The influence of subjective life expectancy on retirement transition and planning: A longitudinal study

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ARTICLE INFO

ABSTRACT

This study examines the construct of subjective life expectancy (SLE), or the estimation of one's probable age of death. Drawing on the tenets of socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999), we propose that SLE provides individuals with their own unique mental model of remaining time that is likely to affect their retirement planning and decision making. Longitudinal data from 1908 participants showed that SLE measured at Time 1 predicted mature-aged workers' intended retirement age and the extent that they were engaged in retirement preparation 12 months later at Time 2. Furthermore, a shorter SLE at Time 1 increased the odds of actual retirement by Time 2 after controlling for a set of known predictors of retirement. In contrast, a longer SLE at Time 1 increased the odds that a Time 1 retiree had returned to paid work by Time 2. The discussion highlights ways in which SLE can inform financial and vocational counselling for late career decision-makers.

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Demographic, economic and social changes in most Western societies have resulted in very different patterns of retirement transition from those evident decades ago. The retirement process is increasingly staged, often including a period of bridge employment or post-retirement work, making its prediction important for individuals, organisations, and governments (Jones & McIntosh, 2010). Several factors account for these changes: 1) the ageing population and increased longevity in part associated with improved health (Warren & Kelloway, 2010); 2) the removal of mandatory retirement ages; 3) a potential skills shortage as baby boomers move into retirement (OECD, 2006); and 4) a shift in responsibility for retirement finance and planning from society to the individual (Bidewell, Griffin, & Hesketh, 2006).

Although there is a large body of research identifying predictors of retirement and post-retirement work, surprisingly little attention has been given to the influence of subjective life expectancy (SLE), or the age to which one thinks one will live. As time spent in retirement is a function of retirement age and age of death, SLE is a critical variable in estimating how long this is likely to be. Hesketh, Griffin, and Loh (2011) therefore argued that SLE provides individuals with their own unique timeframe to guide how they apportion work and transitioning to full retirement, as well as informing considerations of how to plan the distribution of their finances and activities over their remaining lifetime. SLE might be thought of as a personal mental model about the span of remaining life. This individual mental model of longevity potentially provides an important source of information over and above population actuarial estimates for those making retirement transition decisions.

The current study presents longitudinal data from 1908 participants to show the effect of SLE on retirement decisions (including on post retirement employment status) and retirement planning one year later. It extends the cross-sectional findings from the only two other studies (Hesketh & Griffin, 2007; van Solinge & Henkens, 2010) that have examined SLE in the context of late career workers and retirees. We note that the van Solinge and Henkens (2010) study also included a longitudinal component,

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and found no effect of SLE on retirement decisions. However, their measure of SLE was only the probability of reaching old age (not a specific age) and this, combined with a younger sample, reduced the likelihood of significant findings.

1. Theoretical background

1.1. SLE and its relationship to other time related constructs

In developing a mental model of how long they might live it is likely that individuals take into account their own age-related actuarial probabilities of life expectancy, but also consider other autobiographical details including factors such as their parents' longevity and their own lifestyles and health. Interestingly, although a relatively new concept for research, there is evidence that self-estimates of life expectancy are reasonably accurate (Fry & Debats, 2006; Kotter-Gruhn, Gruhn, & Smith, 2010; Siegel, Bradley, & Kasl, 2003). Furthermore, an early study by Hamermesh (1985) illustrated that while self-estimates of life expectancy were similar to actuarial estimates, the distribution of self-estimates had greater variance, which suggests that personal factors are having an influence on people's understanding of their own life expectancy.

Estimating longevity is important both for individuals in planning the timing of their transition to retirement and for society where estimates of life expectancy inform pension and aged care policy and practice. Indeed, actuarial life expectancy estimates and survival probabilities have become core tools for economists and financial planners who use them as a guide for determining how people should best allocate and invest their retirement savings (Hurd & McGarry, 2002). However, actuarial estimates are based on population mortality rates so do not capture the range of individual differences likely to affect one's life expectancy. We suggest that people draw on their autobiographical analysis of these differences to formulate a self-estimated or subjective life expectancy (SLE) and argue that this should also be considered in the context of understanding mature-aged workers' transition to retirement.

