

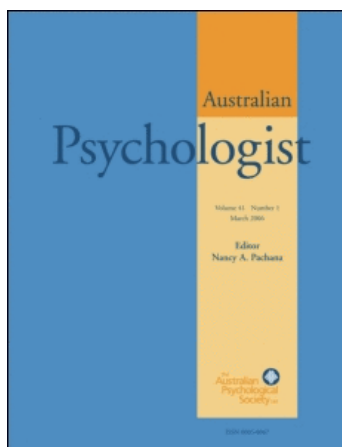
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Predicting retirement preparation through the design of a new measure

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Abstract

Researchers' capacity to investigate retirement planning behaviour is impeded by the lack of rigorous measurement within the literature. For this study, a comprehensive measure based on the reflexive planning domains of public protection, self-insurance, and self-protection was developed and evaluated in a sample of 174 employees aged ≥ 45 years. Variables of gender, age, income and core self-evaluations were examined for their influence on planning effort in each of the three domains. Results indicated a clean, three-factor structure for retirement planning behaviours. All variables emerged as predictors of planning effort in one or more domains. Implications of results for future research into retirement planning and the targeting of planning interventions are discussed.

Key words: *Ageing, core self-evaluations, industrial/organisational psychology, predictors, retirement planning, social issues.*

Retirement has been defined as “a process that starts with planning and decision making some time before the actual end of one’s working life” (Beehr, 1986, p. 39). Recent literature echoes the perception of retirement as a process (e.g., Marshall, Clarke, & Ballantyne, 2001; Reitzes & Mutran, 2004), with preparation marking its beginning. Many recommend that individuals start their preparation long before they actually leave the workforce (Anderson, Li, Bechhofer, McCrone, & Stewart, 2000). Research challenges the assumption that individuals are involved and farsighted in preparing for retirement (Ekerdt, Hackney, Kosloski, & DeViney, 2001), creating the impetus for organisational psychologists and policy makers to promote planning behaviour as an important part of preparation. Currently, the absence of a clear measure to identify and quantify behaviours frustrates these efforts. It is important that individuals prepare in a number of domains, such as leisure, health, interpersonal relationships and work, to ensure their wellbeing in retirement (Petkoska & Earl, 2009). Unfortunately, the majority of measures narrowly sample retirement planning behaviours, for example, focusing on finances (as suggested by Denton et al., 2004).

The primary aim of the present study was to meet the challenge of measuring retirement planning

behaviours across various domains. A secondary aim was to introduce the notion of the individual characteristic of core self-evaluations (CSE) (Judge, Erez, Bono, & Thoresen, 2003) as a predictor of retirement preparation. CSE indicates an individual’s level of positive self-regard and will be described in more detail later. Both demographic and psychological predictors are measured in the present study in recognition of their combined influence on retirement preparation (Anderson et al., 2000). In particular, the researchers investigate whether differences in preparation appear with proximity to retirement.

Retirement preparation across important life domains

The clear need for preparation has been recently demonstrated in a meta-analysis by Topa, Moriano, Depolo, Alcover, and Morales (2009), which showed a significant relationship between retirement planning behaviour and retirement satisfaction. Evidence suggests that retirement preparation promotes better adjustment to retirement (Ebersole & Hess, 1990; Mutran, Reitzes, & Fernandez, 1997; Noone, Stephens, & Alpass, 2009). Financial preparation strives to build assets for desirable lifestyle choices (Fletcher & Hansson, 1991), and is indicative of

other types of planning (Turner, Bailey, & Scott, 1994). Importantly, those with more finances available may also plan more broadly (Kragie, Gerstein, & Lichtman, 1989). In determining whether finances are sufficient to ensure quality of life, part of the answer lies in understanding how time in retirement will be spent. In addition to finances, health (Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007), leisure (Rosenkoetter, Garris, & Engdahl, 2001) interpersonal contact (Bossé, Aldwin, Levenson, Spiro III, & Mroczek, 1993), and paid and voluntary work (Feldman & Kim, 2000) are important to consider. Sufficient preparation in each of these domains can help to promote retirement confidence (Kim, Kwon, & Anderson, 2005) and ameliorate the losses associated with discontinuing full-time work (Lo & Brown, 1999) by providing individuals with fulfilling relationships, social roles, time structure, and meaningful activity (Anderson et al., 2000). Such losses include time structure, prestige, income and social interaction (Lo & Brown, 1999). Understanding how time may be spent in retirement is particularly important for those needing to adjust their expenses downward in order to ensure financial security in the longer term. Therefore, preparing across a broad number of domains is important to ensure wellbeing in retirement.

Quine and Carter (2006) reviewed retirement literature and concluded "there is a paucity of research on the expectations, plans and preparations of baby boomers in their old age" (p. 7). Some researchers caution that voluntary participation may bias samples, because individuals may participate based on characteristics linked to increased preparation, such as conscientiousness, interest or concern about retirement (Hershey & Mowen, 2000; Jacobs-Lawson, Hershey, & Neukam, 2004). For example, health and income predicted participation in retirement seminars, demonstrating positive sample selectivity bias (Campion, 1988). While some studies presented an optimistic view of individuals' retirement preparation (as suggested by findings from Petkoska & Earl, 2009), others suggested that many people prepare inadequately or not at all (Ekerdt et al., 2001). Economic studies recognise a drop in consumption in retirement, possibly reflecting that individuals' spending is limited by their funds (Ameriks, Caplin, & Leahy, 2007). Insufficient finances are a concern, because research shows a link between income in retirement and adjustment to retirement (Gall, Evans, & Howard, 1997). Comprehensive and sensitive measurement of retirement planning behaviours can provide the first step in improving retirement preparation by identifying inadequately prepared people. These individuals need to become the priority of career counselling support, organisational

interventions, and government policy while they are still employed.

