Master's Thesis of Sociology

The Influence of Family Inter-generational Support on Mental Health of Chinese Older Adults

- based on the empirical analysis of China Health and Retirement Longitudinal Survey(CHARLS)2015 data -

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Abstract

Nowadays, aging is a common global problem. Along with modernization and urbanization, not a few Chinese aging parents tend to support their adult children, which is known as the ‘anti-breeding model’. Most prior research focused on the responsibility of children on aging parents and did not discuss the contribution from aging parents to their adult children. This study intended to discuss both upward and downward direction in financial, instrumental, emotional support and the association between intergenerational support and the mental health(depression) of the Chinese elderly. Data from the 2015 Chinese Health and Retirement Longitudinal Survey was used for analysis. The main results of the study were as follows. Intergenerational support is correlated with the mental health of the Chinese elderly, and differences exist in rural/urban areas. For rural-living elderly, the daily care from their younger generations is negatively associated with their mental health. However, older urban people are more likely to maintain mental health with the emotional support from their adult children. It is imperative to adjust measures to local conditions to ensure all Chinese seniors achieve ‘successful aging’ or ‘active aging’.

Keywords: Chinese elderly, intergenerational support, mental health, rural areas, urban areas

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1. Introduction

1.1 Background

1.1.1 Population Aging in China

Aging population has brought out several challenges and problems in a variety of aspects(Alan Pifer& Lydia Bronte, 1986), such as support system, the growing need for medical services. China has entered an aging society formally since 1999 based on the United Nations standard that above 10% people older than 60 years old(Mu&Zhang, 2011). By the end of 2019, the number of the elderly has reached to 253.88 million, which made up about 18.1% of the whole Chinese population[1].China would be one of the nations that have the highest proportion of old persons in the coming 2050[2]. The aging population in contemporary China shows: 1) population changes quickly and population aging process is speedy; 2) the absolute quantity of elder population is large, in which the amount is more at low age and increases fleetly to a higher age group; 3)it is not adaptive between the rapid development of comprehensive national strength and the aging population; 4)the regional difference among all areas is distinctive(Yao&Li , 2000). With the older suffer the decline in physical and cognitive functions as they age, it is high likelihood that the elderly face complex health conditions, which has exerted much pressure on the health system and resulted in huge costs(WHO,2011). All such of the facts leaves us recognize how to guarantee the elderly's remaining life has been challenging and urgent.

1.1.2 Mental Health of the Elderly in China

In line with the socioeconomic development and the acceleration of the ageing

[1] National Bureau of Statistics of China. (2020). Statistical Communique of the People's Republic of China on the 2019 National Economic and Social Development. China Statistics Press

[2] Population Division of the Department of Economic and Social Affairs of the United Nations. (2015). World Population Prospects: The 2015 Revision, Key Findings and Advance Tables. New York : United Nations

process of the population, the incidence rates of mental disorders and psycho-behavioural problems have become higher and higher worldwide. So far, the disease burden caused by mental disorders has ranked second in the world(James, et al., 2018). According to a W.H.O report(2012), 30% of diseases are related to depressive mood and depression is the most common in an aging group. As China's population ages, mental health care for the elderly comes under serious strain. Elderly Chinese had a high prevalence of emotional problems(Zhou, et al., 2003) or mood disorders(Xu, et al., 2017; Li, Zhou&Xu, 2017), and there is still significant stigma surrounding mental health issues, with many barriers to receiving treatment or support. Also, mental health issues are often implicated as a factor in cases of suicide(Kaneko, et al., 2007). Although the living environment and conditions(including medical treatment) have been much better than before, the aging elderly in China is a population at high risk of suicide. In detail, China's elderly suicide rate was 34.5 per 100000 in 2013-14, higher than many other countries in the world, which accounted for 38.2% of whole Chinese suicide victims[3].

With the aim to relief the stress of medical insurance or the demand on medical services and to achieve the ideas of active aging and healthy aging, such of the facts leave us recognize the significance to discuss the mental health of Chinese elderly, to think about the reasons contributing to these phenomena or the way to help elderly-aged people to maintain good mental health, like the family role.

1.1.3 Family Inter-generational Support in the Chinese context

Up till now, China has not been prepared to guarantee the well-being of older people sufficiently. Even though the existing old-age security system based on pension

[3] Bao-Liang Zhong, Helen F.K. Chiu&Yeates Conwell. 2016. Rates and characteristics of elderly suicide in China, 2013–14. *Journal of Affective Disorders*, (206): 273-279

insurance and medical insurance has guaranteed the basic life of the elderly to a certain extent, still at an initial stage(Yang, 2013), especially for rural residents who have no access to retirement pensions. It is hard to minimize the contradiction between large demand on old-age care and available resources supplied by government or social institutions. The possibility of thoroughly relying on the outside excluding the offspring is low(Zhang&Li, 2004; Tian&Wang,2014), and with the profound influence of traditional Confucian principles that stress filial piety and collectivism, especially children assume the obligation to satisfy parents in old age, Chinese elders have a propensity to ask their family for help firstly(Wei, 2010; Zhao, 2012; Sun&Shen, 2017), which may hinder the promotion of social pension, also leave much pressure to the government. In return, social welfare can crowd out family support on elderly people(Wang, 2016).

Family-supporting, as a sort of informal social support, plays a key role in support system of the old and that suggests adult children are mostly responsible for their parents' aging life, and is associated with the well-being or life quality of family members(Silverstein&Bengtson, 1994; Cong&Silverstein, 2008; Xie&Zhu, 2009). As the widespread of individualism or materialism(Aboderin, 2004), high competition the youth faced in Chinese society, not a few young people start to abandon the responsibility to care for their older parents whether in finance or other fields, which is against the law of emphasizing the essential role of the younger in taking care of older parents, and instead the elderly keep supporting them all the time considering the whole family welfare(Yang&Hen, 2004), mainly in financial part, the phenomenon is known as "anti-breeding model"(Che, 1990). And that could enhance the self-worth of older people(Chen&&Silverstein, 2000). The aging parents who receive financial assistance show more willingness to take care of their grandchildren

in turn(Sereny&Gu, 2011). Current relationship among generations shows more utilitarian and reciprocal feature, not a few aging parents try to please their adult children with the intention of getting more attention(Chen, 2007; Huang, et al., 2017). Sociologist Giddens once said family reflects the conflict between tradition and modernity. In contemporary China, along with the modernization and urbanization, the family structure and the system to ensure the well-being of the elderly in old age has not been the same as before, and the gap between urban areas and rural areas is difficult to resolve. In detail, the One-child policy made the kind of nuclear family replace the original extended family occupied the main family model. Out-migration of spatial distance caused an increasing number of empty-nest elderly, even left-behind children, who are raised by their grandparents not their parents directly. Under such circumstances, the availability of daily caring from their adult children has been lower(Song&Li, 2008), the possibility of support to adult children in taking care of grandchildren has been increased(Song&Li, 2010), or even with more and more migrant workers going out, the inter-generational communication is easy to be impeded(Antman，2010), which caused overwhelming loneliness and a sense of loss in elderly parents(Adhikari& Jampaklay, 2011). Although family supporting function has been weaken to some extent and government, market entered into old-age security field under the welfare pluralistic perspective, families keep the primary source for aging parents in China(Chen, 2000; Li, 2004; Yang&Li, 2009; David&Feng, 2015), and still assume non-substitutable role in old-age caring system(Zhang,2012; Yuan, 2020).

