Age Identity and Elderly Job Participation in China

Yu Xiao[1*], Wang Qihui[2]
[1] Northeast Asian Research Center, Jilin University, Changchun, China
[2] College of Northeast Asian Studies, Jilin University

Abstract: *In the context of rising life expectancy, there is a significant discrepancy between Chinese seniors' self-perceptions of the start of old age and the expectations of society around this age. The traditional paradigm, which forecasts individual economic behavior and formulates economic policies based on societal standards of age, is put to the test by this disparity. This study, which draws from the China Longitudinal Aging Society Survey (CLASS), examines the factors, processes, and improvement strategies that affect how older people choose to work. The following are our conclusions: (i) Chinese elderly believe their old age starts from 70 years on average; delaying perceived old age is a denial of aging and raises the likelihood of finding work. Elders who are youthful at heart have a 2.4% higher chance of remaining employed than elders who are old at heart. (ii) In contrast to old-at-heart elders, young-at-heart elders are more likely to maintain their middle-age lifestyles, continue working, become motivated to engage in social activities, and gain the confidence to face challenges and continue in their career. (iii) If the perceived old age is above 70 years, the milestone event of aging is retirement from work, and there are external pressures, particularly pressures from family intergenerational support, the perception of old age will have a more proactive impact on older workers. (iv) Despite rising pension benefits, older people's decision to remain in the workforce is still heavily influenced by their perception of their age. However, this effect is notably gender-specific, as older women's decision to remain in the workforce is not greatly influenced by their own perception of their age.*

Keywords: *Old age identity, age values, employment choice, social recognition, subjective age*
JEL Classification Codes: J14, J22, J26
DOI: 10.19602/j.chinaeconomist.2024.05.07

1. Introduction

Given the relative consistency of life expectancy, the social perception of age is used to classify age groups across a given time span. The United Nations commonly uses the age of 60 or 65 as the criterion for older people (Bordone et al., 2020), which has been widely acknowledged and used in developing and developed countries, respectively (Zhai and Li, 2014). According to the Seventh Demographic Census of 2020, there were 264 million senior people in China aged 60 and above, accounting for 18.70% of the total population then. China is one of over 100 countries and regions worldwide that have

* CONTACT: Yu Xiao, email: yuxiao@jlu.edu.cn.
Acknowledgement: This study is supported by the General Project of the National Social Science Fund of China (NSSFC) (Grant No. 19BRK028); Humanities and Social Science Research Youth Fund Project of the Ministry of Education: "Study on the Trends and Management of Population Outflow in China's Border Regions" (Grant No.21YJC840021).

中国知网 https://www.cnki.net

entered an aging society[1]. The societal perception of age is important for forecasting individual economic behaviors. Economic research has shown that as people get older, they are less likely to keep their jobs (Fetter and Lockwood, 2018; Lyu et al., 2020; Giesecke and Jager, 2021). The societal notion of age also serves as the foundation for economic policymaking. More senior people impose greater obligations on families and society as a whole (Yu and Sun, 2017), the impact of an aging population on future life is subject to when people retire (Maestas and Zissimopoulos, 2010), and elder employment has become a focus point for aging societies (Walker, 2009). The postponement of retirement age has become a fundamental endeavor for tackling the issues of an aging society by reducing labor shortages and deferring pension payments. As a result, establishing a clear age criterion for the elderly has enormous socioeconomic implications.

However, the self-perception of age does not always correspond to generally accepted age criteria in a society. According to the subjective life course theory (Barrett and Barbee, 2022), rising life expectancy and lowering disability rates are altering views of the time contour and life course. Over the past three decades, China's average life expectancy has increased to 77.3 years, and it is expected to reach 79 years by 2030 (Wang and Wang, 2021). Individual opinions of when old age truly begins have shifted as life expectancies have increased (Kaufman and Elder, 2002; Ayalon et al., 2014). Most senior people do not consider themselves old after reaching the usual age of 65 (Bordone et al., 2020). There is a growing disparity between individuals' self-perceptions of age and societally accepted age criteria.

The age identity of elderly life refers to the opinions of when elderly life truly begins, and it redefines old age at the individual level, reflecting public perception of age and acceptance of an aging population. According to the China Longitudinal Aging Social Survey (CLASS) of 2014, the average age of 7,399 elders aged 60 and above was 69 years, while their perceived threshold for old age was 70 years, greatly beyond the official criterion of 60 or 65 years. Furthermore, more than 40% of the elderly did not identify themselves as elderly. The self-perception of old age provides a fresh explanation for elderly people's employment choices, raising concerns about forecasting individual economic behaviors and formulating economic policies based on official age requirements. Economists must revisit conventional wisdom about age and propose answers. Unfortunately, economic analysis and behavioral forecasting based on self-perceived age in the economic sphere have received little attention (Ye and Post, 2020; Ye et al., 2022; Maalaoui et al., 2023), and no research has been conducted to discover how old age influences the career choices of elderly people. Thus, the revelations of this study are threefold:

First, at the theoretical level, the "secondary demographic dividend" entails recognizing the economic and social value of elderly human capital, which has been greatly overlooked as a result of the official retirement age. This paper attempts to provide a new perspective for theoretical research on the "secondary demographic dividend": Individual perceptions of old age will transform the traditional structure of human capital, and the young-at-heart group, i.e. elders whose subjective age is younger than chronological age, are more likely to maintain their middle-age way of life, thereby unleashing greater consumer potentials and labor supply than would otherwise be the case.

Second, at the social level, the fact that many senior people feel themselves "young" means that the actual elderly population is less than official figures, and the active lifestyle of the young-at-heart group will help change age stereotypes. This aligns with the United Nations' programs "towards a society for all ages" and "journey to age equality". In this way, conventional wisdom about age may have overstated the impact of an aging society, and governments still have room to navigate the challenges of aging.

[1] According to United Nations classification standards in 1956 and 1982, a country or region is considered to have entered an aging society when its elderly population of 65 years or older accounts for more than 7% of its total population and its aging population of 60 years or older exceeds 10% of its population. In recent years, China's National Bureau of Statistics (NBS) has published data on the number of elderly people aged 60 or more, as well as those aged 65 or more (Zhai and Li, 2014). Furthermore, Article 2 of the People's Republic of China Law on the Protection of the Rights and Interests of the Elderly states that old age begins at the age of 60, implying that all citizens of the People's Republic of China who are 60 years or older are senior citizens. Without special indications, we use the average starting age of 60 years for senior people.

中国知网 https://www.cnki.net

Third, at the policy level, the government should consider individual perceptions of old age when addressing the challenges of an aging society, given that senior people often link old age with retirement (Kaufman and Elder, 2003; Manor, 2017). For example, the retirement age may be raised to 70 years based on the aforementioned average old age identity, or it could be de-standardized and de-institutionalized to become more flexible and individualized based on the age at which people consider themselves old. This change will aid in the correction and refinement of the current policy framework for an aging society.

2. Literature Review

Policymakers and scholars are increasingly focused on the issue of elderly labor supply in the context of an aging society. Many factors influence elderly people's choice to stay in the workforce, including age, health, income and savings, education, and family (Lyu et al., 2020; Zheng and Jiang, 2020), as well as the social protection system and policy on postponement of retirement age (Guo and Yan, 2016; Liu et al., 2019). In labor economics, research on age and employment often treats actual age (calendar age or chronological age) as a single-dimensional concept. However, in some fields, such as organizational psychology and labor sociology, age has multiple dimensions, including actual age from birth and subjective, social, and organizational age. The multidimensional concept of age contributes to a more thorough and accurate description of the aims and motives driving job choices (Guo, 2022). Akkermans et al. (2016) conducted a regression analysis of surveyed samples of cab drivers in the Netherlands. They found that subjective age is significantly associated to motivations to stay employed in old age but chronological age is irrelevant to various employment motivations. The multi-dimensional concept of age also includes the perception of old age, which is a form of subjective age. Perception of old age will bring new insights on the employment choices of elders. This section will review the concept, theory, and research topic of age identity, as well as the most recent economic studies on the perception of age.

2.1 Perception of Old Age: Conceptual Origin

As one type of age perception, old age identity refers to the year in which people believe their older lives begin. Kaufman and Elder (2002) defined five characteristics of perceived age: subjective age, other age, desired age, desired longevity, and perceived old age. Perceived age is how old people perceive their age based on their social experiences (Diehl et al., 2014). It also refers to age-related standards and expected behaviors influenced by various cultural and social factors, as well as individual physical and psychological conditions (Barrett and Montepare, 2015).

2.2 Age Identity: Theoretical Development

Perceived age is one component of the subjective life course framework. Barrett and Barbee (2022) created the subjective life course framework to describe how people see their life course, including its structure and chronology, as well as their progress within it. This framework has two dimensions: the perceived goal and the temporal reference system. As a perceived goal, age perception is self-awareness regarding one's current age and stage of life. Furthermore, the perception of age has been incorporated into the theoretical framework for aging awareness. Aging awareness refers to how people develop, maintain, and modify their perceptions of their own aging processes (Diehl et al., 2014). Diehl et al. (2014), in their innovative theoretical insights on aging awareness, emphasized that the idea of age is anchored in sociology (Kaufman and Elder, 2002) and the social recognition theory (Tajfel, 1978; Turner, 1984). Individuals explicitly and intentionally embrace social roles that are appropriate for their age group (Neugarten and Hagestad, 1976; Shanahan and Elder, 2002). Age identity is central to social identity (Tajfel, 1978), and people identify with a certain social group based on their age.

