of life (social support) and how this could affect overall quality of life.

Hypothesis 2: The strength of the relationship between perceived social support and quality of life will be stronger in Whites with severe mental health problems compared to Asians with severe mental health problems.

It was found in the current study that the strength of the correlations between quality of life and overall perceived social support for Indians and Whites with severe mental health problems were not significantly different. However, there were significant differences between the strength of correlations between quality of life and support from family, which indicated that the correlation was stronger for the White sample with severe mental health problems. This suggests that perceived family support could have more of an influence on quality of life for the White sample than it has for the Indian sample with severe mental health problems. It was also interesting to note from the results of the White sample that this group had a greater number of significant positive relationships between quality of life domains and ratings of perceived family support than there were significant correlations for the other subscales of the MSPSS (overall scale, *friends* scale and *significant other* scale) and quality of life domains. This adds to the evidence in favour of a significant and stronger relationship between quality of life and family support for the White sample with severe mental health problems.

A positive association between quality of life and support from friends was found which was stronger in the Indian sample with severe mental health problems and this suggests that perceived support from friends could have more influence over quality of life ratings for the Indian sample compared to the White sample with severe mental health problems. The correlations between quality of life domains and the MSPSS subscales also showed that the greatest number of significant positive correlations for the Indian sample with severe mental health problems were between the *friends* subscale of the MSPSS and quality of life domains. This also lends support to the findings regarding a stronger relationship between perceived support from friends and quality of life in the Indian sample with severe mental health problems.

Overall the findings regarding the strength of the relationship between quality of life and perceived social support were quite mixed and indicated there may be differences in the relationship between types of perceived social support and quality of life for Indians and Whites with severe mental health problems. This was an area which had not been researched before in Indians in the UK and Whites and therefore further research on this topic would be useful. See section 4.5 (*Directions for further research*) for more detail.

The results indicating a stronger correlation between support from friends and quality of life for the Indian sample with severe mental health problems may have been affected by the location from which participants were recruited. Many of the participants in the Indian sample with severe mental health problems were recruited from a support centre, which ran a number of social groups and therefore this sample may have had higher levels of satisfaction with support from friends, than they would have otherwise. This may have affected the results of this study.

There are no other studies that have specifically examined quality of life and perceived social support in ethnic minorities. Studies have examined quality of life and social support separately in ethnic minorities and this will be discussed in more detail in the sections below. Research has found mixed results regarding cultural differences in quality of life. Some studies have found people from ethnic minorities have higher subjective quality of life and Whites have higher objective quality of life (Lehman *et al.* 1995). Other research has shown international differences in quality of life indicators (Gaite *et al.* 2002). Although there are a small number of studies on this topic, the research suggests there could be cultural differences in quality of life. The current study indicates there could be cultural differences in quality of life and social support because the relationship between support from friends and quality of life was stronger in the

Indian sample and the relationship between perceived family support and quality of life was stronger in the White sample with severe mental health problems.

The literature in the area of social support generally showed that Asians had lower levels of social support. Explanations for this include factors such as migration (Furnham & Sheikh, 1993), minority status (Smith, 1985) and social isolation (Beliappa, 1991; Sah, 2000). The current study on the other hand found that the relationship between perceived support from friends and quality of life was stronger in the Indian sample with severe mental health problems compared to the White sample.

Overall, research indicates differences in quality of life and social support in different ethnic and cultural groups. The findings of this study also showed differences in the strength of the relationship between quality of life and perceived social support (from family and friends) in Indians and Whites, but the sources of support have been different for the two groups. However, the implications of these results could be that different sources of support, such as support from friends and family support have differing influences on quality of life for Indians and Whites with severe mental health problems. This could help inform clinical practice for mental health workers and clinical psychologists in identifying specific types of support for people with severe mental health problems could have more of an influence on their overall quality of life. Further clinically-led research examining the effectiveness of interventions aimed at enhancing social support or specific types of social support would be helpful.

Hypothesis 3: Whites with severe mental health problems will perceive higher levels of social support (as measured by the overall scale of the MSPSS) than Asians with severe mental health problems.

The current results showed that there was no difference between the two groups (Indians and Whites) in terms of perceived social support and this Hypothesis was not supported. This suggests that Whites and Indians with severe mental health problems perceived similar levels of social support and does not indicate the Indian sample were disadvantaged in this area.

These findings were not in line with the research literature on social support which suggests Asians have lower levels of perceived social support and also lack sources of social support. Studies have shown that greater loss of social support in Asians is related to higher levels of psychological distress compared to Whites (Beliappa, 1991; Sah, 2000) and also compared to Asians on the Indian subcontinent (Creed *et al.* 1999). An important factor in the development of this could be due to migration from the Indian Subcontinent and leaving behind major sources of social support (Furnham & Sheikh, 1993). Minority status could also lead Asians in the UK to experience levels of social isolation and alienation (Smith, 1985).

On the other hand, the findings of this study could add to the body of evidence which suggests similarities in perceived social support between different ethnic groups. For example, Patel (1992) has shown similarities in satisfaction with available support between Asians and Whites from the general population. Research has also shown contrary findings whereby Whites from the general population were less satisfied with their social support networks (Stopes-Roe & Cochrane, 1990b).

The implications of these findings are that Indians have similar levels of perceived social support to Whites with severe mental health problems and therefore psychosocial interventions/community support programmes which aim to enhance social support in people with severe mental health problems need to take this into account, to ensure needs are being met in both groups. This is because services often assume that Asians with mental health problems are supported by individuals from the Asian community such as families (Hatfield *et al.* 1996), members of local mosques/temples and neighbours and the current research findings show that in terms of social support Indians have a similar experience to Whites.

Hypothesis 4: Asians with severe mental health problems will perceive significantly higher levels of social support from their families (as measured by the *family* subscale of the MSPSS) than Whites severe mental health problems.

This study found that there were no significant differences between Indians and Whites with severe mental health problems in terms of perceived support from family members and this Hypothesis was not confirmed. Therefore this indicates that both groups of mental health participants perceived similar levels of family support and suggests Indians do not rely more on their families, as some of the research proposes. For example, studies have found Asians with mental health problems rely on their families for support (Burnett *et al.* 1999) and are often cared for by family members at home (Pinto,1970, as cited in Bhugra *et al.* 1999). Research has also shown that Asian individuals with mental health problems were reliant on family members for support as opposed to other potential sources (Patel, 1992). It was also found that Whites from the general population relied on a balanced support network of friends and family (Patel, 1992). The results of the present study are not in line with these findings.

However, there is also a body of evidence that suggests Indians may not find their families as supportive as was previously thought and these studies support the findings of the current study. Research has shown Asians do not see their families as a source of emotional support rather they are usually consulted over concerns regarding health or childcare (Beliappa, 1991). Studies have also found that the stereotypical view of Asians living in and receiving support from extended families was not the case for Asians in the UK and therefore the stability and support provided by this type of support network was not so accessible (Brown, 1984; Hashemi & Cochrane, 1999). Furthermore, Hatfield *et al.* (1996) found that Asian mental health service users and their families did not want to cope with their problems on their own and preferred to seek help from mental health services. This literature shows that Asians do not have an advantage in receiving high levels of support from their families and lends support to similar findings in the current study with an Indian sample with severe mental health problems. This has implications for mental health services to target the needs of Indian families and provide additional support which is needed. These findings also go against the common held beliefs/myths in mental health services in the UK that Asian families can manage with and provide support for family members with severe mental health problems without additional input/advice from services.

Another explanation for these results is that the Indian and White samples in the current study were recruited from similar inner city type areas which mental health services and the voluntary mental health organisations served. The two samples also had similar severe mental health problems. Another similarity in the two samples was the age and gender split of the Indian and Whites samples with severe mental health problems. It may be that the similarities listed above indicate very comparable social circumstances and experiences in dealing with and managing mental health problems. This could in turn lead to a uniformity in the sample of participants even though their cultural backgrounds are very different. These similarities may help explain the lack of difference in ratings of perceived family support by the Indian and White samples with severe mental health problems.

