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Research in to the attitudes, perceptions and circumstances of Asian elders with respect to health and old age : a stress and coping perspective.

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"Research into the attitudes, perceptions and circumstances of Asian elders with respect to health and old age - A stress and coping perspective".

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CONTENTS

ABSTRACT

Research into the health needs of Asian elders has been scarce, that which does exist has lacked a theoretical framework. A first attempt is made in the present research study to relate the literature on race and ethnicity to theory and practice in gerontology.

A stress and coping model from the gerontological literature was adapted to account for outcomes of physical/psychological health and well-being amongst south Asian elders. In order to test the applicability of this model the first aim of the study was to gain an insight into the circumstances and situations of Asian elders on a range of demographic, support, health and well-being factors. And then secondly, to see how these factors may interrelate according to the stress and coping model. A range of specific hypotheses were formulated on the basis of this model.

Data were collected using semi-structured interviews conducted with a community sample of 70 South Asian elders who were 55 years and over. The interview schedule consisted of both standardised measures of health, stress and coping as well as structured questions on the use of formal/informal support, satisfaction with life and attitudes towards old age.

Data were analysed in two phases. The results from the first phase which were largely descriptive, suggest that a significant number of Asian elders were living either alone or with their spouse. In general Asian elders were living in circumstances of material disadvantage, suffering from poor health and chronic illnesses, reporting high levels of psychological distress with little formal and informal support. Awareness and receipt of specialist support services for older adults was low.

The results from the second phase involving analyses of correlations and regressions, indicate significant correlations between outcome measures of health/mental health and satisfaction with life with measures of coping, appraisals and to some extent resource variables. There were also significant correlations between positive/negative outcomes of health and well-being with positive/negative ways of coping, appraisal and some resource variables.

The factor associated most strongly with outcome variables was social support (resource) rather than coping. Overall, the stress and coping model appears to account well for most of the research findings. The results were discussed in relation to previous research literature and implications for future research and clinical practice were discussed.

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LIST OF TABLES AND FIGURES

"Research in to the attitudes, perceptions and circumstances of Asian elders with respect to health and old age - A stress and coping perspective".

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INTRODUCTION

The rapid growth in ageing populations in Britain and other countries has led to a dramatic increase in academic and professional interest in gerontology (Markides & Cooper, 1991). This is evident from the growing literature focusing on both descriptive (defining the characteristics and needs of older people) and theoretical (conceptualising the meaning of old age) perspectives on ageing (McKee & Whittick, 1997; Townsend, 1986).

Despite this growth in research and knowledge, however, there has been a general neglect of research on the ageing of British South Asians[1]. One and a half million British citizens are of Asian origin, constituting one of the largest minority ethnic groups in the UK (OPCS, 1991). Along with other minority communities British Asians face substantial inequality, discrimination and disadvantage (Modood et al., 1997). They are, for example, more likely than their white peers: to live in substandard housing; to live in inner city areas; to be employed in semi-skilled jobs; and to be unemployed (Modood et al., 1997). They also experience discrimination in education, health and social services (Ahmed & Atkin, 1996; Rudat, 1994).

Over the last decade there has been an increasing general awareness of the significance of race and ethnicity for health and social policy (Department of Health, 1992). The 1989 White Paper *Caring for People* recognised that:

"People from different cultural backgrounds may have particular care needs and problems...minority communities may have different concepts of community care and it is important that service providers are sensitive to these variations... good community care will take account of the circumstances of minority communities and will be planned in consultation with them" (p. 38).

Similarly, the 1992 *Health of the Nation* strategy document stressed the importance of:

"...specific initiatives to address the health needs of particularly vulnerable groups, whether geographical, ethnic, occupational or others..." (p. 29).

While these statements recognise the importance of race and ethnicity, their significance have yet to be translated into actual practice. All too often the needs of

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[1] The terms 'South Asian' and 'Asian' refers to people whose ancestors have originated from the Indian sub-continent.

Asian elders have been ignored, unacknowledged or assumed to be the same as their white peers.

More specifically, Asian elders have not been high on the agenda for either social research or for consideration by policy-makers in health and social services. In marked contrast to the extensive social policy literature which deals with issues of racial discrimination, crime and black-white relations (Cashmore & Troyana, 1989), there have been only a very few studies of older Asians in Britain (Ahmed & Walker, 1994). As Blakemore and Boneham (1994) have highlighted, if we are interested in knowing how older Asians are faring in relation to health and social service provision, research has hardly begun.

Relatively little is known about the health status of Asian elders and how this may interact with socio-economic status, demographic factors, age, gender, housing and employment. Similarly, although much research and theorising has been carried out to look at the effects of demographic factors on the process of ageing, levels of stress experienced, the strategies used for coping and its overall impact on health status generally (Markides & Cooper, 1991), very little is known about the process of ageing and the impact of such factors for Asian elders.

One reason suggested for the marginalisation of Asian elders from research and social policy is based on numerical grounds: that there are few people in the older age groups among the Asian population.

Table 1. ***Ethnic groups by age in Great Britain***

Racial/ethnic* group	Under 44		45-64 (men) 45-59 (women)		65+ (men) 60+ (women)		Total	
	Number ('000s)	%	Number ('000's)	%	Number ('000's)	%	Number ('000's)	%
Afro-Caribbean	346	72	109	23	27	6	482	100
Indian	623	80	124	16	32	4	779	100
Pakistani	379	88	48	11	6	1	433	100
Bangladeshi	95	86	14	13	2	2	111	100
Chinese	113	86	16	12	3	2	132	100
All above minorities	1,556	80	311	16	70	4	1,937	100
White	32,044	62	9,874	19	9,681	19	51,600	100

Source: Adapted from OPCS (1991:25, Table 5.30)

*In the *Labour Force Survey*, 'respondents were asked to which ethnic group they considered they, and members of their household, belonged' (OPCS 1991: 24).

Table 1 shows that, relative to the total population over retirement age and as a proportion of the minority ethnic groups themselves, the percentage of Asian older people is indeed a low one. For a number of reasons, however, a view of this group as a small minority cannot be left at that. Rapid rates of increase, geographical clustering and questions about official statistics affect the picture.

Rates of increase will be rapid, especially over the next 20 years as the cohorts of migrants of the late 1950's and 1960's reach retirement age. Already the numbers of Asian elders reaching 60 years of age represent one of the fastest growing age groups in black and minority ethnic communities. The proportion of black and Asian people in the age group immediately before retirement (45-59/64 years) is substantial (16 percent in 1987-9) and suggests a four or fivefold increase among the pensionable age group by the year 2000 (Blakemore & Boneham, 1994).

The concentration of older Asian people in certain regions and metropolitan areas also makes the label of 'small minorities' rather misleading. As highlighted in the Labour Force Survey (OPCS, 1991:25), over two-thirds of the ethnic minority population live in metropolitan counties. So while minority ethnic groups as a whole represent only approximately five percent of the population, they constitute larger proportions in many metropolitan districts.

From the data above it is clear that the number of Asian elders is rising; neglect of their needs on the assumption of low numbers is ethically unacceptable. Furthermore, it can be argued that understanding patterns of ageing among Asian people and their significance to society as a whole must go beyond arguments as to whether they form one percent or fifty percent of a given population or community.

Research into the needs and experiences of Asian elders is important for two reasons: firstly, as a means to guide interventions aimed at preventing or reducing stress caused from the onset of physical/mental health problems; and secondly as a means of developing better psychological theories of ageing and human development that often do not encompass or address the behaviours observed in different non-white ethnic groups (Jackson, 1989). A first attempt is made in the present research study to relate the literature on race and ethnicity to theory and practice in gerontology, which for too long has been largely eurocentric. In this introduction firstly, the research evidence on Asian elders is reviewed, secondly, mainstream research on

older adults generally from the theoretical perspectives of stress and coping is reviewed and finally an analysis of how such theoretical perspectives may help to account for the research findings on outcomes of health and well-being in Asian older adults is made.

Part1- Literature review- Asian older adults

Previous research that has been carried out on Asian elders has largely focused on describing the circumstances and situations of Asian elders and on issues of access to services and service utilisation (AFFOR, 1981; Evers et al., 1988). The focus of the introduction will now turn to briefly reviewing this literature.

Health status

If obtaining sensitive and good geriatric health care is often difficult for the majority of older people (Swift, 1989), it is even more so for Asian elders who face difficulties with communication as well as a health service that has been slow to adapt to the realities of a multilingual, multicultural society. Community surveys have consistently highlighted under-utilisation of health and social services by Asian elders (Blakemore & Boneham, 1994). However, levels of uptake of services cannot necessarily be used as indices for health status and health needs.

Literature on the physical and mental health needs of Asian elders is scarce. That which does exist suggests that a substantial proportion of Asian elders suffers from ill health and disability (Atkin & Rollings, 1996; Fenton, 1988; Patella, 1990). Their needs are likely to be compounded by lack of knowledge of services, language barriers and problems in access to services (Atkins & Rollings, 1996).

Research findings such as those reported by Cochrane and Row (1980) have suggested that there is less reported mental illness among Asian migrants as compared to non Asians. Various explanations have been put forward. For example, Littlewood and Lipsedge (1982) argue that racial bias in institutions has meant a failure to diagnose properly in psychiatric services. Donaldson and Johnson (1993) state that the low number of Asians reporting mental health problems reflects a lack of awareness and understanding of mental illness and available forms of treatment. Certainly under- utilisation of community based mental health services by Asian elders has been widely documented (Ahmed & Walker, 1994; Bhalla & Blakemore, 1982).

In contrast, previous studies have consistently reported high uptake of general practitioner services amongst Asian elders (Azmi & Lockhat, 1997a; Blakemore & Boneham, 1994). High GP consultation rates and high numbers of reported health problems, as evident from community based studies, further negate the hypothesis that low use of health and social services by this group is due to lack of need.

Socio-economic status

Studies of socio-economic positions for Asian elders suggest a mixed picture. Among Indians, there is no racial disparity in the sense that an equal proportion to whites are in manual jobs. However, Pakistanis and Bangladeshis are more likely to be in manual jobs (Blakemore & Boneham, 1994). Evidence from community studies suggests that most older Asians had worked in manual jobs before retirement. However there is a geographical effect that must be considered (Boneham, 1987). In the West Midlands and in the North of England there were greater numbers of factory workers and other manual workers who had worked in the various industries situated in these places. However in London and Leicestershire Asian communities include those with professional, managerial or business backgrounds. Thus it can be misleading to discuss the 'social class' of older Asians without some reference to region and ethnicity.

Income Inequalities

There is common agreement in all the community surveys of older Asian people that poverty is a sharp problem for many of them. These studies suggest that for a variety of reasons older Asians are more likely than their white counterparts to experience a lowering of income to below the average for all the retired (Barker, 1984; Fenton, 1987). Boneham (1987), from her study of older Sikh women, concludes that "the results are definitive that ethnic minority older people are worse off than the indigenous population in terms of income and use of social services" (p. 125).

Some studies have highlighted that up to 25 per cent of minority older adults receive less than their full benefits (Kippax, 1987). Pride or embarrassment may be a reason shared with indigenous older people, but added to this, for the Asians, is an ignorance of the system because of language problems and low expectations regarding their general rights to financial benefits.

Fenton (1987) remarks on a growing number of Asian people in their forties and fifties who have been made redundant and, unlikely to be re-employed permanently, are in a roleless position of 'waiting to be elderly'.

In summarising the evidence on income inequalities, therefore, it is important to note not only objective indices of disadvantage but also feelings of a loss of a potential future or of financial security in old age. These subjective factors are likely in some cases to increase the disadvantages experienced by Asian elders by adding psychological stress to material deprivation.

Household size and family ties

Evidence from previous research appears to suggest mixed findings on household size. Community surveys on residence patterns in certain regions seems to uphold the idea of a fairly resilient extended family or of joint family households which include the oldest members. In a Birmingham study 61 per cent of their sample lived in households of six or more people (Bhalla & Blakemore, 1982).

In other towns and cities, though, patterns of residence are different and show that notions of older Asian people living in large households can be far from the norm. The explanations for this difference in findings are rooted in historical, geographical and ethnic differences among the different Asian communities. For example Bachu's (1985) study of East African Asian settlers shows that they are much more likely than other Asian communities to live in nuclear family groups than in joint households. Stopes-Roe and Cochrane (1990) further highlight how, in such communities, increasing numbers of grandparents and senior relatives will be living with couples, on their own, or most likely with two or three younger relatives (a son and daughter-in-law, for example).

However, despite changing attitudes and household structures amongst some ethnic communities, the proportions of older Asians living alone or even in couples remains very low. We know very little about the perceptions and experiences of Asian elders living in such family structures. Shaw (1988) concludes from his study on Pakistani communities that despite a degree of conflict to be expected in any domestic group, family life in most Asian homes is warm, convivial and supportive. Despite this positive image of Asian families, we know very little about the perceptions of Asian elders and their positions within the family structure. It is

possible, for example, for some Asian elders living with close relatives to experience similar levels of isolation and neglect as those older adults who live on their own.

Although the notion that social relationships have beneficial effects on people's health and psychological well-being is not new, the nature of this relationship for Asian elders has not been explored. Research evidence from the Fourth National Survey (Modood et al., 1997) on household size and family structures suggests that the majority of South Asian people over the age of 60 years live in the same household as an adult child. This is in contrast to white elderly people who may move in (if at all) with their children when they need care. It has been assumed from such demographic data that Asian elders living in family environments are likely to receive support when they need care. However, very little is known about the nature and quality of care and support available for Asian elders in family settings. The long standing assumption that large extended family networks exist within Asian communities is now beginning to be challenged. Research has begun to unfold the difficult realities under which care and support is provided. Often these families providing care and support do so under conditions of high levels of stress, isolation and in situations of great social and economic hardship (Blakemore & Boneham, 1994).

From the demographic data discussed above, in the absence of material and physical resources, the quality and quantity of support available to Asian elders within family settings is likely to be highly compromised.

Whilst previous research on Asian elders, as discussed above, has been important in describing the circumstances and highlighting the low uptake of services, it has failed to highlight the significance of these factors on the personal experiences and lives of Asian elders from a theoretical perspective. For example, very little is known about the impact of these factors on overall levels of stress, appraisal of stress, coping strategies used and their outcomes on health and general well-being.

As evident from the literature discussed above, previous research on Asian elders has generally lacked a theoretical focus or structure to guide the investigations. Different studies have investigated different types of variables, and thus it has been difficult to compare results and to try and come to any firm conclusions. As Jackson (1989) comments " In the absence of reasonable theories of race differences,... (this)

has resulted in numerous un-interpretable findings. Research on older minority populations has been plagued by problems of conceptualisation, planning, execution, and interpretation." (p. 1). This situation has led the author to search for theoretical models which could underpin and guide the research, drawn from mainstream research on stress and coping in older adults. The focus of the introduction will now turn to reviewing the literature on older adults generally from the theoretical perspective of stress and coping.

Part -2 Stress and older adults

Within the gerontological literature the utility of social stress paradigms has been applied in studies focusing on both the physical and mental health of older adults. Numerous studies have repeatedly found 'stress' as being causally related to health outcomes (Cooper, Cooper & Eaker, 1988). Increasingly gerontologists have embraced models of stress and coping, and linked them to health, mental health, and psychological well-being outcomes in older people or across the life-course.

Stress research has a long history going back to the work of Cannon (1935), Selye (1956), Lazarus (1966), and others. Recent developments in the stress field owe a great deal to their pioneering work. Stress is, of course, a concept that has been defined and operationalised in a variety of ways. Perusal of the psychological literature reveals three broad approaches to the study of stress. Firstly, it is seen as the organism's *response* to a noxious environment. Selye (1956) defined stress as the 'non-specific response to any stressor'. His pioneering work examined neuro-endocrine responses to a wide variety of environmental events and conditions. He called this response the 'General Adaptation Syndrome' and saw it as consisting of three temporal stages - alarm, resistance and exhaustion - each with its own characteristic set of physiological responses. There have been various criticisms of the model; notably it fails to identify which type of event or conditions elicited the response and ignores the individual's interpretation, meaning or appraisal of the event.