中国知网 https://www.cnki.net

2.3 Research Directions of Age Identity

Previous research has focused on the psychological effects of age identity, emphasizing that age identity influences not only people's psychological traits such as work attitudes (Cleveland and Shore, 1992) and subjective sense of happiness (Westerhof and Barrett, 2005), but also a wide range of health outcomes, including mortality rate, disease incidence, and self-rated health (Demakakos et al., 2007). Feeling younger than your real age is a self-reinforcing impact that outweighs other factors influencing subjective happiness, such as health and socioeconomic status (Westerhof and Barrett, 2005). Some research discovered through interviews that the chronological age grouping of older consumers contradicts their subjective age, resulting in a failure of consumer services (Barnhart and Penaloza, 2013; Westberg et al., 2021). The Chinese academia, particularly sociological researchers, is largely concerned with issues that determine age perception. According to data from the CLASS, the self-perceived age and subjective age by appearance reported by respondents averaged 68 years or so, which is less than the average chronological age (71 years), and more than 60% of respondents considered themselves "younger" than their appearance and chronological age (Cheng and Jiang, 2019; Zhao and Yang, 2020). Psychologists have long been interested in how age perception affects professional performance (Weiss and Weiss, 2019; Kunze et al., 2021; Laguerre et al., 2023). Meanwhile, age perception affects the ability and incentive to influence individual behaviors or performance (Kooij et al., 2008). This makes it a significant personal trait for studying individual economic behaviors (Ye and Post, 2020).

In economics, a new tendency has been to forecast individuals' economic behaviors based on a specific dimension of age perception other than chronological age. Taking the lead in expanding the analysis of age identity in economics, Ye and Post (2020) discovered, using data from the US Health and Retirement Survey (HRS), that subjective age has more explanatory power than actual age for economic behaviors, which is especially true for individual decision-making regarding jobs, savings, and investment portfolios. Based on a sample survey of 224 middle-aged and elderly people above 45 years old, Maalaoui et al. (2023) discovered that the trend of elderly people who are young at heart has a direct impact on their readiness to start a business. Based on data from theCLASS, Ye et al. (2022) investigated how old age identity has influenced financial planning for elderly people aged 60 and upwards. They discovered that those young-at-heart are more likely to make financial plans. Although Ye et al. (2022) investigated the impact of old age identity on economic behaviors, they focused on wealth management planning and offered little theoretical analysis or empirical testing of the mechanism by which old age identity affects economic behaviors.

2.4 Key Contributions of This Study

In this study, we will examine the influence of old age identity on elders' decisions to stay in their jobs, using data from the CLASS from 2014, 2016, and 2018. This study provides the following three contributions: First, while actual age has been extensively researched as a factor for forecasting economic behaviors, the perception of age has received little attention in the domain of economics (Ye and Post, 2020; Ye et al., 2022; Maalaoui et al., 2023), and research has rarely been conducted to uncover the impact of old age identity on elders' choice to stay in their jobs. By filling this void, this paper has broad theoretical, social, and policy implications. Second, this paper will not only discuss the economic theory according to which old age identity affects elders' choice to stay in their jobs, but it will also provide a more in-depth causal analysis and empirical support to reveal the underlying social psychological process between old age identity and economic behaviors based on the continuity theory of aging in social psychology (Atchley, 1989), the theory of planned behavior (Ajzen, 1991), and the theory of social recognition (Tajfel, 1981). Third, this study will look at how old age identity may strategically impact elders' decisions to stay in their jobs in light of delayed entry into old age, milestone events in old age, and external influences. This contributes to our understanding of how old age identity promotes changing patterns of economic activity and provides empirical evidence for policy instruments that can accentuate the positive effects of old age identity.

中国知网 https://www.cnki.net

3. Theoretical Framework

The labor supply theory may provide a straightforward rationale for how old age identity influences elders' decisions to stay in their jobs. According to Ehrenberg and Smith's Modern Labor Economics (2011), the labor supply theory defines career choices as time allocation, i.e. a choice between leisure and paid work to optimize personal value. Given the variation in working hours that people provide to the labor market, the life course perspective can be used to infer that workers will devote more time to paid work in middle age while spending more time on study and leisure in their earlier and later stages of life. As a result, people's preferences for leisure and paid labor will shift as they progress through their lives. However, there are both objective and subjective elements to the life course. Given that age identity is a specific component of the subjective life course concept (Barrett and Barbee, 2022), young-at-heart elders appear to be more proactive to stay in their jobs than those who perceive themselves to have entered old age, herein referred to as the "old-at-heart" folks.

In this paper, we will reveal the underlying social psychological process between old age identity and economic behaviors based on the continuity theory of aging (Atchley, 1989), the theory of planned behavior (Ajzen, 1991) and theory of social identity (Tajfel, 1981). Perception of old age has allowed some elders to maintain middle-age lifestyles, thereby serving a self-reinforcing effect. As illustrated in Figure 1, the self-improvement mechanism for old age identity to influence elders' choices to stay in their jobs encompasses direct and indirect effects. Among them, the direct effect means that old age identity may reinforce the behavior continuity effect, and compared with the old-at-heart group, the young-at-heart elders are more likely to maintain their middle-age lifestyles and careers. The indirect effect encompasses a deeper causal relationship, i.e. differences between social groups will change the level of willingness and confidence for individual behaviors. Compared with the old-at-heart, the young-at-heart folks are keener to stay active and continue to use their skills developed during earlier stages of life. Not only are they more motivated to participate in social and professional activities, but they also positively assess their competence and are more confident in their careers.

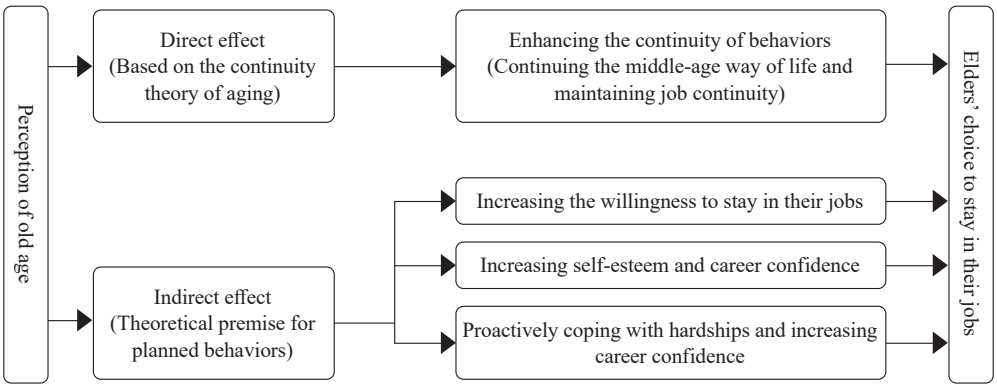

Figure 1: Effects of Old Age Perception on Elders' Choices to Stay in Their Jobs: A Self-Reinforcing Mechanism

The continuity theory of aging represents an adaptive strategy. It is motivated by both personal preference and external social recognition, emphasizing that individual utility can be maximized by the continuity of intrinsic traits such as individuality and preference, as well as the continuity of external traits like work and leisure activities (Atchley,1989). According to the continuity theory of aging, some older people have preserved their middle-aged individuality and lifestyle while actively engaged in the workforce, thus offsetting the negative impact of an aging society. According to old age perception, not all seniors over the age of 60 recognize their socially given age identity, and there must also be

中国知网 https://www.cnki.net

some elders who are old at heart. Those two groups of older people who hold opposite attitudes about their elderly status may demonstrate different behavioral continuity effects. According to the continuity theory, elderly people tend to preserve continuity in their social or professional activities, and some personal qualities, such as a sense of youthfulness, enhance this tenancy and continuity (Atchley,1996; Maalaoui et al., 2023). Compared to elderly people who recognize their chronological age, individuals who consider themselves "young" are more likely to retain the same lifestyle as they did in their middle age and to remain engaged in their careers.

According to the theory of planned behavior (TPB), behaviors can be predicted based on their intention and perceived behavioral control. In particular, intention captures the motivating factor that influences behaviors, and it reflects the level of effort made by people or the intensity of desire to achieve planned behaviors; perceived behavioral control is the perception of the level of difficulty to achieve planned behaviors based on resources, opportunities, and expected difficulties, reflecting the level of confidence in the realization of behaviors (Ajzen, 1991). TPB helps us understand how people adjust their behaviors based on their intention and confidence in achieving their goals. In our opinion, the cohort differences between the old-at-heart and the young-at-heart groups may serve as a foundation for TPB, which will be explained in the following three aspects:

First, age perception influences individual behaviors or performances (Kooij et al., 2008). Elderly people feel youthful with an expectation to keep their abilities and skills (Atchley, 1996). Even if they are senior, they expect to maintain a positive self-image, which can be achieved in a variety of methods (Maalaoui et al., 2023). Intention is a motivating factor that drives behavior (Ajzen, 1991). In our opinion, the young-at-heart are more likely to have a strong desire to participate in social activities, particularly to retain their jobs.

Second, by applying Tajfel's (1981) social identity theory, this paper investigates the effects of old age perception on senior people's work confidence. Social identity is the psychological process by which individuals identify as members of a specific social group and derive emotional experience and a sense of gain from this categorization (Tajfel, 1981). The social identity theory explains how a person's attitudes, feelings, and behaviors are influenced by their social group identification (Ellemers, 2013; Fielding and Hornsey, 2016; Pagliaro et al. 2018). Tajfel (1978) argues that age identity is central to social identity. Distinctive age identity provides individuals with a unique social identity that boosts their self-esteem (Tajfel, 1978; Tajfel,1982; Hogg and Turner,1985), resulting in behavioral differences between cohorts. As a result, we have reason to suppose that, based on their perception of old age, young-at-heart elders are more likely to judge their own ability and recognize their self-worth, thus increasing their self-esteem and employment confidence.