Retirement preparation effort as a predictor of retirement behaviour

The theory of planned behaviour (TPB) proposes that subjective norms, attitude towards the behaviour, and control beliefs influence intentions to perform a given behaviour and those intentions directly influence the likelihood of performing that behaviour (Ajzen, 2002). A measure of intentions can directly assess the effectiveness of interventions targeting its antecedents, for example, interventions that aim to improve attitudes towards retirement preparation, establish subjective norms of the appropriate level of preparation and improve perceptions of control over preparing for retirement. Intentions may be unstable over time (Ekerdt, DeViney, & Kosloski, 1996), however, and the psychological process by which intention translates into behaviour still needs to be explained (van Hooft, Born, Taris, van der Flier, & Blonk, 2005). A purely behavioural measure solves some of these problems but still has limitations. For example, the yes/no dichotomy lacks sensitivity and may be particularly prone to bias as participants choose desirable behaviours. It also limits investigation into how decisions about performing these behaviours are made.

Attempts at delineating the elements between intentions and behaviour have already been made. Gollwitzer (1993) proposed implementation intentions as a bridge between intention and behaviour. Implementation intentions include considering when, where and how to act in accordance with a goal intention (which can include investing effort towards that goal) and commit a person to completing a behaviour (van Hooft et al., 2005). Evidence supports the link from intentions to implementation intentions to behaviour (van Hooft et al., 2005; Arbour & Ginis, 2009). Therefore, a measure conceptually close to implementation intentions may provide the balance between measuring behaviour versus intention.

Retirement preparation in the present study is defined as effort invested by individuals, while still employed, to provide for their wellbeing in retirement. Presumably, those who are investing effort in retirement preparation are those who are closer to performing actual preparatory steps. Conversely, those who have no intention of performing a particular behaviour would be expected to spend little to no effort investigating that behaviour. A measure of effort is similar to the concept of implementation intentions, for example, a job search model identified people's dedication of time, money

and effort to job search as an implementation phase (Power & Aldag, 1985).

A recent qualitative study of retirement preparation (Denton et al., 2004) outlined a reflexive life planning model (based on the original work of Becker & Ehrlich, 1972) of retirement preparation according to three domains: (a) self-insurance, which includes personal financial preparations made by individuals to optimise wealth in later life (these may include savings accounts, investments and contributions to superannuation, and private insurance policies for assets and health care), (b) self-protection, which includes personal non-financial preparations made by individuals to maintain health and wellbeing in later life (these may include health lifestyle choices, engagement in social support networks [including family], and seeking a safe physical environment), and (c) public protection, which includes benefits provided by the Government to promote health, wealth, and wellbeing in later life (these may include pensions, public health programs, health services or housing programs).

Given the emphasis on the merits of a self-sufficient retirement (Organisation for Economic Cooperation and Development, 2007), the reflexive planning framework can determine where an individual places greatest priority in strategies for securing their future and where their focus may be too limited. The framework also facilitates a finer distinction between predictors of preparation; for example, individuals may invest their effort differently across domains according to whether they are limited by psychological or financial resources or both. Studies (Nimrod, 2007; Vinick & Ekerdt, 1991) have indicated that some people are unlikely to adopt new activities in retirement; therefore any measure should capture activities that individuals are currently undertaking, and which are expected to continue into retirement.

Need for a new measure of retirement planning behaviour

Preparing for retirement is a poorly measured construct within the literature. Research has been dominated by a financial focus (Denton et al., 2004), within economic, political as well as psychological spheres (e.g., Caliendo & Aadland, 2007; Hershey & Mowen, 2000; Morgan & Eckert, 2004). Thus the broad range of domains that are important for wellbeing in later life, including health, leisure, interpersonal relationships, and paid or voluntary work, are neglected (Anderson et al., 2000; Petkoska & Earl, 2009). Investigations into broader domains have recently appeared (Denton et al., 2004; Hershey, Henkens, & Van Dalen, 2007). Even studies that take a broad perspective of planning behaviours, however, have used either single, or few

indicators for retirement preparation (e.g., Mutran et al., 1997; Reitzes & Mutran, 2004), while others offered qualitative data only (e.g., Denton et al., 2004; Kemp, Rosenthal, & Denton, 2005). Therefore a multi-item measure of retirement preparation with a focus on a broad number of domains is needed. Recent research emphasises the importance of comprehensive measurement of retirement preparation (Noone et al., 2009).

The Retirement Planning Questionnaire (RPQ) (Petkoska & Earl, 2009) is a recent measure covering behaviours across four domains: financial/general, health, interpersonal/leisure, and work planning. Although the RPQ measured a range of planning activities, the yes/no dichotomous scale lacks sensitivity and the measure focuses on knowledge-seeking. Therefore the RPQII was developed for the present study to sample a broader number of behaviours according to the reflexive planning domains outlined above and using a continuous scale.

Identifying variables influencing retirement planning behaviour

Most researchers agree that both demographic and psychological variables have separate and significant influences on retirement preparation (Behr, 1986; Denton et al., 2004). Therefore, three demographic variables (gender, age, and income) and a broad psychological variable (CSE) were considered for their influence on preparation effort.

Gender. Evidence for the influence of gender on planning behaviour is inconsistent. Women are less likely than men to be in the highest income quintiles and have lower labour force participation than men (Australian Bureau of Statistics, 2009a). This may be due to a more heterogeneous work history because of caring responsibilities (Berger & Denton, 2004; Everingham, Warner-Smith, & Byles, 2007). Accordingly, research showed that women were less involved in retirement preparation and saved less than men (Glass & Kilpatrick, 1998a). This divide, however, has not been demonstrated consistently (Petkoska & Earl, 2009). Men and women may plan differently in specific domains. For example, recent evidence showed women planned more than men in health, interpersonal, and leisure domains (Petkoska & Earl, 2009). Based on previous results (Hershey et al., 2007; Petkoska & Earl, 2009), it was hypothesised that gender would have a differential effect on preparation, such that men invest more financial preparation effort, whereas women invest greater health and leisure preparation effort.