However, the criticism put forward by Stopes-Roe and Cochrane (1990b) (see Hypothesis 1 above), regarding the accuracy and reliability of ratings for different levels of support received from different family members and friends could also be applied here. It could be argued that participants' ratings of family support (as measured by the MSPSS) may not have been accurate and this could have affected the results.

In the future it may be useful for participants to rate support received from a limited number of family members and friends in order to gain potentially more reliable/accurate ratings of support. Zimet *et al.* (1988) also proposed that it could be useful to find out what constitutes a "special person" in the *significant other* subscale of the MSPSS, in order to find out exactly what a significant other is for respondents.

In summary, this study found there were no significant differences between Indians and Whites with severe mental health problems on perceived social support from family members. This finding did not support the Hypothesis. The results discussed here suggest that family support may be equally important to Indians and Whites and this has implications for mental health services.

Hypothesis 5: There will be differences in quality of life ratings between Asians and Whites with severe mental health problems.

No significant differences between Indians and Whites with severe mental health problems were found on quality of life in the current study. This suggests similar levels of subjective quality of life in the two groups. This may have been due to the sample experiencing similar mental health problems and therefore possibly similar lifestyles dealing with these issues.

A few studies have examined quality of life in different ethnic/international groups, which have been briefly mentioned above (see Hypothesis 2). These studies have found that there are group differences on quality of life. For example, Lehman *et al.* (1995) found that their non-Caucasian sample reported higher levels of subjective quality of life than the Caucasian sample and objective quality of life was higher in the Caucasian sample. International differences in subjective and objective quality of life indicators have also been found (Gaite *et al.* 2002).

Research in this area is still in its early stages and indicates there may be ethnic/international differences in quality of life. However, the findings of the current study show similarities across ethnic groups. A possible explanation for these results could be that the sample size was too small to detect between-group differences (potential type II error) and that a larger sample may have revealed differences. However, the lack of difference in quality of life ratings by Indians and Whites with severe mental health problems could be a real effect and reflect that the subjective quality of life of individuals with mental health problems is very similar across ethnic groups.

Another explanation for the lack of difference between Indians and Whites with severe mental health problems could have been that the measure of quality of life used in the current study (MANSA) was different to measures used in previous studies on ethnic /cultural differences in quality of life. The Lancashire Quality of Life Profile (LQLP) was used by Gaite *et al.* (2002) and the Lehman Quality of Life Interview (LQLI) was used by Lehman *et al.* (1995) to measure quality of life. It may be that the use of different measures in the other studies could account for the dissimilar results of this study. However, it needs to be mentioned that the MANSA was based on the LQLP and is a modified and brief version of this measure. Furthermore, the LQLP was based on the work of Lehman and partly on the LQLI (Oliver *et al.* 1996; Priebe, Huxley *et al.* 1999). Therefore, there are similarities in the three quality of life measures and this reduces the likelihood of the different findings of this study being due to the questionnaire that was used.

However, theoretical developments in the area of quality of life can be used to explain the similar quality of life ratings by the Indian and White samples with severe mental health problems. The current study compared the mean scores on subjective quality of life for Indians and Whites. However, it may have been useful to assess which quality of life domains were important to individuals. The *combined importance model* suggests that without an assessment of the importance of different life domains it is difficult to explain why individuals living under completely different life conditions could have the same satisfaction ratings (Angermeyer & Kilian, 1997). Therefore, this type of approach examining the importance of life domains for the Indian and White samples with severe mental health problems could have detected group differences. This could account for the similar results achieved by the Indian and White samples being due to the type of information that was collated, in that it may not have been sensitive to detecting between-group differences.

The *dynamic process model* of quality of life proposes that subjective quality of life is based on an ongoing process of adaptation (Angermeyer & Kilian, 1997). This model can explain the similarities in the two groups being due to a process of adaptation whereby individuals come to terms with their personal circumstances through experience and individual characteristics. The implications of the results of this study are that individuals may accommodate to their lives, on a subjective level, which could mean that perceived quality of life measures do not identify group differences. Objective quality of life measures could potentially overcome some if the difficulties identified by the applications of the *dynamic process model* because objective information would be recorded based on external conditions and experiences (for example education, income and housing). This type of information may be less susceptible to individual adaptation to living conditions and personal circumstances. However, subjective quality of life is considered central to an individual's experience of their life and to the quality of life concept (Priebe, Oliver *et al.* 1999). On the other hand, the findings of the current study could reflect a real lack of difference between Indians and Whites with severe mental health problems.

The *role functioning model* proposed that the physical and environmental conditions related to human need are also related to happiness and life satisfaction (Bigelow *et al.* 1982). According to this model human needs are universal and stable (Angermeyer & Kilian, 1997). The similarities in quality of life for Indians and Whites with severe mental health problems could be explained using this model because the social circumstances relating to mental health, social support and socio-economic status (most of the participants lived in inner city type areas) were similar in the two groups.

A number of explanations for the lack of difference in quality of life ratings for the Indian and White samples with severe mental health problems have been discussed above. It has also been accepted that these findings may be a real effect. The implications of this for mental health services could be that ethnic groups are very similar in their subjective assessment of quality of life and services/clinicians aiming to enhance quality of life for Indians and Whites with severe mental health problems need to consider this when designing or planning interventions to ensure the goals of services and clients are being met. An example of mental health services striving to improve quality of life is *Training in Community Living* in Madison (United States) (Stein & Test, 1980). This intervention offers psychosocial and vocational rehabilitation. Support for basic needs is provided and also psychiatric treatment (Rosenfield, 1992). This style of intervention has been shown to increase satisfaction with work life, relationships, living situation and life in general (Stein & Test, 1980). Mental health services in Britain may also benefit from this type of intervention, in reducing hospitalisation of people with severe mental health problems. Assertive Outreach Teams and Early Intervention in Psychosis teams, in this country, are addressing quality of life issues in people with severe mental health problems. The long-term financial impact of service use amongst Indians and Whites with severe mental health problems could also be reduced with successful quality of life improvement interventions that take into account their needs.

4.4 Strengths and limitations of the current study

The use of a measure of subjective quality of life in this study can be considered a strength. Fabian (1990) concluded that this was a good way of examining subjective well-being in people with mental health problems. Furthermore, the reliability and validity of quality of life measures in assessing subjective well-being in people with severe mental health problems has been commented upon by a number of authors (Baker & Intagliata 1982; Lehman, 1988). Therefore, the use of the MANSA quality of life questionnaire was advantageous in providing a reliable measure of subjective well-being in people with severe mental health problems. It was also a fairly brief questionnaire and this could have assisted with engagement. Furthermore, research on subjective quality of life is considered clinically relevant because it is a useful tool for evaluating and designing interventions for people with severe mental health problems (Cheng, 1988).

The use of perceived social support in this study can also be considered an asset because studies have shown that this component of social support prevents psychological distress more than social network size or received support (Furukawa *et al.* 1999). In addition, Turner and Marino (1994) commented on the persistent and powerful association of perceived social support with outcome measures. This shows that the concept of perceived social support is clinically and empirically useful.

Perceived social support from family, friends and a significant other was assessed for the purposes of this study. Splitting support in this manner has been recommended in the research in this area which shows that perceived support from family and friends has different implications (Heller & Lakey, 1985) and different functions. Rook (1987) showed that families were considered appropriate sources to seek instrumental and tangible support from and friends were seen as appropriate sources of emotional support. This research shows the benefits of measuring support from different sources.

This sample consisted of people from ethnic minorities (Indians) and Whites with severe mental problems and therefore was unique in this sense. This has an impact on the generalisability of the results to a wider population because Britain is a multi-cultural society and research often does not consider this issue.