The second approach is to identify stress in terms of *stimuli* or 'stressors'. For some research, specific events such as unemployment, bereavement, and other similar traumas are selected as the stressors. In addition, attempts have been made to derive theories of stress which assess life events, or changes, as stress stimuli in terms of the

readjustment required following a stressor. The early work of Holmes and Rahe (1967) focused on developing a checklist of events that are likely to precipitate stress responses and asked raters to assess the amount of readjustment each event would require (Social Readjustment Rating Scale- SRRS. Holmes & Rahe, 1967). However, others have questioned whether it is only major life events which were stressful. Thus Kanner et al. (1981) have proposed that daily hassles are better predictors of psychological and somatic symptomatology. Similarly Brown and Harris (1989) have found that both daily difficulties and major life events, contribute independently to the onset of depression.

Although many studies of bereavement, amputation, relocation, divorce and other social traumas have consistently reported an important link between stress exposure and a variety of indicators of physical and psychological well-being, it should be emphasised that the verdict, especially for older populations, is not in. (Tausig, 1986). Murrell et al. (1988), after reviewing a variety of studies using life events in older populations, concluded that life events alone have shown only minor associations with outcome criteria, and go on to suggest that the current focus on life events may be too narrow and research needs to broaden to include daily hassles and chronic stress.

The third approach to the concept of stress is to define it in terms of the individual's *transactions* with his or her environment. So, for example, Lazarus (1966) defines stress as an interaction between the environmental demands and the individual's coping, and Cox (1978) as the mismatch between perceived demands and resources.

Historically stress research in gerontology operated under the assumptions of what may be called a 'Catastrophic Model'. Chiribago (1991) explains that participants having undergone what was commonly thought to be a stressful experience, such as relocation, were studied to ascertain its outcomes. No particular attention was paid to measuring the stressful experience itself and how it was perceived by different participants. The assumption that stressful experiences affected people similarly has been repeatedly shown by modern research to be inaccurate and naïve (Markides & Cooper, 1991).

Stress and life-cycle events

Ageing is seen as being accompanied by a number of 'role transitions' that are stressful to the individual. The cumulative effects of these transitions, role losses and other life events is a negative effect on the health and well-being of people as they grow old (Markides & Cooper, 1991). Gerontologists, for example, have over the years focused on particular major single stressors such as widowhood, retirement, various life threatening chronic diseases, relocation and institutionalisation (Ferraro, McGoldrick, Vernon & Jackson, 1991).

Ferraro (1991) notes that widowhood was considered the most significant event in the life events instrument of Holmes and Rahe (1976). It is indeed a major event in the lives of older people, particularly women (Ferraro, 1991; George, 1991). However, gerontologists are beginning to conceptualise widowhood as a life-course transition that has implications far beyond the event of the death of one's spouse. A variety of health outcomes have been studied. Ferraro (1991) concludes that health declines have been observed in many studies, but only in the short term. Long-term effects were non-existent or modest at best. However, early and unexpected widowhood is more likely to have negative consequences.

Retirement is another major life-course transition that has dominated gerontological thinking and research for several decades. The research suggests little evidence that retirement has negative health outcomes for the individual, perhaps because it has increasingly become an expected and normative transition for most people (Markides & Cooper, 1987). McGoldrick (1991) shows that data on British older adults even suggests that early retirees report improved health after retirement (Parker, 1987). Similarly no negative effects are observed on the mental and psychological well-being of early retirees, although people retiring early because of poor health must be considered separately.

Another category of stressors in the lives of many older people that has been studied from a social stress and coping perspective is the various life-threatening chronic disease so common in old age. Being diagnosed with a major life-threatening chronic disease can be stressful and lead to further health deterioration. The direct effect of stress on the person's health and survival has been studied as outcomes. Cancer, more specifically breast cancer in women, has been studied extensively.

Vernon and Jackson (1991) conclude from a review of the literature that the diagnosis of breast cancer does not always translate into more psychological or psychiatric problems. There is however, some suggestion in the literature that younger women may have greater adjustment problems than older women, possibly because the diagnosis of a chronic disease in old age is more expected than in younger years (Markides & Cooper, 1991).

Stress and social support

One of the most fruitful and significant areas of research in gerontology using a stress and coping perspective to account for physical and mental health outcomes has been to look at the relationship between stress, coping and social support. In previous research, stress and social support have been linked to a variety of psychiatric outcomes. Indeed, research examining mental health outcomes provides some of the strongest evidence available documenting the importance of stress and social support for personal well-being (Holahan, et al., 1984; Krause, 1986b, 1987a, 1987b; Norris & Murrell, 1984).

During the past twenty-five years, investigations of the relationships between stress, social support, and health/mental health outcomes have increased in complexity and sophistication. Questions currently being asked about the relationships between stress, social support, and health are different than they were two decades ago. Investigators no longer question whether these phenomenon are interrelated, but are now identifying a) the conditions under which stress has negative implications for health and the conditions under which social support has beneficial health implications; b) the degree to which effects vary across types of stressors, dimensions of social support, and specific health/mental health outcomes; and c) the mechanisms by which stress and social support affect health/mental health outcomes.

Current evidence clearly confirms that stress, social support and mental health outcomes, more specifically depression, are interrelated and that both stress and social support have substantial implications for the risk of depression (George, 1991). Different types of stressors (life events, chronic stressors, and daily hassles) in the literature have been associated with increased risk of depression (Burks & Martin, 1985; DeLongis et al., 1982; Kanner et al., 1981). The evidence available suggests that social support plays a dual role in the stress process. On the one hand, social

support has a direct effect on depression, helping to offset or counterbalance the effects of stress (Cicirelli, 1987; Lazarus et al., 1985). In addition social support appears to buffer the effects of stress (Cohen & Willis, 1985; Cutrona et al., 1986; Krause, 1986a; 1987a).

However, the emerging research findings focusing on mediating and interacting factors with stress, social support and mental health outcomes suggests the complexity surrounding these relationships. Norris and Murrel (1984) examined the interaction between perceptions of stress and social resources (including social support), using data from a sample of older adults. Their results suggested that perceptions of stress were less likely to lead to depression under conditions of higher rather than low social resources. On theoretical grounds, coping and appraisal characteristics might be expected to buffer the effects of stress on psychological distress and physical health. However, little research is available to support or refute this hypothesis. An exception has been Pearlin et al.'s. (1981) study that reported coping modes to buffer the effects of life event stressors on psychological distress.

Findings concerning the impact of demographic factors on the relationship between stress, social support, and psychological distress have been somewhat fragmentary. Based on the limited information available it appears that specific stressors may have different impacts on psychological distress for younger and older persons because of differences in normativeness or age-specific prevalence (Chiriboga, 1982a; Glick et al., 1974). Demographic variables may be more strongly related to depression/psychological distress for younger than for older adults (e.g. George et al., 1987). However, more research is needed to determine whether the mediators of stress and social support on psychological distress operate the same across age and race.

Kessler (1979) reports that life event stressors have a greater impact on psychological distress for women than for men, for persons of lower socioeconomic status and for unmarried than for married people. He suggests that these 'vulnerability' differences may be explained by one or more of two explanatory variables: differences in social resources (including social support), and/or differences in coping styles across demographic subgroups. In an American study Kessler & Neighbors (1986) noted that race and socioeconomic status may interact to produce

even more complex patterns of differential vulnerability to life event stressors. These authors report that the combination of being black and having low socioeconomic resources has especially negative consequences for psychological well-being.

Stress and coping

So far, only research focusing on the association between stress and negative health/mental health outcomes has been discussed. However, the element of coping, what the individual does in response to stressful situations, has so far not been discussed. A decade ago virtually nothing was known about age differences in coping styles. The elderly were sometimes portrayed as rigid and unable to adapt, and prone to the use of primitive mechanisms of coping and defense (Markides & Cooper, 1991). Conversely, ageing was seen by others as a process of attaining wisdom, and greater maturity of coping was also hypothesised (Vaillant, 1977). McCrae (1982) characterised these as regression and growth hypotheses, respectively.

Early research findings highlighted differences in the types of stress encountered by adults of different ages: young adults reported more family and job-related challenges; older adults reported more health problems for themselves and their spouses. However, after controlling for types of stress, initial reports suggested that there were few age differences in coping (Lazarus & DeLongis, 1983). McCrae (1991) examined 28 finely differentiated coping mechanisms in two parallel studies of coping with a variety of stresses classified as threats, losses, and challenges; only two coping mechanisms showed replicated age differences. Younger adults (under age 50) more frequently reported hostile reaction and the use of escapist fantasy than did middle-aged or older adults. There were no significant age differences in either study for rational action, seeking help, perserverance, isolation of affect, expression of feelings, distraction, intellectual denial, self blame, social comparison, substitution, drawing strength from adversity, avoidance, withdrawal, active forgetting, or passivity.

More recent studies have reported occasional age differences. Folkman et al. (1987) found that older respondents used less confrontative coping (e.g. 'stood my ground and fought') and were less likely to seek social support; they were more likely to use distancing and positive reappraisal. Felton and Revenson (1987) examined age differences in coping with chronic illness in middle-aged and older adults. They

reported lower use of emotional expression, self-blame, and information-seeking in their older subjects, but no age differences in the use of cognitive restructuring, wish-fulfilling fantasy, or threat minimisation.

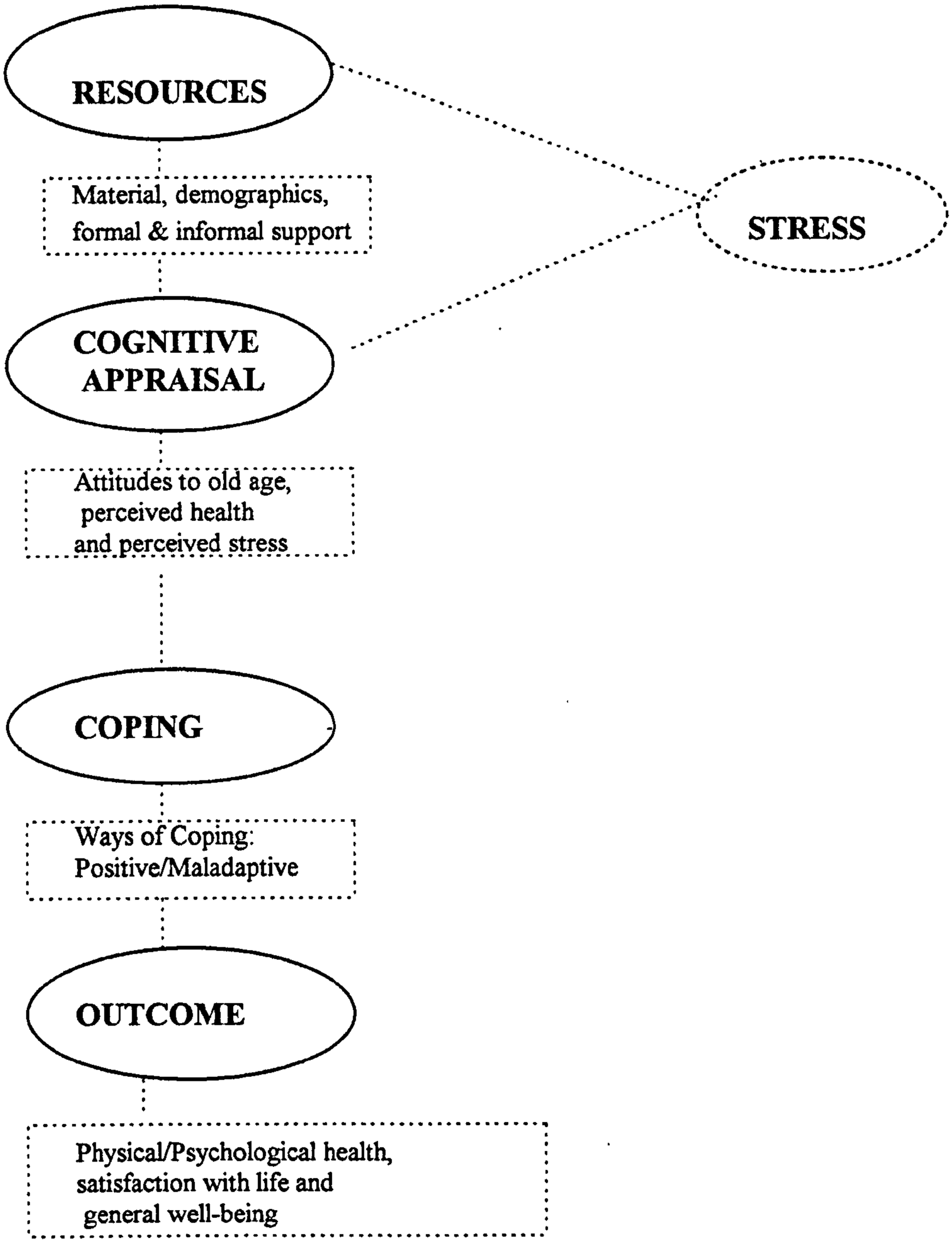
Although age differences in coping strategies have been evident in some studies, overall it appears that there is no consistent pattern of age differences across studies. As Felton and Revenson (1987) conclude, "at this point we can state with some certainty that age-related differences in coping do not clearly fit with a regression or with an opposing growth hypothesis" (p. 169).

As evident from the above findings on older adults generally, it is clear that models of stress and coping have been relatively successful in accounting for health/mental health outcomes and general well-being. The present research project adopts a similar transactional model of stress and coping to account for outcomes of health/mental health, satisfaction with life and well-being amongst South Asian elders (see Figure 1).

According to the model in Figure 1., the level of *stress* experienced and the *coping* strategies used is influenced both by the person's *cognitive appraisal* (cognitive representations of health and illness, perceived stress and attitudes and perceptions towards old age) and by the *resources* he or she *has* available (i.e. income, socio-economic position, education, martial status; formal and informal support). The *outcome* (physical/psychological health and well-being) of the relationship between the individual and the stressor will be dependent upon the person's cognitive appraisal and the availability and utilisation of resources and coping strategies.

Very little is known about what type of resources are available for south Asian elders, their appraisals of situations, the coping strategies they use and the impact of these factors on physical/psychological health outcomes and general well-being.

Figure 1. *Model of Stress, Appraisal and Coping*



Cross-cultural issues in research

One of the problems associated with cross-cultural research is in ensuring that the research to be undertaken will be meaningful to the culture under investigation. Sears (1961) has emphasised the need to ensure that variables to be investigated are trans-cultural, i.e. can be measured in all cultures. Although most of the data on stress and coping are derived from western cultures, Caplan et al. (1984) conclude, following a study of coping in students facing the stress of examinations in India, that these constructs and the relationships between them do generalise across cultures. Furthermore, Marmot & Madge (1987) conclude from several cross cultural studies that the concept of social support as a buffer against diseases is generally applicable across cultures.

Nothing emerges from the relevant literature to suggest that the concepts of stress and coping are not meaningful in the Indian subcontinent. However, it is acknowledged that assumptions which are taken for granted in one culture cannot be automatically generalised to another culture.

Overall, the literature on older adults as discussed above, largely focuses on the various transitions involved in the ageing process and their impact on outcomes of health and well-being from a stress and coping perspective. However, very little is known about the effects of such transitions for Asian elders residing in Britain. The impact of migrating from a home country and settling into British society and culture, making the necessary adaptation and adjustment to changes, are all additional significant events that South Asian elders would have had to go through. Related to this are several reasons as to why the effects of the experience of transition to old age for Asian migrants is particularly likely to be different to that of the general population as a whole. Firstly, this group as highlighted earlier is likely to be in a low-socio-economic position and thus people in this group are likely to be living under conditions of economic hardship (Modood et al., 1997). Secondly, due to the effects of migration, Asian elders are less likely to be living in extended family settings than those back in their home countries, and are less likely to be equipped with the skills necessary (e.g. language) to enable them to access formal support (i.e. services).

These factors in turn are likely to lead to having poorer resources that lead to negative outcomes on older age (Jackson et al., 1993).

As evident from the literature above on South Asian elders, it can be seen how a limited number of coping resources may put some Asian elders in a disadvantaged position when it comes to coping with stresses and its effects on long term outcomes of physical/psychological health, well-being, and general life satisfaction. However, as highlighted earlier, the health needs, health status and circumstances of Asian elders remain under researched, as a result of which very little is known about how various resources may impact on the coping strategies used by Asian elders. It is within this context that the present research was undertaken.

