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Social Support, Health and Satisfaction among the Elderly with Chronic Conditions in Taiwan

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Abstract

This study examines possible relationships between perceived social support, physical and mental health, satisfaction towards hospital services, and satisfaction towards life-as-a-whole, among the community elderly with chronic conditions. A sample of 172 Chinese elderly living in a metropolitan Taiwanese city were home-interviewed. Results indicated that (a) the elderly perceived good social support, and tangible support was the most important aspect; (b) the elderly did not perceive great impact of illness(es) upon their life, and both physical and mental health were satisfactory; (c) the elderly were generally satisfied with both the hospital services and life-as-a-whole; (d) apart from health and illness factors, social support appeared to have profound and pervasive protective effects on adjustment and satisfaction of the elderly.

Keywords

elderly, health, satisfaction, social support

EXPANSION OF THE ageing population is a pressing problem for many countries in the twentieth century and the next. In Taiwan, advances in medical sciences, promotions of health care, material prosperity, coupled with the gradual demise of traditional Chinese family values and lifestyle, have sent the birth rate downward, but the life expectancy upward. Consequently, in September 1993, Taiwan was officially declared an 'ageing society as its proportion of senior citizens has exceeded 7%' (Department of Internal Affairs, 1995). However, systematic research on ageing is still in its infancy, and relies heavily upon western theories and findings. One purpose of this study, therefore, was to explore the cross-cultural validation of some key concepts from western social gerontology, as will be reviewed later, with Chinese elderly in Taiwan.

The recent 'national survey of the elderly in Taiwan' conducted by the Department of Internal Affairs (1992) on a sample of 1,480,000 found that 55.5 percent of those aged above 65 had at least one chronic condition. Furthermore, only 45.4 percent of the elderly reported good health within the previous three months, and 50.3 percent reported unsatisfactory health, although not life-limiting. In addition, 4.3 percent reported disabling illnesses, and were dependent on care by others.

In terms of the actual use of medical services, within the same three months, 65.76 percent of the elderly had consulted doctors, on average 5.07 times; 4.75 percent had been hospitalized, on average 1.2 times for 16.6 days. In addition, 45.3 percent had taken shelf medicine, on average 2.67 times. It can be concluded that a majority of the elderly in Taiwan report poor health, and made frequent use of medical services, especially hospital-based ones.

A more careful scrutiny of the health statistics revealed that major illnesses causing hospitalization among the elderly in Taiwan were, in rank order: stroke, accidents, cancer and cardiac problems (Department of Health, 1993). Chronic illness seems to be the main reason for using medical services among the elderly. Although a chronic condition is long-lasting and irreversible, it can be managed with medical treatment. Research in Taiwan has already found that the quality of control of the chronic illness greatly influenced self-reports of health, and

even life satisfaction of the elderly in Taiwan (Huang, 1992).

To summarize, statistics and empirical research depict an increasingly salient social phenomenon, namely the elderly in Taiwan are in great need of medical services, and 'health' is a pressing concern for them. In fact, the elderly with chronic conditions are the main recipients of medical services. Therefore, understanding their satisfaction with services received serves as a starting point for the realignment of the health-care system, in order to accommodate better the specific needs of the ageing population.

Social epidemiological studies focusing on elderly people have clearly pointed out that disorders such as hypertension and heart diseases are accounting for less and less variance in mortality, while psychosocial factors can to some extent increase an individual's resistance to pathological agents or minimize their adverse effects on health (Cassel, 1976; Hanson, Isacsson, Janson, & Lindell, 1989; Kasl & Berkman, 1981). Social support is one such protective psychosocial factor. Research in this area has already accumulated a large body of literature and stress-resources models (e.g. Hobfoll, 1989; Holahan & Moos, 1986) are examples of such theoretical formulations.

In a series of longitudinal community studies, Holahan and Moos (1986, 1987, 1991) asserted that personal resources, including personality, coping, and family support, can be powerful protectors against the adverse effects of life stress. Similarly, a previous study of the Taiwanese community elderly also indicated that control (a related construct to Holahan and Moos's 'Self-confidence') protected physical health, and social support (an extension of Holahan and Moos's 'Family support') could protect both physical and mental health of the elderly (Lu & Hsieh, 1997). It would be interesting to replicate these results with the elderly with chronic conditions, to see whether social support functions in the same way for ill as well as healthy elderly people. Another possible extension of the preceding models would be to see whether social support has positive effects on satisfaction, in the context of both medical services and major life domains.