1.2 Purpose of the Study

Based on the analysis of data from China Health and Retirement Longitudinal Survey(CHARLS) conducted in 2015, the study aimed to find under the complicated background in China, to what extent the influence of family inter-generational support on the mental health of the elderly aged 60 and over is and the performance between rural and urban areas. In detail, this study tried to focus on both upward and downward direction in financial, instrumental, emotional support.

1.3 Significance

1) Unlike the low sample representative level of earlier studies, by using national data from CHARLS, it is easy-understanding for us to know the influencing factors on the mental health of the elderly in today's China from an overall perspective, particularly, in the family field. And it might be a reflection of the social and economic transformation in the past few decades in China.

2) After reviewing the previous relevant studies targeted at the health of Chinese elderly, we can find one particular under-researched area concerns urban-rural comparative studies and the in-observance on the aspect of the support from old parents to their adult children, the value of this study both lies in theory and practice. These findings can be beneficial for future study as well as for policy-making in the efforts to achieve 'active ageing and healthy ageing' among the elderly in all of China.

3)The population of China is going through a profound aging process before everyone becomes wealthy to afford the aging expenditure, even though the Chinese government has carried out social insurance policies or taken several relevant

measures by introducing, transplanting, coping or even localizing from them. The study is helpful to highlight the role of families in supporting the elderly and enlighten family, the government or other organizations what they can do in supporting aging older people.

2. Literature Review

2.1 The Research on Intergenerational Support

2.1.1 Defining Intergenerational Support

There is no consensus on the definition of family inter-generational support over the course of years, which is also known as family inter-generational transfer. Inter-generational support is one field of inter-generational relations, which is related to the giving and receiving of monetary and time resources, based on social exchange theory. In the study, inter-generational support consists of mutual attendance of two generations(between elderly individuals and their children or their grandchildren) at least in financial, daily living care, emotional domains(Wang&Li, 2011).

It is crucial for older parents to deal with the relationship with adult children in their later life in a right way(Erikson,E.H., Erikson,J.M.& Kivinick,H., 1986), they can elicit the assistance from the younger generation, mainly including financial, daily-living(or instrumental) and emotional support(Wang, 2008). But there have been debates about the upward or downward flow of inter-generational support, one means the support flow from adult children to the elderly, which represents the mainstream cultural norm in China(Lin&Yi, 2011), the other presents the care to their next of kin(Tian, 2016), it is absolutely contrary to Feedback Model but apparently visible in

China(Che, 1990). Some scholars harbored the idea that the inter-generational support whether from younger generation or older generation keep consistent(Lee&Netzer, 1994), whilst certain studies insisted that the two directions of support should be explained separately due to the existing incompatible essential differences(Blieszner, 1989). Additionally, whether the third generation should be included is controversial among specialists. A few scholars(Cong&Silverstein, 2012) take the part into consideration----whether old parents are involved in grandchild care with an extended family perspective. Also there is no unified measure criteria to analyze family inter-generational support. Not a few scholars are prone to use financial support from adult children to indicate the whole situation, that is to say, other support adult children can provide is excluded, such as care during illness, emotional cohesion. These similar research give us insights on the accuracy of adopted variables, because the structure and directions of support flows have become more complex as multiple generations coexist(Park, et al., 2005).To be more specific, just taking the same financial respect as a case, several studies(Guo, 1998; Jiang, Pei, et al. ,2013) adopt 'net flow' (which means the remaining sum through comparing inter-generational financial support) to reflect the degree of support, others(such as Ding, 2014) judge the factor by summing up the money amount the aged population received.

2.1.2 The Content on Studying Intergenerational Support

As a whole, the studies in terms of inter-generational support can be classified into four categories.1) relational correlates of inter-generational transfers. Even if researchers provide a mix of conclusion on the directional effects, they share a frame to us to think deeply what probable associated factors are. Inter-generational transfers are contingent on factors such as age, sex, health status, education, income, the number of children mainly from individual or family perspectives. In addition, most

scholars take receiving financial help as a theme from parents' standpoint. 2)the motive behind such behaviors, mainly refers to altruistic model theorized by Becker(1974) and exchange model first presented by Cox(1987). In detail, an altruistic people within a family is not concerned about the probability of retribution but care about whether she/he can provide needy members more help and the well-being of the beneficiary. The cultural norm of filial piety which underscores the duty to ensure the later life of aging parents manifests a form of altruism on the part of offspring(Lee&Xiao, 1998; Sun, 2002). Parents with more needs always get more support from their adult children(Silverstein&Giarrusso, 2010), it is not unique in developing countries(Cox, et al., 2004). Conversely, exchange model emphasizes the maximum of personal interests and believes the one who gives to others has an expectation of receiving from these people. The elderly support is an outcome of short-and-long-term arrangements between generations. Elderly Chinese, especially those in urban areas, have short-term exchanges with their adult children, providing housing or other services and receiving financial support in return. Also, adult children's support for elderly parents may be a repayment of parental investment made in them earlier(Lee&Xiao, 1998; Wang&Lee, 2011). The existing studies provide no consensus as to which one of the two motives dominates, Cheolsung(2008) found mixed motivations simultaneously work on the part of children in providing support and care to older parents based on the survey to Koreans.3)the relationship between welfare state and family, several scholars are curious about the relationship between private and public transfers and try to verify the existence of 'crowding-out/in' hypothesis, namely, whether the state with welfare system for elderly people crowds out/in family help especially the willingness to provide support to family aged members(Künemund&Rein, 1999). 4)the association

with other variables, like health, well-being. Not a few studies pay attention to the influence of family inter-generational support on the health of the aged with quantitative research method, but scholars tend to adopt their own concepts to go on, especially on how to conceptualize ‘health’ , and due to the unadjustable differences of samples(such as time, place, participants) and the variety of adopted concrete research models, they always draw opposite conclusion. Researchers are inclined to adopt one or tow dimensions as representative but neglect other potential factors, some scholars(Deaton&Paxson, 1998; Liu&Cheng, 2010)adopt ‘self-rated health’ as a study variable to show the overall health condition. They find it is believable that the level of subjective health is consistent with the real health condition, just as previous research found(Ellen L. Idler and Yael Benyamini, 1997; Poortinga, 2006). Hwang et al.(2011) held the view that the main reasons causing the opposite findings as following: 1)significant inaccuracy in methodology, the difficulty to tackle the problem of endogeneity in the regressions; 2)significant inaccuracy in representation, or not a few sample sizes are too small to illustrate the overall group; 3) the heterogeneity of samples.