Age. Age is one of the better predictors of planning behaviour within the literature (Jacobs-Lawson et al.,

2004). Planning behaviours are expected to increase with age as retirement comes into an individual's "planning horizon" (Caliendo & Aadland, 2007). Jackson, Walter, Felmingham, and Spinaze (2006) indicated an elasticity of 6 years for actual retirement, depending on whether individuals retire closer to their desired or expected retirement age. Research has shown that as age increases, so does thought about retirement, financial planning, saving behaviour, and time spent planning for retirement (Devaney & Su, 1997; Kemp et al., 2005; Morgan & Eckert, 2004). Therefore, age was included as a variable in the present study to explore the valid measurement of retirement preparation using the RPQII.

There is growing support for the need to customise retirement planning interventions (Jacobs-Lawson et al., 2004). Age may be a relevant consideration when customising, but is yet to be addressed within the research. Cohen (2005) proposed that there are four later life stages after middle age: midlife re-evaluation, liberation phase, summing up, and encore phase. Depending on what particular stage a person is at may influence their interests and concerns and thus how they respond to interventions. Another reason for differences within this group is proximity to retirement, given that the average expected age of retirement in Australia is 64 years (Australian Bureau of Statistics, 2009b). In practice, policy makers and researchers distinguish only a single group of "older workers" (e.g., Australian Bureau of Statistics, 2009a; Bobek & Robbins, 2004; Lim, 2003) across whom they blanket interventions and research. Evidence for an increase in preparation effort across age cohorts was sought in the present study to determine whether customisation of retirement seminars by age is practical. Based on previous research, older age was expected to positively predict preparation effort.

Income. Frequently studied, income is one of the better predictors of planning behaviour (Jacobs-Lawson et al., 2004). Income is positively associated with planning (Denton et al., 2004). Individuals with more money logically have more resources to spend on preparation, such as savings or housing. Therefore, individuals with a lower level of finances may leave preparation until too late (Anderson et al., 2000). A higher income was expected to positively predict planning effort.

Core self-evaluations. CSE is defined as "a basic, fundamental appraisal of one's worthiness, effectiveness, and capability as a person" (Judge et al., 2003, p. 304) and is a second higher-order factor indicated by generalised self-efficacy, neuroticism, self-esteem, and locus of control. Empirical evidence supports a

link between the first-order factors measured by the CSE construct and retirement preparation: Studies showed that generalised self-efficacy promoted ease of adjustment, wellbeing, and perceived health in retirement and that neuroticism negatively predicted financial preparation (e.g., Hershey & Mowen, 2000; van Solinge, 2007; Wells & Kendig, 1999); self-esteem positively influenced attitudes towards retirement (Mutran et al., 1997; Reitzes & Mutran, 2004) and individuals with an internal locus of control were more likely to actively plan for retirement (Glass & Kilpatrick, 1998b; Morgan & Eckert, 2004). Assuming that planning behaviour is related to the common variance of each construct, then CSE itself should be related to planning behaviour, particularly given the hypothesised importance of positive self-regard and perceptions of control to planning (Anderson et al., 2000). Thus, CSE may help identify individuals who need support beyond retirement-related information or planning incentives. According to research that a positive sense of self was important to retirement preparation (Anderson et al., 2000), a higher CSE was expected to positively influence planning effort over and above demographic variables.

Research aim

The aim of the present study was to contribute a new comprehensive measure to retirement research and investigate the contribution of CSE as a predictor of retirement planning behaviour. To test the measure and explore the value of its domain structure, three demographic variables of gender, age, and income and one psychological variable, CSE, were measured.

Methods

Participants

Various organisations were recruited from a national sample of convenience to participate in the study after receiving ethics approval; these included two university-level educational institutions, a not-for-profit organisation, an information technology service firm, and a medical institution. Employees aged ≥ 45 years were recruited via email to participate in an online retirement preparation survey. In exchange for participating in the study, employees were offered the chance to enter a draw to win a gift voucher for \$AUD150.

Materials

Demographic information. Demographic variables linked to retirement preparation (Jacobs-Lawson et al., 2004) were collected from participants,

specifically, gender (coded 1 for female and 2 for male), age, and income. Additional information was gathered on marital status, retirement plans (Ekerdt et al., 1996), intended retirement age, and expected income source during retirement. Retired individuals were screened from the study (Reitzes & Mutran, 2004).

Core self-evaluations. The Core Self-Evaluations Scale (CSES) (Judge et al., 2003) was used in the present study. Example items include “When I try, I generally succeed” and “Sometimes I feel depressed”. This 12-item scale has on average a good reported internal consistency ($\alpha = .84$) and test-retest reliability ($\alpha = .81$; reported by Judge et al., 2003).

Retirement preparation. Given the lack of a comprehensive, sensitive measure of retirement planning behaviour, a new questionnaire was developed for the present study. The 28-item RPQII was designed to sample adequately the three domains of self-protection, self-insurance, and public protection (Denton et al., 2004) using a continuous scale. Because its initial validity would be assessed within an Australian population, some items reflect the Australian context. The tool, however, is intended for international use, pending the identification of equivalent international items to develop a generic version.

Retirement preparation items were sourced from previously tested scales and measures, behaviours reported as important in qualitative studies as well those theoretically important to retirement preparation (e.g., Anderson et al., 2000; Denton et al., 2004; Petkoska & Earl, 2009). Public protection items were derived from various Australian government websites.

Participants reported how much effort they had spent looking into a particular behaviour on a scale from 1 = *very small amount of effort* to 5 = *very large amount of effort*. Example items include public protection: “Applying for a seniors concession allowance (age eligibility criteria)”, self-insurance: “Checking your superannuation fund’s performance” and self-protection: “Participating in one or more leisure planning or wellbeing workshops, seminars or courses on retirement which were not Government run”.

