

Retirement is not the end of the road: Essentialist beliefs about aging moderate the association between future time perspective and retirement adjustment

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Abstract

Objective: The present study aims to investigate whether changes in future time perspective could influence individual's retirement process and adjustment. Moreover, we would also like to test moderation effect of essentialist beliefs about aging on the association between changes in future time perspective and retirement adjustment. Method: 201 participants were recruited 3 months before retirement and followed for 6 months. Future time perspective was measured before and after retirement. Essentialist beliefs about aging was measured before retirement. Other demographics as well as life satisfaction were also measured as covariates. Results: Multiple regressions were conducted, and the results revealed that (1) retirement could lead to limited future time perspective, but individual differences regarding the influence of retirement on future time perspective also exists; (2) increase in future time perspective was positively associated with retirement adjustment; and moreover, (3) such association was moderated by fixed views of essentialist beliefs, such that retirees holding a more fixed view of essentialist beliefs about aging exhibited a stronger association between future time perspective change and retirement adjustment, while those who held less fixed view of essentialist beliefs about aging did not show such association. Discussion: The present study contributes to the literature by showing that future time perspective could be influence by retirement, and such changes could in turn further impact adjustment. And the association between changes in future time perspective and retirement adjustment was only effective among retirees holding more fixed views of essentialist beliefs about aging. Findings would also provide important practical implications to improve retirement adjustment.

Keywords Retirement adjustment · Future time perspective · Essentialist beliefs about aging

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Retirement, usually happens at later life stage (Levinson & Levinson, 1996), is defined as "an individual's exit from the workforce, which accompanies decreased psychological commitment to and behavioral withdrawal from work" (Shultz & Wang, 2011; Wang & Shi, 2014). Given the rapid global population aging, the retirement adjustment, a process of getting used to the changed circumstances of life caused by retirement (Wang et al., 2011), has been an important topic in research (e.g., Wang & Shi, 2014). Several predictors of retirement adjustment had been proposed and tested, including, individual factor, work and organizational factor, family context, and socioeconomic factors (see for reviews, Barbosa et al., 2016; Wang et al., 2011; Wang & Shultz, 2010). At the individual level, physical health (Gallo et al., 2000), mental health (Wang, 2007), and personality (Robinson et al., 2010) were extensively studied. In the present study, we would further investigate another individual



factor, i.e., future time perspective (FTP, Carstensen & Lang, 1996), which could potentially influence individual's retirement process and adjustment (e.g., Henry et al., 2017). Moreover, we would also like to see whether the effect of future time perspective on retirement adjustment is universal or could be moderated by individual's essentialist beliefs about aging, a belief regarding the fixed ("aging is set in stone") or malleable ("age is just a number") nature of aging (Weiss, 2018; Weiss et al., 2016).

Retirement and changes in future time perspective

Future time perspective (FTP) is defined as the totality of individuals' views on their psychological future (Lewin, 1951), and is a ubiquitous quality in individual development (Carstensen, 2006; Trommsdorff & Lamm, 1975) argues that FTP was "a series of expectations and beliefs of individuals about their own future", and such self-expectation could enable individuals to think across time, anticipate the future, and consider the remaining time of life (Sedekides & Skowronski, 1997). There has been a debate whether retirement could trigger changes in future time perspective. From the perspective of socioemotional selectivity theory (SST, Carstensen, 2006), it is suggested that future time perspective is more than a trait-like variable, and could be influenced by contextual factors (Fung et al., 1999). Several studies have demonstrated that the experience of ending would trigger limited future time perspective in different cultures (e.g., Ersner-Hershfield et al., 2008; Zhang et al., 2009). With this basis, the event of retirement (as an end to one's career) in later life could induce changes in FTP leading to a more limited future time perspective. However, there has also been indirect evidence suggesting that retirement might not necessarily lead to limited future time perspective. For example, Wang (2007) identified three groups of individuals transitioning into retirement, namely the maintaining group, recovering group and U-shape group, based on their changes in psychological well-being and adjustment. Such results might indicate retirement to be a heterogeneous process, which might yield different growth pattern in terms of time perspective longitudinally (Hansson et al., 2018; Muratore et al., 2014; Wang, 2007). Therefore, one purpose of the present study would be to examine whether FTP changes during the retirement process. As the effect of retirement on FTP remains unclear, we propose the following hypotheses:

H1: Retirement will affect changes in future time perspective.