Third, according to TPB, the perceived behavioral control refers to an individual's perception of the ease or difficulty of performing a behavior, which affects confidence for performing such behavior (Ajzen, 1991). Since the sense of youthfulness will inspire motivation and efforts to tackle difficult tasks (Kuhnen and Melzer, 2018), we believe that it is more likely for the young-at-heart group to proactively cope with difficulties in their life or work, overcome expected barriers, and become more confident about their employment status.

4. Research Design

4.1 Data

The China Longitudinal Aging Social Survey (CLASS) is an ongoing social survey experiment undertaken across the country. CLASS, implemented by the China Survey and Data Center of Renmin University of China, has been conducted biennially since 2014 to collect a broad range of socioeconomic background information from older people aged 60 and above across China using a multi-stage stratified random sample methodology. This research uses CLASS data from 2014, 2016, and 2018, as well as new survey samples from 2016 and 2018 based on the initial 11,511 samples gathered in 2014. Given that most elderly people had fewer than five children who were still alive, and that CLASS inquired about no more than

中国知网 https://www.cnki.net

five children for each respondent, this paper restricts the subjects of research to elderly people who were no more than 100 years old, identified as 40 to 100 years old, and had no more than five children. After removing missing values from key variables, our final valid sample consists of 8,350 respondents.

4.2 Variables

In this paper, the class question "Are you currently engaged in an income-generating job/activity?" serves as the dependent variable for employment choice. If the answer is affirmative, the dependent variable's value becomes 1; else, it is 0. The independent variable of old age identification, i.e. the self-perceived year when old age begins, captures one of the five characteristics of old age identity (Kaufman and Elder, 2002), as does the class question "How old do you think is old?" When answering the preceding questions, we believe that respondents would additionally indicate if they were elderly. Therefore, information concerning old age includes not just when an individual feels himself or herself to be old, but also whether the individual has already reached old age. In order to highlight the cohort difference in old age identity, which is central to age identity as a social identity, we included a binary variable for old age identity in the baseline regression section. If chronological age is less than perceived old age, the value is 1, representing the young-at-heart group; otherwise, it is 0, representing the old-at-heart group.

There is no unique method to establish the age identity variable referencing the chronological age. Rubin and Berntsen (2006) developed two methods for measuring subjective age (SA) using chronological age (CA) and a mathematical technique: The absolute difference between subjective age and chronological age is calculated by (SA-CA), and the relative difference between subjective age and chronological age is calculated by (SA-CA)/CA. Both techniques of measurement may capture the youthfulness of subjective age. In fact, Ye and Post (2020), Ye et al. (2022), and Maalaoui et al. (2023) have developed methods for measuring age identity across many dimensions, all based on Rubin and Berntsen (2006). It is important to note that there are distinctions between old age identity and subjective age. While both represent the exact age identity recognized by individuals, old age identity is more indicative of identity for a certain group (such as the elderly). In the baseline regression section, we focus on the impact of cohort differences resulting from old age identity on elders' decisions to stay in their jobs. Rubin and Berntsen (2006) developed two measuring methodologies, which will be examined further in the robustness test section.

Our control variables encompass the individual, socioeconomic, health and family characteristics of respondents. Specifically, individual characteristics include chronological age, gender, marital status, household registration, residence, and cognitive abilities; socioeconomic characteristics include the level of education, pension type, pension income, occupational type, and housing property; health conditions include psychological and physical health dimensions, including emotions, capacity for daily activities, and chronic diseases; family characteristics include the number of children, economic support to children, and living with grandchildren and children. According to extant research, these characteristics have a substantial influence on elderly people's employment behaviors. In addition, our control variables include milestone events for the elderly. We hypothesize that various views of old-age milestone events may result in disparities in older people's employment behaviors. Notably, occupational types encompass current and previous income-earning occupations. Given that whether or not elderly people continue to be professionally engaged is related to the sort of employment they hold, we adjusted for occupation type to eliminate this factor that may substitute old age identities. Given that old age identity influences self-appraisal of health (Demakakos et al., 2007), which is a major factor in forecasting elders' choices to stay in their jobs (Tong and Liao, 2017; Lyu et al., 2020), we did not control for self-appraisal of health in the baseline regression section, instead using it as a mechanism variable in the following section to verify the potential paths of influence. Table 1 provides precise variable definitions and descriptive data.

In the CLASS samples of 2014, 2016, and 2018, 12,707 respondents aged 60 and above believed that old age begins at an average of 70 years, greatly exceeding the official old age of 60 or 65 years, and more than 40% of elders did not identify themselves as old. Earlier research assessed the perception of

中国知网 https://www.cnki.net

old age with 666 respondents from the Midwest United States. People of all ages tended to agree that old age begins at the age of 74 (Kaufman and Elder, 2002), which is approximately 10 years later than the research conclusion of Neugarten et al. (1965). According to a recent study of 126 Israeli elders aged 65 and up, the average perception of old age is 69 years (Shinan-Altman and Werner, 2019). There are variances in how people see old age across different countries and time periods. We believe that this is due to changes in personal social experience, a rise in life expectancy, and social and cultural differences among countries.

Table 1: Variable Definitions and Descriptive Statistics

Name of variable	Definition of variable	Observations	Mean	Min.	Max.
Choice of employment	Engaged in income-earning job=1, no=0	18,137	0.185	0	1
Old age perception	Self-perception about when old age begins	12,707	70.140	40	100
Old age identity	Chronological age (CA) smaller than subjective age (SA)=1, CA greater than SA=0	12,692	0.463	0	1
Age	Chronological age (CA)	18,109	70.109	60	100
Gender	Male=1, female=0	18,058	0.490	0	1
Marital status	Married=1, other=0	18,133	0.683	0	1
Household registration	Agricultural household=1, urban household=0	18,135	0.520	0	1
Place of residence	Residing in urban district=1, other=0	17,297	0.489	0	1
Cognitive abilities	Total score including common sense, calculation, instant and delayed word memory, among other cognitive tests	12,430	13.758	0	16
Level of education	Illiterate/privately tutored/literacy class=0, primary school=1, junior middle school=2, high school/technical secondary school=3, junior college and above=4	18,139	1.270	0	4
Type of pension	Basic pension insurance for urban and rural residents=1, basic pension insurance for corporate employees=2, pension insurance fund of public institutions=3, none of the above=0	18,107	1.264	0	3
Pension income[2]	1,000 yuan and above=1, below 1,000 yuan=0	17,681	0.405	0	1
Type of occupation	Professional technical personnel (officers and professional technical personnel of government and public institutions)=1; other (general office workers, general employees in commercial/service/manufacturing sectors, individually-owned businesses, freelancers, and farmers, herdsmen and fishermen)=0	18,131	0.138	0	1
Housing property	Owns housing=1, does not own housing=0	18,097	0.870	0	1
Emotion	Total score of responses to questions about the experience of positive or negative emotions over the past week (never=1, sometimes=2, often=3) (values are assigned reversely to negative emotions)	14,460	14.748	6	18
Activity of daily living (ADL)	Total score of answers to questions about nine daily activities, including nine activities such as daily living walking upstairs or downstairs, doing housework, and shopping (unable to do at all=1, need some help=2, need no help from others=3)	17,916	25.298	9	27
Chronic disease	With chronic disease=1; no=0	18,047	0.696	0	1
Number of children	Number of children alive	16,636	2.605	0	5
Economic support from children[3]	Above average=1, smaller than or equal than average=0	16,940	0.339	0	1
Grandchildren	With grandchild(ren) aged below 18 years=1, no=0	17,318	0.689	0	1
Living with children	Living with children=1, not living with children=0	18,124	0.413	0	1
Milestone events of old age	Retired/not employed/not working=1, other=0	15,260	0.177	0	1

[2] More than 90% of the respondents in the CLASS 2018 new samples did not specify the precise amounts of pension insurance for government agencies and public institutions as well as for their employees. They gave rough amounts in the thousands instead. A further 20% of respondents who received the basic pension insurance for urban-rural areas similarly gave approximate figures in the thousands. As such, by the 1,000 yuan criterion, we define the pension income variable to be between 0 and 1.

[3] The China Longitudinal Aging Social Survey (CLASS) inquired the level of economic support that elderly respondents received from their children over the past 12 months, including cash, food or gift, and the answers were provided by their children, including, for instance, none, 1-199 yuan, and 200-499 yuan. The level of economic support provided by children to the respondents is approximately denoted by the median value of each range.

中国知网 https://www.cnki.net

4.3 Specification of the Baseline Regression Model

In this paper, the probit model is specified as follows for baseline regression:

$$Choice_{it}=\alpha+\beta\cdot OAI_{it}+\gamma\cdot X_{it}+v_t+u_p+\varepsilon_{it} \quad (1)$$

where, $Choice_{it}$ is the choice of employment, OAI_{it} is old age identity, α, β and γ are parameters to be estimated, ε_{it} is the stochastic error term, X_{it} is a group of control variables, including the individual characteristics, socioeconomic status, health status and household characteristics of respondents. Referencing Ye et al. (2022), we have introduced the variable of time (v_t) and the variable of province (u_p) into the regression model to control for the potential effects of time and regional culture. The variance inflation factor (VIF) is 1.78, and the VIF of each variable in the model is smaller than 10, which presents no concern for multicollinearity.