Part -3 Aims, Objectives and Hypotheses

The general aim was to investigate, with South Asian elders, the impact of differing levels of personal and social resources on levels of stress experienced, the types of coping strategies used, and outcomes such as health, general well being and satisfaction with life. In the light of model discussed in Figure 1., the current project has two main aims:

1. To gain, via a succession of individual interviews, an insight into circumstances and situations of Asian elders. These include focusing on the:

◊ *resources* (e.g. demographic factors- age, sex, household size, socio-economic status, formal and informal support;

◊ *appraisals* (e.g. cognitive representations of illness, perceived stress, and attitudes towards old age);

◊ *coping* (e.g. positive and maladaptive ways of coping) and

◊ *outcomes* (i.e. measures of physical/psychological health and satisfaction with life).

2. To see how these factors may interrelate with one another. ie. how may the resources available interact with appraisal systems and the coping strategies used and in turn what impact this may have on outcomes of health and well-being.

More specifically, in relation to the second aim, the following hypotheses have been formulated:

1. Outcome measures of psychological/physical health and well-being will be related to ways of coping, appraisal and the resources available;

2. Outcome measures will correlate with ways of coping more highly than with appraisals or resources;
3. Positive outcomes will be correlated with positive ways of coping, positive appraisals and positive resources, similarly;
4. Poor outcomes of health and well-being will be associated with higher use of maladaptive coping strategies, poorer appraisal and lower levels of available resources.

METHOD

Research Design

A semi-structured interview design was used to elicit the attitudes, perceptions and experiences of South Asian elders regarding their health, stress, coping and support. The interview schedule consisted of both standardised measures of health, stress and coping as well as structured questions on the use of formal/informal support, satisfaction with life and attitudes towards old age.

Participants

A community sample of 70 participants was recruited from two Asian voluntary organisations situated in areas with a high concentration of South Asian elders. All participants were aged 55 years and over with a mean age of 66.8 and range of 55-92 years. From a total of 70 participants, half (35; 50%) were male (35; 50%) and half were female (35; 50%).

Being South Asian and being over the age of 55 years were the two inclusion criteria used for the study. Classification of ethnicity was according to categories used in the 1991 Census.

Measures

The interview schedule completed by the 70 participants was devised by the researcher, based on previous work with South Asian elders and pilot interviews. The schedule consisted of three main sections:

◊ **Section A-** ***Demographic characteristics*:-** Age, gender, household size and composition, ethnicity, length of stay in UK, socio-economic position, education, spoken and written languages, religion;

◊ **Section B-** ***Health,S stress and Coping***:-Standardised measures of both physical and psychological health were included:

- *Perceived Stress Scale (PSS, Cohen et al. 1988)* - this was designed to measure the degree to which situations in one's life are appraised as stressful (Appendix E-4);
- *the General Health Questionnaire (GHQ-12, Goldberg, 1992)* - this helps to identify cases and measure the degree of non-psychotic psychiatric disorder in community based samples (Appendix E-1);

- *the Illness Perception Questionnaire (IPQ, Weinman, Petrie, Moss-Morris & Horn, 1996)* was used to assess cognitive representations of illnesses (Appendix E-3);
- for assessing *physical health, a checklist of common symptoms* related to health problems were identified according to *Barker's study (1984)* on assessing health problems in older adults (Appendix E-2);
- a *visual analogue scale (Wright, 1987)* of perceived health status was also incorporated into this section (Appendix E-6);
- finally, coping strategies were assessed using the short version of *Ways of Coping Checklist (WOCC - Folkman & Lazarus, 1988, 1993)* (Appendix E-5).

Section C- *Formal/informal support, Attitudes towards old age & Satisfaction with life:-*

- for *formal support*, awareness, receipt and satisfaction with a range of services was assessed using an adaptation of the Client Service Receipt Inventory (Personal Social Services Research Unit, 1990) (Appendix E-8);
- *Informal support* was assessed using an adaptation of the Short Form of Social Support Questionnaire (SSQ6, Sarason, Levine, Basham & Sarason, 1983) which yields one quasi-structural measure of number of supports and one global functional measure of satisfaction with support (Appendix E-7);
- *Attitudes towards old age and perceptions well-being* were measured using an adapted version of the attitudes towards ageing scale (Harris et al. 1989) (Appendix E-9) and
- *Satisfaction with life* was measured using the Satisfaction with Life Scale (SWLS, Diener et al. 1985) (Appendix E-10).

<u>General Health Questionnaire (GHQ-12, Goldberg, 1992)</u>

The GHQ-12 (Goldberg, 1992) is a shortened version of the well-validated full version, the GHQ-60, but is equally valid and reliable. It is designed to detect non-psychotic psychiatric disorder in community and medical settings. Each of the 12 items asks whether the respondent has experienced a particular symptom or behaviour in the last few weeks using a four-point scale; 'less than usual', 'no more than usual', 'rather more than usual', or 'much more than usual'. The responses are scored as 0,0,1 and 1 with total scores ranging from 0-12. Higher scores indicate a

greater probability of clinical disorder. Based on five validation studies, the recommended cut-off threshold for psychiatric disorder is 2/3. In this study the cut off score of 3 or more was used.

The GHQ is the best validated measure for detecting psychiatric disorder in a British population. In a series of studies, internal consistency as assessed by Cronbach's alpha ranged from 0.82 to 0.90 (Weinman et al., 1995). Validity has been evaluated by assessing its sensitivity in detecting cases of psychiatric disorder. In the original validation study, sensitivity was 93.5 per cent and specificity in detecting cases of disorder only was 78.5 per cent. There have been six further studies validating the GHQ-12 against standardised interviews of psychiatric disorder and each produced satisfactory sensitivity and specificity figures (Weinman, Wright & Johnston, 1995).

The GHQ has also been well validated and translated for other populations including the South Asian population. The Urdu translated version of the GHQ-12 was obtained for use in this study (Goldberg, 1992) .

<u>The Perceived Stress Scale (PSS-14, Cohen et al., 1988).</u>

The Perceived Stress Scale (PSS, Cohen et al., 1988) was designed to measure the degree to which situations in one's life are appraised as stressful. It consists of 14 items that refer to subjective appraisal of events occurring within a one month time frame. The items are scored from 0 to 4 with items 4,5,6,7,9,10 and 13 scored in the reverse direction (0=4, 1=3, 2=2, 3=1, 4=0). These are then summed with the other negatively worded items. Scores can range from 0 to 56, with higher scores indicating more perceived stress.

Internal consistency as assessed by Cronbach's alpha was 0.75 in Cohen et al.'s (1988) general population study. Since perceived stress is affected both by daily hassles and the availability of coping resources, test-retest reliability should only be high over short time intervals. Over two days test-retest reliability as assessed in college students was 0.85, while over six weeks it was 0.55.

Evidence of concurrent validity has been found in studies of college students (Cohen et al., 1983). The PSS-14 also showed predictive validity as it was a better predictor of future physical symptomatology (range 0.52 to 0.70) than life event measures in studies of college students. Overall the PSS is more successful in

predicting a variety of health and health care outcomes than are measures of life events which focus on the number rather than the appraisal of the events, as the PSS does.

The Illness Perception Questionnaire (IPQ, Weinman et al., 1996)

The Illness Perception Questionnaire (IPQ) assesses the cognitive representations of illnesses. The IPQ is a theoretically derived measure, based on Leventhal et al.'s self- regulation model (Leventhal & Diefenbach, 1991). It comprises of five scales that provide information about the five components that have been proposed to underlie the cognitive representation of illness. The five scales assess: 'identity'-the symptoms the patient associates with the illness; 'cause'-personal ideas about aetiology; 'time-line'-the perceived duration of the illness; 'consequences'-expected effects and outcome; and 'cure control'-how one controls or recovers from the illness.

Weinman et al. (1996) present data supporting the reliability and validity of the IPQ scales in different chronic illness populations. For example, data collected from myocardial infarction and renal samples show the IPQ scales to have good levels of both internal consistency and test-retest reliability. Internal consistency as assessed by Cronbach's alpha, for 'identity' was 0.82, for 'timeline' was 0.73, for 'consequences' was 0.82 and for 'control/cure' was 0.73. Internal consistency for the 'cause' subscale could not be produced as the scale consists of a list of varying causes leading to the illness. The authors further present some encouraging data on the concurrent, discriminative and predictive validity of the IPQ scales.

Ways of Coping Checklist- Revised (WOCC- Folkman & Lazarus,1988, 1993)

One of the most popular instruments used to measure a variety of coping methods used by a non-clinical population is the Ways of Coping Checklist (WOCC) developed and revised by Folkman and Lazarus (1980, 1985, 1988 & 1993). The most recent revised version of the WOCC has 25 items consisting of specific coping methods that a person could use in response to stressors. These coping methods listed in the WOCC were derived from the framework proposed by Lazarus and his colleagues (Folkman & Lazarus, 1993). Two major functions of coping behaviour were differentiated: problems-focused coping and emotion-focused coping. Problem-focused coping involves active cognitive or behavioural efforts to deal with the source

of stress either by changing one's behaviour or altering the environmental conditions. Emotion-focused coping regulates distressing emotions through the use of cognitive and behavioural efforts (Lazarus & Folkman, 1985). There has been a general acceptance that problem-focused coping is associated with better outcomes (e.g. higher morale, improved health) than emotion-focused coping. Although under certain conditions where nothing useful can be done to change the situation, problem focused coping can be counterproductive and emotion-focused coping more likely to produce better outcomes (Orbell & Gillies, 1993).

The revised version of WOCC used in this study consisted of eight maladaptive and thirteen positive ways of coping strategies. Participants are asked to give a 'YES' or a ' NO' response to the listed items to indicate how they cope with their current circumstances. A total score for maladaptive and positive ways of coping is calculated by summing the responses for all the items.

The internal consistency estimates for these scales ranged from 0.59 to 0.88 (Folkman & Lazarus, 1993). The validity of the coping strategies was supported by significant changes in coping overtime as events changed according to theoretical predictions (Folkman & Lazarus, 1993).

Short Form of Social Support Questionnaire (SSQ6- Sarason et al., 1987a)

An adapted version of the original SSQ6 was used in this study. The SSQ6 provides a short and reliable measure of two aspects of social support; the number of supports (SSQ6-N) and satisfaction with support (SSQ6-S). The SSQ6 contains six items and for each of the six questions, respondents are required to list all the individuals known to them who provide the particular type of support described in that question. The respondents then have to rate (on a six-point scale) their level of satisfaction with this type of support.

Two scores are obtained from the questionnaire: the number of supports and the level of satisfaction with these supports. For each question, the number of supports score ranges from 0 (no supporting individuals) to 9 (nine individuals identified). Thus the total score ranges from 0 to 54. This is divided by six to provide a mean number of supports score. Similarly for each question, the satisfaction with the supports score ranges from 1 (very dissatisfied) to 6 (very satisfied) and so the

total score ranges from 6 to 36 for all six items. A mean satisfaction score is obtained by dividing the total score by six.

The SSQ6 is reported by Sarason et al. (1987a) to show satisfactory psychometric properties, with high internal consistency for both number and satisfaction subscales (alpha=0.90 to 0.93) and high test-retest reliability when tested for over three to six months time. Some evidence for the validity of the SSQ6 has also been reported by Sarason et al. (1987a). There is evidence of a positive correlation between SSQ-N scores and number of positive life events experienced, locus of control internality and self-esteem.

Translation Procedure

In the present study self-administered questionnaires were not feasible due to participants speaking a range of languages and not always being able to write. However, interviews helped to reduce the possibility of misunderstandings. A clear understanding on the part of the researcher/interviewer of the theoretical concepts underlying the instruments was useful as it helped to provide sufficient context and thus maximise the chances of an accurate translation and avoid misunderstandings.

It is recognised, however, that retrospective accounts of coping and stress appraisal may be subject to problems of recall and social desirability, the alternative method of assessing coping as it happens was not feasible in the present study due to language problems and large numbers of participants.

Bresilin (1980) suggests a number of strategies including a pre-test procedure to ensure that the translated information would be as accurate as possible. Based on this procedure, the translation of the interview schedule for this research involved several stages:-

The preliminary translation of the schedule into Urdu was carried out by the researcher who is bilingual. This was then checked by another bilingual trainee psychologist who spoke a varied dialect to Urdu to eliminate any regional colloquialisms. This preliminary translation was then evaluated by a professional interpreter and teacher of Urdu. Finally, this was then back translated by an 82 year old South Asian individual who did not participate in the main study. The back translated version was judged to be satisfactory by the researcher. Furthermore the

translation procedure had helped to ensure that the material could be readily understood.

Procedure

Participants were recruited from voluntary organisations for South Asian elders based in areas of high concentration of South Asians. The voluntary organisations included an Indian senior citizen's day centre, and an Asian elders carer's group. A letter was sent to the voluntary organisations (see Appendix B) informing them of the research project and requesting their assistance in recruiting potential participants. After having sought their agreement for assistance, further contact was made to inform them of the procedures involved in recruiting participants.

A translated and an English version of a letter about the research were sent to potential participants from the various organisations. They were given the opportunity to volunteer/not volunteer as participants for the project by filling in and returning an opt in/out slip. However the overall response rate for this was low (18; 25.7%). Further contact three weeks later by telephone was made with those who had not returned the opt in/out slips to ask whether they required any further information on the research project and to ask whether they wished to participate in the study or not. Further information about the project was provided to those who had given consent, informing them about the nature and duration of the interviews, and assuring them that confidentiality would be maintained throughout (see Appendix D).

Participants were also recruited by attending various meetings held by the voluntary organisations. Information about the research project and any questions and queries regarding it were clarified with those who were interested in volunteering for the research. All potential participants were assured that participation was entirely voluntary, that they were free to refuse to take part or withdraw at any point during or after the interview, and that the information they provided would be kept strictly confidential.

Date, time and venue for the interviews were negotiated with the participants, who had the choice of either being interviewed in service settings or in their own homes. All the interviews were carried out in the first language of the participant. Interpreters were not needed for any of the interviews as the interviewer spoke the

relevant languages. Most of the interviews were carried out in Hindi, Urdu and Punchabi. On average the duration of each interview was 30 to 45 minutes.

Ethical Approval

Approval for the research was sought from the appropriate ethical committee. The letter granting approval is available in Appendix A.

RESULTS

The following results are presented in two phases. Phase 1 is a descriptive analysis of data focusing on the circumstances, health, well-being and social supports of South Asian elders. Phase 2 includes statistical analyses of data looking at the relationship between resources, appraisals, coping and the outcomes of health/mental health and satisfaction with life. Statistical tests include parametric correlations (bivariate), t-tests and multiple regressions. The scores from the Illness Perception Questionnaire (IPQ- used in this study to look at cognitive representations of illness - appraisals) were discarded and not used for further analysis. This was considered not to be a useful measure of appraisal as cognitive representations of illness could not be derived for those individuals who were not ill.

Phase 1. Descriptive analysis - (Aim 1)

All the variables were examined descriptively. Skewness, kurtosis and internal reliability of the measures were examined using psychometric evaluative procedures. Kurtosis and skewness were calculated by dividing by each of their standard errors. The scores obtained for both kurtosis and skewness on almost all of the variables were respectable ranging from +2.00 to -2.00 (see Appendix F).

The following measures were tested for internal consistency by the use of Cronbach's alpha coefficient: total score on the General Health Questionnaire (GHQ); Physical health measures; Perceived Stress Scale (PSS); Ways of Coping Checklist-Positive and Maladaptive (WOCCM/P); Social Supports (SSQ); Service supports; Attitudes to old age and Satisfaction with life scales (see Appendix F). The internal consistency for all the measures and their subscales was confirmed to be high, with alphas exceeding the criterion level of 0.7.

Finally, these tests of internal consistency help to confirm that the use of translated measures for the sample of South Asian elders have acceptable levels of internal reliability (see Appendix F for a complete list of variables with scores for means, kurtosis, skewness and internal reliability).

Demographics- (Resources)

From the sample of 70 participants, 28 (40%) were Pakistani, 22 were Indian (31%), six were Bangladeshi (9%), and 14 were East African Asians (20%). In terms

of religion, a substantial number of participants were Muslim (61%), 27% were Hindu, 9% were Sikh while 3% were other.