Procedure

An online questionnaire was developed using the measures in the order described above. E-mail invitations and reminders were sent to employees via the CEO or other company or faculty representative. Participants were required to complete the

survey in one sitting, which took approximately 20 min. After clicking on the survey link embedded in the email invitation, individuals chose to participate by checking “I agree” or were asked to close the browser if they did not wish to continue. After submitting the survey they could click on a subsequent link to enter the draw to win an \$AUD150 gift voucher.

Results

Demographic variables

A total of 193 individuals responded to the survey, but 16 were excluded because they were too young, and three were excluded because they were retired (Reitzes & Mutran, 2004), leaving 174 participants. Of these, 55% were female, compared to 51% in the wider population (Australian Bureau of Statistics, 2008). Participants were aged from 45 to 66 years, with a mean of 53.28 years ($SD = 5.43$). The median household income bracket for the sample was \$AUD88,400–103,999. Table 1 lists this demographic information in more detail.

Core self-evaluations

CSES scores ranged from 1.58 to 5.00 with a mean of 3.50 ($SD = .52$). These figures are within the range of means reported by other studies using the

Table 1. Independent variable demographics for the sample

	Characteristic	<i>n</i>	% respondents
Gender	Male	79	55
	Female	95	45
	Total	174	100
Age (years)	45–54	96	55
	55–64	77	44
	≥65	1	1
	Total	174	100
Gross household income (\$AUD)	≤7,799	1	1
	7,800–12,999	2	1
	13,000–18,199	5	3
	18,200–25,999	6	3
	26,000–33,799	9	5
	33,800–41,599	3	2
	41,600–51,999	10	6
	52,000–62,399	11	6
	62,400–72,799	14	8
	72,800–88,399	13	8
	88,400–103,999	18	10
	104,000–129,999	25	14
	130,000–155,999	25	14
156,000–181,999	11	6	
182,000–207,999	6	3	
≥208,000	15	9	
Total	174	99*	

Note. Some percentages do not add to 100 due to rounding error.

CSES (e.g., Judge et al., 2003). The reliability coefficient ($\alpha = .84$) was comparable to previous studies and was at an acceptable level.

Additional sample information

The majority of participants were married or living with a partner (71%), 18% were separated or divorced, and the rest were single or widowed, comparable to 68% married, and 19% separated or divorced in the wider Australian population (Australian Bureau of Statistics, 2008). Participants worked in consumer and business services (28%), education (49%), health and community services (17%) or other (6%) industries. The majority of participants were professionals (42%), managers (31%), or clerical, sales, and service workers (17%).

Plans for retirement

Participants planned to retire completely (23%), retire partially (42%), change jobs (7%) or never retire (2%), while 26% were unsure of their retirement plans. More than half the sample reported an expected age of retirement (63%) and the remainder responded that they did not know (37%). Expected ages for retirement ranged from 55 to 80 years with a mean of 62.76 years ($SD = 4.31$). Participants expected their retirement income source to be a full Government pension (18%), combined work and pension (13%), self-funded (37%), combined work and self-funded (27%) or other paid work (4%).

Validation of the RPQII factor structure

To verify the a priori expectation of a three-factor structure for the RPQII, an exploratory factor analysis (EFA) was conducted (Conway & Huffcutt, 2003), following recommendations on factor analysis and questionnaire design (Fabriger, Wegener, MacCallum, & Strahan, 1999; Rattray & Jones, 2007). The ratio of participants to items was 6.2:1 and therefore within the recommended range (2:1–10:1) (Ferguson & Cox, 1993).

Bartlett's test of sphericity showed a large significant χ^2 ($p < .001$) and the Kaiser–Meyer–Olkin (KMO) statistic (.84, which is within acceptable limits as defined by Hutcheson & Sofroniou, 1999) determined that the data were appropriate for factor analysis. Skew and kurtosis statistics indicated that some items were non-normally distributed. Because most psychological constructs share common variance, a rotation method allowing factors to correlate is recommended (Fabriger et al., 1999). Therefore, principal-axis factoring and Kaiser oblimin were used in the present study in line with high-quality

EFA decisions (Conway & Huffcutt, 2003). Based on an inspection of the screeplot and eigenvalues > 1 , three factors were extracted.

Summaries of the 28 items and their factor loadings are shown in Table 2, along with eigenvalues and R-square values for each of the factors. One item (item 6) did not load substantially on any factor, and another item (item 23) loaded substantially on two factors. Item 23 was retained on the factor that was most theoretically justifiable (self-protection) and item 6 was dropped from further analyses.

Public protection, self-insurance and self-protection preparation for retirement

Based on the results of the EFA, participants' scores on the RPQII were re-categorised into the following domains: public protection ($\alpha = .85$), self-insurance ($\alpha = .88$) and self-protection ($\alpha = .80$). These reliability estimates are well above the recommended minimum reliability of .7 (DeVillis, 2003) and suggest that items successfully measured each of the three factors.

These results provide insights into individuals' retirement planning behaviours across the two age cohorts, represented graphically in Figure 1. Overall, participants reported spending very little effort investigating public protection behaviours. Among self-insurance behaviours, least effort was invested in positioning oneself for a post-retirement job for financial reasons, and among self-protection behaviours, least effort was invested in positioning oneself for a post-retirement job for non-financial reasons and attending leisure planning seminars.

Predicting public-protection, self-insurance and self-protection retirement planning effort

To check for adequate power the Green (1991) rule was used. This rule recommends a minimum of 108 participants (Field, 2009), which is met by the 174 participants in the present study. Power in the present study was sufficient to detect medium–large effect sizes (Field, 2009). To determine variables' contribution to each of the three planning domains public protection, self-insurance, and self-protection, three hierarchical regression analyses were conducted. Demographic variables (age, gender, and income) were entered as Block 1 and the psychological variable (CSE) was entered in Block 2. Table 3 lists the bivariate correlations among variables.