5. Empirical Analysis

5.1 Baseline Regression

Table 2 presents the marginal impact of old age identification on elders' decisions to stay employed. As this article reveals, elders are more likely to remain in their jobs if their subjective age is less than chronological age. As shown in column (1), old age identity significantly influences the employment choice of elderly people when only the variables of time and province are controlled for: Those who refused to identify as old are 5.8% more likely to stay employed than those who were old at heart. Elderly people who refused to consider themselves as old are 2.4% more likely to stay employed than the old-at-heart group, as shown in column (2) of Table 2, with such factors as individual characteristics, socioeconomic status, health conditions, and family characteristics further controlled for. This suggests that the estimated baseline regression results are independent of the estimation method used, as confirmed by the result obtained using the OLS approach in column (3) of Table 2.

As expected, the employment choice of elderly people is strongly negatively connected with their chronological age and significantly positively with their level of education. The possibility of elderly people to stay in the workforce is greatly reduced by 0.8% for every year that their chronological age increases, and it may be significantly increased by 4.8% by their educational level. Therefore, the perception of old age may, by at least three years, counteract the detrimental employment effects of a chronological age increase; yet, this effect is less than the total contribution of education to the employment choice of senior citizens. Column (2) of Table 2 indicates that the choice to stay employed for senior citizens is not significantly influenced by their number of children or emotions. The attributes that really represent the traditional Chinese culture that respects elders and fosters filial piety are more likely to have an impact on the career choice of seniors than the nominal advantage of having more children. The variable of emotions may somewhat reflect the individuality and psychology of elderly persons. However, the emotional variable in this study measures the emotional characteristics of elderly people within the previous week, and emotional change within a relatively short period of time cannot reflect psychology behind the employment choice of individuals.

5.2 Robustness Test

5.2.1 Exclusion of measurement error

Our baseline regression estimates are a result of individual perceptions of old age varying throughout cohorts. There exists an estimating inaccuracy associated with the misidentification of older people since some of them misreported their old age identity. We have removed elderly persons misidentified as unwilling to view themselves as old in order to lessen the interference of such measurement error. More precisely, based on their answers to the CLASS question "Did you ever enjoy any treatment for the elderly in your local community (such as exempt from bus fare and park ticket)?",

中国知网 https://www.cnki.net

Table 2: Results of Baseline Regression

Variable	(1)	(2)	(3)
	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce
Perception of old age	0.058*** (.007)	0.024*** (.009)	0.024*** (.009)
Age		-0.008*** (.001)	-0.007*** (.001)
Gender		0.059*** (.008)	0.064*** (.008)
Marriage		0.027** (.011)	0.015 (.010)
Household registration		0.056*** (.013)	0.066*** (.014)
Place of residence		-0.075*** (.010)	-0.081*** (.011)
Cognitive abilities		0.004** (.002)	0.004*** (.002)
Level of education		0.012** (.005)	0.013*** (.004)
Without pension		-0.007 (.011)	-0.009 (.014)
Basic pension insurance for corporate employees		-0.056*** (.018)	-0.046*** (.017)
Pension insurance fund for government agencies and public institutions		-0.062*** (.020)	-0.059*** (.019)
Pension income		-0.053*** (.017)	-0.066*** (.018)
Type of occupation		-0.078*** (.017)	-0.060*** (.011)
Housing property		0.045*** (.015)	0.063*** (.015)
Emotions		0.001 (.002)	0.002 (.002)
Daily life activity (DAL)		0.016*** (.003)	0.008*** (.001)
Chronic disease		-0.022*** (.009)	-0.021** (.009)
Number of children		0.001 (.004)	0.001 (.004)
Economic support from children		-0.022** (.009)	-0.017* (.009)
Grandchildren		0.021** (.010)	0.013 (.009)
Living with children		-0.014* (.008)	-0.014 (.008)
Landmark events for old age		0.020** (.010)	0.025** (.011)
Variable of time	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled
Constant			0.458*** (.083)
Observations	12,686	8,350	8,350

Note: *, ** and *** denote significance at the 10%, 5% and 1% levels, and figures in parentheses are robust standard errors clustered at the individual level. The same below. Basic pension insurance for urban and rural residents is adopted as the reference type of pension.

中国知网 https://www.cnki.net

we excluded elderly people who thought of themselves as young but yet received preferential treatment for the elderly. With the estimated results given in column (1) of Table 3, we believe that the omitted samples might not be entirely sure if they are old. Comparing the old-at-heart group to the young-at-heart, we discovered that the latter were 2.3% more likely to remain in their jobs. This result agrees with the baseline regression estimates. Moreover, because of a hazy identification of their age group, the old-at-heart elders are probably in a transitional phase for their age group or are continuing their middle-age behaviors. To minimize any estimation bias, such samples are not included in the old-at-heart group; the results are displayed in column (2) of Table 3. As we have demonstrated, the perception of old age has a significantly positive impact on the job decisions of senior citizens, which is somewhat consistent with the effect of baseline regression. The estimated baseline regression results are robust even after accounting for measurement errors for various elderly groups.

5.2.2 Exclusion of potential substitute factors

As the above theoretical analysis notes, compared to the old-at-heart group, the young-at-heart elders are more likely to remain in their jobs. Such variations in the continuation of job status for the two groups of senior people may not be the result of old age identity, even if our baseline regression has controlled for a range of variables to reduce the impact of possible substitute variables. For example, variations in the working conditions in the public and private sectors could also affect the likelihood that senior citizens stay in their careers. Elderly people who are happier with their lives are likewise more inclined to continue working. In order to eliminate the influence of other possible substitute factors, we have therefore introduced the two control variables of employment sector (government, public institutions and state-owned enterprises=1, and private enterprises, foreign-funded enterprises and individually-owned businesses=0) and satisfaction about life (very satisfied and relatively satisfied=1, average, relatively satisfied and very unsatisfied=0). The control variables of the employment sector and life satisfaction are introduced in columns 3 and 4, respectively, of Table 3. We have found that neither the employment sector nor satisfaction about life has any significant influence on the employment choice of elderly persons. The employment effect of old age perception for elderly persons is nearly consistent with the result of baseline regression, indicating that with other possible substitute factors further controlled for, the estimated result of baseline regression remains robust.

5.2.3 Consideration of negative events

Every phase of the subjective life course may be impacted by different turns, experiences, and backgrounds over the course of life (Barrett and Barbee, 2022). Negative situations like major illnesses for oneself or family members and the death of spouses or loved ones unavoidably upset those 60 years of age and older. It is necessary to confirm whether the young-at-heart mindset still influences their decision to remain in the workforce in this situation. Our binary classification variable for negative events is based on CLASS and has a value of 1 if an elderly person has experienced any of the following events during the previous 12 months: serious disease, natural disaster, bereavement, death of child, death of any family member or friend, serious disease of family member, conflict with family member or friend, change of dwelling, and accident; otherwise, the value is 0. Columns 5 and 6 suggest that whether or not senior citizens have gone through any unfavorable experiences, their decision to remain in the workforce is greatly influenced by their perception of old age. Their decision to remain in the workforce is more significantly influenced by their perception of old age than by their experience of unfavorable events. As such, the shock of bad events has little influence on the favorable employment effect of old age perception.

5.2.4 Exclusion of intra-cohort differences

The discrepancy between chronological age and perceived old age may not be uniform within each

中国知网 https://www.cnki.net

Table 3: Results of Robustness Test (Part 1)

Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce
Old age identity	0.023** (.010)	0.026*** (.009)	0.023*** (.009)	0.024*** (.009)	0.032* (.019)	0.022** (.010)
Sector of employment			-0.011 (.015)			
Satisfaction about life				0.005 (.010)		
Control variables	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	6,895	7,828	7,913	8,325	1,773	6,467

cohort of senior citizens separated by whether they consider themselves to be old. Both intra- and inter-group differences may contribute to the employment effect of perceived old age for elderly people in the baseline regression. We use two approaches to quantify old age identity and reflect aging differences within each cohort referencing Rubin and Berntsen's (2006) mathematical treatment technique for subjective age, namely the absolute difference between chronological age (CA) and old age (OA) (CA-OA) and the relative difference between chronological age and old age (CA-OA)/OA, in order to investigate whether the employment impact of old age identity for elderly persons stems from inter-group or intra-group differences. We seek to investigate in this work if the two kinds of old age identity indicators significantly affect the decision of the two older cohorts to remain in employment. Columns (1) through (4) show that neither CA nor OA significantly affects the decisions made by the two categories of senior citizens to remain in their jobs. Thus, according to old age identity, the estimated results in the baseline regression are further supported by the fact that inter-group difference, not intra-group difference, significantly influences the employment choice of senior people.

5.2.5 Other robustness test

In the CLASS 2014 and 2016 surveys, respondents with somewhat low cognitive scores omitted subjective questions such as old age identity and emotions, and many did not respond to certain questions. The ensuing deficiency of data could cause a bias in the baseline regression estimates. In this study, we extended the baseline regression using the multiple imputation by chained equations (MICE) (Enders, 2010). MICE uses the conditional distribution of individual variables for imputation and does not need missing variables to conform to combined distribution or to be monotonously absent. Given those traits, MICE finds broader practical applications. Column (5) of Table 4 shows that the estimated coefficient of old age identity is notably positive once the missing data is filled in. For this reason, our estimated baseline regression results of missing data are reliable.