As a measure of future time, SLE fits within the nomological net of the concepts of future time perspective (FTP) and time remaining, as described in socioemotional selectivity theory, a life-span theory of motivation (Carstensen, 2006; Carstensen, Fung, & Charles, 2003; Carstensen, Isaacowitz, & Charles, 1999). Carstensen and colleagues suggest that as people age their perspective of remaining lifetime changes from being expansive to limited. Awareness of time remaining influences one's choice of goals, so that motivation changes as time horizons contract. When time is perceived to be limited more value is placed on emotional goals and meaningful social interactions and less value on knowledge-relevant goals. Goals focused on acquiring knowledge and information are thought to prepare one for future possibilities (Charles & Carstensen, 2009).

Rather than quantifying remaining time, empirical tests of socioemotional selectivity theory have used chronological age and terminal illness as proxies for limited remaining time or used a scale measuring the construct "future time perspective", which contains items such as "My future seems infinite to me" (Carstensen & Lang, 1996). We suggest that SLE offers a clearer measure of time remaining that may better distinguish among those of similar chronological age. This is particularly important when comparing a more age-homogeneous group such as late-career workers or retirees. At their stage of life, time remaining may start to become more important than time since birth (Carstensen, 2006).

Future time perspective has been operationalised in what appears to be a multidimensional construct, which includes the perception of time remaining as well as one's focus on opportunities and limitations in the future (Cate & John, 2007). Those with a strong focus on opportunities are positive about the future, believing there are many possibilities to pursue in the remainder of their lives, while those with a strong focus on limitations concentrate on perceived impediments and restrictions in the future (Cate & John, 2007). Recent empirical tests of the theory within the context of work have shown that occupational FTP predicts job performance (Zacher, Heusner, Schmitz, Zwierzanska, & Frese, 2010), moderates the relationship between work/family conflict and organisational commitment (Treadway, Duke, Perrewe, Breland, & Goodman, 2011), and moderates the relations between contract fulfilment and employee obligations of older workers (Bal, Jansen, et al., 2010).

1.2. SLE and retirement transition, post retirement work and retirement planning

In a cross-sectional study Hesketh and Griffin (2007) provided initial evidence that SLE was a stronger predictor of intended retirement age than current income, anticipated retirement income, or self-reported health. Those who expected to live longer also planned to retire later. A more recent study by van Solinge and Henkens (2010) supported this finding, showing that SLE was a significant predictor of intended retirement age, even after controlling for important demographic factors such as gender, age, income, education, health, marital status, and family longevity.

The tenets of socioemotional selectivity theory can be used to explain why SLE is likely to be relevant to retirement decision-making. Firstly, low SLE is hypothesised to result in a focus on limited opportunities, low interest in knowledge goals, and a high preference for socialising with close social contacts. Someone with this focus is more likely to want to retire from paid work at an earlier age to allow time to engage in meaningful non-work activities such as spending more time with family and friends. In contrast, those who expect to live longer may feel that they have time to engage in both work and non-work activities. They probably see death as a far off event, relative to others of the same age, and therefore are not yet at the stage to consider changing life priorities and retirement. Secondly, because those who have high SLE are likely to be contemplating a long retirement period with lots of opportunities for activity, they may also need to be engaged in paid work for longer in order to adequately fund their retirement (von Bonsdorff, Shultz, Leskinen, & Tansky, 2009). Thirdly, Lockenhoff and Carstensen (2007) contend that the change in goal focus from information gathering to emotional well-being has implications for decision-making, especially when decisions

require attention to unpleasant or high levels of factual information. Retirement decisions have become increasingly complex with a shift to individual responsibility for timing and finance (Shultz & Wang, 2011) at a time of high uncertainty and instability of financial markets. According to socioemotional selectivity theory, late career workers with a short SLE might therefore avoid the effort of considering negative information about the financial risks of retiring early, preferring to focus on positives such as time for leisure and family activity.