Public protection. The predictor variables accounted for 11% of the total variance in public protection planning effort, as shown in Table 4. In Block 1, both age ($\beta = .26$, $p < .01$) and household income ($\beta = -.19$, $p < .05$) emerged as significant predictors

Table 2. Rotated factor loadings for the RPQII

Item	(1) Self-insurance	(2) Public protection	(3) Self-protection
1. Pensions	.22	-.65	-.07
2. Seniors concession allowance	.09	-.79	-.00
3. Health concessions	.16	-.75	.10
4. Seniors health care card	-.08	-.87	-.02
5. Government-run seminars	.20	-.54	.00
6. Public health programs	.16	-.19	.23
7. Nominating superannuation fund	.67	-.02	-.13
8. Superannuation fund performance.	.77	.12	-.08
9. Living cost	.71	-.20	-.10
10. Savings contributions	.45	.00	.17
11. Estate planning	.48	-.05	.18
12. Investment	.52	.02	.13
13. Insurance	.47	.14	.18
14. Post-retirement job (financial)	.32	-.27	.03
15. Making superannuation fund contributions	.63	.02	-.06
16. Checking superannuation fund	.79	-.02	-.13
17. Net worth	.72	-.09	.09
18. Financial planning seminars	.62	-.19	.04
19. Housing	.36	-.17	.28
20. Health screening programs	.05	.01	.48
21. Outings with friends/family	.18	.22	.60
22. Calling or visiting friends/family.	.11	.16	.58
23. Post-retirement job (non-financial)	.31	-.15	.32
24. Healthy lifestyle	.05	.02	.48
25. Leisure activities	-.12	-.08	.67
26. Healthy mind	-.13	-.01	.67
27. New interests or skills	-.07	-.17	.61
28. Leisure planning seminars	.03	-.27	.46
Eigenvalue	7.60	2.88	2.76
R-squared	7.04	2.35	2.24

Notes. RPQII = Retirement Planning Questionnaire II.

Bold = substantial loadings ($> .3$).

Self-insurance and public protection were correlated $r = -.28$, public protection and self-protection were correlated $r = -.19$, and self-insurance and self-protection were correlated $r = .33$. Factor 1 explained 25% of the variance, Factor 2 explained 8% of the variance and Factor 3 explained 8% of the variance. Because factors are correlated, this means that together, the three factors accounted for up to 42% of the variance of the questionnaire. The full RPQII is available from the authors, upon request.

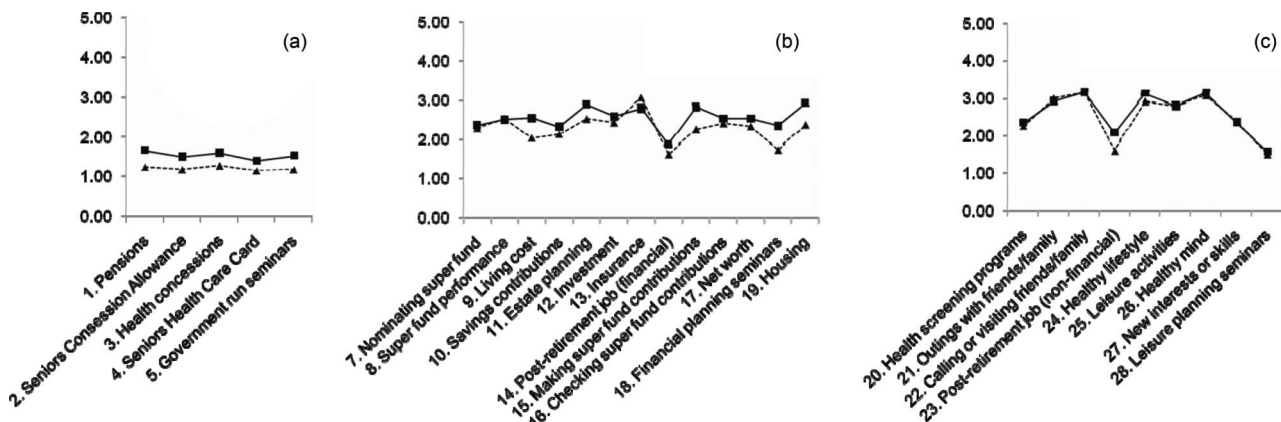


Figure 1. Average effort ratings for (a) public protection planning behaviours, (b) self-insurance planning behaviours and (c) self-protection planning behaviours. Effort ratings are shown for the (—■—) 55–64 cohort ($n = 77$) and the (---▲---) 45–54 cohort ($n = 96$). Only one participant was in the 65+ cohort and, in order to preserve confidentiality, their responses are not shown. Average effort ratings were calculated for each domain by finding the average of all effort ratings given by participants for that item (possible responses ranged from 1 to 5, where 1 = *very small amount of effort* and 5 = *very large amount of effort*). Means for public protection planning effort for the 55–64 cohort ranged from 1.40 to 1.66 ($SD = 0.75$ – 1.03) and for the 45–54 cohort from 1.15 to 1.28 ($SD = 0.50$ – 0.76). Means for self-insurance planning effort for the 55–64 cohort ranged from 1.88 to 2.94 ($SD = 1.08$ – 1.49) and for the 45–54 cohort from 1.63 to 3.06 ($SD = 0.90$ – 1.24). Means for self-protection planning effort for the 55–64 cohort ranged from 1.58 to 3.17 ($SD = 0.88$ – 1.23) and for the 45–54 cohort from 1.52 to 3.17 ($SD = 0.90$ – 1.29).

Table 3. Bivariate correlations among independent and dependent variables

		1	2	3	4	5	6	7
1	Gender	–						
2	Age	–.03	–					
3	Income	.10	–.24**	–				
4	Core self-evaluations	.07	.12	.09	–			
5	Public protection effort	–.08	.31**	–.26**	.01	–		
6	Self-insurance effort	.05	.17*	.17*	.19*	.38**	–	
7	Self-protection effort	–.30**	.06	–.02	.24**	.24**	.41*	–

Note. *Correlation is significant at the .05 level (two-tailed); **correlation is significant at the .01 level (two-tailed).