Changes in FTP and retirement adjustment

Socioemotional selectivity theory has postulated that changes in future time perspective could lead to potential changes in motivations and goals (Carstensen et al., 1999). For example, people are more likely to perceive time as increasingly limited as they age, which often lead to increases in sadness and decreases in happiness (Ersner-Hershfield et al., 2008; Zhang et al., 2009). As an emotional-coping strategy, older adults would focus on emotionally meaningful goals to obtain short-term or immediate gratification, rather than future-oriented goals, such as information seeking and learning (Carstensen et al., 1999). Similarly, scholars generally reached consensus that (future) time perspective is an important factor that could influence people's retirement intention and planning, a manifestation of individual motivation and goal (see for review, Henry et al., 2017). In a recent meta-analysis, FTP was positively associated with better retirement planning-related outcomes (i.e., financial knowledge), such that individuals with higher FTP were equipped with more financial knowledge related to retirement (Kooij et al., 2018). However, only a few studies have investigated the effect of future time perspective on retirement adjustment. Earl et al. (2015) confirmed that FTP is not only the antecedent of individual retirement plans, but also a predictor of retirement adjustment. They argued that those with an FTP may take a learning approach to retirement, which would make improvements on retirement adjustment based on past experiences and continue to make improvements. In a meta-analysis, Kooij and colleagues (2018) found that future time perspective was positively associated with life satisfaction, one of psychological outcomes of retirees' adjustment (Wang et al., 2011). On the other hand, in previous studies, future time perspective was measured as a static dispositional trait without considering its changes.

Therefore, the present study would further examine the effect of changes in future time perspective on personal adjustment after retirement. We would expect that changes in future time perspective in the process of retirement would affect people's retirement adjustment, such that a negative change in FTP (i.e., FTP becomes more limited) would lead to worse adjustment after retirement, and vice versa. We propose the following hypothesis:

H2: The changes in future time perspective after retirement is associated with retirement adjustment, such that decrease in future time perspective (i.e., FTP becoming more limited) would be associated with worse retirement adjustment, while increase in future time perspective (i.e., FTP becoming more open) would be associated with better retirement adjustment.



The moderating role of essentialist beliefs about aging

Aging is an inevitable and important part of life, though it is not necessarily associated with negative changes (Heckhausen et al., 1989), different and divergent beliefs and views about aging still exist (Baltes et al., 2006; Weiss, 2018) conceptualize essentialist beliefs about aging (EBA) as the extent to which people believe that the aging is inherently malleable and changeable (a flexible EBA), rather than fixed and inevitable (a fixed EBA). It is found that older adults with fixed EBA exhibited more negative reactions toward aging stereotypes than those who held a more flexible essentialist beliefs about aging, and resulted in negative outcomes including worsened psychological well-being and physical health (e.g., Weiss, 2018). Older adults with more fixed EBA were also more susceptible to the adverse impact of (negative) aging stereotypes on their memory performance and physiological responses (e.g., Weiss et al., 2019; Weiss & Weiss, 2016). Weiss (2018) further postulates that when aging is considered as a fixed process, individuals will feel the threat of age-related losses, which would make them more prone to stereotype threat, compared with those who held a more flexible EBA. From this perspective, we would assume that those with a fixed EBA would more likely to be negatively affected and showed worse retirement adjustment when expecting FTP to be more limited (vs. more open) after retirement, as limited FTP may enhance the salience of age-related losses and activate more threat on those with fixed EBA. However, on the opposite, it is also possible that those with a flexible EBA may actively adapt to the changing circumstances in the retirement process, no matter how retirement affects their FTP. We thus propose the following hypothesis:

H3: Essentialist beliefs about aging would moderate the association between changes in future time perspective and retirement adjustment. Specifically, we would expect that people holding more fixed essentialist beliefs about aging, would exhibit a stronger association between changes in FTP and retirement adjustment. In contrast, such association would be less pronounced (or even insignificant) among retirees holding less fixed essentialist beliefs about aging (for a more comprehensive model, please refer to supplement Figure S1).