In this study, we investigate further if the estimated baseline regression results differ among subsamples with varying degrees of education. In Table 4, column (6) indicates that among subsamples with junior middle school education or above, those young-at-heart are more likely than the old-at-heart group to stay in their jobs in old age by a significant margin of 2.9%; in Table 4, column (7) indicates that among subsamples with primary school level of education and below, the young-at-heart elders are more likely than their old-at-heart peers by a significant margin of 2.3%. Old age identity significantly influences the decision of elderly people with varying degrees of education to continue working. Still, the perception of old age is more powerful for subsamples with higher education levels.

中国知网 https://www.cnki.net

Table 4 Robustness Test Results (Part 2)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce	Choice to stay in the workforce
Perception of old age					0.017** (.008)	0.029** (.012)	0.023* (.012)
Perception of old age (absolute difference)	0.001 (.009)	0.001 (.001)					
Perception of old age (relative difference)			-0.012 (.075)	0.061 (.053)			
Control variable	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	4,146	4,204	4,146	4,204	17,088	3,895	4,455

5.3 Endogeneity Analysis

5.3.1 Panel data analysis

Age perceptions of senior people will be influenced by their early experiences and personal traits (Schafer, 2009; Stephan et al., 2022). A bias in the baseline regression estimates could result from such unobservable variables. We have applied the panel probit model to overcome the endogeneity problem resulting from variables that do not change with time and to confirm how the old age perceptions of elderly people may influence their employment decisions. As demonstrated by column (1), the decision of older people to continue working is significantly influenced by their perception of old age. The likelihood of an older person whose chronological age equals subjective age to remain in the workforce would drop significantly by 1.4% when they happened to go from denial to acceptance of their age.

Table 5: Results of Endogenous Analysis

Variable	(1)	(2)	(3)	(4)
	Choice to stay in the workforce	Choice to stay in the workforce	Perception of old age	Perception of old age
Perception of old age	0.011(.007)	0.014*(.008)		
Choice to stay in the workforce			0.428(.297)	0.015(.014)
Control variables	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled
Individual effect	Controlled	Controlled		
R^2			0.156	
Observations	12,346	11,696	8,330	8,330

Note: Control variables such as individual characteristics, socioeconomic status, health conditions and family characteristics of elderly persons in columns (3) and (4) of Table 5 are consistent with the baseline regression; control variables in columns (1) and (2) of Table 5 do not include variables that do not change with time, such as gender, household registration and level of education. To gauge mental wellness, life satisfaction is also included.

5.3.2 Reverse causality analysis

Seniors' decision to continue working could also influence how they respond to the inquiry, "How

中国知网 https://www.cnki.net

old do you think is old?" Old age tends to start at a greater age for people who choose to remain in the workforce, but it starts at an earlier age for those who are no longer in it. As such, the endogeneity issue of reverse causality must be tested. While some researchers have concluded, using CLASS data, that older people's job choices had little impact on their old age perception (Yu and Wang, 2003), their study is limited to 2014 data. We have adjusted for the factors of the individual characteristics, socioeconomic status, health status, and family characteristics of older people based on CLASS data from 2014, 2016 and 2018 in order to confirm the impact of their decision to remain in the workforce on their old age identity. As Table 5's column (3) demonstrates, how old people view old age is not much influenced by their decision to remain employed. The average perceived old age for older persons in China is 70 years old, according to the CLASS samples of 2014, 2016, and 2018. We so further define a binary categorization variable of perceived old age: The value is 1 if perceived old age is 70 years or older; otherwise, it is 0. Column (4) of Table 5 contains the estimated results. The decision of senior citizens to continue working has been shown to have little impact on how they view the beginning of old age.

5.3.3 Sensitivity analysis

We have carried out a sensitivity analysis of the coefficient stability for missing variables in order to allay endogeneity concerns arising from them. Our concern is the critical threshold, in relation to the control variables for baseline regression, for unobservable variables to counteract the influence of old age perception on the decision of older people to remain in employment. Citing the formal test procedure of Oster (2019), first, we defined R_{max} to be a goodness of fit 1.3 times that of baseline regression according to the boundary value of 1.3 established by Oster (2019) through the compilation test of extensive economic research findings. R_{max} is the maximum goodness of fit when unobservable variables are included. Second, as for the value of δ to make coefficient β=0 based on R_{max} calculation, δ is the degree of influence of missing variables on the variable of concern compared to the impact of control variable on the variable of concern. The test will pass and the findings drawn from the baseline regression will be supported if the value of δ is higher than the critical threshold. This is true because it is improbable that the influence of control variables on the perception of old age will be greater than that of missing variables. The results show that the absolute value of δ derived from the sensitivity analysis is 3.84, which is considerably higher than 1. We have also implemented an alternative test strategy proposed by Oster (2019) in which the computation coefficient for R_{max} and δ is provided as β, and the test is passed if β is not 0. The test findings also confirm the baseline regression conclusions, and this approach is roughly comparable to the one described above. Thus, our sensitivity study of the influence of coefficient stability in relation to the selection of missing variables confirms that the calculated baseline regression findings are still robust.

5.4 Test of Mechanism

We have identified a self-reinforcing mechanism by which the perception of old age affects senior persons' decision to remain in the workforce based on the aforementioned theoretical analysis citing Alesina and Zhuravskaya's (2011) research design. First, we verified that the perception of old age has a statistically significant effect through performing a regression analysis of the perception of old age with an instrumental variable. Secondly, we compared the result controlling for the mechanism variables (regression of elderly persons' choice to stay in the workforce with respect to the mechanism variables and perception of old age) with that not controlling for the mechanism variable (regression of elderly persons' choice to stay in the workforce with respect to their perception of old age). The coefficient of the perception of old age changed significantly in the first scenario, that is, after accounting for the mechanism variables, confirming the existence of the mechanism. This paper gives the values of 0 and 1 to all of the mechanism variables. Thus, an empirical analysis is done using the probit model.

中国知网 https://www.cnki.net

5.4.1 Changing willingness for social participation

Young-at-heart seniors are more driven to retain their talents and skills learned in their youth than are their old-at-heart counterparts, which increases their desire to remain in the workforce. The CLASS survey does not inquire as to whether or not respondents would like to remain employed. Nevertheless, even though social participation also includes unpaid activities like learning, socializing, volunteer work, and elections, older people who show a stronger willingness for social participation are more likely to stay in their jobs. As was mentioned in the theoretical analysis above, the perception of old age as the premise of the planned behaviors theory not just affects the willingness of individuals to stay employed; it also influences, for example, people's desire to engage in social life. Our best option for examining the mechanism by which people's willingness to stay in their jobs and, hence, their employment behaviors is to build a proxy variable of 0 and 1 for the willingness of social participation based on CLASS questions. Respondents were asked by CLASS to indicate if the statement "I often think of doing something for the society" really describes their reality. The level of willingness of the respondents to contribute to society is shown by this question. Should the response be "Completely true" or "Relatively true", the variable is given the value of 1; should it be "Completely untrue", "Relatively untrue", or "Not sure", it is given the value of 0. With 38% of the respondents answering "Completely true" or "Relatively true", senior citizens are clearly eager to make a positive contribution to society. Table 6's column (2) implies that an elderly person's propensity to engage in social activities is much influenced by their perception of old age. Compared to the old-at-heart group, the young-at-heart group is more likely to show a great willingness for social participation. As per column (3) of Table 6, the decision of elderly people to remain in the workforce is much influenced by their willingness for social engagement. In the meanwhile, the young-at-heart group is 1.9% more likely than the old-at-heart group to decide to remain in the workforce. As the data in column (2) of Table 6 demonstrates, the willingness for social participation is significantly increased by the perception of old age, and the young-at-heart group is far more likely than the old-at-heart group to exhibit a strong sense of it. Compared with column (1) of Table 6, there is a decrease in the impact of the perception of old age after controlling for the willingness to stay in their jobs. This study has therefore confirmed the mechanism by which "young-at-heart" view of old age leads to a strong need for social interaction, hence a better possibility of remaining in the workforce.

5.4.2 Changing confidence for employment: a self-esteem perspective

The intergroup comparison indicates that the young-at-heart elders will assess their own competency proactively in order to boost their self-esteem and confidence to continue working. As such, we present a self-esteem mechanism variable to investigate the impact of elders' perceptions of old age on their decision to continue working. Developed by Rosenberg in 1965, the Rosenberg Self-Esteem Scale (RSE) is currently the most widely used self-esteem measure for assessing general views on people's self-acceptance and self-worth. We construct a proxy variable of 0 and 1 for elders' self-esteem based on the CLASS question "Is it true that you consider yourself as still useful for the society?" since CLASS does not have any questions of such self-esteem scale. Should the response to this question be "Strongly agree" or "Agree", the value is 1; should it be "Strongly disagree", "Disagree" or "Not sure", the value is 0. The responses to the CLASS questions "I feel that I am a person of worth" and "I take a positive attitude toward myself" both show that seniors acknowledge their own value. More exactly, this CLASS question represents state self-esteem (self-appraisal of the current situation, as opposed to self-appraisal for a longer timeframe) and particular self-esteem (for a specific self-image as opposed to the overall self-image) (Rubin and Hewstone, 1998). Some academics noted that the cohort classification under the social identity theory is more likely to influence the state self-esteem (Hogg and Sunderland, 1991). The view of old age has a markedly positive impact on elders' self-esteem, as column (4) of Table 6 indicates. The young-at-heart group is more likely than the old-at-heart group to appreciate and have higher self-

中国知网 https://www.cnki.net

esteem. The employment of elders is strongly influenced by self-worth, as column (5) of Table 6 shows, and the young-at-heart are 1.9% more likely than the old-at-heart to stick to their jobs. The effect of the sense of old age has decreased as compared to column (1) of Table 6. We have reason to believe that the way the young-at-heart view old age will boost their confidence and self-esteem to stay in the workforce and, consequently, raise the likelihood that older people will stay in their jobs.