Table 4. Results of hierarchical multiple regression analysis for planning effort

Stage	Variable entered	Variable statistics			Model statistics	
		Unstandardised β	Standard error	Standardised β	Adjusted R^2	ΔR^2
Public protection planning effort						
Block 1	Gender	–.32	.45	–.05	.12	.13
	Age	.15	.04	.26**		
Block 2	Household income	–.17	.06	–.19*	.11	.00
	CSE	–.02	.44	.00		
Self-insurance planning effort						
Block 1	Gender	.65	1.48	.03	.06	.08
	Age	.42	.14	.23**		
Block 2	Household income	.60	.21	.22**	.08	.02
	CSE	2.70	1.42	.14		
Self-protection planning effort						
Block 1	Gender	–3.55	.87	–.30***	.08	.01
	Age	.06	.08	.05		
Block 2	Household income	.03	.124	.02	.14	.07***
	CSE	3.03	.82	.27***		

Notes. CSE = core self-evaluations.

* $p < .05$; ** $p < .01$; *** $p < .001$.

for public protection planning effort. That is, the older an individual was, the more likely they were to have dedicated effort to securing their health and wellbeing through government-related schemes, for example an age pension or Commonwealth seniors health card. The greater an individual's household income, the less likely they were to have dedicated effort to securing their health and wellbeing through government-related schemes. Gender did not emerge as significant. Entered in Block 2, CSE neither emerged as a significant predictor of public protection planning effort nor produced a significant change in the variance accounted for by the model.

Self-insurance. The predictor variables accounted for 8% of the total variance in self-insurance planning effort, as shown in Table 4. In Block 1, both age ($\beta = .23$, $p < .01$) and household income ($\beta = .22$, $p < .01$) emerged as significant predictors for self-insurance planning effort. That is, the older an individual was, the more likely they were to have dedicated effort to securing their economic wellbeing

through their own means, and the greater an individual's household income, the more likely they were to have dedicated effort to securing their economic wellbeing through their own means. Gender did not emerge as significant. Entered in Block 2, CSE neither emerged as a significant predictor of self-insurance planning effort nor produced a significant change in the variance accounted for by the model.

Self-protection. The predictor variables accounted for 14% of the total variance in self-protection planning effort, as shown in Table 4. In Block 1, only gender ($\beta = -.30$, $p < .001$) emerged as a significant predictor for self-protection planning effort. That is, women were more likely than men to have dedicated effort to securing their health and wellbeing through their own means. Neither age nor income emerged as significant predictors. Entered in Block 2, CSE ($\beta = .27$, $p < .001$) emerged as a significant predictor of self-protection planning effort and produced a significant change in the variance

accounted for by the model, $F_{(1,169)} = 14.45$, $p < .001$. That is, individuals with more positive self-evaluations were more likely to have dedicated effort to securing their health and wellbeing through their own means.

These results suggest the following placement of predictors for retirement planning domains for future investigation (Figure 2).

Do age cohorts plan differently?

Because age significantly predicted both public protection and self-insurance planning effort, two sets of five post-hoc t tests (Bonferroni adjusted) were used to follow up on behavioural mean differences observed within each domain (Figure 1b,c). Results showed that 55 to 64 year olds reported investing significantly more effort in the following public protection items: pensions (mean difference = .42, $p < .01$), seniors concession allowance (.33, $p < .01$), seniors health care card (.26, $p < .01$), and Government seminars (.36, $p < .01$); and the following self-insurance items: living cost (mean difference = .53, $p < .01$), making superannuation fund contributions (.56, $p < .01$), financial planning seminars (.62, $p < .001$), and housing (.55, $p < .01$).

Discussion

Meeting the primary aim of the present study required the design of a comprehensive and sensitive

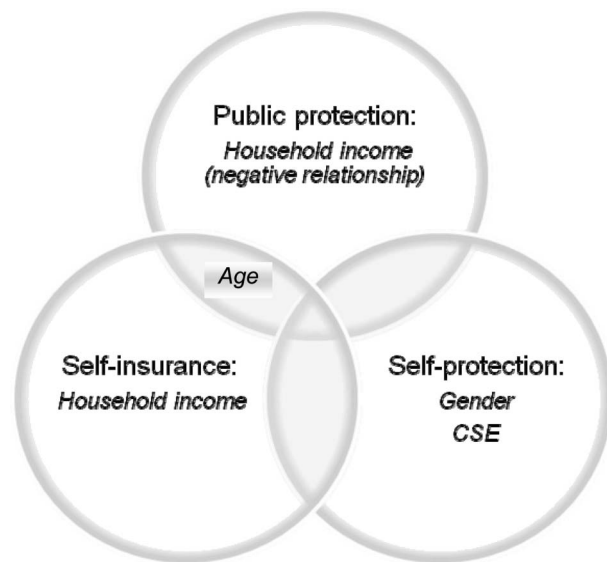


Figure 2. Predictors of public protection, self-insurance and self-protection planning. The diagram shows that gender and core self-evaluations (CSE) predicted planning effort for self-protection only; age predicted both public protection and self-insurance planning effort; and household income predicted self-insurance planning effort positively and public protection planning effort negatively. Unless otherwise stated all relationships are positive.

measure of retirement preparation. A meaningful structure for planning behaviours provided by the new measure was expected to facilitate investigation and interpretation of planning predictors. An additional aim was to explore whether age determined retirement plans. The main findings are reviewed below in light of the present literature, followed by a discussion of practical implications, design limitations, and future directions.

Main findings

Comprehensive measurement. The RPQII produced a clean three-factor structure of public protection, self-insurance, and self-protection. This result builds on a previous successful test of a comprehensive measure (Petkoska & Earl, 2009) and empirically supports the premise of reflexive planning theory that these domains are important in preparing for the challenges of retirement (Denton et al., 2004).