Method

Participants

To examine the relationship between changes in future time perspective and adjustment, as well as the moderating role of essentialist beliefs about aging in such association, we recruited a sample of workers in the process of retirement. As the current legal retirement age in China is 60 for man and 50 for female workers (55 for female cadres), 206 Chinese participants who reached the legal retirement age and would be retired from March to June, 2020 were recruited from a state-owned shipping company. The sample were surveyed three months right before their retirement date. A follow-up survey was conducted again from June 2020 to September 2020, which was three months after their retirement, as there is literature suggesting that 3–6 month is a critical period for retirement adjustment (Taylor et al., 2008). 201 retirees were successfully tracked, only 5 participants dropped out from the survey because of contact loss.

The average age of our sample is 56.91 (SD=2.77), ranging from 50 to 62. Among the 201 participants, 101 people (50.25%) are retired seafarers, including crew and captain; and 100 people (49.75%) are onshore workers, containing staff and senior executive. A total of 19 female participants (9.45%) are retired onshore workers¹. The two group of participants did not differ in any of the variables of interest, hence they were merged for further analyses.

Measures and procedure

Participants were assessed three-month before retirement (T1) and three-month after retirement (T2). At T1, demographic information, including age, sex (0=female, 1=male), education level (from 1=no formal education to 6=holding a postgraduate degree) and number of children, life satisfaction, future time perspective, essentialist beliefs about aging (flexible view) were measured. At T2, marital status (0=currently without a partner, 1=married), self-reported health (from 1=very poor to 5=excellent), self-reported social economic status (SES, adapted from the MacArthur Scale of Subjective Social Status, from 1=lowest status, to 10=highest status), future time perspective, and retirement adjustment were assessed. All these measurements were present in Mandarin.

The life satisfaction (LS) was measured by the five-item Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985). Participants rated their agreement for each item on a seven-point-Likert scale (from 1 = totally disagree to 7 = totally agree), and a sample item would be "I'm satisfied with life". The scale showed high internal consistency as indicated by Cronbach's α = 0.91. A larger score reflected higher life satisfaction.

Future time perspective was measured by Future Time Perspective Scale developed by Carstensen and Lang (1996). The scale consists of 10 items, and a sample item

¹ excluding the 19 female participants from the analysis did not change the results reported below.



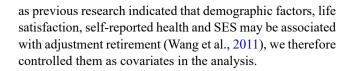
would be "my future seems infinite to me". Participants rated each item on a five-point Likert scale (from 1 = "definitely not" to 5 = "definitely"). Lower scores represented a perception that future time was more limited. Internal consistency of the scale, as indexed by Cronbach's α , was 0.81 and 0.81 for T1 and T2, respectively.

The essentialist beliefs about aging were measured by the fixed view subscale of Essentialist Beliefs about Aging scale developed by Weiss and Diehl (2021). The subscale is composed of five items, and a sample item would be "aging is an irreversible biological process and cannot be influenced". Participants were asked to rate each item on a seven-point Likert scale (from 1 = "strongly disagree" to 7 = "strongly agree"). Higher scores represented a more fixed view of essentialist beliefs about aging (i.e., aging process is biologically determined and irreversible), and such belief was argued to be more stable across time (Weiss & Diehl, 2021, Study 1). Internal consistency of the scale was good, as indexed by Cronbach's $\alpha = 0.72$.

Retirement adjustment was measured through the Retirement Adjustment Scale developed by Wells et al. (2006). The original scale consists of 14 items and participants were asked to rate each item on a five-point-Likert scale (from 1 = strongly disagree to 5 = strongly agree), and a sample item would be "I am well adjusted to the changes". A Chinese version has been validated by Zhang and Wang (2018). Following their recommendation, one item (i.e., "I wish I could prepare for retirement earlier") was removed, resulting in better internal consistency, as indicated by Cronbach's $\alpha = 0.74$. A larger score represented better retirement adjustment.