In analysing possible mechanisms of social support, the debate concerning a direct effect vs

a buffering effect (Dean & Lin, 1977) has occupied the centre stage. In the aforementioned Taiwanese study, in addition to strong direct effects on both physical and mental health, we also found an interactive effect between social support and life stress on mental health. However, when all health-related stress had been removed from the life stress index, the interaction diminished. This qualified the buffering effect within the realm of health-related events. As argued by Berkman and Syme (1979), buffering effects of social support were the most salient when the elderly people encounter problems with their health. For example, someone's offer to provide transportation would be most helpful when you are ill. Curtrona, Russell and Rose (1986) in a 6-month follow-up study also found that social support could predict physical health, as well as buffer the impact of life stress on mental health for the elderly.

On the other hand, social support may still have additive effects in protecting health. A community study (Coe, Wolinsky, Miller, & Prendergast, 1984) compared three groups of elderly: the 'complementary group', those with both family and neighbours' support; the 'compensatory group', those with only family or neighbours' support; the 'abandoned group', those with neither family nor neighbours' support. The 'abandoned group' turned out to have the worst health, followed by the 'compensatory group' and the 'complementary group'.

In terms of operationalization of social support, perceived support was found to have a strong relationship with depressive symptoms, and was a better predictor than structural measurement of depression among the elderly (Ensel & Moeflel, 1986; Oxman, Berkman, Kasl, & Freeman, 1992; Schonfeld, 1991). In addition, research also found that the adequacy of emotional support was more important to the mental health of the elderly than that of tangible support (Oxman, Berkman, Kasl, & Freeman, 1992).

Apart from the significant protective effects of social support on both physical and mental health, support also seemed to influence the overall life satisfaction of the elderly. Huang (1992) noted that among the elderly in Taipei, social support was the most important predictor of life satisfaction, more powerful even than self reports of health. A recent community study (Lu, Hsieh, & Chang, 1994) also found that the amount of perceived social support was positively related to life satisfaction among the elderly in Kaohsiung. As argued earlier, the elderly with chronic conditions are becoming a major group of medical services recipients in Taiwan; could social support also enhance their satisfaction with the hospital services and, perhaps in turn, their general life satisfaction?

Traditionally, the Chinese family system shoulders almost all responsibilities for caring and supporting the young, the old, the ill and the dependent. Filial deity has long been upheld as one of the highest moral virtues and social values, and the elderly today still strongly adhere to this traditional value (Chen, 1995). However, in the current wave of social change, both family structure and family functions are under dramatic transformation. For instance, the nuclear family is becoming more and more prevalent, and an increasing number of women remain at work after marriage. The Chinese family system in Taiwan has been relieved, partially or completely, of many of its traditional functions, such as agency of religion or material production. In the aforementioned 'national survey of the elderly in Taiwan' (Department of Internal Affairs, 1992), most elderly people admitted that their source of living expenses still came from their offspring, especially sons. However, the percentage was decreasing year by year. Against the background of lack of comprehensive state social welfare mechanisms for the elderly, the changing reality of family life and societal attitudes will undoubtedly affect the well-being of older people. Therefore, the present study attempted to clarify the function of social support for the elderly, in terms of health and satisfaction.

To summarize, focusing on the Taiwanese elderly with chronic conditions, there were four purposes of this study: (a) to investigate levels of perceived social support, including information support, emotion support, tangible support and social participation; (b) to investigate levels of satisfaction with hospital services, including medical resources, services, information and practitioner–patient interactions; (c) to explore possible relationships between demographic variables, social support, health and satisfaction; and finally (d) to validate the concepts of social support and satisfaction in a Taiwanese context.

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Methods

Participants

Eligible respondents in this study were senior citizens over 65 years old, with one chronic condition, living in communities rather than institutions such as nursing homes, in Kaohsiung city, southern Taiwan. Two strategies of recruiting respondents were used. First, those coming to the clinic of the Department of Family Medicine in a medical centre were invited to participate in the study.