The average age of entry of participants in to the UK was 36 years (range 18-66 years) and the average number of years resident in the UK was 30 years (range 6-49 years). Thus participants on average arrived in the UK in their mid-thirties and had spent almost half of their later adult lives living in the UK.

The most prevalent spoken languages among the participants were Urdu/Hindi (39 people; 55%) and Punchabi (33 people; 47%); almost half also spoke English (32 people; 45%); Gujerati (13 people; 18%); Bangla (6 people; 9%) and Swahili (3 people; 4%).

Family Circumstances

Just over half the participants were married and living with their spouses (39 people; 55.7%), while 31 (44%) were alone, of which 25 (35%) were widowed, five divorced (7.1%) and only one single (1.4%). Both the mean and median household size was two people, (range 0 to more than 11 people). The mean extended family size was eight, while the median was nine (range 0 to more than 13 people). However, very few extended family members lived in the locality, most were geographically dispersed or living in other countries.

Table 2 presents the household size of Asian elders who are over the age of 55 years, in studies based in Coventry (Barker, 1984) and Birmingham (Bhalla & Blakemore, 1981). This is also compared to the present study based in Manchester.

Table 2. ***Household size of older Asians aged 55 and over in Birmingham, Coventry and Manchester.***

Number in household	Coventry*(1984) (Per cent)	Birmingham**(1981) (Per cent)	Manchester***(1999) (Per cent)
Living alone	3	5	26
2	17	10	26
3-5	54	24	31
6+	26	61	17
Total	100	100	100
N	1,163	169	70

*Coventry (Barker, 1984)
**Birmingham (AFFOR, 1981)
*** Manchester (This project, 1999)

As Table 2 shows, 52 per cent of Asian elders in this study (Manchester) were either living alone or living with one other individual who was often their spouse. This proportion was higher than that reported in two previous studies based in

Coventry and Birmingham. Household size is reported to be much smaller in this study in comparison to the two previous studies. For example, a smaller number of Asian elders in this study (17%) in comparison to the two previous studies (26%, Coventry; and 61%, Birmingham) reported living with larger families of up to six or more. These differences in patterns of household size observed between the two previous studies and the present study could be due to geographical differences or due to changing patterns of residence over time.

Over half of the participants lived in owner occupied houses (39; 55.7%) that were relatively small (mean four rooms per house, range 2 to 8 rooms). Almost a quarter lived with a relative (16; 23%) who was often reported to be a child of the respondent and his/her family (i.e. a son, daughter 'in' law and their children). A majority of participants rated their housing needs to be adequate (43; 61%), while 27 (38%) rated their housing as inadequate (see Table 3).

Income and Socio-Economic Status

Table 3. ***Ratings of housing adequacy, weekly income, financial management and difficulty in paying bills***

Housing Adequacy	**Number***	**Per cent of total population**
Adequate	43	61
Slightly inadequate	12	17
Moderately inadequate	11	16
Severely inadequate	4	6
Levels of weekly household income		
None	12	17
Less than £100	36	51
£150-200	10	14
Over £200	6	9
Difficulty in paying bills		
No difficulty	15	21
Slight difficulty	18	26
Marked difficulty	16	23
Severe difficulty	20	28
Managing financially		
Managing well	12	17
Get by alright	28	40
Not managing at all	29	41

* Totals may not add up to 70 due to missing data.

Table 3 shows the level of reported weekly income, and ratings of difficulties in paying household bills and managing financially overall. As Table 3 shows, levels

of weekly income were generally low, with the majority of participants reporting difficulties in paying their bills and overall, facing difficulties in getting by financially. A substantial number of participants had no weekly income (12; 17%), these were mainly housewives who had never worked and thus were often not entitled to benefits such as retirement pensions etc. Those living with their children or spouses were largely dependent upon them for the provision of their financial needs. This was a problem given that there were no full-time wage earners in 46 (65%) of the households.

Over half of those interviewed were retired (37; 53%), but only 29 (41%) received a pension; while just under a third (22; 31%) were housewives who had never been in paid employment and seven (10%) who were not employed on grounds of being ill/sick.

Socio-economic status of participants according to the nature of jobs held in the past were calculated. Over half the participants (38; 54%) had held jobs within the skilled manual to unskilled manual categories of jobs; while 13 people (18%) had held jobs in professional to semi-professional categories of jobs.

Formal & Informal Support

Formal and informal levels of support were assessed using two separate measures, the findings for each will be described separately.

Formal support- Service awareness and service receipt

Participants were asked to rate their awareness of a range of health and social services, and were also asked whether they had used each service in the past three months. Service awareness and service receipt are summarised in Table 4.

As Table 4 shows, awareness of general health services was very high. However, in comparison, awareness of specialist services for older adults was much lower. This was also reflected in patterns of service receipt, whereby receipt of specialist services, apart from day care, was lower than receipt for general health services (i.e. visits to GP, 59; 84%; out-patient, 24; 34%). This is consistent with previous research that has particularly highlighted higher rates of GP consultation among Asian elders compared to the majority of older people (Ebrahim et al., 1991).

Table 4. ***Awareness and Receipt of services in the past three months***

Service	Service Awareness Number	Per cent	Service Receipt Number	Per cent
GP	70	100	59	84
Hospital in-patient	70	100	3	4
Hospital out-patient	70	100	24	34
Hospital day- patient	70	100	1	1
Psychiatrists	32	46	1	1
Dentist	69	99	15	21
Chiropodist	37	53	9	13
Optician	66	94	8	11
Audiologist	59	84	6	9
Community psych nurse	6	9	0	0
Day Services	26	37	18	26
Clinical psychologist	4	6	0	0
Speech therapist	12	17	0	0
Physiotherapist	29	41	5	7
Occupational therapist	6	9	0	0
Volunteer visitor	1	1	0	0
Luncheon clubs	14	20	1	1
Transport	15	21	12	17
Meals on wheels	26	37	4	6
Home help	25	36	5	7

Informal support

A high number of participants reported having friends (50; 71%). However, they did not always live in close proximity, for example, 43 (61%) participants reported most of their friends to be living at a relative distance. However, frequency of contact was reported to be relatively high, with 41 (59%) respondents maintaining frequent contacts (i.e. at least once a week).

In the Social Supports Questionnaire (SSQ) participants were asked to identify the number and source of supports and to rate the level of satisfaction with varying types of supports. Overall, the mean number of supports was seven, with a range of 1 to 22. A very high proportion of respondents identified family and friends as sources of support (65; 93%), with fewer participants reporting services as a source of support (29; 41%). However satisfaction with available supports was low, with 39 participants (56%) reporting dissatisfaction with the support they had.

Perceived Stress, and attitudes towards old age- (Appraisals)

The Perceived Stress Scale (PSS) and attitudes towards old age scale were analysed as measures of appraisal.

Table 5. ***Mean scores of Perceived Stress (PSS) and attitudes to old age scale.***

	Mean	Range	SD
PSS Total	23.64	3-46	11.79
Attit. to old age scale	17.47	10-26	4.26

Table 5 shows the mean scores for the PSS and total score on the attitudes towards old age scale.

Although no specific categories or cut-offs are suggested by the authors of the PSS measure (Cohen & Williamson, 1988), when compared to the mean score (19.62) derived from their general population study of 2,387 people, the mean levels of perceived stress reported by participants in this project are slightly higher (23.64).

Table 6. ***Attitudes towards old age and perceptions of well-being***

Items	Uncertain(%)	Agree(%)	Disagree(%)
I am just as happy as I was when younger	11(16)	18 (26)	41 (58) -*
During the past few weeks I have felt low	2 (3)	37 (53)	31 (44) -
I never dreamed that I could be as lonely as I am now	2 (3)	37 (53)	31 (44) -
I am not lonely much of the time	3 (4)	41 (59)	26 (37) +
I no longer do anything that is of real use to other people	3 (4)	30 (43)	37 (53) +
These are the best years of my life	15 (21)	10 (14)	45 (64) -
I would not change my life even if I could	4 (6)	35 (50)	31 (44) +
There's still lots of good things for me to look forward to	6 (9)	46 (66)	18 (26) +
Getting old scares me	2 (3)	43 (61)	25 (36) -
I worry about spending my old age in Britain	2 (3)	40 (57)	28 (40) -
I look forward to getting old	19 (27)	17 (24)	34 (49) -
I feel satisfied with my life	9 (13)	40 (57)	21 (30) +
I wish I was back in my home country to spend my old age there	4 (6)	39 (56)	27 (39) -

* Overall rating of positive (+) and Negative (-) for each statement

Table 6 shows participants' rating for items on the attitudes towards old age scale and perceptions of well-being. As is evident from Table 6, overall participants reported more negative attitudes (8) than positive (5) attitudes towards old age and well-being. Ratings of negative attitudes were for not being as happy as when they were younger, for feeling low/depressed, not looking forward to old age, and fearing old age.

Participants reported not being alone much of the time, however they also reported that they had never dreamed that they could be as lonely as they are now. This may imply that although participants were not physically alone much of the time, they had perceived themselves to being alone and feeling lonely.

A relatively high number of participants reported concerns over spending the rest of their old age in Britain (56%) and a wish to return back to their home countries to spend their old age there (57%). However they also reported that realistically this would not be a possibility as there would be little support available. This is contrary to some previous research evidence that reported Asian elders no longer wishing to return to their home countries (Blakemore & Boneham, 1994).

More positive attitudes reported were: that there's still lots of good things for them to look forward to (i.e. seeing their grandchildren grow up and marriages of their children/grandchildren etc.); feeling that they continue to play a valuable role that is of use to other people, being satisfied with their life and not wishing to change their lives even if they could.

Physical/psychological health and satisfaction with life-(Outcomes)

Physical health was assessed using a revised version of the list of physical health problems from Barker's study on ethnic minority older adults (1984). The total number of physical health problems reported by participants was generally high, with a mean of 8.5 and range from 1 to 19.

Table 7. ***Functional abilities***

Levels of difficulty	*Mobility (%)*	*Self care(%)*	*Domestic(%)*
No difficulty	29 (41)	19 (27)	15 (21)
A little difficulty	24 (34)	31 (44)	16 (23)
Quite a bit of Difficulty	13 (19)	15 (22)	20 (29)
Impossible to do on own	4 (6)	5 (7)	19 (27)

As is evident from Table 7, a relatively higher proportion of participants reported difficulties in carrying out domestic tasks and tasks of self care than faced difficulties in being mobile.

The level of psychological distress experienced by older adults in this study was assessed using a shortened translated version of the General Health Questionnaire (GHQ-12, Goldberg, 1992). The GHQ has a cut -off score of three or greater, whereupon a person is judged to be at risk for psychiatric problems.

A very high proportion of Asian elders in this study scored above the cut off point. Over half of the participants were judged to be at risk of having psychiatric problems (58%).

Satisfaction with life scores -The mean rating for satisfaction with life was 19, with a range of 5 to 34. Overall, relatively high numbers of participants reported being satisfied with their life.

Ways of Coping- (Coping)

Overall, mean scores on positive ways of coping were higher (9.25 with a range of 0 to18) than mean scores for maladaptive ways of coping (2.45 with a range of 0 to 15). Thus participants reported using more positive ways of coping than maladaptive ways of coping.

Phase 2. Statistical analysis of data (Aim 2)

Firstly, t-tests and parametric correlation coefficients (Pearson's) were calculated to look at relationships between the different measures of outcome, coping, appraisal and resources. Secondly, a series of multiple regressions were conducted to explore these relationships further by looking at the factors most closely associated with outcome measures.

T-tests and correlations

To look at how the various aspects of the model may be inter- related with one another a series of t-tests and parametric bivariate correlations was calculated.

Firstly, inter-correlations between the different outcome and appraisal measures were conducted to explore relationships between the scales selected for coping, appraisal and outcome.

Table 8. ***Correlations between different Outcome measures***

SCALES	*GHQ*	*Physical health*	*Satisfaction with life*
GHQ			
Physical health (totals)	*0.63**		
Satisfaction with life (totals)	*-0.70**	*-0.52**	

* p<.001

As Table 8 shows, there were significant correlations between the different measures of outcome. There was a significant positive correlation between GHQ

scores and physical health problem scores, and significant negative correlations between satisfaction with life scores and both GHQ scores and physical health problems. Thus a higher GHQ score was correlated with high physical health problems and less satisfaction with life.

Correlations between different Appraisal measures

There was a significant correlation between the appraisal measures of perceived stress (PSS) and attitudes towards old age ($r=0.59$; $n=70$; $p<0.001$). Thus, higher rates of perceived stress were associated with more negative attitudes towards old age.

Secondly, further correlations were conducted to explore the relationship between outcome measures, coping, appraisals and resources.

Table 9. ***Correlations between outcome variables of: GHQ, physical health and satisfaction with life and coping, appraisal and resource variables.***

Items	GHQ	Physical Health	Satisfaction with Life
Coping			
Maladaptive	0.42*	-0.19	-0.59*
Positive	-0.37*	0.29	0.41*
Appraisals			
PSS	0.73*	0.55*	-0.65*
Attitudes to old age	0.58*	0.41*	-0.75*
Resources			
Age	-0.23	-0.10	0.28
Age of entry to UK	0.13	0.23	-0.02
Years in UK	-0.32*	-0.35*	0.27
No. in house	-0.14	-0.08	0.26
Financial difficulties	0.56*	0.52*	-0.48*
Educate	-0.39*	-0.29	0.27
Social support (total)	-0.64*	-0.49*	0.72*
Social support-mean satisfaction	-0.63*	-0.51*	0.70*
Service receipt	0.06	0.32*	0.21

*$p<0.01$

Outcomes and coping

As is evident from Table 9, the outcome measures of GHQ and satisfaction with life were significantly correlated with both positive and maladaptive ways of coping. There was a significant positive correlation between Maladaptive ways of coping and GHQ, and a significant negative correlation with the satisfaction with life scale. Positive ways of coping scores were negatively correlated with GHQ and positively associated with satisfaction with life scores. Thus, participants reporting

higher levels of psychological distress were more likely to use maladaptive ways of coping and report lower levels of satisfaction with life. However, coping measures were not correlated with physical health outcomes.

Outcomes and appraisal

Both measures of appraisal were correlated significantly with all measures of outcome (see Table 9). There were significant positive correlations between the outcome measure of GHQ and physical health, and appraisals of perceived stress and attitudes to old age. There were also significant negative correlations between the outcome measure of satisfaction with life and both the appraisal variables. Thus, participants reporting high levels of psychological distress, greater levels of physical health problems and less satisfaction with life were more likely to perceive higher levels of stress and have more negative attitudes towards old age.

Outcomes and resources

From a range of resource variables that were entered to explore their relationship to outcome measures, only a few reached significance level. For example, age, number of people living in house, age of entry into the UK, were all variables that did not correlate significantly with outcome measures (see Appendix G).

However, as is evident from Table 9, variables that were significantly correlated with outcome measures were:

- *number of years resident in UK;* this was negatively correlated with GHQ and physical health measures-thus, participants who have lived in the UK longer were likely to report lower levels of psychological distress and physical health problems;
- *facing financial difficulties*; this was positively correlated with outcomes of GHQ and physical health but negatively with satisfaction with life scale- Thus, participants facing financial difficulties were more likely to report higher levels of psychological distress and physical health problems and lower levels of satisfaction with life;
- *education*; this was negatively correlated with GHQ - therefore, more highly educated participants were likely to report lower levels of psychological distress.

As Table 9 shows, there were significant negative correlations between social support and outcome measures of GHQ and physical health problems, but a

significant positive correlation with satisfaction with life. Thus, participants reporting higher levels of physical health problems, psychological distress and lower levels of satisfaction with life were likely to receive lower levels of social support. Receipt of formal support (services) was positively correlated with physical health problems, so participants with higher reported rates of physical health problems were more likely to receive formal/service support. Satisfaction with support was significantly negatively correlated with GHQ and physical health problems, and positively correlated with satisfaction with life. Thus, participants with high rates of reported satisfaction with support were more likely to report lower levels of psychological distress and physical health problems and higher levels of satisfaction with life.

Appraisal and coping

Further correlations between ways of coping and appraisal measures were calculated. There were significant negative correlations between positive ways of coping and perceived stress total (PSS) ($r=-0.41$; $n=70$; $p<0.001$); and attitudes towards old age ($r=-0.52$; $n=70$; $p<0.001$). Thus, those participants who used more positive ways of coping were more likely to experience less perceived stress and have more positive attitudes towards old age.