2.2 The Research on Factors Affecting Elderly Mental Health

2.2.1 Defining Mental Health

The definition of mental health is various under different social contexts, also there are diverse assessment methods. There has been an intense debate among professionals, but we can find the meaning of mental health has been extended bit by bit. At early stage, Most scholars laid sole emphasis on mental illness, and held the view that the one without mental illness has a healthy mental. Then with the

development of humanistic psychology, an increasing number of scholars have developed an interest in detecting positive mental health. Marie Jahoda as a representative developed the theory of "Ideal Mental Health" in 1958, the criteria she created consists of 1)attitudes toward the self; 2) growth, development, and self-actualization; 3)integration; 4)autonomy; 5) perception of reality; 6) environmental mastery. The scholars after Marie Jahoda seem to stress that people actively adjust themselves to the society. WHO (2013) defines mental health as " a state of well-being in which everyone individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community"[4].

Scholars put forward several indicators to explain the term of mental health, like subjective well-being, depression, anxiety, life quality, and this study tends to adopt 'depressive symptoms' to represent 'mental health'. Depression is the most common mental health problem among the elderly(Buchanan et al., 2006). Not every old adult has to suffer from depression, but if left untreated, depression probably lead emotional or physical problems, even suicide (Geerlings et al., 2001; Serby &Yu, 2003). With depression having serious consequences in older people, recognizing depression early and making corresponding measures to prevent or treat is extremely crucial in today's China(Yu, Allan Hicks & Alison E. While, 2012). China has been in a dramatic transition, the prevalence of depressive symptoms in Chinese older adults has been significantly increasing in the past two decades (Dan et al., 2014).

[4] World Health Organization. What is mental health? WHO web page: World Health Organization; 2013 [updated 2013/05/01/]. Available from: http://www.who.int/features/qa/62/en/.

2.2.2 The Research on Factors Affecting Elderly Mental Health

In order to prevent and improve elderly mental status, facilitate the advent of successful/healthy/active aging, it is essential to know possible threats affecting elderly mental health. Numerous studies have achieved a unanimous claim that elderly mental health is influenced by a range of factors. On the basis of research subject and varying circumstances they live in, there is full of evidence that the risk and protective determinants do not always show the same influence on mental health of older people. The majority of studies reported associations between at least one socio-demographic or economic characteristic and elderly mental health outcomes or other alternative indicators, like psychological well-being, psychological distress, depressive symptoms, anxiety, self-rated health, and the like. Based on the research situation, not only can we find categories of potentials which may have an impact on mental status of older adults, but we can realize the roles they played are divergent, what's more important is that the appropriateness of variables should be taken into account at first.

In Social Determinants of Mental Health(2014) issued by WHO, older people's mental health relates to life experiences, the experiences also refers to earlier experiences. By means of several relevant research, it told us that the available evidence that exists points to inequalities in older people's mental health related to multiple determinants, especially social, economic, physical environments[5].

Manuela Silva et al(2016) made a literature review on the association between mental health and socio-demographic and economic factors at individual- and at area-level based on studies published between 2004 and 2014. The mental health of the one with the following conditions tends to be worse, which are low income, not living with a

[5] World Health Organization and Calouste Gulbenkian Foundation. Social determinants of mental health. Geneva, World Health Organization, 2014

partner, lack of social support, female gender, low level of education, low socioeconomic status, unemployment, financial strain, and perceived discrimination. And at area level, neighborhood socioeconomic conditions, social capital, geographical distribution and built environment, neighborhood problems and ethnic composition all are critical to mental health[6].

Yu et al(2012) synthesized findings from seventeen high-relevant studies published from 1997 to 2010 on depression and related factor for Chinese elder, nine of these studies were conducted in mainland China. Among the research, main five categories of factors have a significant relation to depression, they are health status, social support, financial status, living arrangement, demographic and related factors respectively. In general, older women who are in poor health, lack of spouse, living alone, with poor financial status and of a lower educational level were easier to experience depression[7].

It is hard to make a perfect mechanism to evaluate determinants influencing mental health. But after doing literature on the elderly, especially those chose Chinese elderly as research subject, we can summarize a list of related factors specialized for Chinese aged population.

1) personal characteristics, which comprise gender(Lu, et al., 2001; Allen, 2008; Ploubidis, Grundy, 2009; Xie, et al., 2010); age(Lu, et al., 2001; Gao, et al., 2009); marital status (Lu, et al., 2001; Myer, et al., 2008; Xie, et al., 2010), education level(Chou, Ho&Chi, 2006; Allen, 2008; Gao, et al., 2009); financial status, scholars are likely to choose 'income'(Ettner, 1996; Frey, 2002;Chan&Zeng, 2009) or 'self-perceived financial status'(Woo, et al., 1994; Lu, et al., 2001;Chou, Chi, 2005;

[6] Manuela Silva. Adriana Loureiro. Graça Cardoso. Social determinants of mental health: a review of the evidence[J]. The European Journal of Psychiatry,2016(04): 259-292

[7] Yu Chen, Allan Hicks and Alison E. While. Depression and related factors in older people in China: a systematic review[J]. Reviews in Clinical Gerontology, 2012 (22):52–67

Xie, et al., 2010) as indicators; personal health condition, like ADL(Activities of Daily Living) limitations, physical disability, the number of chronic illnesses, cognitive status(Williamson&Schulz, 1992; Gao, et al., 2009); residence type(Wilkinson, 1997; Beard, et al., 2011), which is similar to the unique household registration system called 'Hukou' in China, but sometimes real living location is not always unchanged owing to people have freedom to migrate, thus there is a contention on whether select living location or Hukou status to classify; lifestyle factors(Groffen, et al., 2013; Rute Dinis de Sousa, et al., 2017), namely diet, smoking, alcohol intake, doing exercise, sleep habits and so on. personality traits also are considerable, such as neuroticism/negative emotionality, extraversion/ positive emotionality, and conscientiousness(Klein, Kotov&Bufferd, 2011), which attract psychologists' attention.

1) From the view of family, including living arrangement, which can be categorized as living alone, living with a spouse, living with children or living with others(Alexander, et al., 1992; Lu, et al., 2001;Gao, et al., 2009; Sun, 2011), inter-generational support(Blazer, Hughes&George, 1992; Bowers&Myers, 1999; Cong, &Silverstein, 2008), etc.

2) From a social perspective, it is impossible to neglect social environment, especially the availability of social support old adults can get(Berkman&Syme, 1979; Kessler&McLeod, 1985; Lee, et al., 1996; Andrews, et al., 2003; Xie, et al., 2010), such like whether have access to social security or medical insurance or other welfare benefits , what social activities they attend. In contrast with capitalist countries, the coercive power or execution of the government seems much better, social policies or regulations on the old population have an obvious influence on older people's health, participation, and security.

Up to now, many instruments are available to measure mental health, mainly fall into two categories, one is related to the evaluation of just one aspect, including MMSE(Mini-Mental State Examination), which is a screening test for grading the cognitive state of patients for the clinician study; GDS(Geriatric Depression Scale), which consists of two forms; SAS(Self-Rating Anxiety Scale), which is built to measure anxiety levels; CES-D(Center for Epidemiological Studies Depression Scale), which is a self-report scale with aim to examine people whether have depressive symptoms and to what extent people are suitable. the other is a kind of comprehensive measure, SCL-90-R(Symptom Checklist 90-Revized) is that case, which is a test for measurement of psychological distress.