Second, those who reported one or more chronic conditions in a previous community study were followed up. The sampling was conducted by adopting a multistage probability sample proportional to size using a systematic random procedure (Lu et al., 1994). First, three districts were randomly chosen; second, four areas within each chosen district were randomly selected; finally, according to the official lists of senior citizens, appropriate numbers of respondents were randomly selected from each area.

The final sample was composed of 108 and 64 elderly respondents recruited from the preceding two sampling strategies. All respondents were home-interviewed by trained interviewers during December 1995 to January 1996. The final response rate was 81 percent.

Measurements

Since the present research focused upon subjective perceptions and feelings of the elderly, a brief cognitive test was first conducted with each prospective respondent to screen out those with severe cognitive impairment. The Short Portable Mental Status Questionnaire (SPMSQ, Fillenbaum & Srnyer, 1981) was used to assess orientation, short-term and long-term memory. Those deselected were replaced by respondents from the remaining list. In cases of failing to locate a prospective respondent due to incorrect information on the register, residential moves, death and decline of participation, replacements were also drawn from the remaining list.

Data presented in this article came from responses to a five-part questionnaire described below:

Demographic variables Respondents' age, gender, education and marital status were recorded.

Social support Functional social support was measured by adopting Hanson and colleagues' (1989) questionnaire developed specifically for the elderly population. Factor analysis with oblique rotation revealed four factors: 'material and tangible support', 'social participation', 'emotional support', and, finally, 'information support', demonstrating good construct validity. Cronbach alphas for the four subscales ranged from .80–.82, which were also acceptable (Lu & Hsieh, 1997). In the following analyses, a higher total score indicated a higher overall level of perceived functional support. The Cronbach alpha for the aggregated scale was .77 in this sample.

Physical health Two indicators were used: (1) Activity of Daily Living (ADL, Fillenbaum, 1988) and Instrumental Activity of Daily Living (IADL, Fillenbaum, 1988) are widely used to assess elderly people's self-care ability, such as cooking, bathing, shopping, banking and taking medicine. A higher total score indicates better living ability, hence better physical health. Cronbach alphas for ADL and IADL were .87 and .88, and that for the aggregated scale, .91. (2) In the Illness Impact Scale, 25 medical conditions of high prevalence among the elderly population were listed, and respondents were instructed to rate on a 3-point scale, the severity of each condition which he or she had. A higher total score indicated a higher level of physical ill health. The Cronbach's alpha was .75 in this sample.

Mental health Depression, anxiety and somatic symptoms were measured by the SCL-90-R (Derogatis, Rickels, & Rock, 1976). Cronbach alphas for the three subscales were: .77, .80 and .75 respectively, and that for the aggregated scale, .86. A higher total score of symptoms indicated a higher level mental ill health.

Satisfaction First, life satisfaction was reported by respondents using 5-point 'faces' scales (Andrews & Withey, 1976). Five aspects were evaluated: life-as-a-whole, relationships with family members living together, relationships with offspring, personal finance and overall health. As this was a non-verbal test, it was welcomed by the elderly as a change of format to help them sustain attention. A higher total

score indicated a higher level of overall satisfaction with one's life. Cronbach alpha for the aggregated scale was .81.

Second, satisfaction with medical services was reported by respondents using 4-point Likert scales, including satisfaction with hospital time, appointment procedure, clinic regulations, services of hospital staff, doctor–patient relationship, information provided, efficacy of medical treatment, health education and community services. A higher total score of these nine aspects indicated a higher level of overall satisfaction with medical services. Cronbach alpha for the aggregated scale was .83.

Results

Sample characteristics

The final sample of 172 elderly respondents consisted of 91 males (52.9%) and 81 females (47.1%). This preponderance of males in the ageing population is a valid social phenomenon in Taiwanese society, attributable to the large-scale male migration (mainly military and government personnel) from mainland China at the end of the civil war in 1948–1949. The mean age of the sample was 70.79 (SD = 6.47), with 51.1 percent aged 65–70, another 23.8 percent aged 71–75, 18 percent aged 76–80, and 7.1 percent aged 81 and above. The mean education received (in years) was 6.55 (SD = 4.65), 24.4 percent being illiterate respondents, 38.9 percent having partial or complete primary school education, 14 percent having partial or complete junior school education, and 22.7 percent having partial or complete senior school education or above. Most of the respondents (73.9%) were married (or had living partners), while 45 (26.1%) respondents were either never married or widowed.