Similarly, Maladaptive ways of coping were significantly positively correlated with perceived stress (PSS) ($r=0.45$; $n=70$; $p<0.001$) and attitudes towards old age ($r=0.51$; $n=70$; $p<0.001$). Thus, participants using more maladaptive ways of coping were likely to perceive higher levels of stress and have more negative attitudes towards old age.

T-test analyses

A series of t-tests was carried out to see if there were any significant mean differences between the outcome measures (GHQ, physical health and satisfaction with life scales) and demographic variables of sex, marital status, ethnic origin, religion and English language spoken. None of the variables reached significance levels, thus no significant differences in means were observed for any of these variables (see Appendix G for further details of t-test analyses).

Factors associated with outcome measures

To explore which factors were most closely associated with outcome measures of health/mental health and satisfaction with life, three multiple regressions were conducted, using measures of GHQ, physical health and satisfaction with life scales as dependent variables. The procedure of analysis followed the stress and coping model of Figure 1, whereby independent potential variables were entered in three blocks: (i) Coping; (ii) Appraisal and (iii) Resources. To select the independent variables from coping, appraisals and resources to be used for the regressions, bivariate correlations between a range of variables and the dependent variable were conducted. Variables with a strong bivariate correlation ($p<0.01$) with the dependent variable were entered into the regression equation. Stepwise multiple regressions were conducted (entry $p<0.01$; exit $p>0.05$) to discover which independent variables had the strongest associations with the dependent variable of interest.

The following are the results of the three multiple regressions conducted using outcome measures of GHQ, physical health and satisfaction with life as dependent variables and Coping, Appraisal and Resources as independent variables. All three outcome measures showed reasonable levels of skewness and kurtosis, and could thus be regarded as normally distributed.

Table 10. ***Factors associated with outcome measure of GHQ: multiple regression***

Regression 1. Dependent variable: GHQ measure-Psychological distress

Adj R^2=0.49

Independent predictors:

	SE B	Beta	Sig T
Social supports-Mean satisfaction	0.430	-0.27	*p*=0.0168
Financial difficulties	0.327	+0.32	*p*=0.0017
Attitudes to old age	0.096	+0.31	*p*=0.0050
(Constant)	2.19		*p*–0.4691

Dependent variable: mean=4.50, SD= 2.73, skew=1.76

Independent variables not included in the final equation: Positive and maladaptive ways of coping, years in UK, social class, number of supports from services, number of supports from family, service awareness and service receipt.

As Table 10 shows, factors associated with the GHQ measure were mean levels of satisfaction with social supports, financial difficulties (resources) and attitudes to old age (appraisal). These three independent variables accounted for a respectable 49 per cent of the variance in the GHQ scores. Thus, participants were likely to report greater levels of psychological distress if they reported on average

lower levels of satisfaction with social supports, if they were facing financial difficulties and if they had more negative attitudes towards old age.

Table 11. ***Factors associated with outcome measure of physical health: multiple regression***

Regression 2. Dependent variable: Physical Health measure

Adj R^2=0.29

Independent predictors:

	SE B	Beta	Sig T
Financial difficulties	0.406	+0.29	p=0.0098
Social supports-Mean satisfaction	0.461	-0.36	p=0.0020
(Constant)	1.43		p<0.0001

Dependent variable: mean=8.50, SD=2.833, skew=1.76

Independent variables not included in the final equation: Years in UK, social class, number of supports from services, number of supports from family, service awareness and service receipt.

As Table 11 shows, the factors associated with the physical health outcome measure were financial difficulties and mean levels of satisfaction with social supports (resources). This accounted for 29 per cent of the variance for physical health. Coping and appraisals were not associated with physical health problems. Thus, more physical health problems were likely to be reported if participants were facing financial difficulties and were on average less satisfied with the social supports they received.

Table 12. ***Factors associated with outcome measure of Satisfaction with life: multiple regression***

Regression 3. Dependent variable: Satisfaction with life

Adj R^2=0.69

Independent predictors:

	SE B	Beta	Sig T
Social supports- Mean satisfaction	0.73	+0.35	p<0.0001
Maladaptive ways of coping	0.34	-0.24	p=0.0021
Attitudes to old age	0.18	-0.43	p<0.0001
(Constant)	3.66		p<0.0001

Dependent variable: mean=19.91, SD=7.22, skew=-0.09

Independent variables not included in the final equation: Positive ways of coping, years in UK, social class, financial difficulties, number of supports from services, number of supports from family, service awareness and service receipt.

As is evident from Table 12, maladaptive ways of coping (Coping), attitudes towards old age (Appraisal) and mean levels of satisfaction with social supports were

all associated with the outcome measure of satisfaction with life. These three independent variables accounted for 69 per cent of the variance for satisfaction with life scale scores which is high.

Thus, participants were more likely to report greater levels of satisfaction with life if they used less maladaptive ways of coping, were on average more satisfied with levels of social supports received and if they had more positive attitudes towards old age.

Analysis of the results from these three regressions reveal some interesting patterns highlighting the complex inter-relationship of appraisals, resources with psychological and physical health and well-being outcomes:

Firstly, financial difficulties (resource) is associated with both outcomes of physical and mental health but not with satisfaction with life. Thus, financial difficulties appear to be more predictive of physical and mental health problems but not of satisfaction with life.

Secondly, it is attitudes to old age (appraisal) that is significantly correlated with the two psychological outcome measures of GHQ-psychological distress and satisfaction with life-SWL. This highlights the important role of attitudes to old age (cognitive appraisal) for psychological health and well-being.

Thirdly, satisfaction with life is the only outcome that coping is associated with, highlighting coping strategies to be an important factor for satisfaction with life.

Finally, as is evident from Tables, 10, 11 and 12, for all three measures of outcome used as dependent variables (i.e. GHQ, Physical health and satisfaction with life), mean levels of satisfaction with social supports (resources) was consistently associated with these outcome measures. Thus, participants were more likely to report greater levels of psychological distress, physical health problems and lower satisfaction with life if they were on average less satisfied with the social supports they received.

DISCUSSION

The findings of this research project will be discussed in two separate phases: The first phase will focus on the descriptive nature of the findings regarding the circumstances and situations of South Asian elders. The second phase will focus on how these results fit with the stress and coping perspective according to the model described earlier in Figure 1. The results of both of these phases will be discussed in relation to the previous literature and the implications for future research and clinical practice will also be highlighted.

Critique of Study

Before moving on to discuss the findings, there are number of limitations of the present study that need to be considered.

First, there is the issue of the generalisability of the findings. As the sample in this study consisted largely of participants recruited from voluntary organisations, it is highly likely that the sample may have been biased against those Asian older adults who do not participate in voluntary organisations within their own communities (i.e. those who may be less aware of services and less active). Furthermore, South Asians are not a homogeneous group, rather there are variations in the composition and circumstances of different South Asian communities in different parts of the country. Therefore, some caution must also be applied when generalising these results more widely.

Second, The Illness Perception Questionnaire (IPQ) originally used in this study to assess health beliefs and cognitive appraisals of illnesses, proved to be an inappropriate and an invalid measure for assessing general health beliefs of individuals from a community based sample and thus was not used for further analysis of the data in this study. The questionnaire was particularly not appropriate for those individuals who did not have any illnesses and thus whose cognitive representations of illnesses could not be derived. Although the authors of the IPQ (Weinman, et al., 1996) have discussed its use both generally and more specifically for particular illnesses, it became evident during the process of its administration in this study that both its content and structure were clearly not applicable to individuals who did not have any illnesses. The response categories and its sub-scales were

clearly not structured to include the responses of those who did not have any illnesses and thus did not have any cognitive representations of any illness (see Appendix E3).

As is evident from the literature there appear to be few valid and reliable measures of health beliefs that would be appropriate for a general community based sample and there are certainly none that would be applicable for the South Asian elders. Future research could explore this further by looking at ways of developing such a measure.

Third, there is the issue of validity of translating those standardised measures that have not previously been translated and applied to South Asian communities (Lonner & Berry, 1986), such as the Ways of Coping Checklist (Folkman and Lazarus, 1988); Perceived Stress Scale (Cohen et al., 1988); and Illness Perception Questionnaire (Weinman et al., 1996). However, efforts were made in the translation procedure to explore the face validity of standard measures and checks were made to ensure that the pattern of responses to individual items was not systematically different to other populations. In addition, internal consistency using Cronbach's Alpha for the various measures of coping, appraisal and outcome were high, demonstrating high internal reliability for the translated measures. However, comprehensively checking the validity of such an approach awaits a larger study.

After considering these limitations, there are a number of important findings from this project that confirm and extend findings from previous work.

Phase 1- Circumstances and situations of South Asian elders.

Family circumstances

The evidence from this project on family circumstances seems to confirm the findings from some previous community surveys. Patterns of residence seem to uphold the idea of a fairly resilient extended family or of joint family household which include the oldest members (Barker, 1984; Bhalla & Blakemore, 1982). However in this study a substantial number of participants reported living on their own or living as couples (52%) when compared with older studies on household size and patterns of residence (20% in Barker, 1984 and 15% in Bhalla & Blakemore, 1982). The difference observed in this study may be due to several reasons. Firstly it may be due to geographical difference, whereby those living in the North of England are more likely to be living on their own or as couples in comparison to those living in Birmingham or Coventry. Geographical differences in household size and

structures for Asian elders have been reported by Blakemore and Bonheam (1994). The second reason could be due to changes in preferred patterns of residence, whereby increasingly Asian older adults are preferring to live on their own or as couples rather than live with their children.

Income and socio -economic status

This study also confirms findings from previous community surveys that older Asians are more likely than their white counterparts to experience a lowering of income to below the average for all the retired (Barker, 1984; Fenton, 1987). In this project unemployment was much higher and household income much lower than the national average (Bridgewood and Savage, 1993). In particular, a substantial number of participants had no weekly income. These were often older Asian women, who did not receive any pensions or welfare benefits.

A relatively high proportion of participants reported having worked in jobs that fall within the skilled manual to unskilled manual categories of jobs. This is consistent with previous research where a relatively high number of Asian elders report having worked in hazardous and difficult working environments that fell into the job categories of skilled to unskilled-manual jobs (Blakemore & Boneham, 1994; Sondhi, 1985).

Formal and informal support

A very high proportion of respondents identified family and friends as sources of support with fewer reporting services as a source of support. However, a large number of respondents reported high levels of dissatisfaction with the support they had. This further confirms the view that, although informal support from family and friends may be available for some, the quality and quantity of support available in the light of material disadvantage may not always be satisfactory (Webner, 1989).

In terms of formal support, participants reported greater awareness and receipt of general health services than of specialised support for older adults. As consistent with previous research, a relatively high number of participants in this study reported visiting their GP and out-patient departments (Modood et al., 1997). Clearly there is a need for specialist older adult services to provide information for Asian elders on the range of services they provide and to develop their services to better meet their needs.

Physical/psychological health and well-being

A relatively high proportion of participants reported symptoms indicative of psychiatric distress, chronic physical health problems, and difficulties in carrying out basic self care and domestic tasks. These findings together with high rates of visits to GP's and hospitals strongly suggest that this group is highly vulnerable. However, as the sample in this study is skewed largely towards those receiving voluntary support, it is highly likely that the levels of psychiatric distress and physical health problems reported may not be an accurate reflection of the actual levels found in the general community of South Asian elders.

Phase 2- Applications of findings to the stress and coping model

The second phase of the results focused on exploring relationships between measures of outcome, coping, appraisal and resources.

Pearson's correlation coefficients were firstly carried out with measures of outcome, coping and appraisal to investigate relationships between these variables. The analysis revealed significant levels of inter-correlation between the different measures for outcome (i.e. GHQ, Physical health and Satisfaction with life scale); coping (i.e. Positive and Maladaptive ways of coping) and appraisals (Perceived Stress Scale-PSS and attitudes towards old age).

Secondly, t-tests and correlational analyses of outcome measures with coping, appraisal and resource were carried out. The results showed significant positive and negative correlations between measures of outcome and coping and appraisal variables. However, only some of the resource variables correlated with the outcome, appraisal and coping variables (i.e. total number of and satisfaction with social supports; financial difficulties, education, social class).

Thus in relation to the first hypothesis, that outcomes of psychological/physical health and well-being will be related to the ways of coping, appraisal and the resources available, the results of this study do confirm this i.e. there is a significant relationship between outcome measures, coping, appraisal and to some extent some of the resources, though not as strongly.

Correlational analyses of the data further help to partly confirm hypotheses three and four, that is that poor outcomes of health and well-being will be associated with higher use of maladaptive coping strategies, poorer appraisal and lower levels of

resources available and that positive outcomes of health and well-being will be associated with higher use of positive ways of coping strategies, more positive appraisals and greater use of available resources. The results from the bivariate correlations confirm these two hypotheses. There were significant correlations between positive /negative outcomes of health and well being with positive/negative ways of coping, appraisals and some resource variables.

However, resource variables that were not significantly related to measures of outcome, coping and appraisals were: age, sex, marital status, ethnicity, religion, size of household and family, and whether participants could speak English or not (see Appendix G for a summary list). This is consistent with some evidence in the literature that has highlighted demographic variables to be less important for older adults in accounting for outcomes of health and well-being in comparison to younger adults (Markides & Cooper, 1991). It has been argued that stressors may have different impacts on psychological distress for younger and older persons because of differences in normativeness or age-specific prevalence (Chiriboga, 1982). For example, demographic variables may be more strongly related to depression/psychological distress for younger than for older adults (George et al., 1987). However, more research is needed to determine whether the mediators of stress and appraisal on physical and psychological distress operate similarly across age and ethnicity.

Clearly so far, the model for stress and coping appears to account well for some of the research findings on relationships between outcome measures (i.e. health/mental health, satisfaction with life) and ways of coping, and appraisals of stress and attitudes towards old age.

The final phase of the analysis went a step further by specifically exploring the factors most closely associated with outcome measures of health/mental health and satisfaction with life. Three multiple regressions were conducted, where the dependent variables were outcome measures (GHQ, physical health and satisfaction with life), and the independent variables selected from measures of coping, appraisal and resources.

The factors most strongly associated with the GHQ outcome measure (levels of psychological distress) were attitudes towards old age (appraisal), financial

difficulties and mean levels of satisfaction with social supports (resources). Thus respondents reported greater levels of psychological distress if they had more negative attitudes towards old age, were facing financial difficulties and were on average less satisfied with levels of social support received.

The factors associated with the physical health outcome measure were again mean levels of satisfaction with social supports and financial difficulties (resources). Thus physical health problems were more likely to be reported if participants had on average were less satisfied with levels of social supports and were facing financial difficulties.

For the outcome measure of satisfaction with life scale, the associated factors were again mean levels of satisfaction with social supports (resource), attitudes towards old age (appraisal) and maladaptive ways of coping (coping). Thus participants were more likely to report greater levels of satisfaction with life if they on average were more satisfied with levels of social support, had a more positive attitude towards old age and were using less maladaptive ways of coping.

In response to the second hypothesis that outcome measures would correlate more highly with ways of coping than with appraisals and resources, the results do not fully support this, i.e. ways of coping are not as highly correlated with outcome measures as are resources and appraisals. However, a number of interesting patterns have emerged from these findings highlighting the important but complex inter-relationships between resources, appraisals, and coping with physical and psychological outcomes of health and well-being.

First, it is financial difficulties (resources) that is associated with both outcomes of physical and mental health but not with satisfaction with life. Second, it is attitudes to old age (appraisal) that is associated with both of the two psychological outcomes but not with the physical health outcome and third, satisfaction with life is the only outcome that coping is associated with. The emerging patterns of these findings highlight tentatively the importance of appraisal (attitudes to old age) and coping for psychological outcomes of mental health and satisfaction with life and resources (financial difficulties) for the outcomes of both physical and psychological health problems but not for satisfaction with life outcomes.

The factor associated with all three measures of outcome was the mean level of satisfaction with social supports (resource). Thus, participants were more likely to report greater levels of psychological distress, physical health problems and lower satisfaction with life if they were on average less satisfied with levels of social support they had. It is interesting to note that it is not the number of social supports that is an important predictive factor but rather it is the levels of satisfaction with the social supports received.