Predictors of retirement preparation. As shown in Figure 2, gender, age, income, and CSE predicted retirement planning effort in one or more domains. The RPQII replicated the planning relationships with age and income (outlined below) identified by Jacobs-Lawson et al. (2004), providing evidence for construct validity of measuring retirement preparation using the RPQII and worthy of further investigation. The negative relationship between income and public protection demonstrates the contribution of the measure, in that it allows for a finer distinction of planning antecedents than previous measures. Specifically, that income's relationship with preparation varies according to the domains that Denton et al. (2004) identified. These results provide initial evidence for discriminant validity with other measures.

As anticipated, women reported greater self-protection planning effort than men, which agrees with previous findings that women were more involved in health, interpersonal, and leisure planning (Petkoska & Earl, 2009). Women, as more active consumers of health information than men (Kandrack, Grant, & Segall, 1991), and with greater encouragement to establish and maintain interpersonal bonds (Gilligan, 1982), may be prompted to invest effort in the self-protection domain. Contrary to expectations, men did not report greater self-insurance planning effort than women. Although consistent with a recent study, which showed no gender difference in financial planning (Petkoska & Earl, 2009), these results contrast with findings that men were more fiscally involved than women (Glass & Kilpatrick, 1998a). A possible explanation for these inconsistent conclusions is that the retirement process is influenced by couples (van Solinge & Henkens, 2005). Because 71% of the sample was

married or living with a partner, participants may have responded according to their efforts as a couple, thus masking any inequality between men and women. Future research should consider collecting information from the dyad to reliably investigate this possibility.

As hypothesised, age positively predicted planning effort in both public protection and self-insurance domains. This builds on previous findings of a positive relationship between planning and age (Jacobs-Lawson et al., 2004) and supports the assertion that as individuals age, retirement comes into their planning horizon (Caliendo & Aadland, 2007). Age did not predict self-protection planning effort, which agrees with previous research (Petkoska & Earl, 2009), and may imply that individuals are taking action to promote their health and wellbeing well before retirement.

As expected, income emerged as a positive predictor of self-insurance planning effort, which builds on previous findings of a positive link between income and planning (Jacobs-Lawson et al., 2004). Contrary to expectations, income negatively predicted public protection planning effort, which may be explained by the high income of the sample and that most public protection items have a maximum income criterion. Therefore, individuals may have been less motivated to devote effort investigating behaviours that they would not be able to access.

CSE, in line with the hypothesis, positively predicted planning effort in the self-protection domain, which supports the theoretical importance of a positive sense of self to retirement planning (Anderson et al., 2000). Contrary to expectations, CSE did not influence self-insurance or public protection planning effort. Public protection behaviours centre on benefits provided by the Government. As such, it may be that a positive sense of self and sense of agency will not influence an individual to adopt a strategy that ultimately means that they rely on others for their security in retirement. Given that both self-insurance and self-protection planning behaviours require the individual to take initiative, it is surprising that CSE predicted preparation in only one of these domains. Furthermore, evidence suggests a link between a first-order factor of CSE, neuroticism, and financial planning (Hershey & Mowen, 2000) and finances are central to planning in the self-insurance domain. Although it may be that CSE does not predict self-insurance planning effort (perhaps only some first-order factors do), this conclusion may be premature. It is possible that with a larger sample size, and therefore greater power, an effect of CSE on self-insurance planning will appear. The sample size in the present study would not have been sufficient to detect a small effect size (Field, 2009), and future studies need samples in

excess of 400 to enable this. This is the first study in which CSE (Judge et al., 2003) was measured as a predictor of retirement planning and further investigation is recommended.

Exploration of age differences. The average expected retirement age for the sample was 62.76 years, confirming that retirement was imminent for the 55–64 cohort. Interestingly, age differences were observed on some behaviours but not others. The older cohort (55–64) invested significantly more effort than the younger cohort (45–54) in all public protection behaviours, except applying for concession cards, and in some self-insurance behaviours, including calculating living cost, making superannuation fund contributions, attending financial planning seminars, and securing housing. Those in the older cohort are closer to retirement and may be increasing their goal setting for these behaviours and thereby the number of planning behaviours they will complete (Hershey, Jacobs-Lawson, & Neukam, 2002). Alternatively, particular life stages may promote a focus on some planning behaviours and not others (Cohen, 2005). These findings provide the opportunity that interventions be tailored according to age.

Practical implications

A significant proportion of the population is approaching the traditional retirement age of 65 (Collins, 2003) and, despite the imperative of retirement preparation, the decision of when and how to retire remains varied and unclear (Ekerdt et al., 1996). For organisations, this represents a challenge to workforce planning, which can be met via a better understanding of individuals' retirement preparation and future plans, particularly those regarding work expectations.

Using and interpreting the RPQII. The RPQII, as an online survey, is a cost-effective means of reaching a national sample and measures a variety of behaviours important to retirement health and wellbeing. Estimating effort requires a more considered approach by participants and may encourage less biased responding compared to previous dichotomous measures.

The distinct pattern of predictors for public protection, self-insurance, and self-protection lends further empirical weight to the argument for tailored and targeted interventions (Jacobs-Lawson et al., 2004; Petkoska & Earl, 2009). Results suggest that the profile of public protection behaviours may need to be raised, particularly among individuals who do not currently meet eligibility criteria, because their circumstances may change during retirement. For

example, those who have lost significant funds during the recent economic downturn may need to turn to governments for assistance. Men in particular may need encouragement to increase their self-protection behaviours because pre-retirement health and leisure activities directly predict retirement outcomes (de Vaus & Wells, 2004). Younger, financially limited individuals may need encouragement to increase their self-insurance behaviours, allowing sufficient time before retiring to secure adequate financial resources (Anderson et al., 2000). In this way, the three-domain distinction can help policy makers and individuals prioritise their strategies for securing a healthy and happy retirement.