In China, some of the academic(Wu, 2003) prefer to design a total new and specific questionnaire based on the characteristics of Chinese people, while more researchers(Lu, et al., 2001; Gao, et al., 2009; Xie, et al., 2010) are used to utilizing standardized measuring tools as mentioned, or making a Chinese version in order to ensure better reliability and validity.

In summary, due to the variety of the affecting items, the complexity or difficulties to demonstrate the role of several factors, methodological differences, different measurement tools, scholars have own preference on the selection of covariates, particularly on demographic and socio-economic characteristics. There are somewhat consistent factors in impacting mental health among the whole world. Nevertheless, it is noteworthy that the necessity to design culture-specific items to conduct further studies (Yu, et al., 2012). Namely, research should know how to design reasonable studies based on the characteristics of selected research subjects.

2.3 The Research on the Association between Family Inter-generational Support

and Mental Health

To indicate mental health of the senior, several research focus on other performance that can provide a mirror of older people's real mental health, such as 'depression', 'subjective well-being', 'life satisfaction', 'life quality'. Most of the research prove that there is a high correlation between the mental health of the senior and family inter-generational support(Krause, 1986;Lee, Netzer&Coward, 1995; Cong&Silverstein, 2008), but there remains controversial space in detail, including positive or negative effects or whether both sides exist, more specifically in detecting the role of financial or daily living care from adult children. Or in other words, the emotional support shows more beneficial effects on improving the mental health followed by daily living care, financial support(Silverstein&Bengtson, 1994). But how to balance three aspects is vital, and substitution effect among them can be used as complementary(Silverstein, et al, 1996; Wang&Li, 2011). Moreover, the overabundant support on living care and economic situation can make vulnerable elderly persons feel more dependent on outside world and get the sense of losing control of their own life, thereby impact negatively on their health(Stoller,1985; Silverstein, et al, 1996; Chen&Silverstein, 2000),

Against with the fact that scholars prefer to adopt upward perspective, the research on the 'giving' behavior by the aged group is not that much. Most studies identify the positive function, especially the assistance in economic field(He, 2018), daily living care(Lee&Xiao, 1998), whereas a little early literature concluded that the more investment on the adult children's daily life, the higher probability of suffering from loneliness, boredom, frustration(Chambers, et al., 2001), which proved a negative side. Other studies have pointed out the beneficial effects on the elderly mental health only occur under the condition that they also get benefits from adult

children. Ageing people who provide housing, housework, or childcare services to their adult children will receive more financial benefits from them than the parent who do not provide such help(Lee, Parish&Willis, 1994), and the behavior enhances the emotional communication between generations, which promote the mental health of the elderly(Cong&Silverstein, 2008). Older parents can recognize their value as a social role and the development of intimacy and trust with others both promote their mental health(Chen&Silverstein, 2000; Zhang&Chen, 2014).

2.4 Summary

The research on the relationship between intergenerational support and Chinese elderly physical/mental condition is not that much. Existing research had not reach a unified conclusion on their relationship. A majority of scholars have paid much attention on a singular subgroup, including rural residents/urban-dwelling people, it is noteworthy to think about the representativeness of samples. Besides that, most studies chose receiving support perspective(Silverstein, Chen&Heller,1996; Chen & Silverstein, 2000; Mao&Zhu,2017), considering the fact that a majority of Chinese older people have a high probability to get more support but give less support to their adult children in the aging life(Guo&Chen, 1998), emphasizing the contributions of adult children in assisting the aging period of older parents, but the behaviors of old persons in supporting the younger generation also needs attention in today's Chinese societies.

3. Hypothesis

In China, family inter-generational support is not only one-way directional, it emphasizes mutual support among generations on the basis of reciprocity principle. A line of studies have been done about the financial help from adult children, and hold the view that the financial care could improve the living condition of aging parents, also satisfy them to a certain extent(Silverstein et al., 2006; Cong&Silverstein, 2008). In turn, providing financial support to their offspring would enhance their feeling of confidence and sense of self-worth(Zhang&Li,2005; Cong&Silverstein, 2008).

Based on that as above, the first hypothesis in the study is financial support among generations has a positive impact on the mental health of the elderly, whether in upward or downward direction.

The behavior that adult children are willing to taking care of aging parents in daily life is seen as the specific practice of filial piety, which could raise aging group's status or personal authority in family, and improve mental health(Wang&Li, 2011). Besides that grand-parenting could increase the chance of getting more economic assistance comparing with these grandparents who do not do a favor and raise grandchildren(Lee,Parish&Willis,1994), the experience with grandchildren relief their loneliness(Wang&Li, 2011; Li-Jung E Ku et al., 2013).

Thus the second hypothesis in the study is instrumental support among generations has a positive impact on the mental health of the elderly, whether in upward or downward direction.

Different with the first two categories of support as mentioned, most of research on emotional support harbor the idea that interactions with children is related to lower

risks of social isolation and depression among the elderly(Silverstein et al., 1994; Buber&Engelhardt, 2008; Cong&Silverstein, 2008; Wang&Li, 2011). With better living condition and accessibility of social resources, the elderly still expect to maintain contacts with adult children. The information above introduces the third hypothesis, which is emotional support among generations has a positive impact on the mental health of the elderly.

Even Chinese governments have been committed to promote the reform of the hukou system, with an ultimate aim to break the urban-rural social structure set up in the 1950s, including trying to unify basic pension insurance system, medical assistance system and hukou system for both urban and rural areas proposed in 2014, the regional disparity in social services and available opportunity still exists. Such external conditions and differences within families both cause urban-rural heterogeneity in inter-generational relationship, also the correlation between inter-generational support and the mental health of elderly parents is no exception.

So the forth hypothesis in the study is elderly people dwelling in rural regions show distinctions with the counterparts living in cities when comparing the practical impact of inter-general support on their mental health condition.

4. Data and Methodology

4.1 Methodology

1)Literature Analysis

Through reviewing relevant studies with key words like ‘elder adults’, ‘Chinese old-age social security’ ‘mental health’ , ‘depression’, ‘inter-generational support/exchange/transfer’, the study aims to find problems and deficiencies of the current research, select a research angle and obtain some indirect experience with regards to how to design and carry on the study.

2)Quantitative Analysis

Based on the third wave of China Health and Retirement Longitudinal Study(CHARLS) in 2015 conducted by the National School of Development at Peking University, after following steps: selecting only respondents aged 60 or more who answered several questions related with the purpose of the study, then removing cases with missing values, and data cleaning, a total of 3047 cases were retained for further description and binary logistic regression analysis using Stata 15.0.

CHARLS is a nationally representative longitudinal survey of the middle-aged and elderly population of China, consisting of persons 45 years of age or older, and including assessments of the social, economic, and health circumstances of community residents[8].The first national baseline wave was fielded in 2011 and includes about 10,000 households and 17,500 individuals in 150 counties/districts and 450 villages/resident committees. Relevant respondents are followed every two years, 2015 data the research used is the third wave.