There are also limitations with this research which will be discussed. Problems with using subjective measures of quality of life have been identified in the research literature. Fabian (1990) showed that quality of life self-report scales were susceptible to response bias and social desirability whereby individuals might respond in a certain manner because they believe it is culturally normative to do so. Also, idiosyncrasy in reports of feeling states by individuals was a shortcoming in using subjective measures of quality of life (Priebe, Huxley *et al.* 1999). However, the reliability of quality of life measures has been discussed above and how it is a potential strength of this study. Furthermore, Diener (1984) showed that social desirability had very modest effects in general population studies of quality of life. Social desirability is a problem for most studies that use self-report or interview techniques to collect data and results must be interpreted with this in mind.

Difficulties in measuring social support may be another potential limitation in this study. Buchanan (1995) showed that people with mental health problems could find it difficult to accurately perceive and evaluate their social support resources. It is hoped that this problem was limited in the current study because participants with severe mental health problems were asked to rate support from family, friends and a significant other and this should have overcome some of these problems. Furthermore, some individuals with mental health problems become overwhelmed rather than find social interactions supportive (Beels, 1981). This last point may not have been problematic in the present study because participants with this type of difficulty would have given lower ratings to sources of social support.

Participants in the current study were recruited via mental health key workers and it is possible that this led to a highly selective sample. An alternative method of recruitment such as writing to potential participants or advertising (such as a poster in waiting room) and asking potential participants to contact mental health key workers could have overcome the potential selection bias.

Another issue with the current study is that the design was a between-subjects cross-sectional survey design, and this did not allow conclusions to be made about cause and effect. This is also an issue which is relevant to most of the research in this area. Future research needs to address this and experimental studies would help redress this balance. For example, interventions aimed at enhancing social support could be applied to an experimental group and this could be compared to a control group that do not receive the intervention. Similarly, the effects of quality of life improvement interventions could be compared in an experimental and control group.

Given the number of analyses conducted, this may have inflated the risk of Type I errors. However, it was decided against using a stricter α level (such as .01) as the sample size was small (hence increasing the probability of a Type II error). On balance, it was decided to retain an α level of .05.

With hindsight it may have been useful to collect information on socio-economic status in order to identify whether this could have affected the results of this study, especially on quality of life. Furthermore, the Asian sample in this study consisted of wholly of Indians with severe mental health problems. A more representative sample of the Asian community would have also consisted of participants who were Pakistani, Bangladeshi and Sri Lankan. However, this was not possible in the present study as potential participants from these communities were not identified by mental health key workers. An explanation for this may be that they present less to mental health services compared to Indians. This could be due to a number of factors such as the stigma of mental illness within the Asian community and not feeling mental health services can meet or understand their needs. A method of overcoming the problem of not having participants from the different Asian communities in future research would be to approach community centres and places of worship to recruit participants. This type of recruitment strategy would be most suitable for a community sample.

The Asian sample in the current study consisting wholly of Indian participants with severe mental health problems could have affected the generalisability of the findings to a wider Asian sample with severe mental health problems. Heterogeneity of the Asian community has been discussed in the Introduction section. However, it also needs to be mentioned that the Indian population in the UK are somewhat different to other Asian groups (such as Pakistani and Bangladeshi groups). Nazroo (1997) carried out the fourth National Community Survey of mental illness in ethnic minority and White communities in Britain and found that in terms of socio-economic status (social class, unemployment rate and the quality of housing) Indians were in a very similar position to Whites. It was also found that the Pakistani and Bangladeshi respondents were worse off, to varying degrees. This shows that Indians in the UK are similar to Whites in relation to socio-economic status and this could affect the generalisability of the findings of the current study to the wider Asian community in the UK. It could also help explain the lack of between-group differences in the findings of the current study, in terms of perceived social support and quality of life, being due to the similar socioeconomic status of the Indian and White samples with severe mental health problems. On the other hand, there are also a number of commonalities Asians groups in the UK share such as the experience of being an ethnic minority and aspects of shared cultural, religious and traditional values/experiences.

Heterogeneity within the Indian sample with severe mental health problems was not considered in the present study in terms of differences between first and second generation Indians. This was due to the small sample size of the study. The importance of this distinction was commented upon by Greenwood *et al.* (2000). They argued issues could arise concerning whether an individual born in England to Indian parents considers him/herself to be Asian first and British second or vice versa. Greenwood *et al.* (2000) went further to conclude that there was no uniform Asian identity, which could overcome the differences. Therefore in order to understand mental health problems within the Asian community future research needs to examine these differences.

Another similar issue that this study was not able to explore was heterogeneity within the White sample with severe mental health problems. Differences could have arisen due to cultural differences in people from Scotland, Wales, Ireland and European countries. A larger sample would have allowed for exploration of differences within and between the two groups (Indians and Whites). Furthermore, in-depth age and gender comparisons within the Indian and White samples with severe mental health problems would also have been feasible with a larger sample.

4.5 Directions for future research

In this section prospects for future research are discussed. Ways of overcoming the limitations of the current study are explored (discussed above) and also new directions based on the current findings.

Future research using a larger sample would allow for the exploration of cross-cultural differences in perceived social support and quality of life between Asians, Whites and Afro-Caribbeans with severe mental health problems. The current study compared two groups (Indians and Whites with severe mental health problems) and the inclusion of an Afro-Caribbean sample with severe mental health problems would have been useful in exploring differences between the three groups. Furthermore, Afro-Caribbeans represent a large ethnic minority in Britain and the findings could have important clinical implications for interventions/service developments to meet the needs of this group.

The limitations of the present study relating to heterogeneity of the Asian and White communities (discussed above) could also be explored in a larger sample with severe mental health problems. This would provide results that would be relevant to specific groups (for example, first and second generation Asians or Whites originally from Ireland/Scotland/Wales). The results might also be more accurate and representative of Asians and Whites with severe mental health problems.

In order to examine perceived social support in more detail, it may be useful to explore group differences (ethnic) on the importance of different sources of support in helping people cope with their mental health problems. Participants could be interviewed (questionnaires or semi-structured interviews) about their satisfaction with different sources of support (family/friends/partner) in helping them cope with mental health problems. The support they find most useful could also be explored and the differences between the groups.

Qualitative research may enhance our understanding of the impact of support from family and friends on the lives of people with severe mental health problems. This may help to identify when individuals most find they need social support and the types of support people with mental health problems seek-out in times of distress.

There was little previous research on the relationship between quality of life and perceived social support in Asians and Whites with severe mental health problems. Future research is needed in order to establish a consensus in this area of how this relationship operates within these two groups. It may be useful to explore the impact of lifestyle factors such as marriage, having children, working and having hobbies/interests in order to find how they affect quality of life/perceived social support in different ethnic groups with severe mental health problems.

The current study found that the relationship between quality of life and perceived social support in people with severe mental health problems differed according to ethnicity. Future research could explore this in more detail to find out which aspects of social support best predict quality of life or how much influence different sources of support have on quality of life. The results would be clinically useful in aiding social support enhancement interventions and improving quality of life in people with severe mental health problems.

4.6 Reflections on the research process

The research process taught me a number of things and helped develop skills in different areas. The literature review enabled me to use skills in critiquing research and also in collating and writing a review of relevant literature. Designing and implementing this study involved planning, organising and working with professionals on a number of different locations within the Midlands region. This involved being enthusiastic about the research and also realistic about the commitment of others to it. Analysing the data was an opportunity to revisit quantitative statistics and to also develop further skills in this area. Writing this research has given me the opportunity to put across my findings in the context of previous research and to discuss how it has added to this body of literature. Overall, the process involved learning about an area I was very interested in, adding my perspective to it and raising awareness of the issues of quality of life and perceived social support in people with severe mental health problems.

4.7 Conclusion

The current study explored perceived social support and quality of life in people with severe mental health problems. Research on ethnic minorities was lacking, at the time of writing-up and therefore an Indian sample with severe mental health problems was selected in order to redress the balance and was compared with a sample of White participants with severe mental health problems.