Levels of social support, health and satisfaction

In accordance with the first two aims of this study, Table 1 shows levels of social support, health and satisfaction in the sample.

Social support The item mean on the aggregated scale was .61, which was slightly skewed toward the positive end on the 0–1 scale, indicating a medium level of perceived support. Among the four aspects of support, level of tangible support was the highest, followed closely by emotion support, whereas those of information support and social participation were hovering around the medium level. Sig-

Table 1. Levels of social support, health and satisfaction

Variables	Item mean	Scale mean	SD
Social support			
Tangible support	0.71	4.27	1.74
Emotional support	0.70	2.11	0.94
Information support	0.54	1.63	0.90
Social participation	0.49	2.93	1.63
* Aggregated scale	0.61	10.87	3.73
Physical health			
ADL	1.68	11.76	1.68
IADL	1.77	12.37	2.86
* Aggregated scale	1.73	24.08	4.21
Illness impact	0.27	6.63	6.19
Mental health			
Depression	0.23	1.59	2.06
Anxiety	0.17	1.19	1.95
Somatic symptoms	0.50	2.50	2.12
* Aggregated scale	0.30	5.27	4.93
Satisfaction			
with life	2.93	14.66	3.40
with medical services	2.99	26.91	3.43

nificant correlations between the four subscales ranged from .25 to .50, but those between emotional and information support as well as emotional support and social participation failed to reach statistical significance. In addition, all four subscales correlated significantly with the aggregated scale, with tangible support having the largest correlation ($r = .82$, $p < .001$).

Physical health The item mean on the aggregated daily activities scale was 1.73, close to the 0–2 scale position of '2' ('not needing any help'), indicating a high level of daily function. Item mean on the illness impact scale was 0.27, which was close to the 0–3 scale position of '0' ('very little impact'), indicating a low level of illness interference on daily life. ADL and IADL were significantly correlated with each other ($r = .65$, $p < .01$), whereas their correlations with illness impact were markedly weaker ($r = -.13$, *ns.* and $r = -.22$, $p < .05$).

Mental health The item mean on the aggregated scale was 0.30, which was close to the 0–2 scale position of '0' ('not at all'), indicating a low level of symptomatology. Among the three subscales, level of somatic symptoms was the highest, followed by depressive and anxiety symptoms. All the three subscales significantly correlated with one other ($r = .42$ to $r = .58$, $p < .01$), whereas their correlations with the aggregated scale were markedly higher ($r = .77$ to $r = .83$, $p < .01$).

Satisfaction Item mean on the aggregated life satisfaction scale was 2.93, which was close to the 0–4 scale position of '3' ('satisfied'), indicating a high level of overall life satisfaction. Again, item mean on the aggregated medical services satisfaction scale was 2.99, which was close to the 1–4 scale position of '3' ('satisfied'), indicating a high level of satisfaction with medical services.

Thus, descriptive analysis suggested that the elderly in this sample had medium levels of social support, satisfactory physical and mental health, and high satisfaction both with life in general and with the medical services they received.

Multivariate analysis

To compute zero-order intercorrelations between the five sets of variables in this study, gender was coded '1' for males, '2' for females; marital status was coded '0' for no spouses, '1' for having spouses; and age and education were converted into years. Table 2 presents a full Pearson correlation matrix.

Following the correlation analysis, stepwise multiple regression analyses were conducted to find predictors for each aspect of health and satisfaction.

In predicting *daily activities*, social support (Beta = .26, $p < .05$) made a positive contribution, whereas age (Beta = $-.30$, $p < .01$) made a negative contribution. The two variables together controlled 28 percent of the total

Table 2. Correlations, means and *SD*s

	1	2	3	4	5	6	7	8	9	10
1. Gender	1.00									
2. Age	.05	1.00								
3. Education	.30**	−.16*	1.00							
4. Marital status	.29**	−.23**	.25**	1.00						
5. Social support	.12	−.17*	.41***	.13	1.00					
6. Daily act.	.10	−.36**	.15	.13	.34***	1.00				
7. Illness impact	.05	.29**	.07	−.19*	−.27**	−.19*	1.00			
8. Mental health	−.10	.11	−.13	−.10	−.47***	−.25***	.59***	1.00		
9. Life sat.	.04	.29**	.29**	.16*	.55***	.20*	−.41**	−.51***	1.00	
10. Medical sat.	−.10	.01	.03	−.04	.11	−.01	−.13	−.31***	.21*	1.00
Mean	——	70.79	6.55	——	10.87	24.08	6.63	5.27	14.66	26.91
SD	——	6.47	4.65	——	3.73	4.21	6.19	4.93	3.40	3.43