The current study builds on earlier research using retirement intentions (Hesketh & Griffin, 2007; van Solinge & Henkens, 2010) by investigating the hypothesis that high SLE will be related to intended retirement age and to *actual retirement across time*, controlling for chronological age and other known predictors.

Unlike previous generations, retirement for today's late career worker has become a more fluid process and it is not uncommon for people to return to the paid workforce after they have formally exited into retirement (Griffin & Hesketh, 2008; Jones & McIntosh, 2010). Recent conceptualisations of retirement include the notion of a *transition phase* that involves moving in and out of labour force participation as people adjust psychologically and financially in a process towards "full retirement" (Shultz & Wang, 2011). Engagement in post-retirement work or bridge employment during this transition phase has positive implications for organisations seeking to maintain talent and corporate knowledge, and apart from the obvious financial gains, it also has physical and mental health benefits for the individual (Zhan, Wang, Liu, & Shultz, 2009).

For the same reasons hypothesised to keep those with higher SLE from retiring early, it is possible that SLE is a factor that influences an already-retired person to return to paid work/bridge employment. A growing body of research has found that those who leave retirement to re-enter the workforce have more positive attitudes to their pre-retirement work, are more highly educated, are in better health, and are more likely to be male (Davis, 2003; Griffin & Hesketh, 2008; Wang, Zhan, Liu, & Shultz, 2008). Until now the relationship of post-retirement work with SLE has never been examined, but we hypothesise that those with high SLE will be more likely to return to work.

In addition to investigating the longitudinal effect of SLE on retirement age and decisions to retire or re-enter the workforce, we propose that it will also be related to the extent that a late-career worker engages in retirement preparation. Not surprisingly, when financial planners advise pre-retirees about investing and accumulating retirement funds, one factor they consider is expected longevity to calculate how many years their clients' retirement finances need to last. Considerable attention has been given to *actuarial* estimates of life expectancy by economists and those managing pension schemes because of its obvious links to funding retirement (Bloom, Canning, & Graham, 2003; Hurd & McGarry, 2002). In comparison, the effect of *subjective* life expectancy on retirement preparation has not been examined, and yet it has the potential to significantly influence pre-retirees' motivation to save for retirement, and to shape their rationale for decisions about investing retirement finances and planning for long term needs in retirement housing and activities (Hamermesh, 1985).

As previously explained, socioemotional selectivity theory suggests that those with an expansive sense of time remaining are more likely to focus on their future opportunities in life. For example, belief of longer remaining time is related to making preparatory goals, which are focused on gathering information, experiencing novelty, and on expanding one's breadth of knowledge (Carstensen, 2006). Zimbardo and Boyd (1999) also argued that the way people perceive the future appears to be of great importance to their current behaviour and planning. Although retirement preparation has not been investigated in relation to SLE, there has been some attention given to other time-related measures, with evidence (Hershey & Mowen, 2000; Jacobs-Lawson & Hershey, 2005; Petkoska & Earl, 2009) that those who focus on the future engage in more retirement preparation. In the same way, we hypothesise that those with high SLE will also plan more because of the need to cope financially and otherwise with a longer retirement.

In summary, controlling for relevant demographic variables and work attitudes, we predict that at Time 2, those with higher SLE assessed a year earlier at Time 1 will: 1) have an older intended retirement age; 2) be less likely to have actually retired; 3) be more likely to have returned to work after having retired; and 4) be engaging in more retirement preparation.

2. Method

2.1. Participants and procedure

This research was conducted as a sub-study of the Australian population-based "45 and Up Study" (http://www.45andup.org.au/index.html), which began in 2006. The 45 and Up Study is the largest of its kind in the Southern Hemisphere, and among the most heterogeneous of all population-based cohort studies conducted worldwide (Banks et al., 2008). The 45 and Up Study is a longitudinal project tracking the health of men and women aged 45 years and over from the general population of residents in New South Wales, Australia. Our sub-study is following over 2000 volunteers from this group annually for four years, deliberately targeting those aged 55 and over at the time of the initial baseline 45 and Up survey (Time 0), who were also listed at that time as still engaged in paid work. Rather than the typical 45 or 50 year lower age boundary often used in studies of mature-aged workers, 55 was chosen in order to capture a group more likely to be transitioning from work to retirement on the basis that the Australian Bureau of Statistics (2009) shows the average retirement age in Australia for recent retirees (those who have retired in the last five years) was 60.2 years.