The positive correlation between perceived social support and quality of life was confirmed in this study. However, there were no significant differences between Indians and Whites with severe mental health problems on overall perceived social support or quality of life. The implications of these findings were that Indians with severe mental health problems had similar levels of perceived social support and quality of life as Whites with severe mental health problems and therefore interventions/community support programmes aimed at enhancing social support and quality of life in people with severe mental health problems needed to take this into account, to ensure needs were being met in both groups.

It was also found that there were no significant differences between Indians and Whites with severe mental health problems in terms of perceived support from family members. This finding was not in line with previous research. However, it does suggest that family support was equally important to Indians and Whites with severe mental health problems. Furthermore, the strength of the correlations between quality of life and overall perceived social support for Indians and Whites with severe mental health problems were not significantly different. However, the strength of the correlation between quality of life and support from family was stronger for the White sample with severe mental health problems. A significant difference in the strength of the correlations between quality of life and support from friends was also found which indicated a stronger association between the two variables for the Indian sample with severe mental health problems. The implications of these results could be that different sources of support have differing influences on quality of life for Indians and Whites. Therefore, interventions and care planning designed to enhance social support and quality of life in people with severe mental health problems needs to take this into account in order to maximise the positive influence of social support on quality of life.

This study found a number of similarities and differences in quality of life and perceived social support between Indians and Whites with severe mental health problems. These findings show that research with people with severe mental health problems is important in developing an understanding and awareness of the issues that affect them. This type of research should help inform clinical practice and service development.

Appendix A

Letters of ethical approval from Derbyshire and Leicestershire Local Research Ethics Committee's.

NHS

Derbyshire Local Research Ethics Committees

Chairman Derbyshire South: *Mr P Korczak FDSRCS FRCS*
Chairman Derbyshire North: *Mr J O Harris B.Sc(Pharm.), MSc., M.R.Pharm.S*
Administrator: *Jenny Hancock*

6th Floor
Laurie House
Colyear Street
Derby
DE1 1LJ

Telephone: 01332 868765 (direct line)
Fax: 01332 868785
email: jenny.hancock@centralderby-pct.nhs.uk

29 October 2003

Mrs N Taj
Trainee Clinical Psychologist
School of Psychology-Clinical Section
University of Leicester
The Ken Edwards Building
University Road
Leicester
LE1 7RH

Dear Mrs Taj

SDLREC REF: 0308/719
Quality of life and social support in people with severe and enduring mental health problems: A comparison of Asians and Whites

I have now considered the amendments submitted in response to the Committee's earlier review of your application on 16 September as set out in our letter dated 18 September. The documents considered were as follows:

Letter dated 07/10/03
Consent form version 2
Participant information sheet version 2 dated 07/10/03

Acting under delegated authority, I am satisfied that this accords with the decision of the Committee and that there is no objection on ethical grounds to the proposed study. I am, therefore, pleased to be able to confirm that your study was approved on the understanding that you will follow the conditions set out below. **Please bear in mind that the consent form and patient information sheet must be printed onto headed paper before use. A copy of the forms on headed paper should be forwarded to the LREC office for our files.**

Conditions

- You do not undertake this research in an NHS organisation until the relevant NHS management approval has been gained as set out in the *Framework for Research Governance in Health and Social Care.*
- You do not deviate from, or make changes to, the protocol without prior written approval of SDLREC, except where this is necessary to eliminate immediate hazards to research participants or when the change involves only logistical or administrative aspects of the research. In such cases SDLREC should be informed within seven days of the implementation of the change.
- You complete and return the standard progress form to SDLREC one year from the date on this letter and thereafter on an annual basis. This form should also be used to notify SDLREC when your research is completed within three months of completion.

29 October 2003

Mrs N Taj
Trainee Clinical Psychologist

- If you decided to terminate this research prematurely, you send a report to SDLREC within 15 days, indicating the reason for the early termination.
- You advise the REC of any unusual or unexpected results that raise questions about the safety of the research.

A full record of the review undertaken by SDLREC is contained in the attached LREC Response Form. The project must be started within three years of the date on which approval is given.

Please quote the SDLREC reference number (shown above) in all future correspondence on this study.

Yours sincerely

P Korczak
Chairman
Southern Derbyshire Local Research Ethics Committee

Cc Mrs L Legg, Research Co-ordinator, Derbyshire Mental Health Services NHS Trust

Enc. Response form

NHS

LPT admh0288, Ethics ref: 7107

Leicestershire Local Research Ethics Committees
Lakeside House
4 Smith Way
Grove Park
Enderby
Leicester
LE19 1SS

Tel: 0116 295 7591
Fax: 0116 295 7582

Ethics Administration
Direct dial: 0116 295 7591/2

21 October 2003

7107 Please quote this number on all correspondence

Mrs Nazira Taj
Trainee Clinical Psychologist
University of Leicester
School of Psychology-Clinical Section
Ken Edwards Building, University Road
Leicester
LE1 7RH

Dear Mrs Taj

Re: Quality of life and social support in mental health, ethics ref: 7107

The Chair of the Leicestershire Local Research Committee (Committee One) has considered the amendments submitted in response to the Committee's earlier review of your application on 05 September 2003 as set out in our letter dated 12 September 2003. The documents considered were as follows:

Your letter, dated 27 September 2003
PIS, lptadmh0288is-p030928
Consent Form, lptadmh0288cf-p0300928

The Chair, acting under delegated authority, is satisfied that these accord with the decision of the Committee and has agreed that there is no objection on ethical grounds to the proposed study. I am, therefore, happy to give you the favourable opinion of the committee on the understanding that you will follow the conditions set out below:

Conditions

- You do not recruit any research subjects within a research site unless favourable opinion has been obtained from the relevant LREC.
- You do not undertake this research in an NHS organisation until the relevant NHS management approval has been gained as set out in *the Framework for Research Governance in Health and Social Care.*
- You do not deviate from, or make changes to, the protocol without prior written approval of the LREC, except where this is necessary to eliminate

immediate hazards to research participants or when the change involves only logistical or administrative aspects of the research. In such cases the LREC should be informed within seven days of the implementation of the change.

- You complete and return the standard progress report to the LREC one year from the date on this letter and thereafter on an annual basis. This form should also be used to notify the LREC when your research is completed and in this case should be sent to this LREC within three months of completion.
- If you decided to terminate this research prematurely you send a report to this LREC within 15 days, indicating the reason for the early termination.
- You advise the LREC of any unusual or unexpected results that raise questions about the safety of the research.
- The project must be started within three years of the date on which LREC approval is given.
- You should be able to assure the Ethics Committee that satisfactory arrangements have been made for the labelling, safe storage and dispensation of drugs and pharmaceutical staff are always willing to provide advice on this.

Your application has been given a unique reference number. Please use it on all correspondence with the LREC.

Yours sincerely

P Rabey

Dr PG Rabey
Chairman
Leicestershire Local Research Ethics Committee One

(N.B. All communications related to Leicestershire Research Ethics Committee must be sent to the LREC Office at Leicestershire, Northamptonshire and Rutland Health Authority. If, however, your original application was submitted through a Trust Research & Development Office, then any response or further correspondence must be submitted in the same way).

Appendix B

Participant Consent Form.

Consent Form

Title of project: Quality of life and social support in people with mental health problems

Name of Researcher: Nazia Taj

Please initial box

1. I confirm that I have read and understand the information sheet dated 28th September 2003 (version 2) for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. ☐
3. I understand that sections of any of my medical notes may be looked at by responsible individuals from Leicestershire Partnership NHS Trust or from regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records. ☐
4. I agree to take part in the above study. ☐

Name of Participant	Date	Signature
Name of Person taking consent (If different from researcher)	Date	Signature
Researcher	Date	Signature

Appendix C

Participant Information Sheet.

28th September 2003, version 2

Chief and Principal investigator: **Nazia Taj**
Trainee Clinical Psychologist
Leicestershire Partnership NHS Trust

Academic university based supervisor: Aftab Laher, Lecturer in Clinical Psychology and Consultant Clinical Psychologist.