5.4.3 Changing confidence for employment: an adverse situation perspective

The young-at-heart elders will approach problems more proactively than the old-at-heart group, lowering the interference of anticipated obstacles and boosting confidence to stay in the workforce. Using the six ways that CLASS respondents handle challenges, we create a binary proxy variable for coping with challenges to confirm the degree to which the notion of old age will alter confidence to remain in the labor in different ways. Particularly, these six methods are "Talking with others to pour out troubles", "Changing the way of doing things to overcome difficulties", "Using others' experience for reference to deal with similar problems", "Trying to forget the whole thing since it cannot be solved", "Looking to others to solve the problem that I cannot solve", and "Making no efforts and accepting the reality". For the first three statements, the response "Never" is scored at one point, "Occasionally" at two points, "Sometimes" at three points, and "Often" at four points. Responses to the last three statements receive scores in the reverse order. Six to twenty-four points is the range of the overall result. Higher the score, the more aggressively the challenges are addressed. We create a binary variable with the boundary of average score, the value of which is 1 if the score is above average score and 0 otherwise, to emphasize the cohort differences in the way respondents cope with challenges. According to column (6) of Table 6, how one views old age greatly influences how they react to adversity. Compared to the old-at-heart group, the young-at-heart elders are far more inclined to deal with problems more aggressively. Comparing columns (7) and (1) of Table 6, the effect of the perception of old age has dropped from 2.4% to 1.8% with the introduction of the significantly positive employment effect of response to adversity. Therefore, in our opinion, it has been confirmed that there is a mechanism by which the perception of old age results in a proactive reaction to adversity, increased confidence, and a greater likelihood of remaining in the workforce.

Table 6: Results of Mechanism Test (Part 1)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Choice to stay in the workforce	Willingness for social participation	Choice to stay in the workforce	Self-esteem	Choice to stay in the workforce	Response to hardships	Choice to stay in the workforce
Perception of old age	0.024*** (.009)	0.071*** (.011)	0.019** (.009)	0.089*** (.011)	0.019** (.009)	0.044*** (.013)	0.018* (.010)
Willingness for social participation			0.024*** (.008)				
Self-esteem					0.041*** (.008)		
Response to hardships							0.030*** (.009)
Control variable	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	8,350	8,187	8,184	8,161	8,157	6,485	6,483

中国知网 https://www.cnki.net

5.4.4 Changing health status

Demakakos et al. (2007) also looked at how age perception affected the four different categories of health variables: self-rated health, chronic illness or disability, hypertension and diabetes. They discovered that the perception of old age is solely connected to self-rated health (Tong and Liao, 2017; Lyu et al., 2020), which is also a key factor for the decision of elders to remain in the workforce and more likely to stay in their jobs (Demakakos et al.). Based on current studies, we attempt to investigate the relationship between the perception of old age and the decision of elders to continue working and their self-rated health. Referencing Demakakos et al. (2007), we determine self-rated health using two approaches. Under the first approach (self-rated health 1), the value is 1 if the current health status is deemed good or reasonably good, and 0 if it is mediocre, somewhat unhealthy, or extremely unwell. A further approach (self-rated health 2) is to give a respondent a value of 1 if they believe their health is much better or slightly better than that of their peers, and a value of 0 if they believe their health is about the same, somewhat worse or much worse. The two kinds of self-rated health indicators are significantly positively impacted by the perception of old age, as indicated by columns (2) and (4) of Table 7, and the young-at-heart elders are far more likely to rate their health as much better than the old-at-heart group. After the positive employment effect of self-rated health is incorporated, the influence of the perception of old age has dropped from 2.4% to 2.1%, as can be seen from the comparison of columns (3), (5) and (1) of Table 7. We have thus verified the route of transmission via which self-rated health interacts with the way that people view old age and decide whether or not to continue working. Since they are more likely to be in comparatively good health, the young-at-heart elders are more inclined to continue working.

Table 7: Results of Mechanism Test (Part 2)

	(1)	(2)	(3)	(4)	(5)
	Choice to stay in their jobs	Self-rated health 1	Choice to stay in their jobs	Self-rated health 2	Choice to stay in their jobs
Perception of old age	0.024*** (.009)	0.077*** (.011)	0.021** (.009)	0.061*** (.011)	0.021** (.009)
Self-rated health 1			0.036*** (.009)		
Self-rated health 2					0.043*** (.009)
Control variable	Controlled	Controlled	Controlled	Controlled	Controlled
Time variable	Controlled	Controlled	Controlled	Controlled	Controlled
Province variable	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	8,350	8,350	8,346	8,332	8,328

5.5 Further Discussions

In this paper, we have revealed the social psychological relationship between the perception of old age and economic behaviors by describing and verifying the self-reinforcing mechanism by which the choice of elders to stay in a job is influenced by their perception of old age. Compared to the old-at-heart group, the young-at-heart elders are 2.4% more likely to stay in their jobs. Though its impact is considerably less than the overall contribution of education level to the employment of elders, the perception of age can offset the obstacles of increasing chronological age to the decision of elders to stay in their occupations. How therefore to intensify the favorable employment impact of the perception of old age? We shall address this subject in this section from the following three perspectives:

中国知网 https://www.cnki.net

5.5.1 Postponing the perceived old age

In this paper, the estimated results of baseline regression are derived from inter-cohort differences in the perception of old age. Elders disagree, though, on the onset of old age. People who think that middle-age ways of life should persist until old age are more inclined to stick with them, be more willing and self-assured, and thus remain active in their fields of work. We divide our samples into two groups by the boundary of 70 years to verify whether the young-at-heart elders will exhibit more proactive behaviors to stay in their jobs. Considering that the CLASS respondents perceive an average old age of 70 years while socially accepted old age starts from 60 or 65 years. According to the data presented in column (1) of Table 8, young-at-heart elders whose old age commences at 70 years are 3.5% more likely to remain employed than the old-at-heart group. This difference represents an almost 50% increase from the baseline regression of the effect of old age perception. Nevertheless, column (2) of Table 8 indicates that the proactive employment effect of old age perception is negligible if the perceived old age is less than 70 years old. The proactive employment effect of old age is thus facilitated by higher perceived old age.

5.5.2 Milestone event of old age: retirement from work

A poll of over 65-year-old Italians found that there is no set age at which old age starts, but it is influenced by significant life events like retirement and death (Bordone et al., 2019). The CLASS survey offers many responses to milestone events of old age, including "Retired/not working/not laboring", "inconvenient to walk", "unable to take care of myself in my daily life", "bereaved", "with grandchildren" and "cannot think properly/declining memory" which correspond to the question "When do you think people start to become old?" because elders tend to associate old age with retirement (Kaufman and Elder, 2013; Manor, 2017). In our view, older people who consider retirement from work to be the turning point in their lives can better illustrate the employment impact of old age perception. In this paper, we seek to determine further if the decision of elders to remain in the workforce would be more positively impacted by the old age perception if their perceived milestone event of old age is retirement. Column (3) of Table 8 shows that, if retirement from work is the milestone event of old age, the young-at-heart elders are much more likely than the old-at-heart elders to choose to remain in the workforce by a significant margin of 4.5%. This is almost 90% more than the impact of old age perception in the baseline regression and is equivalent to the contribution of education level to elderly employment. Column 4 of Table 8 demonstrates that young-at-heart elders are more likely to remain in the workforce than old-at-heart elders by a large margin of 2.0%, which is reasonably similar to the outcome of baseline regression, if the milestone event of old age is other than retirement from work. Therefore, the perception of retirement from work as the turning point for old age may also strengthen the influence of old age perception on the decision of elderly people to stay in their jobs.

5.5.3 Pressures from the external environment: a family inter-generational support perspective

People's behaviors are not always driven solely by self-interest; they are sometimes influenced by perceived social pressures from the external environment, which might lead them to engage in or refrain from certain behaviors (Ajzen, 1991). Social pressures of this kind can originate from friends, family, or other important people or organizations who shape one's behavior. We argue that the employment impact of old age perception for elders may significantly shift in response to external societal forces. Elders may experience external social pressures from a number of sources. For example, the CLASS survey included the following question: "Did you feel that your child(ren) asked for too much assistance and support from you within the last 12 months? (For example, requesting cash, help with housekeeping, babysitting grandchildren, or other tasks)". To reflect the pressure of intergenerational support—that is, whether children are asking for too much help—this study establishes a proxy variable of 0-1 for external pressure. A respondent's value is 1 if they answered "Occasionally", "Sometimes", or "Often", and 0 if all of their responses were "Never". In column (5) of Table 8, it is shown that the young-at-heart

中国知网 https://www.cnki.net

elders were 5.2% more likely than the old-at-heart seniors to remain in their jobs for respondents whose children asked for too much help. This difference even surpasses the overall contribution of education level to elderly employment and is more than double the effect of old age perception in the baseline regression. For respondents whose children do not require excessive help, the employment effect of old age perception is negligible, as column (6) of Table 8 demonstrates. Therefore, the external pressures, particularly from being solicited for family intergenerational support, may greatly amplify the senior employment effect of old age perception.