Data for our sub-study were collected via an online survey, accessed by participants in the first half of 2010 (Time 1), and a year later in the first half of 2011 (Time 2). The data presented in this study are only from those who completed surveys at both Time 1 and Time 2 (response rate at Time 2 = 75.4% of Time 1 participants). After removing those (n = 134) with missing data on the SLE and work status questions, there were 1908 participants. There was no significant difference between Time 2 responders

and non-responders in terms of gender, but those who responded were slightly older ($M = 62.25$ yrs vs. 62.00 yrs), $t = 2.21$, $p = .03$, a little more highly educated ($M = 4.95$ vs. 4.74), $t = 3.10$, $p = .002$, and had somewhat higher household incomes ($M = 7.01$ vs. 6.86), $t = 2.21$, $p < .03$.

Given that Time 1 was three years after the start of the baseline 45 and Up Study, the participants were aged over 58 at Time 1 ($M = 61.52$, $SD = 2.30$), 48.3% were females, and 79.6% were partnered (married or in a de facto relationship). At Time 1, 37.6% indicated that they were retired. Of those employed at Time 1, the majority (57.7%) worked full-time.

2.2. Measures

The measures used in this study were trialled in a large-scale investigation of over 6000 Australian public sector employees (Hesketh & Griffin, 2010).

2.2.1. Subjective life expectancy

Subjective life expectancy (SLE) was assessed at Time 1 by asking, "To what age do you think you will live?" Responses were given as age in years. This measure has been used in past research (e.g., Ross & Mirowsky, 2002). Although a single item, we suggest that this is as valid as asking a participant's chronological age using the standard one-item measure. Indeed, Carstensen (2006) argues that at this older stage of life, time remaining starts to become more salient than time since birth. This format is different from the probability measures (percentage chance of living to a certain age) used in the economics literature (e.g., Hurd & McGarry, 2002), but it is more straightforward and easily answered.

2.2.2. Retirement variables

Intended retirement age was assessed at Time 2 by a single item asking, "At what age do you intend to retire?" Although a single item variable, this is common in retirement research (e.g. Beehr, Glazer, Nielson, & Farmer, 2000).

By comparing reported work status across Times 1 and 2, we were able to identify four categories of participants: 1) those who had remained in paid work from Time 1 to Time 2 (n = 993), 2) those who had remained retired (n = 610), 3) those who had retired after Time 1 (n = 199), and 4) those who had returned to paid work after Time 1 (n = 106).

Retirement preparation, measured at Time 1 and Time 2, was the extent to which participants were engaged in preparing for their retirement, including financial and non-financial planning. Using 15 items from Griffin and Hesketh (2008), participants indicated, from '1' (Not at all) to '5' (A great deal), the extent to which they were doing things such as "Developing and strengthening interests, hobbies and skills now that you can use in retirement", and "Actively seeking professional financial advice". Coefficient alpha was .89 at Time 1 and .88 at Time 2.

2.2.3. Demographic control variables

Gender (1 = male, 0 = female), age, highest educational qualification (from 1 = no school certificate or other qualification to 6 = university degree or higher), marital status (1 = married or de facto, 0 = not partnered) and household income, were obtained at Time 0 from the linked 45 and Up Study database. The marital status variable was derived from the original item that provided more specific detail on whether the participant was separated, divorced, widowed or single. Household income referred to income in Australian dollars before tax from all sources including benefits, pensions, and superannuation, with responses ranging from 1 (less than $5000 per year) to 8 (more than $70,000 per year).