Field Supervisor: Paul Croucher, Clinical Psychologist

Participant Information Sheet

Study Title: Quality of life and social support in people with mental health problems

Invitation paragraph:

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What are the purposes of the study?

I am carrying out research to examine whether there is a relationship between the quality of life of people with mental health problems and their social support. This research also aims to find out if there are differences between Asians and Whites in social support and quality of life. The information you give in the questionnaires will provide data for this study. This research will be part of my studies towards a Doctorate in Clinical Psychology.

This study will be starting in September 2003 and will be completed by June 2004. A summary of the findings of this study will be available to those interested by July 2004.

Why have I been chosen?

You have been chosen to participate in this study because your experience of having mental health problems will provide me with relevant information for this study. Around 49 other people with similar difficulties will also be needed to participate in this study.

Do I have to take part?

It is up to you to decide whether to take part or not to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect you or the treatment/care you receive.

What will happen to me if I take part?

Participating in this study involves completing a 'participant questionnaire pack'. The researcher will contact you through your CPN, social worker or the manager of the organisation you attend. A date and a time will be arranged for you to complete the questionnaire and this may be in your home, your day centre or where you attend appointments to see your CPN or social worker. The questionnaires will take around 15 to 20 minutes to complete. You are not required to do anything else and can contact the researcher for further information/advice at any point.

What do I have to do?

You will be required to complete three questionnaires regarding your experience of mental health problems and how these affect different aspects of your life. Once you have completed the questionnaire pack it may be posted to the researcher or given to the researcher in person.

What are the possible disadvantages and risks of taking part?

We do not believe you will be harmed by taking part in this study. However, it is possible that talking about issues of mental illness may cause you to feel upset or distressed. The researcher will always therefore ensure that you are fully informed as to the availability of support if you find participating in this research distressing in any way.

What are the possible benefits of taking part in the study?

It is hoped that this study will lead to improvements in services provided for people with mental health problems, such as designing treatment interventions that can impact on quality of life and enhance social support. The needs of people from ethnic minorities could also be identified from this type of study.

What if something goes wrong?

If you wish to complain or have any concerns about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service complaints mechanism should be available to you.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. It will not be possible to identify research participants and you will not be asked to give your name.

What will happen to the results of the research study?

The results of this study will be used to complete my Doctoral training course. From July 2004 the findings of this study will be available to those who wish to see them. The researcher will also be available for feedback to anyone who requests this. Furthermore, this study will be written up and submitted to a relevant journal, such as the British Journal of Clinical Psychology. Participants will not be identifiable in any report/publication.

Who is organising and funding the research?

The University of Leicester will provide funding for this study. The researcher does not receive any payment for conducting this study.

Contact details for further information:

If you would like any further information of have any queries regarding this research or the questionnaires, please contact:

Contact details for enquiries and correspondence:

Nazia Taj
Department of Clinical Psychology
University of Leicester
104 Regent Road
Leicester
LE1 7LT

Tel: 0116 223 1639
Email: NT32@le.ac.uk

Thank you for your time and co-operation

Note: You will be given a copy of this information sheet and a signed consent form to keep.

Appendix D

Manchester Short Assessment of Quality of Life.

Manchester Short Assessment of Quality of Life (MANSA)

Section 1

Age: ____________________

Gender: **1** = Male **2** = Female

Ethnic Origin: **1** = White, **2** = Indian, **3** = Pakistani, **4** = Bangladeshi
5 = Sri Lankan

Place of birth: _______________________

Diagnosis: ____________________

Age at onset of illness/ mental health problem: ____________________

Duration of illness/ mental health problem (in years): __________________

Section 2

1. Employment status ________________________

   1 = In paid employment, **2** = In sheltered employment, **3** = Training/education is main occupation, **4** = Unemployed, **5** = Retired, **6** = Other (please specify)

2. How many children (if any) do you have? _____________________

3. Who else (if anybody) do you live with? ______________________

   1 = Live alone, **2** = With partner or husband/wife, **3** = With parents, **4** = With children under 18, **5** = With children over 18, **6** = Other (please specify).

Section 3 (please circle)

1	2	3	4	5	6	7
Couldn't Be worse	**Displeased**	**Mostly dissatisfied**	**Mixed**	**Mostly satisfied**	**Pleased**	**Couldn't be better**

4. How satisfied are you with your life as a whole today? **1 2 3 4 5 6 7**

5. How satisfied are you with your job (or sheltered employment, or training/education as your main occupation?) Rate unemployment satisfaction if you do not work. **1 2 3 4 5 6 7**

6. How satisfied are you with your financial situation? **1 2 3 4 5 6 7**

7. Do you have anyone who you would call a 'close friend'? (not including staff) **1 = Yes 2 = No**

8. In the last week have you seen a friend? (visited a friend, been visited by a friend, or met a friend outside your home and work?) **1 = Yes 2 = No**

9. How satisfied are you with the number and quality of your friendships? **1 2 3 4 5 6 7**

10. How satisfied are you with your leisure activities? **1 2 3 4 5 6 7**

11. How satisfied are you with your accommodation? **1 2 3 4 5 6 7**

12. In the past year, have you been accused of crime? **1 = Yes 2 = No**

13. In the past year, have you been a victim of physical violence? **1 = Yes 2 = No**

14. How satisfied are you with your personal safety? **1 2 3 4 5 6 7**

15. How satisfied are you with the people that you live with? If you live alone, how satisfied are you with living alone? **1 2 3 4 5 6 7**

16. How satisfied are you with your sex life? **1 2 3 4 5 6 7**

17. How satisfied are you with your relationships with your family? **1 2 3 4 5 6 7**

18. How satisfied are you with your health? **1 2 3 4 5 6 7**

19. How satisfied are you with your mental health? **1 2 3 4 5 6 7**

Appendix E

Multidimensional Scale of Perceived Social Support.

MSPSS

Dear participant please read the following statements and circle the number that applies for you.

1. There is a special person who is around when I am in need.

7	6	5	4	3	2	1
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

2. There is a special person with whom I can share my joys and sorrows.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

3. My family really tries to help me.

7	6	5	4	3	2	1
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

4. I get the emotional help and support I need from my family.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

5. I have special person who is a real source of comfort to me.

7	6	5	4	3	2	1
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

6. My friends really try to help me.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

7. I can count on my friends when things go wrong.

7	6	5	4	3	2	1
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

8. I can talk about my problems with my family.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

9. I have friends with whom I can share my joys and sorrows.

7	6	5	4	3	2	1
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

10. There is a special person in my life who cares about my feelings.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

11. My family is willing to help me make decisions.

7	6	5	4	3	2	
very strongly agree	strongly agree	agree	uncertain	disagree	strongly disagree	very strongly disagree

12. I can talk about my problems with my friends.

1	2	3	4	5	6	7
very strongly disagree	strongly disagree	disagree	uncertain	agree	strongly agree	very strongly agree

Appendix F

The Brief Symptom Inventory.

INSTRUCTIONS:
On the next page is a list of problems people sometimes have. Please read each one carefully, and blacken the circle that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS INCLUDING TODAY. Blacken the circle for only one number for each problem and do not skip any items. If you change your mind, erase your first mark carefully. Read the example before beginning, and if you have any questions please ask them now.