According to the stress and coping model (Figure 1), coping is a mediating factor between appraisals and outcome. Although in this study correlations between coping and outcome measures have been found, coping has not however been the most important factor associated with outcome measures, rather it has been selective aspects of appraisal (i.e. attitudes to old age) and resources (i.e. satisfaction with social support and financial difficulties faced). Thus, the findings highlight a complex inter-relationship between selective aspects of resources, appraisal and coping with selective outcomes of health and well-being. More specifically as discussed above, attitudes to old age (appraisal) and coping are more strongly associated with psychological outcomes of health and well-being. Whereas financial difficulties and satisfaction with social support (resources) are both associated with physical and psychological health but are not associated with satisfaction with life.

These findings highlight the important role of cognitions (ie. attitudes to old age and coping strategies) in mediating satisfaction with life and psychological well-being. Similarly instrumental resources (i.e. finance and social support) appear to be important mediating factors for physical and psychological health. However, *satisfaction* with social support could also partly be argued to be cognitive.

However, of all the independent variables it is satisfaction with social support (resource) that has consistently been associated with all three outcome measures of mental / physical health and psychological well-being.

These findings are consistent with previous research evidence that has consistently shown mental health and psychological well-being measures to be associated with social support. For example, Markides and Cooper (1991) have shown that there is substantial evidence documenting a significant direct effect on depression including among older people. Over the years it has become apparent however, that

social support is related to health and mental health in rather complex ways. Most research has focused on examining both the direct and indirect influences of social support and its interaction with stress. Studies looking at the effects of single stressors such as widowhood, retirement (Ferraro & McGoldrick 1991), and the onset of chronic diseases (Vernon and Jackson, 1991) have all highlighted the important role of social support as a 'buffer' against stressors (Krause, 1987b).

There is some evidence from previous research literature that has also found social support to be more strongly predictive of levels of distress and disability than coping scores (McKee & Whittick, 1997). This indicates that social support may well have direct effects on levels of mood and adjustment. Similar findings have been obtained in recent studies looking at social support, prognosis and adjustment to breast cancer, where levels of social support had been an important predictive factor in the psychological adjustment to breast cancer (Vernon & Jackson, 1991).

Despite the well established association between social support and mental and psychological well-being, there is little known about what specific aspects of social support act as mediators between stress and psychological well-being. Future research could look at whether specific types of support buffer specific stressors. For example, whether instrumental support buffers material deficits and emotional support buffers the effects of depression due to stressors such as bereavement and chronic diseases.

One of the reasons why satisfaction with social support may appear to play a more crucial role in outcomes of health/mental health and well-being than coping is that it may not be the specific coping strategies used, rather it is the impact that levels of social support have on the individual's life which is a more significant factor. Thus, the extent to which the individual is satisfied with the levels of support received may determine outcomes of psychological/physical health and well-being. However, with this argument it is difficult to see what the mediating factors are; i.e. is the poor physical/psychological health and well-being mediating more negative coping, appraisals, and resources (ie. social supports) or visa versa? There is some evidence highlighted by Markides and Cooper (1991) of poor physical/psychological health acting as a factor that both deters as well as to help build resources such as social support. However more research is needed to clarify this further.

There has been a general acceptance that problem-focused coping is associated with better outcomes (i.e. higher morale, improved health) than emotion-focused coping (McKee et al., 1997). However, the evidence in this study suggests that under conditions where nothing can be done to change the circumstances (i.e. as with chronic illnesses), coping strategies may not have a major impact on the illness, especially problem focused coping that can be counter productive (i.e. one can do little to stop or fully recover from the illness). In such circumstances resources such as social supports, appraisals and emotion focused coping strategies may be more predictive of and produce better outcomes.

Furthermore, the quantitative nature of simply classifying coping under the two broad categories of 'maladaptive' and 'positive' coping strategies, as used in this study, allowed little scope to explore in detail, descriptively, the precise nature and range of coping techniques used. It is recognised in this study that retrospective accounts of coping may be subject to problems of recall and social desirability, however as discussed earlier the alternative method of assessing coping as it happens was not feasible due to language problems and large numbers of participants.

Whittick (1993) employed a range of both quantitative and qualitative methods in his study to explore coping techniques used by 100 supporters of the dementing elderly. He found that the quantitative part of the study was less fruitful. He found that the Folkman and Lazarus (1980) Ways of Coping checklist proved difficult to interpret and of little value. Future research could focus on exploring in detail the range of coping strategies used by Asian elders through the use of both quantitative and qualitative methods.

So far in this research the focus has been on exploring the broader relationships between outcomes of general health and well-being with coping, appraisal and resource factors. Future research could focus on exploring what these specific mediating factors may be i.e. what specific mediating factors may be involved with specific types of illnesses.

Clinical and service implications

The above findings clearly have clinical and service delivery implications for members of the older south Asian community.

Implications for Services

As the research highlights, Asian elders are generally living in circumstances of material disadvantage, suffering from poor health and chronic illnesses, reporting high levels of psychological distress with little formal/informal support. Participants also report visiting their GP very frequently, and a high level of health problems requiring hospital care. These findings suggest that a high number of Asian elders and their families are vulnerable to breakdown in times of crises, resulting in high cost and inappropriate admissions to largely inappropriate services (including residential). This is especially pertinent to those Asian elders living alone or as couples, where there may be little or no support available or where support from their spouse is the only form of support they may have.

As the research evidence highlights the important role of social supports mediating physical/psychological health and well-being, services can begin to direct more support and resources to such vulnerable groups of individuals to better deal with crises (i.e. death of spouse who may have been the main carer and source of support) and to prevent inappropriate admissions to residential services.

Furthermore the research evidence in this study highlighted financial difficulties as also an important factor in mediating physical and psychological health, benefit agencies could begin to address awareness, access and receipt of financial support for those who may not be receiving their full entitlement. Furthermore given that the most vulnerable group in finance terms were women who may not be entitled to pensions etc., benefit agencies and government policy could look at ways of addressing their basic financial needs such as costs for bills, food and clothing etc.

Given the high rates of reported psychiatric distress amongst south Asian elders, clinical services (more specifically psychological services) could be geared towards developing ways of dealing with this effectively. As referrals for Asian elders made to old age psychiatry and psychology services are very low (Azmi & Lockhat, 1997a), services could begin by:

- firstly increasing awareness amongst Asian elders of recognising the signs and symptoms of psychological distress and ways of accessing formal support from services. This could be done by providing information about services in appropriate languages, formats and locations (such as GP surgeries, local community centres);

- secondly, increasing greater awareness amongst GP's (who are often the main agents of referral to specialist psychological/psychiatric services) to the importance of being sensitive to recognising symptoms of psychological distress amongst Asian elders.

As the evidence suggests, awareness and receipt of specialist services for older adults was low. It is clear that services are failing to provide information in appropriate languages and formats. A number of steps could be taken to improve services. Derived from the literature on developing services for Asian communities (Baxter et al., 1990; Barker, 1984; Azmi et al., 1996), the following ideas could also be applied to improving services for Asian elders:

- the first concerns, *improving communication* between South Asian elders and services, by providing information about the services in appropriate formats and employing South Asian staff with appropriate language skills throughout mainstream services to ensure easy communication between Asian elders and staff;
- second, *increasing cultural sensitivity of services*, by: employing more South Asian staff throughout mainstream services; provision of services such as day care, meals on wheels and domiciliary support that recognises the basic dietary and cultural needs of Asian elders; provision of same sex care staff for personal care. A high number of participants in this study reported needing home help and meals on wheels services, however fear of having home helpers who may not speak the same language or a meals on wheels service that does not recognise the cultural and religious dietary needs has often been reported by participants to be a hindrance to accessing such services.
- and third increasing *flexibility of service responses* to South Asian elders and their families, by increasing the availability of support services such as domiciliary support, respite and day care to allow families to continue to provide effective support for their elders, especially those facing difficulties (i.e. both financial and practical).

Clearly Asian elders are a neglected group in service terms, and further research could profitably be directed towards exploring the impact of providing care and support for Asian elders on families and carers. A clearer understanding of the needs of families and carers could help to improve services and help to develop ways

of supporting families to continue to provide effective support (Blakemore & Bonheham, 1994).

Implications for Clinical Practice

The findings on high levels of reported psychological distress, perceived stress, attitudes towards old age and their interrelationships with the stress and coping model all have clear clinical implications for providing psychological support to South Asian elders.

In the absence of clear guidelines on offering effective support to Asian elders, psychologists in working with Asian elders and their families have to work with unfamiliar symbolic systems, and different world views, expectations and values. There is little research to guide clinicians on the cross-cultural applicability of the various modes of therapeutic interventions they may be trained in. Thus psychologists can sometimes feel paralysed when confronted with clients from ethnic minority communities whose culture is substantially different to their own.

Previous literature, by highlighting differences between western and eastern cultures, has considered the difficulties in applying cross culturally therapeutic models such as cognitive therapy to minority communities (MacCarthy, 1988). For example, cognitive therapy often relies on prescribing 'healthy' ways of thinking. Although, some of these healthy cognitions prescribed may be congruent with the values and experiences of middle -class whites in Britain or America, but they may also clash damagingly with the world views and practical economic experiences of many ethnic minorities.

An example is the struggle for personal control in the external world which is of great importance in an individualistic society, thus, attributions of success or failure are more likely to be internal (i.e. due to personal factors). However in some Asian cultures, merging the autonomous self with a general fate, mastering personal ambition, as well as honouring the rights and duties owed to others are core prescriptions, thus attributions are likely to be universal rather than personal factors. While cognitive therapy may help individuals who blame themselves for circumstances beyond their control to identify the potential for change both at a personal and social level, there is a danger that an approach which encourages the

search for personal autonomy may increase distress by cutting across adaptive cognitions held by minority groups (MacCarthy, 1988).

Although cultural differences as those highlighted above have been discussed, there has been little empirical research to verify these highlighted differences nor any attempt to look at the similarities between the two cultures that could be used as a basis for further work.

In this study the application of the stress and coping model and its success in accounting for most of the research findings is a step forward towards providing insights into working clinically with Asian clients suffering from chronic illnesses and psychological distresses. The research evidence highlighting the importance of attitudes towards old age and coping strategies in mediating psychological health and well-being, suggests that this group may be more amenable to cognitive therapeutic work.

The findings of this study can help guide interventions aimed at preventing or reducing stress caused by the onset of physical/mental health problems. The results of this study clearly highlight the important role of resources such as social support and finance as well as cognitions such as attitudes to old age and coping strategies in accounting for outcomes of physical/psychological health and well-being. Thus, psychological therapy aimed at reducing stress due to physical/psychological health problems could work therapeutically with clients at three levels:

- firstly, by helping to develop greater levels of social supports through the provision of appropriate social and formal supports such as day care and domiciliary support;
- secondly, by improving uptake of financial support;
- and thirdly at a more clinical level, enhancing positive cognitive appraisals such as those on attitudes to old age and illnesses as well as focusing on developing positive coping and appraisal strategies. This may lead to better coping and adjustment to their illnesses.

However, more research is needed to explore in detail the precise nature of these cognitions and coping strategies used, in order to further help guide interventions.

Finally, it must be noted that the uncritical use of clinical interventions with Asian elders may gloss over important differences between cultures leading to

misdiagnosis, and poor therapeutic outcomes. Similarly individual differences which may also be maladaptive in the clients own culture can be misattributed to cultural differences. Ultimately, a therapeutic relationship aims to facilitate change in the patient. Therapists working cross-culturally have to strike a balance between avoiding a wholesale prescription of the dominant culture's values and norms and providing sufficient structure for new learning experiences to take place (MacCarthy, 1988).

However, in order for this to occur, further research is needed to firstly, establish the applicability of psychological models of practice for Asian elders by evaluating their underlying theoretical perspectives and secondly, from this to develop guidelines on effective therapeutic strategies that are culturally sensitive to working with Asian elders. A first attempt has been made partly in this study to go a small step forward in trying to achieve exactly this, however, much more research is needed.

Summary

This research project aimed to examine the circumstances, health status and situations of South Asian elders within the theoretical perspective of a stress and coping model. The results of the research project are largely accounted for by the stress and coping model, illustrating the relative success of applying research evidence from race and ethnicity to mainstream theory and practice in gerontology that have previously been regarded as two distinct areas.

The findings of the study suggest that a significant number of Asian elders were living alone, under circumstances of material deprivation, suffering from poor health and chronic illnesses, reporting high levels of psychological distress, with little formal and informal support.

With regards to the stress and coping model, significant correlations between outcome measures, coping, appraisal and some resource variables were observed. However, the factor most strongly associated with outcome variables was resources (social support, finance) and appraisal (attitudes to old age) rather than coping.

The results of this research project confirm and extend findings from previous research; there are clear clinical and service implications.

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APPENDICES

APPENDIX A

HEALTH AUTHORITY

CENTRAL - LOCAL RESEARCH ETHICS COMMITTEE

Telephone: 237 2152 Fax: 237 2383 Email:

2 November 1998

Dear

Re: Attitudes and perceptions of Asian elders towards health, old age and old age services: a stress and coping perspective.

Ethics Committee Reference Number: CEN/98/181

Thank you for your recent letter together with a sample letter for the above study. I have considered the amendments and/or documentation submitted in response to the Ethics Committee's earlier review of your application on 17 August 1998. Acting on behalf of the Committee I am now able to confirm final ethical approval for the study. The study should be started within three years of the date on which LREC approval is given.

The following items have been reviewed in connection with the study: ethical application form; protocol; patient information sheet; patient consent form; covering letter to patients; sample letter to from researcher; questionnaires.

Would you please note that granting of ethical clearance does not confer management approval for the study. This can only be given by your employing authority. If the study is to take place in the Central NHS Trust and you have not already done so, you must contact the Trust's Research and Development Office in order to gain approval from the Trust.

You must notify any serious unexpected adverse events to the Ethics Committee. If any significant protocol amendments are proposed you must obtain prior approval from the Ethics Committee.

The Ethics Committee is required to monitor the progress of research studies and I will therefore be writing in about a year's time to ask you to complete a short review form.

HEALTH AUTHORITY
Gateway House Piccadilly South

Professor Joan Higgins Chair Tel: -237 2595 Fax: -237 2264

Neil Goodwin Chief Executive

NHS

Finally, please ensure that you quote the Ethics Committee reference number given at the top of this letter in any future correspondence.

Yours sincerely,

Chairman

Mr.
Manager

Department of Psychology

Tel:

Date: 5th November 1998

Dear Mr.

I am a final year trainee Clinical Psychologist based at the above address. I am currently involved with the old age community psychiatry service, in conducting a study into canvassing the views and experiences of Asian elders regarding their physical and mental health,

For this study, which has had formal ethical approval, I will need to interview a sample of approximately 70 Asian elders over the age of 55 years.

I would appreciate very much the support from your organisation in recruiting potential participants for the study. Letters would be sent out to all those Asian elders, who are over the age of 55 years on your membership list (please find enclosed a copy). The letter has information about the project and an opt in slip for those who wish to participate in the study or would like more information about the study. They are asked to complete and return the opt in slips to me in the self addressed envelope provided.

Please find enclosed a covering letter prepared on your behalf that would also need to be sent, explaining briefly about the project. The letter would need your signature. Please note that all the information sent to participants would also have an Urdu version.

I would like to contact you within the next few days to discuss and seek your approval for the support needed for this study.

If your require further information about the project or you have queries about it, then please do not hesitate to contact me at the address and telephone number above.

I thank you in advance for your co-operation

Yours Sincerely

Trainee Clinical Psychologist to
, Consultant Clinical Psychologist

Appendix C

(Covering letter sent to participants by Voluntary organisation)

Date:

Dear member

Please find enclosed details of a research project which may be of interest to you. If you are interested in participating in the study or wish to be contacted by the researcher to gain further information above the study then please fill in the opt in slip enclosed and post them on the self addressed envelope provided.

Please note that any information you provide to the researcher will be kept strictly confidential

Yours Sincerely

Manager of

Department of Clinical Psychology

Tel:

Date: 17th November 1998

Dear Sir/Madam

I am currently undertaking a research project looking into Asian elders experience of coping with health problems. The research will focus on the health problems you may have, the nature of help and support you may/may not be getting and the support you may need. The information gathered will help to gain a better understanding of the needs and circumstances of Asian people coping with health problems.