Analysis plan

First of all, repeated-measure ANOVA was conducted to see whether and how retirement could affect participants' future time perspective to test our hypothesis 1. Second, autoregression was conducted on future time perspective of T1 and T2. That is, using future time perspective of T2 as the dependent variable and future time perspective of T1 as the independent variable in a regression model. The standard residual was calculated to represent the changes in future time perspective (FTP) in the 6-month-interval, and was further used as independent variable for the following analysis. Next, multiple regression was conducted with changes in FTP as the independent variable and retirement adjustment as the dependent variable to test our second hypothesis. Finally, moderation analysis with fixed view of essentialist beliefs about aging as the moderator was conducted using multiple regression to test our third hypothesis². In addition,



Results

Descriptive statistics

Detailed descriptive statistics were shown in Table 1. Zeroorder correlation exhibited that future time perspective at both T1 and T2 are significantly correlated with retirement adjustment (rs>0.21, ps<0.01), providing preliminary support to our original hypothesis 2. Moreover, life satisfaction at T1 and self-reported health, as well as social economic status at T2 were also significantly associated with retirement adjustment (rs>0.31, ps<0.01), which is consistent with previous research finding (Wang et al., 2011).

Changes of future time perspective after retirement

Repeated-measure ANOVA with time (T1 vs. T2) as the within-subject factor was conducted on participants' future time perspective. The main effect of time was marginally significant, F(1, 200) = 2.94, p = .09, $\eta^2 = 0.01$, suggesting that after retirement, participants' future time perspective became slightly limited (T1: Mean = 2.99, SD = 0.55 vs. T2: Mean = 2.93, SD = 0.48).

In order to reach a better understanding of such marginal significant time effect, we further fitted an unconditional means model with multilevel modeling, which could help to partition and quantify the outcome (i.e., future time perspective) variation into within-person variance, i.e., changes with time, as indexed by $\sigma^2 = 0.10$, and between-person variance, i.e., individual differences, as indexed by $\tau_{00} = 0.17$. The results indicated that changes in FTP are somehow heterogeneous by showing more individual (between-person) differences, which could be considered an important prior for testing hypothesis 2.

To test hypothesis 2, hierarchical regression analysis was conducted to examine whether changes of future time perspective was associated with retirement adjustment. In the regression model, retirement adjustment score was treated as the dependent variable, and demographics (including age, sex, education level, marital status, number of children, self-reported health, self-reported SES) and life satisfaction were entered into the first block as covariates. The second block consisted of FTP changes. Results indicated that, after statistically controlling for covariates, changes in

Change Score Modeling provided similar results as the regression analyses. Please refer to supplement for detailed model and results.



A latent change score model approach was also applied for analyzing changes of future time perspective (McArdle, 2009), and the Latent

0.07 -0.21**0.28 9 -0.090.21** 0.63** 6 0.32** 0.22** 0.51** 0.49** 0.29 0.37 0.12 0.09 Notes. * p < .05, ** p < .01; SES = Social Economic Status, FTP = Future Time Perspective, EBA = Essentialist Beliefs about Aging 0.35** 0.32** 0.31** 0.37** -0.04-0.0380.0 0.05 0.05 0.07 -0.04 90.0 0.02 0.04 0.03 0.04 -0.16*-0.09-0.13-0.07 -0.11 -0.070.09 0.20 **Table 1** Participants Characteristics and Zero-order Correlation (N = 201) 0.04 -0.03 -0.020.04 94% Married 56.91 (2.77) 91% Males 1.08 (0.37) 2.93 (1.72) 5.02 (1.55) 4.71 (1.20) 2.99 (0.55) 2.93 (0.48) 4.91 (0.95) 3.09 (0.40) 3.53(0.81) 6. Self-reported Health at T2 12. Retirement Adjustment 7. Self-reported SES at T2 8. Life Satisfaction at T1 11. Fixed views of EBA 4. Number of Children 5. Marital Status at T2 3. Education Level 10. FTP at T2 9. FTP at T1