How retirement plans vary according to age. Results suggest that some behaviours become more important (and are treated differently as a result) as retirement approaches or within later life stages (Cohen, 2005). Although tailoring interventions according to age may seem intuitive, support services and seminar coordinators are yet to accommodate these differences. It is recommended that further research considers whether goal setting, effort or preparation, change at a behavioural level with proximity to retirement.

Promoting work planning. Research suggests that individuals may neglect work preparation in their retirement preparation (Petkoska & Earl, 2009), perhaps because they are unsure of what their employer has to offer. This finding was reflected in the present study, in that individuals reported investing the least effort in positioning themselves for a post-retirement job for financial and non-financial reasons. Further efforts to encourage work planning need to be investigated. Work may be an important source of social contact for older adults (von Hippel, Henry, & Matovic, 2008) and therefore is an important retirement-planning domain. According to a recent Australian survey, enjoyment and keeping an active mind were even more important than social and financial reasons for staying at work (Mathews, Lindner, & Collins, 2007). Consequently, career development and job design may be important for organisations to address in their initiatives in order to retain older talent. Further investigation into the most attractive aspects of work to older workers is recommended to enable organisations to respond appropriately.

Influence of the economy on investigations. The data in the present study were collected prior to the economic downturn in 2008. This event has eroded the value of many superannuation funds as well as general fiscal resources. As a result, many people now feel less in control of their superannuation funds

and living costs, and many people have delayed retirement (Australian Bureau of Statistics, 2009b). The combined effect of this may see a marked decrease in effort invested in the RPQII as people delay their preparation until closer to retirement (which is now further away), and focus their remaining resources on their current situation rather than their future retirement.

Limitations and future directions

Because the RPQII represents a new measure of retirement preparation, further exploration of the stability of the structure across different population samples is recommended, particularly in light of the smaller sample size in the present study and the potential for EFA to capitalise on chance characteristics of the data. Consequently, replication across larger and more diverse samples, using confirmatory factor analysis to support EFA findings in the present study, is recommended. In addition, the stability of the factor structure should be tested across different socioeconomic and cultural groups. Psychometric evaluation of construct and discriminant validity should be undertaken in future research to confirm that the RPQII appropriately measures the construct of retirement preparation. To further test the validity of the measure, its relationship with other antecedents of preparation also needs to be investigated, including, goals, education and attitude (Hershey & Mowen, 2000; Jacobs-Lawson et al., 2004). In addition, whether the measure has been correctly placed within the TPB also requires further investigation, given the importance of theoretical framework of measures (Nosek & Greenwald, 2009). Future versions of the measure also require a better balance between financial and other items. Researchers are invited to contact the authors to gain access to the RPQII and to discuss data collection.

Results may represent an overly optimistic view of individuals' retirement preparation because participation was voluntary and data were self-reported. First, because higher income has been linked to increased planning (Jacobs-Lawson et al., 2004) and the median of this sample was relatively high in comparison to the population (Australian Bureau of Statistics, 2008), the sample is likely to reflect a higher level of preparation. Second, participants may have volunteered based on characteristics linked to greater planning activity (Hershey & Mowen, 2000). Finally, due to social desirability, individuals may have exaggerated their retirement preparation in order to appear better prepared. It is recommended that future research consider measuring motivation and interest, and seek participation from lower income groups to further investigate these potential sources of bias.

Although the sample was drawn from several organisations, some industries and job levels were underrepresented and thus generalisation of results may be limited. Therefore, it is recommended that future research recruit from a broader range of industries, such as manufacturing, construction, hospitality, and government and a wider variety of job levels, including tradespersons and labourers. Combining pen-and-paper and online data collection methods may obtain a more representative sample in future research.

Long-term, comprehensive measurement alone will be insufficient to improve individuals' preparation. Researchers will need to understand how individuals formulate and prioritise their plans, what precedes the execution of those plans, as well as the context or life stages within which plans are formulated. The RPQII could also be augmented with a question of intended retirement timing, to capture how close an individual is to retiring. Logically, one would expect that low effort corresponds with a long time until retirement, and it would be valuable to establish this empirically.

Future research should add to the predictors investigated in the present study. Goals (Petkoska & Earl, 2009), knowledge (Hershey & Mowen, 2000), couple status (Anderson et al., 2000), and time perspective (Jacobs-Lawson et al., 2004; Zimbardo & Boyd, 1999) are reported to influence planning and until these variables are integrated with those measured in the present study, our understanding of retirement preparation remains incomplete.

Individuals differ in their expectations of retirement and these differences shape retirement plans (Ekerdt et al., 1996). For example, a focus on work planning was observed in the present study among individuals who expected work to supplement their retirement income. Future research might investigate whether altering individuals' expectations about retirement can influence their planning activity. Attitude may also play an important role in expectations, for example, those who view retirement as a positive experience may be more likely to plan for an early retirement. Alternatively, positive attitude may preclude the importance of planning, because people with a positive attitude are equipped to adapt to even the most challenging circumstances. More research is needed to develop an integrated model of retirement planning intentions across a person's life cycle (Cohen, 2005). Furthermore, with more people forced to continue working for financial reasons, retirement may now be a luxury rather than an entitlement, and the role of retirement preparation in these persons' lives needs to be considered.

The current version of the RPQII is specific to the Australian context, particularly the public protection items relating to pensions and government support.

The researchers recognise the need for developing internationally equivalent items so that this important research can continue internationally and that an understanding of Australians' retirement planning can be placed in an international context.

With a large proportion of the working population approaching retirement age (Collins, 2003), adequate retirement preparation is a significant issue for major developed countries. Planning is central to retirement preparation, both for its role in securing resources and its effect on retirement adjustment and wellbeing (Reitzes & Mutran, 2004). Research can help identify the influence of demographic and individual characteristics on retirement planning. The development of the RPQII provides a first step through comprehensive measurement of planning behaviours. Better understanding of the influences on retirement preparation will enhance the ability of organisational psychologists and policy makers to design interventions that engage individuals in a broad range of planning behaviours.

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