2.2.4. Health

Subjective health was assessed at Time 1 with a single item asking "In your current situation, to what extent do you actually have good health?" with response options from 1 (Not at all) to 5 (Very large amount). Single item assessments of current self-reported health are not uncommon in large-scale studies on retirement (e.g. Wang et al., 2008).

2.2.5. Work attitude

Job satisfaction was measured at Time 1 with three items from Hesketh and Griffin (2010). Participants used a 5-point scale from 1 (Strongly Disagree) to 5 (Strong Agree) to indicate how strongly they agreed with statements such as "Overall, I am very satisfied in my job". Coefficient alpha was .87.

2.3. Analytical strategy

Because an extensive body of literature has identified a set of relatively consistent predictors of retirement decision making, including demographic, health, and work-related attitudes (Beehr et al., 2000; Topa, Moriano, Depolo, Alcover, & Morales, 2009; Wang & Shultz, 2010), it was important to account for these variables when investigating the impact of SLE. We therefore controlled for age, gender, education level, marital status, income, Time 1 health, and Time 1 job satisfaction in all analyses.

The ability of SLE to predict intended retirement age and pre-retirement preparation across time was examined in separate multiple regressions, using only those who were working in paid employment at both Time 1 and Time 2.

The effect of SLE on the decision to retire from paid work was investigated by comparing those who remained employed with those who had retired by Time 2 using a binomial logistic regression analysis. Likewise, the effect of SLE on the decision to return to work from retirement was examined with a binomial logistic regression analysis that compared those who remained retired

across Times 1 and 2 with those who were retired at Time 1 but working at Time 2. Logistic regressions provide a value for Exp B, which is an indicator of the change in the odds of an event occurring given a unit change in the predictor. A value below 1.00 means that increases in the predictor are associated with a reduction in odds, while values above 1.00 are associated with an increase in the odds.

2.4. Ethical approval

Ethical approval for the 45 and Up Study as a whole was provided by the University of New South Wales Human Research Ethics Committee. Ethical approval for this specific study was provided by the University of Western Sydney and Macquarie University.

3. Results

The descriptive statistics and correlations are displayed in Table 1.

3.1. SLE

As shown in Table 1, the mean of self-estimated life expectancy was 85.17 years at Time 1, which is very similar to the 2009 mean actuarial life expectancy of 84.97 for Australians in the same age bracket as our participants, that is aged 58 to 68 years at Time 1 (Australian Bureau of Statistics, 2010). Men reported a mean SLE that was 1.19 years older than their actuarial mean of 83.42, while women reported a mean SLE .76 years younger than their actuarial mean of 86.52 years of age.

There was a significant difference ($F = 5.43$, $p = .001$) in SLE between the four groups formed on the basis of change in work status from Time 1 to Time 2, that is those who 1) remained working, 2) remained retired, 3) retired, or 4) returned to work, with mean SLEs of 85.56, 84.82, 83.66, and 86.52 respectively.

3.2. SLE and retirement age

SLE at Time 1 was significantly correlated with intended retirement age at Time 2 ($r = .10$) in the total sample. However, this included retirees who gave an actual retirement age not an intended age so a more appropriate subsample on which to test this relationship was just those who were engaged in paid work at both Times 1 and 2 (i.e., the 'remained working' group). A regression analysis was conducted with intended retirement age at Time 2 as the dependent variable, and controlling for the set of previously identified predictors of retirement age (age, gender, education, marital status, income, self-reported physical health at Time 1, and Time 1 job satisfaction).

As reported in Table 2, Time 1 SLE was positively related to intended retirement age at Time 2 beyond the effect of all the control variables. In addition to SLE, retirement age was predicted by gender (males nominated an older intended retirement age), age, income, and Time 1 job satisfaction.

3.3. SLE and retirement preparation

In testing the effect of Time 1 SLE on retirement preparation at Time 2, the 'remained working' group was also used (participants in the other three groups were already retired at Time 1 or were so by Time 2, and therefore obviously not engaged in retirement preparation at one or both times). Table 2 reports the multiple regression analysis, which shows that SLE was a significant predictor, even after controlling for Time 1 retirement preparation. In addition to Time 1 preparation and SLE, those

Table 1
Means (*M*), standard deviations (*SD*) and intercorrelations of study variables (for all participants[a]).