Table 2 Association between Changes in FTP and Retirement Adjustment

| | Variables | В | SE |
|---------|-------------------------|-----------------------|-------|
| Block 1 | Age | 0.006 | 0.010 |
| | Sex $(0 = female,$ | -0.074 | 0.094 |
| | 1 = male) | | |
| | Education Level | 0.008 | 0.015 |
| | Number of Children | 0.033 | 0.066 |
| | Marital Status | -0.078* | 0.101 |
| | (0 = without a partner, | | |
| | 1 = married | | |
| | Self-reported Health | 0.057 | 0.032 |
| | Self-reported SES | 0.051** | 0.017 |
| | Life Satisfaction at T1 | 0.129** | 0.023 |
| | | $R^2 = 0.31**$ | |
| Block 2 | Changes of FTP | 0.075** | 0.024 |
| | _ | $\Delta R^2 = 0.03**$ | |

Notes. *p<.05, **p<.01; SES = Social Economic Status, FTP = Future Time Perspective

FTP were positively and significantly associated with retirement adjustment, B = 0.08, SE = 0.02, p < .01. Such results supported hypothesis 2, and suggested that after retirement, if participant's future time perspective became more limited, they would experience worse retirement adjustment, while if their future time perspective became more open, they would show better adjustment (see Table 2 for detailed statistics).

Moderation effect of fixed views of essentialist beliefs about aging

To test our second hypothesis, hierarchical regression analysis was conducted to further investigate whether fixed views of EBA could moderate the association between changes of future time perspective and retirement adjustment (see Table 3). Similarly, retirement adjustment score was treated as the dependent variables, and demographics (including age, sex, education level, marital status, number of children, self-reported health, self-reported SES, and life satisfaction) were entered into the first block as covariates. The second block consisted of FTP changes and fixed EBA scores. The interaction between changes of FTP and fixed EBA scores was entered into the final block. The results indicated that, beyond the changes of FTP, the interaction between changes of FTP and fixed EBA was also associated with retirement adjustment, B = 0.06, SE = 0.02, p = .01. Simple slope analysis indicated that retirees holding a more fixed view of essentialist beliefs about aging exhibited a stronger association between FTP change and retirement adjustment (B=0.13, SE=0.05, p=.01), while those who held less fixed view of essentialist beliefs about aging did not show such association (B = 0.02, SE = 0.06, n.s.) (see Figure 1), providing support to hypothesis 2.



Table 3 Moderation Role of Essentialist Beliefs about Aging

| | Variables | В | SE |
|---------|--|-----------------------|-------|
| Block 1 | Age | 0.006 | 0.010 |
| | Sex $(0 = \text{female}, 1 = \text{male})$ | -0.074 | 0.094 |
| | Education Level | 0.008 | 0.015 |
| | Number of Children | 0.033 | 0.066 |
| | Marital Status ($0 =$ without a partner, $1 =$ married) at T2 | -0.078 | 0.101 |
| | Self-reported Health at T2 | 0.057 | 0.032 |
| | Self-reported SES at T2 | 0.051** | 0.017 |
| | Life Satisfaction at T1 | 0.129** | 0.023 |
| | | $R^2 = 0.31**$ | |
| Block 2 | Changes of FTP | 0.076** | 0.024 |
| | Fixed views of EBA | 0.005 | 0.026 |
| | | $\Delta R^2 = 0.03**$ | |
| Block 3 | Changes of FTP x Fixed views of EBA | 0.061* | 0.024 |
| | | $\Delta R^2 = 0.02*$ | |

Notes. *p < .05, **p < .01; SES = Social Economic Status, FTP = Future Time Perspective, EBA = Essentialist Beliefs about Aging