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY	EXAMPLE HOW MUCH WERE YOU DISTRESSED BY:
1	⓪	①	②	●	④	Bodyaches

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY	HOW MUCH WERE YOU DISTRESSED BY:
1	⓪	①	②	③	④	Nervousness or shakiness inside
2	⓪	①	②	③	④	Faintness or dizziness
3	⓪	①	②	③	④	The idea that someone else can control your thoughts
4	⓪	①	②	③	④	Feeling others are to blame for most of your troubles
5	⓪	①	②	③	④	Trouble remembering things
6	⓪	①	②	③	④	Feeling easily annoyed or irritated
7	⓪	①	②	③	④	Pains in heart or chest
8	⓪	①	②	③	④	Feeling afraid in open spaces or on the streets
9	⓪	①	②	③	④	Thoughts of ending your life
10	⓪	①	②	③	④	Feeling that most people cannot be trusted
11	⓪	①	②	③	④	Poor appetite
12	⓪	①	②	③	④	Suddenly scared for no reason
13	⓪	①	②	③	④	Temper outbursts that you could not control
14	⓪	①	②	③	④	Feeling lonely even when you are with people
15	⓪	①	②	③	④	Feeling blocked in getting things done
16	⓪	①	②	③	④	Feeling lonely
17	⓪	①	②	③	④	Feeling blue
18	⓪	①	②	③	④	Feeling no interest in things
19	⓪	①	②	③	④	Feeling fearful
20	⓪	①	②	③	④	Your feelings being easily hurt
21	⓪	①	②	③	④	Feeling that people are unfriendly or dislike you
22	⓪	①	②	③	④	Feeling inferior to others
23	⓪	①	②	③	④	Nausea or upset stomach
24	⓪	①	②	③	④	Feeling that you are watched or talked about by others
25	⓪	①	②	③	④	Trouble falling asleep
26	⓪	①	②	③	④	Having to check and double-check what you do
27	⓪	①	②	③	④	Difficulty making decisions
28	⓪	①	②	③	④	Feeling afraid to travel on buses, subways, or trains
29	⓪	①	②	③	④	Trouble getting your breath
30	⓪	①	②	③	④	Hot or cold spells
31	⓪	①	②	③	④	Having to avoid certain things, places, or activities because they frighten you
32	⓪	①	②	③	④	Your mind going blank
33	⓪	①	②	③	④	Numbness or tingling in parts of your body
34	⓪	①	②	③	④	The idea that you should be punished for your sins
35	⓪	①	②	③	④	Feeling hopeless about the future
36	⓪	①	②	③	④	Trouble concentrating
37	⓪	①	②	③	④	Feeling weak in parts of your body
38	⓪	①	②	③	④	Feeling tense or keyed up
39	⓪	①	②	③	④	Thoughts of death or dying
40	⓪	①	②	③	④	Having urges to beat, injure, or harm someone
41	⓪	①	②	③	④	Having urges to break or smash things
42	⓪	①	②	③	④	Feeling very self-conscious with others
43	⓪	①	②	③	④	Feeling uneasy in crowds, such as shopping or at a movie
44	⓪	①	②	③	④	Never feeling close to another person
45	⓪	①	②	③	④	Spells of terror or panic
46	⓪	①	②	③	④	Getting into frequent arguments
47	⓪	①	②	③	④	Feeling nervous when you are left alone
48	⓪	①	②	③	④	Others not giving you proper credit for your achievements
49	⓪	①	②	③	④	Feeling so restless you couldn't sit still
50	⓪	①	②	③	④	Feelings of worthlessness
51	⓪	①	②	③	④	Feeling that people will take advantage of you if you let them
52	⓪	①	②	③	④	Feelings of guilt
53	⓪	①	②	③	④	The idea that something is wrong with your mind

Appendix G

Cronbach's alpha coefficients for the three questionnaires (MANSA, MSPSS and BSI).

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                            Mean        Std Dev       Cases

  1.      BSI1            1.9778         1.3897        45.0
  2.      BSI2            1.0667         1.1362        45.0
  3.      BSI3            1.1778         1.4027        45.0
  4.      BSI4            1.5778         1.5149        45.0
  5.      BSI5            2.1778         1.2484        45.0
  6.      BSI6            2.2222         1.3633        45.0
  7.      BSI7             .9333         1.2863        45.0
  8.      BSI8            1.6222         1.5269        45.0
  9.      BSI9            1.1111         1.3688        45.0
 10.      BSI10           1.7333         1.3883        45.0
 11.      BSI11           1.3778         1.2843        45.0
 12.      BSI12           1.6222         1.4505        45.0
 13.      BSI13           1.3556         1.3169        45.0
 14.      BSI14           2.2000         1.3246        45.0
 15.      BSI15           2.2222         1.3465        45.0
 16.      BSI16           2.2889         1.3077        45.0
 17.      BSI17           2.0667         1.2863        45.0
 18.      BSI18           1.8667         1.3915        45.0
 19.      BSI19           1.8667         1.4238        45.0
 20.      BSI20           2.0889         1.3952        45.0
 21.      BSI21           1.6222         1.3700        45.0
 22.      BSI22           1.9111         1.4897        45.0
 23.      BSI23           1.4000         1.4206        45.0
 24.      BSI24           1.7778         1.4907        45.0
 25.      BSI25           1.9111         1.4589        45.0
 26.      BSI26           2.0222         1.3398        45.0
 27.      BSI27           2.1111         1.4017        45.0
 28.      BSI28           1.7111         1.5612        45.0
 29.      BSI29           1.3556         1.3510        45.0
 30.      BSI30           1.8000         1.4238        45.0
 31.      BSI31           1.8000         1.5315        45.0
 32.      BSI32           1.8667         1.3416        45.0
 33.      BSI33           1.5778         1.4998        45.0
 34.      BSI34           1.5556         1.5159        45.0
 35.      BSI35           2.0444         1.4453        45.0
 36.      BSI36           2.2889         1.4242        45.0
 37.      BSI37           1.9333         1.5580        45.0
 38.      BSI38           2.0222         1.4220        45.0
 39.      BSI39           1.9333         1.5580        45.0
 40.      BSI40            .3333          .7071        45.0
 41.      BSI41            .7556         1.1512        45.0
 42.      BSI42           1.7778         1.4907        45.0
 43.      BSI43           1.9333         1.6293        45.0
 44.      BSI44           1.7778         1.4124        45.0
 45.      BSI45           1.7778         1.5795        45.0
 46.      BSI46           1.3333         1.3981        45.0
 47.      BSI47           1.6667         1.5374        45.0
 48.      BSI48           1.3778         1.2665        45.0
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases

 49.     BSI49               1.5111        1.4081        45.0
 50.     BSI50               2.0000        1.4771        45.0
 51.     BSI51               1.9333        1.4365        45.0
 52.     BSI52               1.7556        1.4640        45.0
 53.     BSI53               1.9778        1.5149        45.0

                                                       N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE        91.1111   2591.6465    50.9082         53
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

               Scale          Scale      Corrected
                Mean         Variance       Item-             Alpha
              if Item        if Item        Total            if Item
              Deleted        Deleted     Correlation         Deleted

BSI1          89.1333      2524.0727        .4701             .9780
BSI2          90.0444      2531.6343        .5136             .9778
BSI3          89.9333      2524.7000        .4610             .9780
BSI4          89.5333      2492.6182        .6395             .9776
BSI5          88.9333      2518.8818        .5682             .9777
BSI6          88.8889      2501.9646        .6439             .9776
BSI7          90.1778      2529.0131        .4713             .9779
BSI8          89.4889      2479.9374        .7192             .9774
BSI9          90.0000      2487.1818        .7514             .9773
BSI10         89.3778      2490.5131        .7160             .9774
BSI11         89.7333      2512.5636        .6014             .9777
BSI12         89.4889      2485.3465        .7204             .9774
BSI13         89.7556      2490.3707        .7573             .9773
BSI14         88.9111      2501.7646        .6651             .9775
BSI15         88.8889      2492.6465        .7228             .9774
BSI16         88.8222      2485.6495        .7998             .9772
BSI17         89.0444      2489.0434        .7865             .9773
BSI18         89.2444      2481.7343        .7788             .9773
BSI19         89.2444      2479.6434        .7756             .9773
BSI20         89.0222      2487.9313        .7312             .9774
BSI21         89.4889      2499.3919        .6598             .9775
BSI22         89.2000      2469.0273        .8133             .9772
BSI23         89.7111      2500.6192        .6265             .9776
BSI24         89.3333      2485.0455        .7023             .9774
BSI25         89.2000      2488.1636        .6964             .9775
BSI26         89.0889      2517.7646        .5362             .9778
BSI27         89.0000      2505.5000        .5999             .9777
BSI28         89.4000      2489.2909        .6414             .9776
BSI29         89.7556      2520.7343        .5093             .9779
BSI30         89.3111      2517.9010        .5019             .9779
BSI31         89.3111      2472.8101        .7648             .9773
BSI32         89.2444      2484.5071        .7876             .9773
BSI33         89.5333      2491.7545        .6521             .9776
BSI34         89.5556      2498.4798        .5996             .9777
BSI35         89.0667      2475.8818        .7903             .9772
BSI36         88.8222      2496.1040        .6571             .9775
BSI37         89.1778      2473.1949        .7487             .9773
BSI38         89.0889      2466.3101        .8731             .9770
BSI39         89.1778      2471.4677        .7602             .9773
BSI40         90.7778      2573.7677        .2422             .9782
BSI41         90.3556      2528.4616        .5343             .9778
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-              Alpha
              if Item        if Item       Total             if Item
              Deleted        Deleted    Correlation          Deleted