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1.	Gender												
2.	Age	62.06	2.46	.06[*]									
3.	Income	7.03	1.42	.17[*]	−.16[*]								
4.	Education	4.94	1.43	.01	.00	.23[*]							
5.	Marital status			.22[*]	−.02	.02[*]	.00						
6.	T1 health	4.10	.73	−.04	−.05	.09[*]	.03	.06[*]					
7.	T1 job satisfaction	3.85	.87	−.03	.08[*]	.10[*]	.09[*]	.07[*]	.10[*]				
8.	T1 retirement prep	2.57	.70	−.09[*]	.05	.07	.00	.04	.03				
9.	T2 retirement prep	3.05	.73	−.04	.09[*]	.14[*]	.07[*]	.05	.11[*]	.10[*]	.62[*]		
10.	T2 retirement age	64.97	6.35	.06[*]	.20[*]	−.02	−.05	−.05	.01	.10[*]	−.10[*]	−.15[*]	
11.	T1 SLE	85.17	7.19	−.08[*]	.03	.03	.03	.00	.33[*]	.07[*]	.06[*]	.10[*]	.10[*]

Note. Gender: 1 = male, 0 = female; marital status: 1 = partnered, 0 = not partnered.
  [a] Some participants were retired at T1 and their measures of job satisfaction and retirement planning were retrospective to last job, and measures of intended retirement age.
  [*] $p < .01$.

Table 2
Multiple regression analysis of intended retirement age and retirement preparation at Time 2 (using those who were employed at both Times 1 and 2).

	DV = Time 2 retirement age				DV = Time 2 retirement preparation			
	B	SE B	β	p[**]	B	SE B	β	p
Gender	1.44	.38	.13	.001	−.01	.04	−.01	.766
Age	.85	.08	.33	.001	.02	.01	.05	.071
Income	−.37	.16	−.08	.020	.06	.02	.10	.001
Education	.01	.13	.00	.942	−.02	.01	−.03	.275
Marital status	−.32	.45	−.02	.475	.02	.05	.01	.716
T1 health	.23	.27	.03	.380	.05	.03	.04	.112
T1 job satisfaction	.86	.21	.13	.001	.07	.02	.07	.004
T1 preparation	–	–	–	–	.67	.03	.64	.001
T1 SLE	.06	.03	.07	.034	.01	.00	.06	.021
	$R^2 = .16$	$F = 21.50$		.001	$R^2 = .46$	$F = 80.27$		.001

Note. N = 871 (due to loss from listwise deletion).
[**] $p < .01$.

with higher household incomes and who had greater job satisfaction at Time 1 were engaged in more pre-retirement preparation at Time 2.

3.4. SLE and the decision to retire

Of the 1192 participants who were working at Time 1, 199 (16.7%) had actually retired during the one year to Time 2. A binomial logistic regression analysis was conducted in order to assess the predictive validity of SLE on choice to retire across time (0 = *remained working*, 1 = *retired*). As shown in Table 3, having a greater subjective life expectancy at Time 1 reduced the odds of being retired at Time 2 (Exp B = .97), even after controlling for demographic variables, health, and job satisfaction at Time 1. In addition to SLE, higher educational qualifications and lower job satisfaction at Time 1 increased the odds of being retired a year later at Time 2 (by 17% and 30% respectively).

There are scaling issues with the SLE variable (scale range of 40), which distorts the impression of its comparative effect size (Exp B = .97 compared to the Exp B for job satisfaction of .70, which had a scale range of 5). To provide a clearer understanding of the effect of SLE on the decision to retire we rescaled the variable (SLE/5) then repeated the logistic regression. The results reported in Table 3 remain unchanged except that Exp B for SLE was now = .84, meaning that every 5 year increase in SLE *reduced* the odds that someone would have retired by 16%.