4.2 Variable

[8] Zhao, Y.H., Hu, Y., Smith, J. P., Strauss, J., & Yang, G. 2014. Cohort profile: The China Health and Retirement Longitudinal Study. *International Journal of Epidemiology*, (01), 61–68.

4.2.1Independent Variable

The independent variable in the study was inter-generational support mainly between ageing parents and their adult children, including financial transfers, living care, emotional support as following from tow opposite directions.

1)Financial Support

It was assessed based on two questions. One is “In the past year, how much economic supports did you or your spouse receive from your children? (including grandchildren)”, the other is “In the past year, how much economic supports did you or your spouse provide to your children? (including grandchildren)”. The survey defined “the past year” as a period of 12 months prior to the interview. If the answer is 0, we assumed these participants did not get financial assistance from younger generations, coded as “0”, and the other answers coded “1”. Considering the missing value and the authenticity of the answer, the study did not compare the total amount but divided them into “yes/no” class.

2)Instrumental Support

To measure instrumental support, from upward direction, the question “Who most often helps you with dressing, bathing, eating, getting out of bed, using the toilet, controlling urination and defecation, doing chores, preparing hot meals, shopping, managing money, making phone calls, taking medications (May choose up to 3 persons)?” was used. Once respondents choose the answer “Children, Children’s spouses, Grandson, Granddaughter”, we assumed children take the role of providing living care assistance to the parents, and coded the choice as “1” , the left answers coded “0”.

The aged who take care of their grandchildren can relief the daily stress of their adult children, and the behavior can be seen as a kind of support to adult children in daily life care. According to answers from the question “Did you spend any time taking care of your grandchildren last year?”, we could know the detail (answer “yes” coded “1” and “no” coded “0”).

3)Emotional Support

It was measured by the questions—— “How often do you see (child’s name)?” with 10 options. Based on previous studies and the questionnaire principle that if respondents choose the top third answers(once a week at least), the interviewer can skip the following item on the frequency of phone calls. In the study, we considered the people who visit their children once a week at least are the parent who often visit their children, coded as “1”, the other is coded as “0”.

4.2.2 Dependent Variable

CES-D has been verified as a reliable and valid measure on the level of depression, which could eliminate the interference of race, gender, age categories(Radloff, 1977; Knight, Williams, McGee& Olaman, 1997).

The dependent variable was the mental health of Chinese elderly, namely the depression scale, Based on 10-item CES-D with four rates——1) 0=rarely or none of the time(<1 day); 2) 1=some or a little of the time(1-2 days); 3) 2=occasionally or moderate amount of the time(3-4 days); 4) 3=most or all of the time(5-7 days), raw score of depression was calculated by a sum score of these 10 questions, ranging from 0 to 30. Noticeably, we should reverse the rates on the two items “ I felt hopeful about the future.” “ I was happy.” from 3 to 0 accordingly . The lower scores, the better mental health status. In detail, if the count < or= 10, it means normal, whereas once

the total amount > 10, it means the participants have been suffered from depression. After transferring the variable into a dummy variable, we code "1" as depression and "0" as no depression.

4.2.3 Control Variables

Due to various factors influencing the mental health of the elderly, based on numerous previous research, the study divided control variables into three parts:

Individual-level: age, gender, educational level, marital status, income, residence type, physical health items(including ADL, self-rated health). sleeping hours(as a reflection of lifestyle);

Family level: living arrangement;

Social level: social activity.

4.2 Variable Description

Variable Categories	Concrete Variable	Definition	Category
Dependent Variable	Depression	Are you suffering from depression? (based on 10-item CES-D)	No=0 Yes=1
Independent Variable	Financial Support to elderly parents	Did you receive money from your children last year?	No=0 Yes=1
	Financial Support to children	Did you give money to your children last year?	No=0 Yes=1
	Instrumental Support to elderly parents	Did your children help you most in daily life?	No=0 Yes=1

	Instrumental Support to children	Did you take care of your grandchildren last year?	No=0 Yes=1
	Emotional Support	Do you often visit your children?	No=0 Yes=1
Control Variable	Age	How old are you?	60-69=1 70-79=2 80 and above=3
	Gender	Gender	Male=0 Female=1
	Educational Level	The highest level of education you got	Elementary school and below=1 Middle school=2 High school and above=3
	Marital Status	Are you married?	Unmarried=0 Married=1
	Income	Did you get income last year?	No=0 Yes=1
	Residence Type	Where are you living now?	Rural area=0 Urban area=1
	ADL	Do you have difficulties in activities of daily living? (based on ADL assessment)	No=0 Yes=1
	Self-rated Health	Would you say your health is good, fair or poor?	Good=1 Fair=2 Poor=3
	Sleeping Hours	During the past month, how many hours of actual sleep did you get at night	

	(average hours for one night)?	
Living Arrangement	Whom do you live together?	Living with others=0 Living alone=1
Social Activity	Have you done any social activities last month?	No=0 Yes=1

5.Results

5.1 Descriptive Characteristics of The Sample

1) Depression

5.1Mental Health of observations (N, %)

Variable	Category	Rural	Urban	Total
Depression	No	1,378 (57.51)	465 (71.43)	1,843 (60.49)
	Yes	1,018 (42.49)	186 (28.57)	1204 (39.51)
Count		2396 (78.63)	651 (21.37)	3047 (100.00)

"()" means proportion

Whether in rural or urban areas, the number of participants who are suffering from depressive disorder was less than the counterparts, even though the difference of sample size existed. As a whole, in 3047 samples, 1204 persons(39.51%) had trouble in keeping mentally healthy.

2) Inter-generational Support

5.2 Inter-generational Support of Observations(N, %)

Variable Support	Category	Rural	Urban	Total

financial support to elderly parents	No	569 (23.75）	258 (39.63)	827 (27.14)
	Yes	1,827 (76.25)	393 (60.37)	2,220 (72.86)
financial support to children	No	1,816 (75.79)	430 (66.05)	2,246 (73.71)
	Yes	580 (24.21)	221 (33.95)	801 (26.29)
instrumental support to elderly parents	No	1,950 (81.39)	572 (87.86)	2,522 (82.77)
	Yes	446 (18.61)	79 (12.14)	525 (17.23)
instrumental support to children	No	1,385 (57.80)	352 (54.07)	1,737 (57.01)
	Yes	1,011 (42.20)	299 (45.93)	1,310 (42.99)
emotional support	No	1,062 (44.32)	192 (29.49)	1,254 (41.16)
	Yes	1,334 (55.68)	459 (70.51)	1,793 (58.84)

"()" means proportion

What we could get from above:

Regarding financial support, more than 50% interviewees from the rural or urban area had similar behaviours. 1827 rural residents (76.25% of the whole rural sample) and 393 people(60.37% of the whole rural sample) living in urban areas received money from their children or grandchildren. As for whether having given financial help to

their younger generations, about 1816 rural residents (75.79% of the whole rural sample) and 430 urban residents(66.05% of the whole urban sample) said "no".