BSI42         89.3333      2480.3636        .7345              .9774
BSI43         89.1778      2468.6495        .7433              .9773
BSI44         89.3333      2517.0000        .5126              .9779
BSI45         89.3333      2465.6364        .7874              .9772
BSI46         89.7778      2503.4949        .6161              .9776
BSI47         89.4444      2488.8434        .6548              .9776
BSI48         89.7333      2507.2909        .6524              .9776
BSI49         89.6000      2495.1091        .6721              .9775
BSI50         89.1111      2466.4192        .8387              .9771
BSI51         89.1778      2502.5586        .6055              .9777
BSI52         89.3556      2484.9616        .7162              .9774
BSI53         89.1333      2485.2545        .6892              .9775


Reliability Coefficients

N of Cases =     45.0                    N of Items = 53

Alpha =    .9779
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                            Mean        Std Dev       Cases

  1.     MANSA4            3.8372        1.3261        43.0
  2.     MANSA5            3.7674        1.4115        43.0
  3.     MANSA6            3.9070        1.5555        43.0
  4.     MANSA7            1.5116         .5058        43.0
  5.     MANSA8            1.5814         .4992        43.0
  6.     MANSA9            3.7674        1.6738        43.0
  7.     MANSA10           4.0000        1.4960        43.0
  8.     MANSA11           5.2326        1.1920        43.0
  9.     MANSA12           1.9767         .1525        43.0
 10.     MANSA13           1.9535         .2131        43.0
 11.     MANSA14           4.5814        1.5311        43.0
 12.     MANSA15           5.2093        1.1864        43.0
 13.     MANSA16           3.6047        1.7202        43.0
 14.     MANSA17           4.5581        1.5630        43.0
 15.     MANSA18           3.1628        1.5108        43.0
 16.     MANSA19           2.9070        1.4111        43.0

                                                     N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE        55.5581     88.7763     9.4221        16


Item-total Statistics

              Scale          Scale      Corrected
              Mean         Variance       Item-            Alpha
             if Item        if Item       Total           if Item
             Deleted        Deleted    Correlation        Deleted

MANSA4       51.7209        73.0631        .6155           .7067
MANSA5       51.7907        76.0742        .4350           .7244
MANSA6       51.6512        72.2802        .5322           .7125
MANSA7       54.0465        89.8073       -.1342           .7567
MANSA8       53.9767        89.0709       -.0577           .7541
MANSA9       51.7907        75.9313        .3443           .7352
MANSA10      51.5581        74.1096        .4825           .7188
MANSA11      50.3256        75.9867        .5471           .7159
MANSA12      53.5814        88.6301        .0428           .7498
MANSA13      53.6047        88.6733        .0143           .7502
MANSA14      50.9767        75.9756        .3917           .7289
MANSA15      50.3488        84.0897        .1507           .7500
MANSA16      51.9535        82.7121        .0992           .7648
MANSA17      51.0000        78.3810        .2873           .7408
MANSA18      52.3953        71.6733        .5794           .7074
MANSA19      52.6512        73.0421        .5698           .7100
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Reliability Coefficients

N of Cases =      43.0                        N of Items = 16

Alpha =     .7467
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases

  1.     MSPSS1             5.0455        1.6699        44.0
  2.     MSPSS2             4.1818        1.7290        44.0
  3.     MSPSS3             5.0227        1.5773        44.0
  4.     MSPSS4             4.5000        1.8739        44.0
  5.     MSPSS5             4.8409        1.4618        44.0
  6.     MSPSS6             4.2045        1.6078        44.0
  7.     MSPSS7             4.0455        1.7778        44.0
  8.     MSPSS8             4.0682        1.6761        44.0
  9.     MSPSS9             4.5227        1.5324        44.0
 10.     MSPSS10            4.3864        1.8951        44.0
 11.     MSPSS11            4.4318        1.5158        44.0
 12.     MSPSS12            4.1591        1.6274        44.0

                                                    N of
Statistics for        Mean    Variance    Std Dev Variables
      SCALE        53.4091    177.3171    13.3160        12


Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

MSPSS1        48.3636       149.4926       .6131            .8751
MSPSS2        49.2273       149.4355       .5889            .8765
MSPSS3        48.3864       151.9635       .5880            .8766
MSPSS4        48.9091       143.1078       .6847            .8706
MSPSS5        48.5682       149.3208       .7238            .8700
MSPSS6        49.2045       150.8177       .6056            .8756
MSPSS7        49.3636       149.9112       .5569            .8784
MSPSS8        49.3409       150.1834       .5921            .8763
MSPSS9        48.8864       159.5914       .3972            .8863
MSPSS10       49.0227       145.6971       .6126            .8753
MSPSS11       48.9773       153.3716       .5766            .8773
MSPSS12       49.2500       153.6337       .5214            .8801


Reliability Coefficients

N of Cases =      44.0                    N of Items = 12

Alpha =    .8857
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

Somatisation

```
                                 Mean        Std Dev       Cases

  1.     BSI2                  1.0667         1.1362        45.0
  2.     BSI7                   .9333         1.2863        45.0
  3.     BSI23                 1.4000         1.4206        45.0
  4.     BSI29                 1.3556         1.3510        45.0
  5.     BSI30                 1.8000         1.4238        45.0
  6.     BSI33                 1.5778         1.4998        45.0
  7.     BSI37                 1.9333         1.5580        45.0

                                                        N of
Statistics for        Mean    Variance     Std Dev  Variables
      SCALE        10.0667     51.7909      7.1966          7


Item-total Statistics

                Scale          Scale        Corrected
                 Mean        Variance         Item-           Alpha
               if Item        if Item         Total          if Item
               Deleted        Deleted      Correlation       Deleted

BSI2            9.0000        40.8636          .6634           .8417
BSI7            9.1333        40.4818          .5898           .8491
BSI23           8.6667        39.9545          .5467           .8554
BSI29           8.7111        39.2101          .6357           .8429
BSI30           8.2667        38.2909          .6511           .8407
BSI33           8.4889        38.1646          .6139           .8465
BSI37           8.1333        35.4818          .7479           .8258


Reliability Coefficients

N of Cases =      45.0                     N of Items =  7

Alpha =    .8627
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Obsessive-Compulsive           Mean        Std Dev       Cases

  1.      BSI5               2.1778        1.2484         45.0
  2.      BSI15              2.2222        1.3465         45.0
  3.      BSI26              2.0222        1.3398         45.0
  4.      BSI27              2.1111        1.4017         45.0
  5.      BSI32              1.8667        1.3416         45.0
  6.      BSI36              2.2889        1.4242         45.0

                                                        N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE        12.6889     37.9465     6.1601          6


Item-total Statistics

                 Scale          Scale       Corrected
                  Mean         Variance       Item-             Alpha
                if Item        if Item        Total            if Item
                Deleted        Deleted     Correlation         Deleted

BSI5            10.5111        28.0737        .6285             .8314
BSI15           10.4667        28.8909        .5003             .8543
BSI26           10.6667        27.3182        .6307             .8307
BSI27           10.5778        26.3404        .6701             .8231
BSI32           10.8222        25.7404        .7644             .8052
BSI36           10.4000        26.3818        .6518             .8268


Reliability Coefficients

N of Cases =      45.0                    N of Items =  6

Alpha =    .8534

 ****** Method 1 (space saver) will be used for this analysis ******
```