Discussion

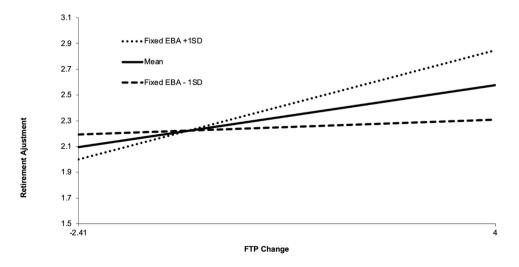
The present study aimed to investigate how retirement could influence future time perspective, and how such influence in FTP (as reflected by changes) could further impact individual's retirement adjustment among a group of retirees in a 6-month interval. In responding to our first hypothesis, the present study generally supported argument made from socioemotional selectivity theory, indicating that retirement would indeed lead to a more limited future time perspective. Meanwhile, a further multilevel analysis provided additional information, and suggested that other than the well-documented within-person change of future time perspective in the retirement process, there was also possible between person differences. In other words, retirement could also be heterogeneous that not every retiree exhibited

a limited future time perspective during the process. Moreover, and as expected, it is further found that as retiree's future time perspective becomes more open, they showed better retirement adjustment, and vice versa. Finally, fixed views of EBA were found to moderate such association. Specifically, the association between changes in FTP and retirement adjustment was stronger among retirees holding a higher level of fixed EBA, in contrast, such association became insignificant among retirees holding a lower level of fixed EBA.

Changes of FTP during Retirement

Although, there have been numerous studies about growth/ changes of life satisfaction and psychological well-being during retirement (e.g., Muratore et al., 2014; Wang, 2007), research on how future time perspective change in the process of retirement are rare. In accordance with Socioemotional Selectivity Theory (Carstensen, 2006), retirement could lead to limited future time perspective for retirees at least for the first 3 months of retirement. In the meantime, the present study also provided very preliminary evidence suggesting that changes of future time perspective in the process of retirement could also be heterogenous. Indeed, retirement is a key life transition as it is a transition to later life accompanied by subjective developmental and social-psychological transformative meaning (Kim & Moen, 2001). People who set retirement as the beginning of old age would place themselves into the category of "older adults" when they left the labor market, which was usually seen as less desirable in the society, and was associated with negative attributes, such as being less healthy, less independent, and less inactive (Giles et al., 2010). Empirical studies have also suggested that stereotypes about retirement and attitudes toward aging would influence individual's motivation to retire (Bal et al., 2015), such that those workers

Fig. 1 Fixed views of EBA moderate the association between FTP change and retirement adjustment





who self-categorized as "being old" would perceive limited occupational future time perspectives. However, retirement could also be regarded as the beginning of a new journey (Kaufman & Hiland, 2021), such framing could lead to increased future time perspective. Our findings were in line with a recent investigation by Kerry and Embretson (2018), suggesting that an ending framing (the "die-by" condition) could lead to limited future time perspective compared with an open framing (the "live-to" condition) in older workers. The present study adds to the existing literature by demonstrating that retirees might not consider retirement as a negative event uniformly, rather they would perceive retirement differently (and leading to more heterogenous changes in future time perspective).

Changes of FTP in affecting retirement adjustment

In the present study, we demonstrated that retirement did not necessarily lead to limited future time perspective, and we further revealed a positive association between changes in FTP and retirement adjustment (Earl et al., 2015; Muratore et al., 2014). Retirement is an important life event for individuals in the transition from middle age to old age. According to a resource-based dynamic perspective, the individual's adaptation to retirement is affected by the changes of cognitive resources, motivation resources, social resources, emotional resources and other resources, and the retirement adjustment fluctuates with the changes of resources (Wang et al., 2011). Future time perspective is regarded as an essential resource for individual's retirement adjustment, as it could influence how people predict and construct the future (Carstensen, 2006). When the retirees' future time perspective becomes more open, they would see more opportunities than constrains, such as setting future goals and engaging in specific behaviors to achieve those goals, which would result in better adjustment. For example, Shipp et al. (2009) found that retirees with higher FTP are less likely than people with lower FTP to be entangled with past failures and disappointments, which would enhance their life satisfaction, an indirect indicator of retirement adjustment (Prenda & Lachman, 2001). In the present study, we further extended previous findings by adapting a dynamic view of future time perspective and demonstrated that changes in future time perspective in the retirement process could also in turn influence how individuals adjust to the process.