Considering instrument support only, respondents, whether from the city or countryside, showed consistently in behaving. In details, 1950 rural parents(81.39% of the rural sample) and 572 urban parents(87.86% of the whole urban sample) got no daily care from their children when they face difficulties. 1385 rural parents(57.80% of the rural sample) and 352 urban parents(54.07% of the whole urban sample) admitted that they had not taken care of their grandchildren before.

When it comes to emotional support, 1334 rural participants often visited their children, which accounted for 55.68% of the whole rural sample. Similarly, in the urban area, more than 50% (459, 70.51% of the whole urban sample) respondents visited their children once a week at least.

When we ignore the difference in the living area, we can get similar outcomes on inter-generational support as before. To be specific, a majority of participants(2220, 72.86% of the whole sample) received financial support, and others (897, 27.14% of the whole sample) did not receive that. In contrast, most of them(2246, 73.71%) did not assist their children or grandchildren financially. Moreover, most people did not get daily care from their offspring or relieve their children's burden by taking babysitting their grandchildren. 1793(58% of the whole sample) of participating elderly adults belong to the kind who often contact their children.

3) Other Factors

5.3.1 Demographic Factors of Observations(N, %)

Variable	Category	Rural	Urban	Total
Age	60-69	1,386	373	1,759
		(57.85)	(57.30)	(57.73)
	70-79	796	218	1,014
		(33.22)	(33.49)	(33.28)
	80 and more	214	60	274
		(8.93)	(9.22)	(8.99)
Gender	Male	1,241	290	1,531
		(51.79)	(44.55)	(50.25)
	Female	1,155	361	1,516
		(48.21)	(55.45)	(49.75)
Educational level	Elementary school and below	2,089	402	2,491
		(87.19)	(61.75)	(81.75)
	Middle school	233	135	368
		(9.72)	(20.74)	(12.08)
	High school and above	74	114	188
		(3.09)	(17.51)	(6.17)
Marital Status	Married	1,636	434	2,070
		(68.28)	(66.67)	(67.94)
	Unmarried	760	217	977
		(31.72)	(33.33)	(32.06)
Income	No	2,160	579	2,739
		(90.15)	(88.94)	(89.89)
	Yes	236	72	308
		(9.85)	(11.06)	(10.11)

"()" means proportion

What we could get from above:

Whether in the rural or urban area, the participants aged 60 to 69 (1386 rural residents, 57.85% of the rural sample; 373 urban residents, 57.3% of the urban sample) took the most part, 70-79 group, 80 and above group as followed. Half and more rural male residents(51.79% of the rural sample) attended the survey, but in the urban area, there were more female(361, 55.45% of the urban sample). Regarding education, both rural and urban samples showed the "elementary school and below" options are chosen mostly (2089 rural persons, which took 87.19% of the rural sample; 402 urban people, equal to 61.75% of the urban sample), the other two options"middle school" "high school and above" as followed. There were 1636 participants from the countryside(68.28% of the rural sample) and 434 urban residents (66.67% of the urban sample) get married, others(760 persons from the rural area, 31.72 of the whole rural sample; 217 urban persons, 33.33 of the urban sample) are unmarried. In regard to income, 2160 rural-living persons(90.15% of the rural sample) and 579 urban participants(88.94% of the urban sample) said they had no income.

After gathering the rural sample and the urban sample, we got similar information on age, educational level, marriage, income as mentioned above. Due to the different gender proportion of two group, when adding together, we could find the whole sample has 1531 males(50.25% of the whole sample) and 1516 females(49.75% of the whole sample).

5.3.2 Other Personal Factors of Observations(N, %)

Variable	Category	Rural	Urban	Total

ADL	No	940	358	1,298
		(39.23)	(54.99)	(42.60)
	Yes	1,456	293	1,749
		(60.77)	(45.01)	(57.40)
Self-rated Health	Good	355	110	465
		(14.82)	(16.90)	(15.26)
	Fair	1,061	348	1,409
		(44.28)	(53.46)	(46.24)
	Poor	980	193	1,173
		(40.90)	(29.65)	(38.50)
Living Arrangement	Living alone	531	115	646
		(22.16)	(17.67)	(21.20)
	Living with others	1,865	536	2,401
		(77.84)	(82.33)	(78.80)
Social Activity	No	1,219	282	1,501
		(50.88)	(43.32)	(49.26)
	Yes	1,177	369	1,546
		(49.12)	(56.68)	(50.74)

"()" means proportion

What we could get from the graph above:

On the health level, 1456 persons from urban areas (60.77% of the rural sample) and 293 urban participants(45.01% of the urban sample) had difficulties in daily life. Both a minority of respondents in rural or urban areas perceived they are healthy, including 355 rural persons, added to 14.82% of the whole rural sample, and 110 urban residents accounting for 16.90% of the whole urban sample. Most of rural and urban participants did not live alone, including 1865 persons from countryside(77.84% of

the rural sample) and 536 people from urban area(82.33% of the urban sample). Considering the social activity indicator, most rural participants(1219 persons, 50.88% of the rural sample) did not attend social activities, contrarily, most urban participants(396 people, 56.68% of the urban sample) did social activities.

After ignoring the residence difference, we could know the whole image. First, more than half participants(1749 people, 57.40% of the whole sample) faced troubles in daily life. 1409 participants(46.24%) thought their health was not bad nor good. What's more, 78% of the sample(2401 participants) did live with others. On the social participation level, 1546 persons(50.74% of the whole sample) took part in social activities but 1501 participants(49.26%) joined no social activities in the latest month.

5.3.3 Sleeping Hours of Observations

Variable	Category	Rural	Urban	Total
Sleeping Hours	Mean	6.14	6.04	6.12
	Median	6	6	6
	Min	0	0	0
	Max	15	15	15
	Std. Dev.	2.28	1.92	2.21
	Count	651	2,396	3,047

The range of sleeping hours data collected was 0 to 15. Furthermore, comparing with the three samples(the rural/urban/whole observations), we could acquire more similarities/commons other than differences in the three sample. For instance, whether for rural group or urban group, the mean of sleeping hours per night was approximately 6 hours.