Gender was coded '1' = male, '2' = female; marital status was coded '0' = no spouses, '1' = having spouses.
* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

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variance ($F = 11.43$, $p < .001$). In predicting *illness impact*, both somatic symptoms (Beta = .51, $p < .001$) and anxiety (Beta = .24, $p < .05$) made positive contributions. The two variables together controlled 42 percent of the total variance ($F = 25.69$, $p < .001$).

In predicting *mental symptoms*, illness impact (Beta = .55, $p < .001$) made a positive contribution, whereas social support (Beta = $-.44$, $p < .001$) made a negative contribution. The two variables together controlled 54 percent of the total variance ($F = 31.08$, $p < .001$).

In predicting *life satisfaction*, social support (Beta = .41, $p < .001$) and daily activities (Beta = .23, $p < .05$) made positive contributions, whereas illness impact (Beta = $-.37$, $p < .01$) made a negative contribution. The three variables together controlled 48 percent of the total variance ($F = 14.67$, $p < .001$). In predicting *satisfaction with medical services*, only anxiety (Beta = $-.37$, $p < .001$) made a negative contribution. It alone controlled 14 percent of the total variance ($F = 8.12$, $p < .05$).

Discussion

We focused upon social support, health and satisfaction among a Taiwanese sample of elderly with chronic conditions. Social support was generally treated as an independent variable, whereas the other two were treated as dependent variables. Consequently, the following discussion is organized around the issues of health and satisfaction. It must be borne in mind that the study was cross-sectional and, therefore, the interpretation of findings must proceed with all due caution. However, they provide the basis for prospective studies which are necessary before strong conclusions can be drawn.

Since demographic characteristics of the elderly, such as age and gender may substantially affect their health and satisfaction, it is appropriate to review the sample characteristics before proceeding to further discussions.

The present sample had more males than females. The mean age was around 71, with the largest proportion at 65–70 years old (so-called young–old group). Most elderly had living spouses. The average length of formal education was six years, equivalent to graduation from primary school. However, there seemed to be a polarizing effect on education: the numbers of illiterates (24.4%) and those who had senior schooling or above (22.7%) were almost the same. Finally, all the elderly had at least one chronic condition, but were still living in the community.

Social support and health among the elderly

We used multiple indices of health. In physical health, the elderly generally functioned well in daily activities, including the most essential and more instrumental ones. The most prevalent chronic condition was hypertension, but illness did not cause any great interference with normal life. In mental health, the elderly, too, generally functioned well. However, the most prevalent psychological symptoms were somatic ones. Finally, social support was an important predictor of physical health (daily activities) as well as mental health.

Based on the preceding results, several points could be raised. First, chronic disease is a major challenge to the health of the elderly, as evidenced in the national survey (Department of Internal Affairs, 1992). Our previous study in Kaohsiung with randomly selected community elderly also found that most had at least one chronic condition (Lu et al., 1994), with hypertension as the most prevalent chronic disease (36.7%). Furthermore, comparing the lists of the top 10 diseases yielded from the two studies, 80 percent were exactly the same. Although most of the respondents in the present study (62.79%) came from a particular clinic in a particular medical centre, the distribution of their chronic conditions seemed to be reasonably wide, and was quite similar to that of the community survey in the same area (Lu et al., 1994) and those of the national surveys (Department of Internal Affairs, 1992). Consequently, the present sample of the elderly with chronic conditions, albeit a small one, still had reasonable representativeness. With all due caution, the results should be able to be generalized to the entire elderly population.