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Interpersonal Sensitivity       Mean        Std Dev       Cases

  1.     BSI20                 2.0889       1.3952         45.0
  2.     BSI21                 1.6222       1.3700         45.0
  3.     BSI22                 1.9111       1.4897         45.0
  4.     BSI42                 1.7778       1.4907         45.0

                                                       N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE         7.4000     22.1091     4.7020          4


Item-total Statistics

               Scale          Scale      Corrected
                Mean        Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

BSI20          5.3111        13.5374       .6453            .7999
BSI21          5.7778        13.9040       .6194            .8109
BSI22          5.4889        12.1646       .7434            .7545
BSI42          5.6222        12.8768       .6552            .7961


Reliability Coefficients

N of Cases =     45.0                    N of Items =  4

Alpha =    .8349
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

  Depression                   Mean        Std Dev       Cases

  1.      BSI9                1.1111        1.3688        45.0
  2.      BSI16               2.2889        1.3077        45.0
  3.      BSI17               2.0667        1.2863        45.0
  4.      BSI18               1.8667        1.3915        45.0
  5.      BSI35               2.0444        1.4453        45.0
  6.      BSI50               2.0000        1.4771        45.0

                                                           N of
Statistics for        Mean    Variance     Std Dev   Variables
      SCALE        11.3778     49.7404      7.0527           6


Item-total Statistics

                 Scale          Scale       Corrected
                 Mean          Variance       Item-             Alpha
                if Item         if Item       Total            if Item
                Deleted         Deleted     Correlation        Deleted

BSI9            10.2667        35.7455         .7405             .9153
BSI16            9.0889        36.4010         .7370             .9157
BSI17            9.3111        35.2192         .8428             .9025
BSI18            9.5111        35.3465         .7529             .9137
BSI35            9.3333        33.9545         .8132             .9055
BSI50            9.3778        33.7404         .8053             .9068


Reliability Coefficients

N of Cases =      45.0                    N of Items =  6

Alpha =    .9239
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
  Anxiety                         Mean        Std Dev       Cases

  1.      BSI1                   1.9778         1.3897        45.0
  2.      BSI12                  1.6222         1.4505        45.0
  3.      BSI19                  1.8667         1.4238        45.0
  4.      BSI38                  2.0222         1.4220        45.0
  5.      BSI45                  1.7778         1.5795        45.0
  6.      BSI49                  1.5111         1.4081        45.0

                                                           N of
Statistics for          Mean    Variance    Std Dev   Variables
      SCALE          10.7778     50.0404     7.0739           6

Item-total Statistics

               Scale          Scale       Corrected
               Mean          Variance       Item-             Alpha
              if Item        if Item        Total            if Item
              Deleted        Deleted     Correlation         Deleted

BSI1           8.8000        38.1636         .5792            .9018
BSI12          9.1556        34.9980         .7539            .8765
BSI19          8.9111        34.1283         .8346            .8641
BSI38          8.7556        34.5525         .8055            .8687
BSI45          9.0000        32.7727         .8169            .8660
BSI49          9.2667        38.1091         .5722            .9030


Reliability Coefficients

N of Cases =      45.0                    N of Items =  6

Alpha =    .8987
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

  Hostility                   Mean        Std Dev       Cases

  1.     BSI6               2.2222        1.3633         45.0
  2.     BSI13              1.3556        1.3169         45.0
  3.     BSI40               .3333         .7071         45.0
  4.     BSI41               .7556        1.1512         45.0
  5.     BSI46              1.3333        1.3981         45.0

                                                      N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE         6.0000     18.5000     4.3012          5

Item-total Statistics

                Scale         Scale      Corrected
                 Mean       Variance       Item-            Alpha
               if Item       if Item       Total           if Item
               Deleted       Deleted    Correlation        Deleted

BSI6            3.7778       11.9949        .4920            .7204
BSI13           4.6444       10.0980        .7966            .5888
BSI40           5.6667       16.2273        .3112            .7686
BSI41           5.2444       13.0980        .4893            .7177
BSI46           4.6667       11.4545        .5380            .7026


Reliability Coefficients

N of Cases =     45.0                     N of Items =  5

Alpha =    .7518
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Phobic Anxiety              Mean        Std Dev       Cases

  1.     BSI8               1.6222        1.5269        45.0
  2.     BSI28              1.7111        1.5612        45.0
  3.     BSI31              1.8000        1.5315        45.0
  4.     BSI43              1.9333        1.6293        45.0
  5.     BSI47              1.6667        1.5374        45.0

                                                         N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE          8.7333    38.6091     6.2136          5

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-             Alpha
              if Item        if Item       Total            if Item
              Deleted        Deleted    Correlation         Deleted

BSI8           7.1111        25.5101        .6981             .8211
BSI28          7.0222        25.7040        .6612             .8304
BSI31          6.9333        25.2455        .7159             .8164
BSI43          6.8000        24.4364        .7151             .8162
BSI47          7.0667        27.0636        .5740             .8521


Reliability Coefficients

N of Cases =     45.0                    N of Items =  5

Alpha =    .8572
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

  Paranoid Ideation             Mean        Std Dev       Cases

  1.     BSI10                1.7333         1.3883        45.0
  2.     BSI4                 1.5778         1.5149        45.0
  3.     BSI24                1.7778         1.4907        45.0
  4.     BSI48                1.3778         1.2665        45.0
  5.     BSI51                1.9333         1.4365        45.0

                                                        N of
Statistics for        Mean    Variance      Std Dev  Variables
      SCALE         8.4000     30.7000       5.5408          5


Item-total Statistics

               Scale          Scale       Corrected
                Mean        Variance        Item-             Alpha
              if Item        if Item        Total            if Item
              Deleted        Deleted     Correlation         Deleted

BSI10          6.6667        20.0000         .7065            .7877
BSI4           6.8222        20.0131         .6191            .8125
BSI24          6.6222        19.6949         .6638            .7992
BSI48          7.0222        21.9313         .6040            .8161
BSI51          6.4667        20.5727         .6188            .8117


Reliability Coefficients

N of Cases =      45.0                    N of Items =  5

Alpha =    .8383
```

Reliability

```
 ****** Method 1 (space saver) will be used for this analysis ******
```

```
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

  Psychoticism                 Mean        Std Dev       Cases

  1.     BSI3                1.1778         1.4027        45.0
  2.     BSI14               2.2000         1.3246        45.0
  3.     BSI34               1.5556         1.5159        45.0
  4.     BSI44               1.7778         1.4124        45.0
  5.     BSI53               1.9778         1.5149        45.0

                                                      N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE         8.6889     24.0374     4.9028          5


Item-total Statistics

               Scale          Scale      Corrected
                Mean        Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

BSI3           7.5111        17.3010        .4087           .6904
BSI14          6.4889        16.1646        .5744           .6276
BSI34          7.1333        16.4364        .4314           .6834
BSI44          6.9111        17.9919        .3380           .7171
BSI53          6.7111        14.5283        .6247           .5977


Reliability Coefficients

N of Cases =     45.0                    N of Items =  5

Alpha =    .7139
```

Appendix H

Formula for Fishers's Z-Transform Test.

$$z_{obs} = \frac{z_1 - z_2}{\sqrt{\frac{1}{N_1 - 3} + \frac{1}{N_2 - 3}}}$$

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