5.2 Results of logistic Regression on Effect of inter-generational Support on Mental Health of the elderly

5.2.1 Full-sample Analysis

VARIABLES	Model
Financial Support to elderly parents (ref: no financial support to elderly parents)	0.0426
	(0.0961)
Financial Support to children (ref: no financial support to children)	-0.111
	(0.0971)
Instrumental Support to elderly parents (ref: no instrumental support to elderly parents)	0.209*
	(0.118)
Instrumental Support to children (ref: no instrumental support to children)	-0.0381
	(0.0882)
Emotional Support(ref: no contact once a week at least)	-0.228***
	(0.0853)
Age Group2(70-79) (ref: 60-69)	-0.267***
	(0.0956)
Age Group3(80 and above) (ref: 60-69)	-0.794***
	(0.166)
Gender(ref: male)	0.610***
	(0.0906)
Education Level2(ref: elementary school and below)	-0.250*
	(0.138)

Education Level3(ref: elementary school and below)	-0.453**
	(0.209)
Marital Status(ref: unmarried)	-0.0440
	(0.119)
Residence Type(ref: rural area)	-0.384***
	(0.112)
Income(ref: no income)	0.105
	(0.138)
ADL(ref: no difficulties in daily life)	0.685***
	(0.0932)
Self rated health2(Fair)(ref: Good)	0.376***
	(0.133)
Self rated health3(Poor)(ref: Good)	1.399***
	(0.134)
Sleeping Hours	-0.157***
	(0.0193)
Living Arrangement(ref: living with other people)	0.396***
	(0.125)
Social Activity(ref: no participation)	-0.202**
	(0.0837)
Constant	-0.526**
	(0.244)
Pseudo R2	0.1534
N	3,047

Model shows that it is statistically significant that only emotional support among three types of inter-generational support is correlated to depression after controlling for personal characteristics($P<0.01$). The coefficient for emotional support is -0.228; that is to say, the older getting emotional support are less likely to be depressive.

Moreover, exclude marital status and income two control variables, other control variables are associated with high-risk depression, including age, gender, educational background, residence type, ADL, self-evaluated health, sleeping hours, living arrangement, social activity. To be more specific, in reference to the 60-69 age group, the odds of suffering from depression for other age groups are lower. When comparing the educational level, the elder parents with higher education have a positive association with depression. In comparison to rural-residing older adults, the people living in urban areas are less likely to be depressive. It is noteworthy that the study assigned the elderly adults having no difficulties in daily life and the older who thought they were healthy as the reference group, we could conclude that the ageing parents whether in poorer physical condition or have low evaluation on health condition are more likely to be depressed. Besides, according to the positive value of the coefficient for gender and living arrangement, corresponding ORs(odds ratios) can be calculated. The odds ratio for gender is $e^{0.610} = 1.84$, which implies that the odds of being examined as depression for female are 84% higher than that of males. The odds ratio for the living arrangement is $e^{0.396} = 1.49$, which shows the odds of depression for the elderly living alone is 1.49 times that of the ageing parents living with others.

5.2.2 Rural-urban Comparative Analysis

5.2.2The Effect of Inter-generational Support on Depressive Mood Stratified by Residence Type

VARIABLES	Total	Rural	Urban

	Samples	Samples	Samples
Financial Support to elderly parents (ref: no financial support to elderly parents)	0.0426	0.141	-0.285
	(0.0961)	(0.110)	(0.202)
Financial Support to children (ref: no financial support to children)	-0.111	-0.107	-0.110
	(0.0971)	(0.111)	(0.211)
Instrumental Support to elderly parents (ref: no instrumental support to elderly parents)	0.209*	0.258**	-0.0991
	(0.118)	(0.130)	(0.305)
Instrumental Support to children (ref: no instrumental support to children)	-0.0381	-0.0662	0.135
	(0.0882)	(0.0986)	(0.205)
Emotional Support (ref: no contact once a week at least)	-0.228***	-0.149	-0.649***
	(0.0853)	(0.0941)	(0.207)
Age Group2(70-79) (ref: 60-69)	-0.267***	-0.317***	-0.0412
	(0.0956)	(0.106)	(0.225)
Age Group3(80 and above) (ref: 60-69)	-0.794***	-0.849***	-0.576
	(0.166)	(0.183)	(0.406)
Gender(ref: male)	0.610***	0.665***	0.363*
	(0.0906)	(0.101)	(0.212)
Education Level2(ref: elementary school and below)	-0.250*	-0.275*	-0.229
	(0.138)	(0.166)	(0.257)
Education Level3(ref: elementary school and below)	-0.453**	-0.525*	-0.433
	(0.209)	(0.304)	(0.302)
Marital Status(ref: unmarried)	-0.0440	-0.0567	0.0393
	(0.119)	(0.135)	(0.266)
Residence Type(ref: rural area)	-0.384***		
	(0.112)		

Income(ref: no income)	0.105	0.0970	0.100
	(0.138)	(0.156)	(0.300)
ADL(ref: no difficulties in daily life)	0.685***	0.643***	0.849***
	(0.0932)	(0.104)	(0.216)
Self rated health2(Fair)(ref: Good)	0.376***	0.299**	0.736**
	(0.133)	(0.147)	(0.332)
Self rated health3(Poor)(ref: Good)	1.399***	1.400***	1.470***
	(0.134)	(0.148)	(0.345)
Sleeping Hours	-0.157***	-0.145***	-0.211***
	(0.0193)	(0.0209)	(0.0514)
Living Arrangement(ref: living with other people)	0.396***	0.452***	0.0815
	(0.125)	(0.139)	(0.299)
Social Activity(ref: no participation)	-0.202**	-0.169*	-0.429**
	(0.0837)	(0.0934)	(0.195)
Constant	-0.526**	-0.677**	-0.266
	(0.244)	(0.272)	(0.578)
Pseudo R2	0.1534	0.1492	0.1546
Observations	3,047	2,396	651

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

From the table above, it is notable that we could get dissimilar information comparing the rural sample with the urban sample. For rural-dwelling older adults, whether providing daily care to the elderly is related to their depressive symptoms(b=0.258, P<0.01). In contrast, the variable is not statistically significant in urban-living ageing parents as same as other three items(age, gender, living arrangement), all of these factors are correlated to the mental health of rural-living elderly parents. What' more, only for older people living in urban areas, emotional support is linked to their mental

health status(b=-0.649, P<0.01). The reasons underlying the behind may be urban residents have access to get more resources to enrich their life and offset the effects of variables (like gender, age, educational background, living arrangement) on mental health.

Both for rural group or urban group, the indicators including ADL, self-assessed health status, and sleeping hours have an association with depression.

6.Discussion and Conclusion

6.1Dicussion

As the expansion in the ageing population and the continuous low birth rate, how to guarantee Chinese elderly's later life is a question needed to be addressed currently. From a long time ago, Chinese family has been taking the prime responsibility to care for the ageing elders, and the Chinese government is still working on how to optimize various resources to ensure the happiness of the old age group. Based on CHARLS data(2015 version), using the logistic model, the study explored the effects of inter-generational support on the mental health of the elderly in contemporary China, what we could get as below.