Table 8: Results of Further Discussion (Part 1)

Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs
Perception of old age	0.035** (.017)	0.033 (.023)	0.045** (.019)	0.020** (.010)	0.052** (.020)	0.015 (.010)
Control variable	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	5,050	3,300	1,593	6,751	1,741	6,523

5.5.4 Gender difference

China's gender disparity in proactive aging is the largest when compared to the European Union, particularly in terms of employment (Um et al., 2021). In China, women leave the workforce earlier than males do because of the varying retirement ages of 60 for men, 50 for blue-collar women, and 55 for white-collar women. While women give up their extracurricular activities early in life, men often pursue them into their later years (Bordone et al., 2020). Chinese elderly women are more likely than males to support their family by looking after their parents or grandchildren (Liu et al., 2010; Mao et al., 2018). Evidence from more than 40,000 job applications indicates that, in the recruitment process, age discrimination occurs against older women, but it is far less common against older men (Newmark et al., 2016). The perception of old age may not affect the decision of senior women to stay in their careers, and there is a great uncertainty for them to maintain their middle-age behaviors given such gender disparity. Young-at-heart male elderly people are, as column (1) of Table 9 indicates, 3.3% more likely than their old-at-heart counterparts to remain in their jobs; elderly women's decision to stay in their jobs is not much influenced by their perception of old age, according to column (2) of Table 9. Therefore, there is a notable difference in how the perception of old age may affect seniors' decision to remain in the workforce in that such view only has a substantial impact for male elders.

5.4.5 Difference of pension income

Old age support and pensions, two forms of government social security, will discourage older people from working (Fetter and Lockwood, 2018; Giesecke and Jager, 2021). However, China's pension plans remain fragile (Liu and Sun, 2016). Elderly male Chinese people with small pensions often work past retirement age (Yu and Schömann, 2016). We are interested to further investigate whether the perception of old age will still positively impact the decision to stay in their jobs for elders with relatively high pension incomes, even though we have excluded the cohort difference of pension income in testing the elderly employment effect of old age perception. As column (3) of Table 9 indicates, the young-at-heart elders are 4.1% more likely than their old-at-heart peers to remain in their jobs among respondents whose pension income is less than 1,000 yuan. According to column (4) of Table 9, if an elder's pension income

中国知网 https://www.cnki.net

is more than 1,000 yuan, their decision to remain in their jobs is not significantly influenced by their perception of old age. But column (5) of Table 9 shows that, by a margin of 5.7%, the young-at-heart are much more likely than the old-at-heart to remain in their jobs among people in this income level who are at least 70. Therefore, the elderly employment effect of old age perception is reflected significantly not only for individuals with relatively low pension incomes but also for those with relatively high pension incomes, who are at least 70 years old and see retirement from work as the milestone event of old age.

Table 9: Results of Further Discussions (Part 2)

Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs	Choice to stay in their jobs
Perception of old age	0.033*** (.012)	0.013 (.012)	0.041*** (.013)	0.015 (.010)	0.033* (.017)	0.057*** (.021)
Control variable	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of time	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Variable of province	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	4,532	3,816	4,170	4,180	2,788	852

6. Conclusions and Policy Suggestions

The perception of old age is an individual's perception of when old age begins. It is a personal redefinition of old age that reflects public attitudes toward old age. Chinese elders' perceptions of old age diverge from societal norms, and not all Chinese elders consider themselves elderly. This raises significant challenges for forecasting individual economic behaviors as well as established economic policymaking perspectives. Based on data from the CLASS in 2014, 2016, and 2018, this study investigates the employment effect of old age perception for elders using the subjective life course theory. We discovered that old age perception increases the likelihood of elders staying in their jobs, that young-at-heart elders are 2.4% more likely to remain in the workforce than their old-at-heart peers, and that the positive effect of old age perception may offset the negative effect of at least three-year increase in chronological age. As a result, the perception of old age should be considered while studying an aging society and its ramifications, as well as developing policy responses. Aging society in the traditional sense may not be that "aged"; the number of young-at-heart elders serves as the basis for tapping into the "second demographic dividend" and has a positive effect on creating another economic growth miracle; a proactive policy response to aging society must consider the perception of old age and coordinate chronological age criteria, or allow for more flexibility and individuality regardless of chronological age.

The self-reinforcing mechanism by which the perception of old age affects the decision of elders to stay in their jobs is thoroughly examined in this paper, which also reveals the intrinsic social psychological interactions between old age perception and economic behaviors. The theory of planned behavior, social identity theory, and continuity theory of aging are brought together in this paper. It has been shown that young-at-heart elders are more likely than their old-at-heart peers to continue their middle-age behaviors and ways of life and stay in the workforce; they also value their self-worth and dignity and proactively cope with difficulties to reduce the interference of expected barriers and show more confidence in their jobs; and they have a stronger desire to maintain their skills and competence acquired in youth and participate in social activities. It is also more likely for the young-at-heart elders to remain in their jobs since they are more likely to be in higher self-rated health. Actually, the rise in working life is hampered by the persistently embedded age prejudice and unfavorable age stereotypes in our present social culture and legislative frameworks. Publicizing the self-reinforcing mechanism of old

中国知网 https://www.cnki.net

age perception is crucial, in our opinion, to ensure that the desire and ability of senior citizens to remain in their jobs are adequately recognized. This helps to fully release the "second-round demographic dividend" by removing obstacles to the employment of elders on the demand side and staying current with the cultural shift resulting from the subjective life course theory.

The perception of old age may affect elders' decision to stay in the workforce, as we have further investigated in this study. The objective is to give empirical proof to amplify the positive effects of old age perception and to deepen our knowledge of the changing patterns in which old age perception may affect economic behaviors. Elders, we have discovered, are more inclined to remain in their jobs, if they believe that old age is more than 70 years old, if they view retirement from work as a milestone in their lives, and if they are under external pressure, particularly from being solicited for family intergenerational support. Compared to their older contemporaries, the young-at-heart elders who view old age as beginning at 70 years old are 3.5% more likely to remain in their jobs. Compared to their old-at-heart peers, who view retirement from work as the turning point in their lives, the young-at-heart elders are 4.5% more likely to decide to stay in their careers. Those who are old-at-heart and must provide their children with too much support are 5.2% more likely than their contemporaries to remain in their careers. Thus, it is recommended to publicize the idea that old age can be delayed and to establish a favorable social atmosphere so that the young-at-heart elderly may continue to work and engage in other economic pursuits. Furthermore, we have discovered that even with rising pension income, the perception of old age still significantly affects the decision of elders to remain in their jobs, albeit this effect varies greatly between genders and does not significantly affect the decision of elderly women to remain in their jobs.

References:

Ajzen I. The Theory of Planned Behavior[J]. Organizational Behavior and Human Decision Processes, 1991(2): 179-211.

Akkermans, J., de Lange A. H., van der Heijden B. I. J. M. et al. What About Time? Examining Chronological and Subjective Age and Their Relation to Work Motivation[J]. Career Development International, 2016(4): 419-439.

Alesina A., Zhuravskaya E. Segregation and the Quality of Government in a Cross Section of Countries[J]. American Economic Review, 2011(5): 1872-1911.

Atchley R. C. A Continuity Theory of Normal Aging[J]. Gerontologist, 1989(2): 183-190.

Atchley R. C. Continuity Theory and the Evolution of Activity in Later Adulthood, in: Kelly J R.(ed), Activity and Aging[M]. New York: Sage Publications, 1996.

Ayalon L., Doron I, Bodner E. et al. Macro- and Micro-Level Predictors of Age Categorization: Results from the European Social Survey[J]. European Journal of Ageing, 2014(1): 5-18.

Barnhart M., Peñaloza L. Who Are You Calling Old? Negotiating Old Age Identity in the Elderly Consumption Ensemble[J]. Journal of Consumer Research, 2013(6): 1133-1153.

Barrett A., Montepare J. "It's About Time": Applying Life Span and Life Course Perspectives to The Study of Subjective Age[J]. Annual Review of Gerontology and Geriatrics, 2015(1): 55-77.

Barrett A. E., Barbee H. The Subjective Life Course Framework: Integrating Life Course Sociology with Gerontological Perspectives on Subjective Aging[J]. Advances in Life Course Research, 2022(5): 100448.

Bordone V., Arpino B., Rosina A. Forever Young? An Analysis of the Factors Influencing Perceptions of Ageing[J]. Ageing & Society, 2020(8): 1669-1693.

Cheng X. F., Jiang Q. B. The Impact of Caring for Grandchildren on Grandparents' Age Identity: The Mediation Effects of Intergenerational Support[J]. Population Journal, 2019(3): 63-76.

Cleveland J. N., Shore L. M. Self-Perspectives and Supervisory Perspectives on Age and Work Attitudes and Performance[J]. Journal of

中国知网 https://www.cnki.net

Applied Psychology, 1992(4): 469-484.

Demakakos P., Gjonca E., Nazroo J. Age Identity, Age Perceptions, and Health - Evidence from the English Longitudinal Study of Ageing[J]. Healthy Aging and Longevity, 2007(1): 279-287.

Diehl M., Wahl H. W., Barrett A. E. et al. Awareness of Aging: Theoretical Considerations on an Emerging Concept[J]. Developmental Review, 2014(2): 93-113.

Ehrenberg R. G., Smith R. S. Modern Labor Economics: Theory and Public Policy[M]. Upper Saddle River: Prentice Hall, 2011.

Ellemers N., Pagliaro S., Barreto M. Morality and Behavioural Regulation in Groups: A Social Identity Approach[J]. European Review of Social Psychology, 2013(1): 160-193.