For this study I will need to carry out interviews with approximately70 volunteer Asian older adults who are over the age of 55 years. The interviews will last for approximately 30-55 minutes. These interviews will be carried out in the language you feel most comfortable in and you do not have to answer all of the questions asked of you. You can cease to be a participant at any point of the study and your decision will be respected. The information you will provide will be strictly confidential.

Below is an opt in/out slip. Can you please indicate if you would either like further information about the study, wish/not wish to volunteer as a participant for the study by completing the information required on the slip and posting it in the self addressed, stamped envelope provided.

If I have not received a response from you within the next two weeks , I shall be contacting you again to see if you wish/not wish to participate in the study.

If you require further information about the project or you have any queries about it, then please do not hesitate to contact me at the above address and telephone number.

Thank you for your co-operation

Yours Sincerely

Trainee Clinical Psychologist to
Consultant Clinical Psychologist

Please complete and post in the self addressed envelope provided

I wish to participate in the study [ ]
I do not wish to participate in the study [ ]
I would like further information about the study [ ]
Please tick as appropriate

Name: ----------
Address:----------

Contact Number: ----------

Asian Elders Research Project

Interview Schedule

July 1998

Case Number:_____

Family Number:_____

Date/Time of Interview:_____

Name: _____

Address: _____

_____

_____

_____

Tel: _____

Section A -Demographic Information

Age: [ ] Sex: M[1] F[2]

Ethnicity:

a) To which of the following groups do you consider you belong to?

Indian	[ ]
Pakistani	[ ]
Bangladeshi	[ ]
East African Asian	[ ]
Other (specify)	[ ]

a) Do you have family origins which are:

Indian	[ ]
Pakistani	[ ]
Bangladeshi	[ ]
East African Asian	[ ]
Other (specify)	[ ]

Language:

What languages can you speak and write?

	Spoken	Written
Urdu	[ ]	[ ]
English	[ ]	[ ]
Hindi	[ ]	[ ]
Punchabi	[ ]	[ ]
Gujrati	[ ]	[ ]
Bengali	[ ]	[ ]
Swahili	[ ]	[ ]
Pashtu	[ ]	[ ]
Other(specify)	[ ]	[ ]

Age on entry into the UK [ ]

Number of years resident in UK [ ]

Marital status: Married [ ] Widowed [ ] Divorced/Separated [ ] Single [ ]

If: widowed/Divorced/Separated, number of years since: [ ]

5) **Family composition**
Include all people in household but not the individual.

Relationship					In H/H		Sex		Age	Married				Work Status								P.O.B	
S	C	G	O	N	Y	N	M	F	Years	M	S	W	D	FT	PT	U/R	RET	ED	HW	SK	OTH	uk	oth
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2
1	2	3	4	5	1	2	1	2		1	2	3	4	1	2	3	4	5	6	7	8	1	2

S - Spouse
C - Child
G - Grandchild

Housing

Is your home

owner occupied	[ ]
rented from council	[ ]
privately rented	[ ]
Other	[ ]

How many rooms are there in your home? (not counting bathroom and toilet)_____

Does the family have a car?	Yes [ ]	No [ ]
Does your house have a garden?	Yes [ ]	No [ ]

Are your housing needs adequate for you and your family's needs?

Adequate [ ]	slightly [ ] inadequate	Moderately [ ] inadequate	Severely [ ] inadequate

Employment

Work Status:	FT [ ]	PT [ ]	RET [ ]	ED [ ]	U/R [ ]
	HW [ ]	SK [ ]	OTH [ ]		

Either if your currently in paid employment or if you ever worked please describe nature of work/occupation:

_____

_____

If other members of the household are in paid employment, what is their occupation?

_____

Education up to:_____

Finance

Is the money coming in adequate for you and your family's needs?

Adequate [ ]	slightly [ ] inadequate	Moderately [ ] inadequate	Severely [ ] inadequate

Weekly income: What is the approximate total weekly income of your household from all sources, before income tax?

[ ]

Take estimate if necessary

Which benefits (if any) are you receiving at the moment?

Family Credit	[ ]
Child benefit/ child allowance	[ ]
One parent benefit	[ ]
Income support	[ ]
Unemployment benefit	[ ]
State retirement pension	[ ]
Private pension	[ ]
Widows benefit	[ ]
Disability living/mobility and attendance allowance	[ ]
invalidity benefit	[ ]
Other (specify)	[ ]
can't say	[ ]

Do you have any difficulties in meeting bills and other financial commitments?

No difficulty [ ]	Slight difficulty [ ]	Marked difficulty [ ]	Severe difficulty [ ]

How often would you say you have been worried about money during the last few weeks?

Almost all the time	[ ]
Quite often	[ ]
Only sometimes	[ ]
Never	[ ]
can't say	[ ]

Taking everything together, which of the following phrases best describes how you (and your family) are managing financially these days?

I(we) manage very well	[ ]
I (we) manage quite well	[ ]
I (we) get by alright	[ ]
I (we) don't manage very well	[ ]
I (we) have some financial difficulties	[ ]
I (we) are in deep financial trouble	[ ]
Can't say	[ ]

Faith and Religious belief.

Do you have a religion?

yes [ ]
no [ ]

if yes which religion is that?

Muslim	[ ]	Christian	[ ]
Hindu	[ ]	Sikh	[ ]
Buddhist	[ ]	Other (Specify)	[ ]

How important is religion to the way you live your life? Is it...

very important [ ]
fairly important [ ]
not very important [ ]
not at all important [ ]
Can't say [ ]

How often do you carry out religious activities, such as praying, attending various religious services, meetings or gatherings or places of worship?

Every day [ ]
Once a week or more [ ]
Once a month but less than once a week [ ]
Once a year but less than once a month [ ]
Less than once a year [ ]
Never [ ]

Section B- Health, Stress and Coping

General Health Questionnaire(GHQ)

We would like to know if you have had any medical complaints and how your health has been in general, over the last few weeks. Please try to answer all the questions simply by choosing the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

Have you recently...

1. been able to concentrate on whatever you're doing?	**Better than usual**	**Same as usual**	**Less than usual**	**Much less than usual**
2. lost much sleep over worry?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
3. felt that you were playing a useful part in things?	**More so than usual**	**Same as usual**	**Less useful than usual**	**Much more useful**
4. felt capable of making decisions about things?	**More so than usual**	**Same as usual**	**Less so than usual**	**Much less useful**
5. felt constantly under strain?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
6. felt you couldn't overcome your difficulties ?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
7. been able to enjoy your normal day-to-day activities?	**More so than usual**	**Same as usual**	**Less so than usual**	**Much less useful**
8. been able to face up to your problems?	**More so than usual**	**Same as usual**	**Less so than usual**	**Much less useful**
9. been feeling unhappy and depressed?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
10. been losing confidence in yourself?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
11. been thinking of yourself as a worthless person?	**Not at all**	**No more than usual**	**Rather more than usual**	**Much more than usual**
12. been feeling reasonably happy, all things considered?	**More so than usual**	**Same as usual**	**Less so than usual**	**Much less useful**

Physical health

Here are some difficulties that people often have. Which if any, trouble you?

Read out:

Arthritis, Rheumatism	YES [ ]	NO [ ]
Unsteady on feet	YES [ ]	NO [ ]
Forgetfulness	YES [ ]	NO [ ]
Poor eyesight	YES [ ]	NO [ ]
Hard of hearing	YES [ ]	NO [ ]
Backache	YES [ ]	NO [ ]
Breathless after any effort	YES [ ]	NO [ ]
Swelling of legs, feet	YES [ ]	NO [ ]
Giddiness	YES [ ]	NO [ ]
Indigestion	YES [ ]	NO [ ]
Always feel tired	YES [ ]	NO [ ]
Heart trouble	YES [ ]	NO [ ]
High blood pressure	YES [ ]	NO [ ]
Headaches	YES [ ]	NO [ ]
Breathless at night	YES [ ]	NO [ ]
Stomach trouble	YES [ ]	NO [ ]
Long spells of depression	YES [ ]	NO [ ]
Toothache	YES [ ]	NO [ ]

Any other complaints.....

In general, how much difficulty, if any, do you have in doing each of the following on your own?

Please ring:	**No Difficulty**	**A little Difficulty**	**Quite a bit of Difficulty**	**Impossible to do on own**
Getting around the house/flat	[ ]	[ ]	[ ]	[ ]
Getting in and out of bed	[ ]	[ ]	[ ]	[ ]
Having an overall wash/bath	[ ]	[ ]	[ ]	[ ]
Dressing self	[ ]	[ ]	[ ]	[ ]
Cutting toenails	[ ]	[ ]	[ ]	[ ]
Eating	[ ]	[ ]	[ ]	[ ]
Preparing food	[ ]	[ ]	[ ]	[ ]
Cleaning the house etc.	[ ]	[ ]	[ ]	[ ]

Illness Perception Questionnaire(IPQ)

How frequently do you now experience the following symptoms as part of you illness/illnesses?

(Illness Identity)	**All of the time**	**Frequently**	**Occasionally**	**Never**
Pain	[ ]	[ ]	[ ]	[ ]
Nausea	[ ]	[ ]	[ ]	[ ]
Breathlessness	[ ]	[ ]	[ ]	[ ]
Weight Loss	[ ]	[ ]	[ ]	[ ]
Fatigue	[ ]	[ ]	[ ]	[ ]
Stiff joints	[ ]	[ ]	[ ]	[ ]
Sore eyes	[ ]	[ ]	[ ]	[ ]
Headaches	[ ]	[ ]	[ ]	[ ]
Upset stomach	[ ]	[ ]	[ ]	[ ]
Sleep difficulties	[ ]	[ ]	[ ]	[ ]
Dizziness	[ ]	[ ]	[ ]	[ ]
Loss of strength	[ ]	[ ]	[ ]	[ ]

(Cause)	**Strongly agree**	**Agree**	**Neither agree/disagree**	**Disagree**	**strongly disagree**
• A germ/virus caused my illness					[ ]
• Diet played a major role in causing my illness					[ ]
• Pollution of the environment caused my illness					[ ]
• My illness is hereditary-it runs in my family					[ ]
• It was just by chance that I became ill					[ ]
• Stress was a major factor in causing my illness					[ ]
• My illness is largely due to my own behaviour					[ ]
• Other people played a large part in causing my illness					[ ]
• My illness was caused by poor medical care					[ ]
• My state of mind played a major part in causing my illness					[ ]
(Time-line)					
• My illness will last a short time					[ ]
• My illness is likely to be permanent rather than temporary.					[ ]
• My illness will last for a long time.					[ ]
(Consequences)					
• My illness is a serious condition.					[ ]
• My illness has had a major consequences on my life.					[ ]
• My illness has become easier to live with.					[ ]
• My illness has not had much effecton my life.					[ ]
• My illness has strongly affected the way others see me.					[ ]
• My illness has serious economic and financial consequences.					[ ]
• My illness has strongly affected the way I see myself as a person.					[ ]
(Control/Cure)					
• My illness will improve in time.					[ ]
• There is a lot which I can do to control my symptoms.					[ ]
• There is very little that can be done to improve my illness.					[ ]
• My treatment will be effective in curing my illness.					[ ]
• Recovery from my illness is largely dependent on chance or fate.					[ ]
• What I do can determine whether my illness gets better or worse.					[ ]

Perceived Stress Scale

The Questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best way is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following:- *Show card*

0=never, 1=almost never, 2=sometimes, 3=fairly often, 4=very often

1. In the last month, how often have you been upset because of something that happened unexpectedly? [ ]
2. In the last month, how often have felt that you were unable to control the important things in your life? [ ]
3. In the last month, how often have you felt nervous and stressed? [ ]
4. In the last month, how often have you dealt with irritating life hassles? [ ]
5. In the last month, how often have felt that you were effectively coping with important changes that were occurring in your life? [ ]
6. In the last month, how confident have you felt about your ability to handle your personal problems? [ ]
7. In the last month, how often have you felt that things were going your way? [ ]
8. In the last month, how often have you found that you could not cope with all the things you had to do? [ ]
9. In the last month, how often have you been able to control irritations in your life? [ ]
10. In the last month, how often have you felt that you were on top of things? [ ]
11. In the last month, how often have you been angered because of things that happened that were outside of your control? [ ]
12. In the last month, how often have you found yourself thinking about things that you have to accomplish? [ ]
13. In the last month, how often have you been able to control the way you spend your time? [ ]
14. In the last month, how often have you felt that difficulties were piling up so high that you could not overcome them? [ ]

\\

Ways of Coping

Please indicate either YES or NO to how you cope with your current circumstances.

1. I tell myself everything will be all right in the end	Yes	No
2. Work out problems with family and friends	Yes	No
3.Criticise or blame friends	Yes	No
4. Try to take my mind off things by eating	Yes	No
5. Put off doing practical things	Yes	No
6. Avoid other people	Yes	No
7. Tell myself the only thing to do was wait	Yes	No
8. Look for others who experience the same problems	Yes	No
9. Ask for practical advice or information	Yes	No
10. Pray	Yes	No
11. Carry out practical things to help	Yes	No
12. Work out what problems are and make future plans	Yes	No
13. Try to get emotional support form others	Yes	No
14. Take my feelings out on someone or something	Yes	No
15. Prepare for the worst	Yes	No
16. Tell myself things could be far worse	Yes	No
17. Tell myself I have other things in life to be thankful for	Yes	No
18. Increase smoking drinking and taking pills	Yes	No
19. Keep my feelings to myself	Yes	No
20. Daydream or hope for a miracle	Yes	No
21. Hope for a cure	Yes	No
22. Try to step back and feel more detached	Yes	No
23. Discover a new important belief or truth	Yes	No
24. Try not to think about what was happening	Yes	No
25.Turn my attention to independent activities such as reading and watching TV.	Yes	No

Perceived Health Status (PHS)

Would you say your health is:

Excellent? **Good?** **Fair?** **Poor?**

Please put a cross on the line which you feel best corresponds to:

1. Current state of health and general well-being ?

Perfect _____ Poor

2. Current state of health and general well-being of an average person of the same age as you?

Perfect _____ Poor

3. Best possible state of health and general well-being which you might hope for in the future?

Perfect _____ Poor

Section. C- Social Support (informal/formal)/Life Satisfaction.

FRIENDSHIPS

	YES	NO
1. Do you have many people whom you would call friends?	[ ]	[ ]

If yes then specify number: [ ]

2. Do your friends live locally?

YES [ ]
NO [ ]
SOME DO [ ]

3. How frequently do you have contact with your friends?

Specify frequency: [ ]

Short Form Social Support Questionnaire(SSQ6)

For the following can you please list all people you know, excluding yourself, whom you can count on for help or support in the manner described. Give each persons initials and their relationship to you.

For the second part, using the scale below, circle how satisfied you are with the overall support you have.

1Very dissatisfied
2 Fairly dissatisfied
3 A little dissatisfied
4 A little satisfied
5 Fairly satisfied
6 Very satisfied

1. **If you had financial difficulties or difficulties with a pension, who might go to for help?**

(a)No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

2. **Who do you think would be available to help you at home if you were ill or had recently come out of hospital?**

(a) No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

3. **Whom can you trust, talk to frankly and share your feelings with?**

(a) No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

4. **Whom can you lean on for practical help?**

(a) No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

5. Whom can you spend time with socially?

(a) No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

6. **Whom can you lean on and turn to in times of difficulty?**

(a) No one

1) 2) 3) 4)
5) 6) 7) 8)

(b) How satisfied? 6 5 4 3 2 1

Formal support- Services

Access, awareness and receipt of services. Which of the following services do you:

(a) Know of;
(b) Can be easily accessible if needed;
(c) Have received in the past THREE months or would have benefited from but did not receive for any reason.

In the last three columns in each row you are asked to rate the sufficiency and quality of services received and identify any barriers to receiving a helpful and sufficient services according to the brief rating scale below:

- SUFFICIENCY (Did you receive enough of the services regardless of its quality?)

Sufficient	1
Usually sufficient	2
Sometimes inadequate	3
Usually inadequate	4
Very inadequate	5

- QUALITY (How helpful was the service which was actually provided?)