Although some research has claimed that as high as 85.2 percent of those aged over 65 years old had at least one chronic condition (Chen, 1986), they are, however, not necessarily disabled or limited by diseases. The elderly people interviewed in the present study all had at least one chronic condition; however, not only did

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they maintain good functioning in daily activities, perceiving little interference with normal life, but they were in fairly good psychological health. Of course, those were community elderly, and they have been shown to have better functioning and health compared with their institutionalized counterparts (Huang, 1995). Nonetheless, the elderly living in the community are still the majority in a Chinese society. As ageing is an irreversible demographic trend, those community elderly who have satisfactory physical and mental states provide a pool of largely untapped but potentially fruitful human resources. At least, ageing and chronic illness do not inevitably lead to disability and helplessness, and the outlook for life of the aged need not be gloomy.

However, the self-report method of health evaluation used in this study may raise questions about validity. Previous research has shown that self-reported health states correspond fairly well with physician evaluations, degree of disability and amount of illness (Idler, 1992; Mossey & Shapiro, 1982), as well as more objective measures, such as number of visits to doctors, number of hospitalizations, medication, medical diagnosis, and degree of disability (Linn & Linn, 1980). In fact, self-reported subjective health could be viewed as an integration of both objective and subjective evaluations (Fillenbaum, 1979), taking into account not only health and illness related information but psychosocial factors.

Indeed, this study has found a pervasive and profound effect of social support on health of the elderly, which was consistent with existing evidence concerning community (Lu & Hsieh, 1997) and institutionalized elderly (Farber, Brod, & Feinbloom, 1991). Another study with patients of chronic illnesses at a medical clinic also found that better social support decreased the likelihood of depressive symptoms (Turner & Nih, 1988). Our results extend this protective effect of support against depression to the elderly, to general mental health (including depression) and to physical health. As we used multiple indicators for health, our results suggest that the protective effect of social support is not indicator-specific, rather, it is pervasive and general. Therefore, interventions targeting social-support enhancement may prove to be both economical and effective.

This study has also revealed a close relationship between physical and mental health among the elderly. Psychological symptoms could explain nearly half (42%) of the variance in illness impact; similarly, illness impact could explain nearly the same amount (42%) of the variance in mental health. Such a strong linkage was not documented in other age groups, but is consistent with previous findings (Lu & Hsieh, 1997). This replication strengthens the argument that health-care planning and medical-care systems for the elderly must take into account the inextricable relationship between physical and mental health in this age sector.

Life and medical satisfaction among the elderly

Theoretical and empirical studies have repeatedly indicated that social relationships, work, leisure, pleasant life experiences, personality and health may all affect one's subjective well-being, and life satisfaction (e.g. Argyle, 1987; Diener, 1984). For the elderly, the link between health and satisfaction may be particularly strong. Edwards and Klemmack (1973) found that the connection between health and satisfaction held up when other variables, for instance, social status and income, were held constant. And if *health* was held constant, other variables affecting life satisfaction became less important, such as membership of voluntary associations for old people (Buck & Aucoin, 1975). The importance of physical health in predicting life satisfaction in this study corroborated nicely the aforementioned health–satisfaction connection.

On the other hand, social relationships, especially those involved in family life have unequivocal effects on satisfaction (Campbell, Converse, & Rodgers, 1976). For the Chinese elderly, family is not only their most significant realm of life but their main source of support (Chen, 1995; Hsieh, 1994). The fact that social support and physical health together accounted for nearly half (48%) of the variance in life satisfaction, highlights once again the importance of social support to the elderly. This, again, is consistent with previous empirical findings (Ducharme, 1990; Huang, 1992; Revicki & Mitchell, 1990). In addition, psychological states (specifically, level of anxiety) significantly predicted levels of satisfaction with medical services, which in turn were significantly correlated with life satisfac-

tion. Although the elderly in this study were generally satisfied with life as well as medical services they received, their needs should be adequately taken care of, as programmes of hospital modernization are introduced. Furthermore, the anxious elderly (those who were dissatisfied with hospital services) should receive special attention and care.

In the cultural context of a Chinese society, three factors seem to facilitate a happy life in old age: a living spouse, good health and secure finance. The Chinese are socialized to rely primarily on the immediate family for all sorts of support (Lu & Hsieh, 1993). For the elderly, a living spouse is becoming an increasingly important source of support, now that grown-up children may migrate in search of jobs. The weight of health on life satisfaction is unequivocal, as well as the benefit of secure personal finance (Chen, 1995). These three factors provide practical reference points for future research in gerontology as well as for government policy.

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