3.5. SLE and the decision to return to work from retirement

Of the 716 participants who said that they were retired at Time 1, 106 (14.8%) had returned to work by Time 2. A binomial logistic regression analysis was conducted in order to assess the predictive validity of SLE on choice to return to work (0 = *remained retired*, 1 = *returned to work*). Note that because all participants in this particular analysis were retired at Time 1, job satisfaction was not included as a control variable. As shown in Table 3, having a greater subjective life expectancy at Time 1 was the only factor that affected the odds of returning from retirement to work at Time 2. The higher the SLE the more likely a Time 1 retiree was to have returned to work by Time 2. This analysis was repeated with the rescaled version of SLE, producing an Exp B of 1.21. In other words, every 5 year increase in SLE *increased* the odds that someone would have returned to work by 21%.

Table 3
Binomial logistic regression analyses of retirement status at Time 2: retired vs. remained working and returned to work vs. remained retired.

	Retired (1) vs. remained working (0)			Returned to work (1) vs. remained retired (0)		
	Exp (B)	95% CI	p	Exp (B)	95% CI	p
Gender	.87	.62–1.22	.426	1.29	.82–2.03	.268
Age	1.07	1.00–1.15	.058	.99	.91–1.09	.889
Income	.92	.81–1.05	.216	1.03	.88–1.20	.737
Education	1.17	1.03–1.32	.017	.93	.79–1.08	.337
Marital status	1.26	.84–1.91	.266	1.16	.60–2.22	.660
T1 Health	.94	.75–1.19	.603	.84	.61–1.15	.276
T1 Job satisfaction	.70	.59–.84	.001	–	–	–
T1 SLE	.97	.94–.99	.004	1.04	1.01–1.07	.026
N = 1094; Nagelkerke $R^2 = .06$; $\chi^2_{(8)} = 36.95$[**]				N = 661; Nagelkerke $R^2 = .02$; $\chi^2_{(7)} = 7.34$		

[**] $p < .01$.

4. Discussion

This study contributes to the literature on retirement transition and planning by highlighting the effect of an individual's self-estimated longevity, which is a time-related variable that may actually become as important as chronological age in determining the behaviour of older workers.

We proposed that people have an individualised mental model of their remaining lifetime defined by the age to which they expect to live. Early research by Hamermesh (1985) found that although subjective estimates were similar to actuarial estimates of life expectancy there was greater variation in SLE, indicating that people take into account their own unique history. The results of the current study show that the average SLE reported by participants was not dissimilar to actuarial estimates, but consistent with past research (e.g., Liu, Tsou, & Hammitt, 2007), males were somewhat overly optimistic and females a little more pessimistic than their actuarial means would suggest. Hamermesh (1985) went on to argue that individual differences in SLE may have important implications for actual economic behaviour. Our results support this proposition, showing that SLE was a significant predictor of intended retirement age, of the actual decision to retire, of the amount of retirement preparation that older workers were engaged in, and of the decision to return to work from retirement.

The findings related to actual decisions to retire, especially given that a year is not a particularly long time in terms of capturing retirement activity, show the importance of the SLE construct. It may be that a longer period between Time 1 and 2 would have provided an even stronger effect. The effects on retirement age and retirement planning were also significant, albeit relatively small, across the 12 month time period and after controlling for established predictors of retirement behaviours, such as gender, age, income, education, marital status, subjective health ratings, and satisfaction at work.

Understanding the influences on decision-making is critical at a time when the looming transition to retirement of large numbers of skilled baby boomers is presenting significant challenges to organisational and government workforce planning. The results of this study suggest that individual mental models of life expectancy are likely to impact the timing of and preparation for retirement. Timing and preparation both significantly affect retirement funding and provision for long-term needs in terms of housing and activities, so the influence of very inaccurate SLE on this decision has serious ongoing implications with the possibility that savings might be expended well before the end of retirement. Insufficient retirement preparation can also result in psychological distress (Ferraro & Su, 1999). The challenge for late career workers is to keep engaged and productive at work while at the same time actively prepare for life after work. The challenge for those counselling them is to appropriately adapt and apply knowledge of career development and counselling to late career workers.