The moderation effect of essentialist beliefs about aging

Another novel but important finding from the present study is the moderating role that essentialist beliefs about aging played, such that retirement adjustment of retirees holding less fixed views of essentialist beliefs about aging was not affected by future time perspective. Retirement is a symbolic milestone signaling an individual's "old" identity, which would further cause the individual to have limited FTP (e.g., Giles & Reid, 2005; Radl, 2012), and make them more vulnerable to age-based stereotype threat (Pyszczynski et al., 1999; Westerhof et al., 2014). However, in previous study, Weiss (2018) reported that a more flexible essentialist beliefs about aging, compared with fixed essentialist beliefs about aging, could buffer against the detrimental effect of age-based stereotype threat. The beliefs that aging is changeable (vs. inevitable) could result in changes in motivation (Brandtstädter et al., 2010; Freund & Blanchard-Fields, 2014). For example, Brandtstädter (1989) argues that when facing age-related loss, the motivation to control for the developmental changes plays an important role in maintaining optimism about future. However, when the loss or decline is considered biologically determined and uncontrollable, people are less likely to engage in actions to combat against loss through self-protective behaviors (Heckhausen et al., 2010).

In the present study, we provided further evidence to showcase how essentialist beliefs about aging could influence other outcomes (i.e., retirement adjustment). Such that, older adults with more fixed views of essentialist beliefs about aging, limited future time perspective following retirement would further provoke their age-based stereotype threat and influence their adjustment to retirement negatively. However, the retirees with less fixed EBA, who considered aging as a process that can be malleable and modifiable (i.e., aging is just a number), would actively plan for the future, and achieve more future goals (e.g., Jacobs-Lawson & Hershey, 2005), making them less likely to be influenced by future time perspective change.

Findings from the present study also yielded important practical implications to improve retirement adjustment. Interventions and training programs targeted at changing retiree's essentialist beliefs about aging could improve their ability to deal with aging-related threats and combat against negative aging stereotypes for better psychological wellbeing (Weiss, 2018), which would be an important step for retirement adjustment.

Limitations and future directions

Several limitations should also be acknowledged before we reach any conclusion. First of all, the gender ratio is imbalanced with only 19 females. This might be due to the nature of the industry we surveyed (participants are from a stateown shipping company, and most of them are seamen), making the generalizability questionable. Future studies



might be needed to test the model in other more divergent samples. Second, we only observed a marginally significant time effect in future time perspective, and it is attributed to the heterogeneous nature of retirement. However, another alternative might lie in the fact the participants were surveyed during the COVID-19 pandemic, which made their future time perspective rather limited already, and the event of retirement might not show a stronger effect as expected. Although according to Center for Disease Control and Prevention of China, from June to September 2022, the pandemic in China is already under control, and should not influence participants much. But still, we agree that more investigations should be conducted to further examine the changes of future time perspective during the retirement process. Third, the retirement policy in China is quite different from other Western countries (such as the United States), which might make the generalizability of the present study very limited. More investigations from diverse cultures are welcome to further validate the findings from the present study. Finally, the time interval in the present study is relatively short. Although there have been literatures suggesting that the first 3 months is the most critical period for retirement adjustment (Taylor et al., 2008), retirees could be followed for a longer period (e.g., 6-12 months after retirement) of time to examine the robustness of finding.

Despite these limitations, the present study contributes to the literature by showing that changes in future time perspective is positively related to retirement adjustment. And moreover, essentialist beliefs about aging could moderate the association between FTP changes and retirement adjustment, potential training programs could be launched to improve retirement adjustment and promote successful aging in China.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s12144-023-04731-w.

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Data Availability The data could be made available upon reasonable request to the first author.

Declarations

Conflict of interest None.

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