Very helpful/appropriate	1
Generally helpful/appropriate	2
Sometimes unhelpful/inappropriate	3
Usually unhelpful and inappropriate	4
Very unhelpful or inappropriate	5

- BARRIERS (What barriers are there to receiving sufficient and helpful services?)

Inadequate for his/her needs	1
Services simply unavailable	2
Services available but considered to be of poor quality.	3
Communication difficulties.	4

Services received over the past three months

1-14 Services	A (awareness? Y/N	B(Access?) Y/N	C (Received?) R/N	D(Where?) H/E	E (No of times)	F (Average length of each session)	G (Sufficiency)	H (Quality)	I (Barrier)
01 Hospital in-patient									
02 Hospital out-patient									
03 Hospital Day-patient									
04 G.P.									
05 Psychiatrists									
06 Other medical consultant									
07 Dentist or oral hygienist									
08 Chiropodist									
09 Optician									
10 Audiologists									
11 Employment Agency									
12 District Nurse									
13 Community Psychiatric nurse									
14 Nursing Auxiliary									

15-30 Services	A (awareness?) Y/N	B (Access?) Y/N	C (Received?) R/N	D (Where?) H/E	E (No of times used)	F (Average length of session)	G (Sufficiency)	H (Quality)	I (Barrier)
Day centre/care									
16 Educational Psychologists									
17 Clinical Psychologists									
18 Speech Therapist									
19 Physiotherapist									
20 Occupational Therapist									
21 Support worker									
22 Volunteer visitor									
23 Advocate									
Old people's homes									
25 Respite care (Short-term)									
26 Respite care (Long-term)									
27 Transport									
28 Other (specify) Meals on wheels									
29 Other (Specify) home help									
30 Other (Specify)									

Attitudes towards old age

Please tell me if you agree, are uncertain o~ disagree with the following statements:

	Agree	**Disagree**	**Uncertain**
1. I am just as happy as I was when I was younger	[ ]	[ ]	[ ]
2. During the past few weeks I have felt depressed/unhappy.	[ ]	[ ]	[ ]
3. I never dreamed that I could be as lonely as I am now.	[ ]	[ ]	[ ]
4. I am not lonely much of the time	[ ]	[ ]	[ ]
5. I no longer do anything that is of real use to other people.	[ ]	[ ]	[ ]
6. These are the best years of my life.	[ ]	[ ]	[ ]
7. I would not change my life even if I could	[ ]	[ ]	[ ]
8. There's still lots of good things for me to look forward to.	[ ]	[ ]	[ ]
9. Getting old scares me	[ ]	[ ]	[ ]
10.I worry about spending my old age in Britain	[ ]	[ ]	[ ]
11. I look forward to getting old	[ ]	[ ]	[ ]
12. I wish I was back in my home country to spend my old age there	[ ]	[ ]	[ ]
13. I feel satisfied with my life	[ ]	[ ]	[ ]

Satisfaction With Life Scale

Below are five statements (read out) with which you may agree or disagree. Using a 1 to 7 scale (show card), please indicate your agreement with each item by placing the appropriate number in the box next to that item. Please be open and honest in your responses. The 7-point scale is:

1= strongly disagree
2= disagree
3= slightly disagree
4= neither agree or disagree
5= slightly agree
6= agree
7= strongly agree

[ ]	In most ways my life is close to ideal.
[ ]	The conditions of my life are excellent.
[ ]	I am satisfied with my life.
[ ]	So far I have got the important things I want in life.
[ ]	If I could live my life again, I would change almost nothing.

Daily activities

1) How many hours, if any, do you watch TV on an average day ?

None	1
Hardly any-less than an hour	2
I hour to 3 hours	3
more than 3 hours	4

Do you ever get any chance to see any Asian films or programmes?

Yes [ ] No [ ]

2) Do you use public libraries at all?

Yes [ ] No [ ]

If yes do have access to books and material in your own language?

Yes [ ] No [ ]

3) Please describe what you would do on a typical day?

Future: Living preference

1) If you had the choice, would you prefer to:

Live alone or with spouse	[ ]
Live with brothers or sisters	[ ]
Live with grandchildren or children	[ ]
Live in sheltered housing	[ ]
Live in a residential home	[ ]
Live in a special residential home where people from the same ethnic group are clustered together	[ ]
Live in a special sheltered housing where people from the same ethnic group are clustered together	[ ]

2) Do you expect to live here for the rest of your life?

Yes [ ] No [ ]

If No, where do you expect to live in the future?

3) Finally do you have any other comments on services for Asian elders?

Appendix F

Descriptive analysis of data for appendix

Demographic A- age, sex, ethnicity and household size

Variable	value labels	frequency	percentage %	Mean	Kurtosis	skewness
Age				66.8 (55-92 Range)	0.76	2.02
sex	male	35	50			
	female	35	50			
Ethnicity	Indian	22	31.4		-1.56	2.15
	Pakistani	28	40			
	Bangladeshi	6	8.6			
	East African Asian	14	20			
Age of entry				36.02	2.68	2.45
years in UK				30.79	-0.52	0.97
marital status	married widowed divorced/separated single	39 25 5 1	55.7 35.7 7.1 1.4		2.04	4.15
years wid,sep,div.				9.4	2.04	3.16
No.in house				2.86	0.66	3.42
No.in family				8.81	-1.69	-1.97
No in house 16 +yrs.				2.1	1.25	3.09
No in house post-educat		0 = 52	74.3 had none	0.414	4.27	6.41
No.in house in F/T work		0 = 46	65.7 had none	0.429		
No in house unemployed retired, sick		0=23 1=27	32.9 38.6	1.100	-1.19	2.19

Demographics B- Income, social class, education

Variable	values labels	frequency	percentage	mean	Kurtosis	skewness
House living in	1 owner occ 2 rented cou 3 rent privat 4 with relati	39 11 4 16	55.7 15.7 5.7 22.9	1.100	-1.86	2.88
No. rooms				4.69	0.09	-1.08
house car	yes No	30 40	42.9 57.1		-3.48	-1.02
house garden	yes no	38 32	54.3 45.7		-3.58	0.61
housing needs	1adequate 2slightly/ina 3mod.inad 4seve.inad	43 12 11 4	61.4 17.1 15.7 5.7		0.19	4.07
employment	1 F/T 2 P/T 3 retired 4 Unemploy 5 H/W 6 Sick	1 2 37 1 22 7	1.4 2.9 52.9 1.4 31.4 10		-2.75	1.02

Variable	value labels	frequency	percentage	Mean	Kurtosis	Skewness
Soc.class1 (nature of employment history	1profession 2semi-prof 3 skill-man 4 semi-skill 5 unskilled 6H/W,neve 7 can't say	6 7 21 5 12 16 3	8.6 10 30 7.1 17.1 22.9 4.3	4	-1.099	-0.18
soc.class2 class of employment of those in household	1profession 2semi-prof 3 skill-man 4 semi-skill 5 unskilled 6H/W,neve 7 can't say	8 9 9 9 6 0 29	11.4 12.9 12.9 12.9 8.6 0 41.4	4.6	-2.66	-0.74
Soc.class3 employemnt of those(childr en) outside how	1profession 2semi-prof 3 skill-man 4 semi-skill 5 unskilled 6H/W,neve 7 can't say	20 10 15 10 7 0 6	28.6 14.3 21.4 14.3 10 0 8.6	1.5	-0.32	2.59
Education	1preGCSEri 2uptoGCSE 3'A'levels 4specialist tr 5graduation 6postgrad	37 13 9 5 1 5	52.9 18.6 12.9 7.1 1.4 7.1	2.07	2.18	5.04
Finance is money adequate?	1 adequate 2 slight inad 3 mod inad 4 seve inad 5 can't say	20 13 24 12 1	28.6 18.6 34.3 17.1 1.4	2.44	1.99	0.18
weekly Income	1) 0-50 2) 50-100 3) 100-150 4) 150-200 5) 200-250 6) 25-300 7) 300-400 8) 600 + 9) can't say 10) none	7 29 8 2 1 3 1 1 6 12	10 41.4 11.4 2.9 1.4 4.3 1.4 1.4 8.6 17.1	4.95 2.00 Mode	-1.90	3
Benefits	1 child benfi 4 income/sp 5 unemplyo 6 state retir 7 privat pen 8 widows 9 Disability 10 invalidity 12 can't say 13 none	1 6 1 23 6 8 4 6 1 14	1.4 8.6 1.4 32.9 8.6 11.4 5.7 8.6 1.4 20.0	8.07 6 mode	-1.90	3
Bills. Difficulties	1 no/slight difficulties	33	47.1	2.62 4.00 Mode	-2.24	-0.11

in paying bills	2 markd/sev difficulties 3 can't say	36 1	51.5 1.4			
worries about money	1)almost all the time/quite often 2) sometime 3) never/can'ts	29 26 15	41.4 37.1 21.4	2.71 3.00 Mode		
managing financially	1) manage well 2) get by alright 3) not manage at all	12 36 21	17.1 51.4 30	3.54 3.00 Mode	-0.84	0.06

Religious belief

Variable	values labels	frequency	percentage	mean	Kurtosis	skewness
Have religion?	1) Yes 2) No	68 2	97.1 2.9	1.02 1.00 Mode	57.2	20.15
What religion?	1) Muslim 2) Hindu 3) Sikh 4) Other	43 19 6 2	61.4 27.1 8.6 2.9	1.94 1.00 Mode	1.21	4.01
Religion Important?	1) important 2) fairly imp 3) not imp 4) not at all	54 6 6 4	77.1 8.6 8.6 5.7	1.43 1.00 Mode	4.54	6.78
Religious activity	1) everyday 2) 1 a week 3) I a month 4) 1 a year 5) never	55 5 5 2 3	78.6 7.1 7.1 2.9 4.3	1.51 1.00	12.19	9.34

Health measures

Variable	values labels	frequency	percentage	mean	Kurtosis	skewness	Reliability
GHQ -total				4.5	-1.80	1.76	0.8863
GHQ cut-off score	00= below 1.00= above	29 41	41.4 58.6	0.59 1.00	-3.42	-1.24	
PHS Health	1) Excellent 2) Good 3) Fair 4) Poor	7 19 31 13	10 27.1 44.3 18.6	2.714	-0.975	-1.031	0.8084
PHS Same	1) Excellent 2) Good 3) Fair 4) Poor	6 29 32 3	8.6 41.4 45.7 4.3	2.457	-0.428	-0.735	0.8084
PHS Future	1) Excellent 2) Good 3) Fair 4) Poor	8 26 22 14	11.4 37.1 31.4 20.0	2.60	-1.576	0.091	0.8084
PH - Totals	1-4 5-11 12-19	9 49 12	13 70 17	8.500	1.767 (-03)	1.763	0.7670

Mobility	1) no diffic 2) a little di 3) quite abit 4) impossib	29 24 13 4	41.4 34.3 18.6 5.7	1.886	-0.731	2.463	0.8239
Self care	1) no diffic 2) a little di 3) quite abit 4) impossib	19 31 15 5	27.1 44.3 21.4 7.1	2.086	-0.703	1.69	
Domestic	1) no diffic 2) a little di 3) quite abit 4) impossib	15 16 20 19	21.4 22.9 28.6 27.1	2.614	-2.293	-0.578	
PSS Total	3-10 11-20 21-30 31-40 40-46	14 12 19 20 5	20.1 17.1 27.1 28.6 7.1	23.643	-2.076	-0.408	0.8869
WOCC-P Total	0-4 5-8 9-12 13-18	8 15 42 5	11.4 21.4 60.1 7.2	9.257	0.273	-1.265	0.8233
WOCC-M Total	0-4 5-6 15	59 10 1	84.3 14.2 1.4	2.457	18.737	8.432	0.7715

Formal and Informal support

Variable	values labels	frequency	percentage	Mean	Kurtosis	skewness	Reliability
Friends	1) yes 2) No	50 20	71.4 28.6	1.286	-1.929	3.379	
Friends-number of	0 1-5 6-20	20 42 4	28.6 65.8 5.6	2.614	28.963	11.111	
Friends-proximity	1) Yes 2) No 3) Some do	27 31 12	38.6 44.3 17.1	1.786	1.754	1.209	
Friends-frequency of contact	1) frequentl 2) fairly freq 3) hardly ever	41 9 20	58.6 12.9 28.5	3.229	-2.104	2.502	
SSQ- Total	1) 0-5 2) 6-10 3) 11-15 4) 16-20 5) 21-22	30 19 10 8 3	42.9 27 14.3 11.5 4.3	7.971	-0.694	2.456	0.9181
SSQ-ServN	1) 0 2) .1 3) 2-4	41 23 6	58.6 32.9 8.6	7.971	8.124	6.774	
SSQ- FamN	1) 0 2) 1 3) 2-4 4) 5-6	5 8 30 27	7.1 11.4 42.6 38.6	3.314	-2.1078	-0.669	
SSQN-Mean	1) 0-2 2) 2-3 3) 3-4	51 13 6	72.8 18.6 8.6	1.329	-0.694	2.456	
SSQS-	1) very diss	15	21.4	3.386	-2.289	0.397	

Mean	2) Fairly dis 3) A little di 4) A little sa 4) Fairly sati 5) very satis	9 15 9 9 13	12.9 21.4 12.9 12.9 18.6				
Servaware index of service awareness	0-10 11-15 16-23	39 18 13	55.7 25.7 18.6	11.186 range 6-23	1.044	3.613	0.8285
Aware 1 Gen.hlth.ser	4	70	100	4.00			
Aware 2 specialised qualified support	1-2 3-5 6-8 9-11	4 43 18 5	5.7 61.4 25.8 7.2	5.029	0.887	3.237	
Aware 3 Specialised non-qualified	0-2 3-5 6-8	47 14 9	67.1 20 12.9	2.157	-0.618	3.059	
Servrecr index of service recie	0-2 3-4 5-9	41 19 10	58.6 27.1 14.2	2.471	2.295	3.599	
ServrecN	0-2 3-4 5-9	58 10 2	82.9 14.3 2.8	1.200	13.24	7.679	
receive 1 R receipt of Gen. .health services	1) 0 2) 1 3) 2 4) 3	9 38 20 3	12.9 54.3 28.6 4.3	1.243	0.016	0.948	
receive 1 N Gen. Health services needed	0	70	100	0			
receive 2R receipt of specialised qualified support	1) 0 2) 1-5	42 28	60 40	0.629	9.879	7.756	
receive 2N	3) 0 4) 1-4	39 31	55.7 44.3	0.657	3.810	5.163	
Receive 3 R	1) 0 2) 1-4	48 22	68.6 31.4	0.586	2.862	5.502	
Receive 3 N	0 1-7	49 21	70.1 29.9	0.486	38.122	13.899	
Receive 2/3 R	0 1-3 4-7	30 32 8	42.9 45.7 11.4	1.214	3.686	5.216	
Receive 2/3 N	0 1-3 4-9	32 33 5	45.7 47.1 7.1	1.143	14.830	8.216	

Attitudes to old age and satisfaction with life

Variable	values labels	frequency	percentage	Mean	Kurtosis	skewness	Reliability
OLD -TOT	10-15	27	38.6	17.471	-1.465	1.0523	0.7716
	16-20	23	32.7				
	21-26	20	28.7				
SWLS-TOT	0-10	13	18.3	19.914	-2.44	-0.094	0.9294
	11-20	22	31.5	5-34 range			
	21-30	21	30.1				
	31-34	14	20.1				

Summary of T-test results

T-tests between demographic and outcome variables

variable name	t	df	p
Sex			
GHQ-total	-0.90	66.50	p=0.187
Physical health	-1.64	67.82	p=0.967
Satisfaction with life	2.10	67.81	p=0.485
Ethnicity			
GHQ-total	1.41	61.02	p=0.693
Physical health	1.98	61.67	p=0.246
Satisfaction with life	-2.11	60.38	p=0.601
Spoke English			
GHQ-total	1.92	66.24	p=0.994
Physical health	3.23	67.47	p=0.638
Satisfaction with life	-1.10	58.65	p=0.020
Marital status			
GHQ-total	1.98	58.39	p=0.193
Physical health	1.65	64.22	p=0.989
Satisfaction with life	-1.77	64.63	p=0.832
Religion			
GHQ-total	-0.19	41.51	p=0.414
Physical health	-1.01	27.71	p=0.122