Enders C. K. Applied Missing Data Analysis[M]. New York: The Guilford Press, 2010.

Fetter D. K., Lockwood L. M. Government Old-Age Support and Labor Supply: Evidence from the Old Age Assistance Program[J]. American Economic Review, 2018(8): 2174-2211.

Fielding K.S., Hornsey M.J. A Social Identity Analysis of Climate Change and Environmental Attitudes and Behaviors: Insights and Opportunities[J]. Frontiers in Psychology, 2016, 7: 121.

Giesecke M., Jäger P. Pension Incentives and Labor Supply: Evidence from the Introduction of Universal Old-Age Assistance in the UK[J]. Journal of Public Economics, 2021(3): 104516.

Guo K.M., Yan S. Postponing Retirement, Intergenerational Transfer and Labor Supply Growth[J]. Economic Research Journal, 2016(6): 128-142.

Guo X. Research Progress on Age and Work Motivation[J]. Economic Perspectives, 2022(4): 140-157.

Hogg M.A, Sunderland J. Self-Esteem and Intergroup Discrimination in the Minimal Group Paradigm[J]. British Journal of Social Psychology, 1991(1): 51-62.

Hogg M.A, Turner J.C. Interpersonal-Attraction, Social Identification and Psychological Group Formation[J]. European Journal of Social Psychology, 1985(1): 51-66.

Kaufman G., Elder G.H. Revisiting Age Identity - A Research Note[J]. Journal of Aging Studies, 2002(2): 169-176.

Kaufman G., Elder G.H. Grandparenting and Age Identity[J]. Journal of Aging Studies, 2003(3): 269-282.

Kooij D., de Lange A., Jansen P. et al. Older Workers' Motivation to Continue to Work: Five Meanings of Age. A Conceptual Review[J]. Journal of Managerial Psychology, 2008(4): 364-394.

Kuhnen C.M., Melzer B.T. Noncognitive Abilities and Financial Delinquency: The Role of Self-Efficacy in Avoiding Financial Distress[J]. Journal of Finance, 2018(6): 2837-2869.

Kunze F., Boehm S.A, Bruch H. It Matters How Old We Feel in Organizations: Testing a Multilevel Model of Organizational Subjective-Age Diversity on Employee Outcomes[J]. Journal of Organizational Behavior, 2021(4): 448-463.

Laguerre R.A, Barnes-Farrell J.L., Hughes J.M. An Examination of the Predictive Validity of Subjective Age and Core Self-Evaluations on Performance-Related Outcomes[J]. Work Aging and Retirement, 2023(1): 95-117.

Liu L., Dong X.Y, Zheng X.Y. Parental Care and Married Women's Labor Supply in Urban China[J]. Feminist Economics, 2010(3): 169-192.

Liu T., Sun L. Pension Reform in China[J]. Journal of Aging & Social Policy, 2016(1): 15-28.

Liu Z.L, Zheng Q.W., Zhou C. Impact of the Basic Pension Program on Labor Supply and Retirement Decisions: An Empirical Analysis Based on the China Health and Retirement Longitudinal Study[J]. Economic Research Journal, 2019(6): 151-167.

Lyu M.Y, Peng X.Z, Lu M.H. The Effect of Internet Use on Employment of the Elderly[J]. Economic Perspectives, 2020(10): 77-91.

Maalaoui A., Partouche J., Safraou I. et al. Senior Entrepreneurship: How Subjective Age Affects Seniors' Entrepreneurial Intentions[J]. Review of Managerial Science, 2023(2): 443-465.

Maestas N., Zissimopoulos J. How Longer Work Lives Ease the Crunch of Population Aging[J]. Journal of Economic Perspectives, 2010(1): 139-160.

Manor S. Trying to Be Someone You Can Never Be Again: Retirement as a Signifier of Old Age[J]. Ageing & Society, 2017(5): 985-1005.

中国知网 https://www.cnki.net

Mao S. Y, Connelly R., Chen X. X. Stuck in the Middle: Off-Farm Employment and Caregiving among Middle-Aged Rural Chinese[J]. Feminist Economics, 2018(2): 100-121.

Neugarten B. L., Hagestad G. O. Age and the Life Course, in: Binstock R H, Shanas E. (eds), Handbook of Aging and the Social Sciences[M]. Princeton: Van Nostrand Reinhold, 1976.

Neugarten B. L, Moore J. W., Lowe J. C. Age Norms, Age Constraints, and Adult Socialization[J]. American Journal of Sociology, 1965(6): 710-717.

Neumark D., Burn I., Button P. Experimental Age Discrimination Evidence and the Heckman Critique[J]. American Economic Review, 2016(5): 303-308.

Oster E. Unobservable Selection and Coefficient Stability: Theory and Evidence[J]. Journal of Business & Economic Statistics, 2019(2): 187-204.

Pagliaro S., Lo Presti A., Barattucci M. et al. On the Effects of Ethical Climate(S) on Employees' Behavior: A Social Identity Approach[J]. Frontiers in Psychology, 2018, 9.

Rosenberg M. Society and the Adolescent Child[M]. Princeton: Princeton University Press, 1965.

Rubin D. C., Berntsen D. People over Forty Feel 20% Younger than Their Age: Subjective Age across the Lifespan[J]. Psychonomic Bulletin & Review, 2006(5): 776-780.

Rubin M., Hewstone M. Social Identity Theory's Self-esteem Hypothesis: A Review and Some Suggestions for Clarification[J]. Personality and Social Psychology Review, 1998(1): 40-62.

Schafer M. H. Parental Death and Subjective Age: Indelible Imprints from Early in the Life Course?[J]. Sociological Inquiry, 2009(1): 75-97.

Shanahan M. J, Elder G. H. History, Agency, and the Life Course, in: Crockett L J. (ed), Nebraska Symposium on Motivation. Agency, Motivation, and the Life Course[M]. Nebraska: University of Nebraska Press, 2002.

Shinan-Altman S., Werner P. Subjective Age and Its Correlates among Middle-Aged and Older Adults[J]. International Journal of Aging & Human Development, 2019(1): 3-21.

Stephan Y., Sutin A. R, Kornadt A. et al. Personality and Subjective Age: Evidence from Six Samples[J]. Psychology and Aging, 2022(3): 401-412.

Tajfel H. Social Categorization, Social Identity and Social Comparison, in: Tajfel H.(ed), Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations[M]. London: Academic Press, 1978.

Tajfel H. Human Groups and Social Categories: Studies in Social Psychology[M]. Cambridge: Cambridge University Press, 1981.

Tajfel H. Social-Psychology of Inter-Group Relations[J]. Annual Review of Psychology, 1982, 33: 1-39.

Tong Y. F, Liao Y. H. The Effects of Chinese Elderly Health on Labour Participation[J]. Chinese Journal of Population Science, 2017(6): 105-116+128.

Turner J. Social Identification and Psychological Group Formation, in: Tajfel H.(ed), The Social Dimension: European Developments in Social Psychology[M]. Cambridge: Cambridge University Press, 1984.

Um J., Zaidi A., Parry J. et al. Capturing Gendered Aspects of Active Aging in China: Insights Drawn from the Active Aging Index in Comparison with Eu Countries[J]. Asian Social Work and Policy Review, 2021(1): 47-59.

Walker A. Commentary: The Emergence and Application of Active Aging in Europe[J]. Journal of Aging & Social Policy, 2009(1): 75-93.

Wang W., Wang W. P. Life Expectancy, Human Capital and Early Retirement[J]. Economic Research Journal, 2021(9): 90-106.

Weiss D., Weiss M. Why People Feel Younger: Motivational and Social-Cognitive Mechanisms of the Subjective Age Bias and Its Implications for Work and Organizations[J]. Work Aging and Retirement, 2019(4): 273-280.

Westberg K., Reid M., Kopanidis F. Age Identity, Stereotypes and Older Consumers' Service Experiences[J]. Journal of Services Marketing, 2021(1): 54-64.

Westerhof G. J, Barrett A. E. Age Identity and Subjective Well-Being: A Comparison of the United States and Germany[J]. Journals of Gerontology Series B-Psychological Sciences and Social Sciences, 2005(3): S129-S136.

Ye Z. H., Post T. What Age Do You Feel? - Subjective Age Identity and Economic Behaviors[J]. Journal of Economic Behavior &

中国知网 https://www.cnki.net

Organization, 2020, 173: 322-341.

Ye Z. H., Zou X. P., Post T. et al. Too Old to Plan? Age Identity and Financial Planning among the Older Population of China[J]. China Economic Review, 2022, 73.

Yu G., Schömann K. Working Pensioners in China: Financial Necessity or Luxury of Choice?, in: Scherger S.(ed), Paid Work Beyond Pension Age: Comparative Perspectives[M]. New York: Palgrave Macmillan, 2016.

Yu X., Sun Y. The Model of "Internet + Old-age Service": The Innovative Development of Old-age Service in New Era[J]. Population Journal, 2017(1): 58-66.

Yu X., Wang Q. H. A Study on the Factors Influencing Old Age Identity among the Chinese Elderly[J]. Frontiers in Public Health, 2023, 10.

Zhai Z.W, Li L. Further Discussion on the Standard and Definition of "Elderly"[J]. Popupation Research, 2014(6): 57-63.

Zhao M. H., Yang F. Differences in the Subjective Age of Chinese Older Adults and Its Determinants[J]. Population Journal, 2020(2): 41-53.

Zheng A. W., Jiang X. Research Progress on the Elderly Labor Supply[J]. Economic Perspectives, 2020(5): 101-116.

中国知网 https://www.cnki.net