The finding that SLE also predicted the likelihood that a retiree would return to the paid workforce adds to the literature on bridge employment. Here too, erroneous mental models of time remaining have the potential to negatively impact retirees given that bridge employment is associated with retiree psychological well-being (Wang, 2007), retirement and life satisfaction (Kim & Feldman, 2000), and positive health-related outcomes (Zhan et al., 2009).

The results of this study provide support for the tenets of socioemotional selectivity theory (SST; Carstensen, 2006; Carstensen et al., 1999, 2003), adding important longitudinal and behavioural information. SST posits that shifts in motivational priorities are predicted by changes in future time perspective, whereby perceptions that time in life is running out cause a move from future-oriented information acquisition goals (such as remaining at work and developing work-related skills) to present-oriented emotion-regulatory goals (such as retiring in order to enjoy leisure and family activity). Until now, the bulk of research investigating perceptions of time remaining has been cross-sectional, has typically examined its relationship to goal selection rather than actual behaviour (Lang & Carstensen, 2002), and has been conducted in non-work contexts. Retirement transition and late career decision-making offers a fruitful area for future development and application of SST.

4.1. Limitations and future research

A potential limitation to the generalisability of this research is our use of an Australian sample, predominantly from Anglo or Western cultural backgrounds with relatively high education. Although our findings were mostly consistent with prior research using a Dutch sample, future research may find SLE has a different effect on retirement decisions in non-Western cultures.

Although significant, the results related to intended retirement age and retirement planning produced only small effect sizes. A number of factors might account for this relatively weak effect. The measure of intended retirement age was range restricted given that all participants were over the age of 58 years and few people work beyond the age of 70 years. Nevertheless, with the rapidly changing nature of retirement (Wang & Shultz, 2010) there is likely to be considerable differences in the point in the retirement transition process that people are thinking about when they nominate an intended retirement age. As Ekerdt (2010) recently commented, "The designation of retirement status is famously ambiguous because there are multiple overlapping criteria by which someone might be called retired, including career cessation, reduced work effort, pension receipt, or self-report" (p. 70). Future research will need to account for this ambiguity. In addition, Shultz and Wang (2011) highlight the complexity of the retirement decision-making process, where individuals need to consider a wide variety of factors, including the current economic and employment contexts as well as family and personal considerations. Time 2 in the current study occurred in the wake of the global financial crisis that affected the retirement plans of many individuals, which may have weakened the relationship between SLE and retirement intentions.

We examined a broad measure of retirement preparation and only two decisions: to retire from paid work and to return to paid work from retirement. Future research needs to ascertain whether the influence of SLE extends to informing a person's understanding of income needed and the distribution of that income over their remaining lifetime. A practical implication is that

SLE could be a valuable complement to financial planners' use of actuarial estimates and risk appetite questionnaires to guide investment decisions.

Given that our results indicate that late career workers and retirees have developed a mental model of their own likely life expectancy, and this mental model influenced decisions that have important consequences both for their personal circumstances as well as for organisations managing projected skill shortages and for governments planning for the social security of older people (Hesketh et al., 2011), then understanding the factors that shape the development of SLE mental models is a critical area for future research. This is particularly important if, as argued by Ziegelmann, Lippke, and Schwarzer (2006), the accuracy of SLE can be improved by intervention. Late career counsellors may need to explore, accommodate and where appropriate, question the basis of these personal estimates. Reflection of this sort may help identify misleading biases, while retaining the value of using a well considered SLE as part of planning. Future research might examine interventions aimed at increasing the accuracy of SLE.

5. Conclusion

The strengths of this research include its large sample, longitudinal data, the use of actual retirement decisions, and the implications for theory and practice relevant to retirement planning and late career development. The late-career participants were able to identify their expected age of death, and this SLE value was significantly related to decisions about retirement transition that are of importance to their career and retirement well-being. These decisions are also of increasing interest to organisations dealing with potential workforce shortages and to governments concerned about their ability to support under-funded retirees in the future.

Acknowledgments

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