The results above showed that the hypothesis is partially confirmed. To be specific, 1)among three kinds of inter-generational support, it is statistically significant(P<0.05) that only emotional support has an impact on the mental health of the ageing population, the result is in accordance with previous studies concluding the positive role of contacts(Zhang&Li, 2004; Cong &Silverstein, 2008; Wang&Li, 2011). The

high-frequency communication between generations is helpful to relieve the negative emotions of the elder adult and keep them in good mood condition(Cong &Silverstein, 2008). 2)Regarding financial support, the results are different from prior findings which stressed on the effects of younger generations' financial assistance on the older parents(Silverstein&Bengtson, 1994; Zhang&Li, 2004; He, 2018), but other studies confirmed the conclusion this study got(Li&Zhao&Lin, 2013), especially, Xiao and Yao(2016) got no statistical significance after analyzing CHARLS 2011 baseline data. What a possible explanation is that with the better living condition and higher available living standard, the original effect of financial factor influencing their mental health become weak or missing, ageing parents tend to pursue contacts with their descendants, and that is in consistent with the hierarchy of needs theory. At the end of 2014, the head count ratio of poverty by the official poverty line(2800Yuan/each year) has been reduced by approximately 94% from 1980 in rural China[9]. 3)The availability of receiving daily care from younger generations or giving help to take care of grandchildren is limited by the distance, as a large number of younger labors go out and family size declines, it is more difficult for adult children to fulfil the instrumental function on supporting ageing parents(Wang, 2016), not a few of the elderly accept the situation that the existing difficulties impede the feasibility of receiving/giving daily care from/to their younger generations and adjust their expectation on them. Furthermore, with the establishment and implementation of health insurance system promoted by governments, elderly adults living in rural or

[9] China National Bureau of Statistics (2015), Poverty Monitoring Report of Rural China, China Statistics Press

urban areas can get relevant benefits from external organizations, which could decline the necessity of relying on their offspring. Such of these could be used to explain the statistical insignificance on instrumental support variables. 4) among the control variables, age, gender, educational attainment, residence type, ADL, self-rated health, living arrangement, sleeping hours and social activity variables all are proved to consisting of contributing factors on the mental health of the elderly. The results are in agreement with other studies partially. For example, compared with the oldest group, the younger elderly are more likely to get depressed. The female group is more likely to get depressed than the male group. With the higher educational background, the possibility of suffering from depression is lower.

Comparing the rural group with the urban group, even though they have commons in sample characteristics, the hypothesis concerning urban-rural differences on the effects of inter-generational support on the elderly's mental health is verified. 1)For rural-dwelling older adults, only the availability of getting instrumental support from their later generations has a negative impact on their mental health. The result is not in accordance with other studies(Song&Li, 2006;Wang&Li, 2011). Possible explanations are the characteristic of instrumental support, the negative thought of the aged on adult children taking much time to care for them. In detail, among three categories of support, only instrumental support is immediately present, which is restricted in the distance to each other among generations. Namely, only adult children who cohabit with their ageing parents or living nearby are able to help ageing parents in instrumental ways. Moreover, due to the scarcity of other supporting forces, when the

rural-living older people meet difficulties in daily life, they have no better choice but relying on their younger generations, even the central government has made several policies and local governments have carried out corresponding campaigns with the intention to eliminate the inequality of social services and opportunities incurred by the urban-rural household registration system set up in 1950s. Receiving daily caring from adult children could bring a great psychological burden to aging parents(Pyke& Bengtson, 1996). 2)For older adults living in urban areas, only emotional support is positively correlated with their mental health. A commonsense explanation for this finding is that with convenience to various social services, urban-residing older adults focus on the upper needs after the lower needs were satisfied well, they did not rely on the financial transfer or daily care from their younger generations. 3)Compared to control variables like age, gender, living arrangement are not significant in statistic at 0.05 level for the urban group. However, these indicators are related to rural elders' mental health. Moreover, social activity variable has significant effects on the mental health of the urban group at 0.05 level. It may be caused by the fact that the people living in the urban areas are more accessible to participate in social activities than the counterparts dwelling in rural areas, the interactions with other people like friends or neighbours reduce the damaging effects of loneliness and can foster 'a sense of meaning and purpose in life'(Umberson D.&Montez JK, 2010).

6.2 Innovation and Limitation of the study

The Innovation of the study including 1)Most of the prior research in this field aimed at Chinese elderly tended to focus on one upward direction with a strong emphasis on the role of adult children in caring for their ageing parents, similarly only paid close attention to the financial aspect, this study aimed to detect the two-way interaction between older population and their children in three (financial, instrumental, and emotional) items. 2)Most studies chose a single subgroup as a research subject, lacking a comparative perspective. This study investigated both urban older residents and rural-dwelling older adults aged 60 or older who have adult children. 3)Not a few previous research ignored the impact of social participation/personal lifestyle on elderly mental health due to raw data limitation, on the contrary, this study added the variable to ensure the appropriateness of study design on Chinese elderly. 4)The study adopted the latest public data of CHARLS conducted in 2015, which confirmed the outcomes reflecting social reality to some extent.

The study also has limitations as below. 1)This is a cross-sectional study, which means the whole analysis is at the level of association not causality. In order to probe for the profound relationship between inter-generational supports and the mental health of the elderly, pool data is indispensable. 2)The selection of variables is based on the purpose of the study and is sort of subjective, and is limited by the raw data. For example, to measure social activities for the elderly, this study did not compare the precise frequency of engaging in activities but whether taking part in that. Even the raw questionnaire contained the local performance of formal social support, and the study removed the possible influential factors considering that the Chinese

government is committed to reform the social security system, the corresponding regulations on health insurance or pension insurance maybe not the same as before. In 2016, the government integrated urban resident medical insurance and new cooperative medical insurance with an intention to close the urban-rural gap on medical benefits, what we got from the 2015 data on the part became not fit for nation situation. In this study, financial support was classified into ‘yes/no’ groups, the result might be different if other classification standards were adopted. 3)In addition to gender differences, rural-urban differences, the eastern-central-western- northeastern gap in China may influence the health of local elder people, also maybe older persons living in different regions with different levels of socio-economic development have different demands on family inter-generational support. However, this study has no aim to test the possibility.

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국문초록

오늘날 고령화는 전 세계 공통의 문제로 떠오르고 있다. 현대화 및 도시화의 영향으로 대다수의 중국 노인들은 성인이 된 자녀를 뒷바라지하는데, 이 같은 현상을 일컬어 '반포(反哺)모형'이라고 한다. 한편, 대다수 선행 연구가 부모에 대한 자녀의 책임에 초점을 맞추고 있는 반면 성인 자녀에 대한 나이든 부모의 희생에 관한 논의는 많지 않은 실정이다. 본 연구에서는 부모와 자녀 간의 경제, 도구, 정서, 상호지원 등 측면에서의 교류에 대해 살펴보고, 이러한 세대 간 지원이 노인의 정신건강에 미치는 영향에 대해 토론하고자 하였다. 데이터는 중국의 건강 및 노인 부양에 관한 2015 년 추적조사에서 비롯되었다. 주요 연구 결과에 따르면 세대 간 지원은 노인의 정신건강과 관련이 있으며, 도시와 농촌 집단에 따라 차이를 보였다. 농촌 노인들에게 있어서 자녀들의 일상적인 보살핌과 지원은 정신건강에 부정적인 영향을 주는 것으로 드러났다. 반면 도시 노인들은 자녀들의 정서적 지지 속에 정신건강을 유지하는 것으로 나타났다. 따라서 모든 노인의 '성공적 고령화'와 ‘긍정적 고령화'를 추진하기 위해서는, 국가가 각 지역에 맞는 적절한 고령화 정책을 실행할 필요가 있다.

주요어: 중국노인, 자녀 지지, 정신건강, 농촌, 도시

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