



## Towards an integrated model of individual, psychosocial, and organizational predictors of retirement adjustment

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### ARTICLE INFO

#### Article history:

Received 29 November 2008  
Available online 21 April 2009

#### Keywords:

Retirement adjustment  
Work centrality  
Workforce exit  
Retirement planning  
Retirement  
Role theory

### ABSTRACT

This cross-sectional study examines three predictors of retirement adjustment: individual (demographic and health), psychosocial (work centrality), and organizational (conditions of workforce exit). It also examines the effect of work centrality on post-retirement activity levels. Survey data was collected from 394 retirees (aged 45–93 years). Results suggested that better psychological health, higher income, and being married predicted better retirement adjustment. Work centrality was neither related to retirement adjustment nor to post-retirement activity levels. Conditions of exit significantly predicted retirement adjustment, even after controlling for lower-level individual and psychosocial influences. Practical implications for the design of retirement planning programs and organizational exit strategies are discussed.

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### 1. Introduction

In the coming decades, the continued aging of the population will see an unprecedented number of older workers enter retirement and will likely fuel interest in the conditions that make for a successful retirement. Despite growing interest from policymakers, retirement planning is still a neglected area of research in the careers domain. If a person's career is viewed as their progress through life (Savickas, 2002), then retirement becomes a critical phase in the career planning cycle. The Organisation for Economic Cooperation and Development (OECD), for example, has highlighted the criticality of an aging population to policy makers (e.g., OECD, 1995, 2006, 2007), prompting research into the costs of retirement in OECD countries (e.g., Gendell, 1998; Herbertsson & Orszag, 2001; Scherer, 2002). Such research, however, has typically focused on the economic, financial or health implications of an aging and retiring demographic with relatively little regard for the psychological costs of retirement. Given that as many as one third of retirees have some difficulty adjusting to retirement (Atchley, 1976) or experience retirement as a stressful event (Bosse, Spiro, & Kressin, 1996), the psychological impact of retirement is important to consider. Clearly, promoting better adjustment to retirement can benefit individuals and society as a whole. The focus of the current study was on retirement adjustment, defined in accord with Atchley (1999) as a person's positive retirement experiences.

Research into retirement adjustment has historically focused on the individual characteristics of retirees, such as their health and income (Smith & Moen, 2004). There is, however, growing evidence that psychosocial variables have important influences on retirees' subsequent adjustment (Hedge, Borman, & Lammlein, 2006; Taylor, Goldberg, Shore, & Lipka, 2008). Research indicates that attitudes towards work, such as the degree to which work is central to one's life, are negatively related to retirement adjustment (Gallo, Bradley, Siegel, & Kasl, 2000; Isaksson & Johansson, 2000). More recently, researchers have found evidence that organizational influences, such as the conditions by which retiring individuals exit the workforce,

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are also important for retirement adjustment (e.g., De Vaus, Wells, Kendig, & Quine, 2007; Schmidt & Lee, 2008). Preliminary findings suggest that retirees who perceive greater personal choice in the retirement decision tend to report higher satisfaction with life, better psychological health and better adjustment in retirement (e.g., Calvo, Haverstick, & Sass, 2007; Isaksson & Johansson, 2000).

Despite the growing body of research into the demographic, psychosocial, and organizational influences on retirement adjustment, some important questions remain unanswered: Do retirees' attitudes towards work impact their post-retirement behavior? Do the conditions by which individuals exit the workforce determine how well or poorly they adjust to their life in retirement? Do these higher-level psychosocial and organizational influences add to retirement adjustment over and above the relatively well-established effects of health and income? The current study was designed to address these questions. Three influences were investigated: (1) individual influences, which describe the demographic and health status of individual retirees; (2) psychosocial influences, which describe retirees' attitudes towards work and their behavior in retirement; and (3) organizational influences, which describe the conditions under which retirees exited the workforce. Using an Australian sample of retirees, the three influences were investigated for their independent and their incremental contribution to retirement adjustment. The effect of work centrality on retirees' post-retirement behavior was also examined across nine life domains: work, friends, leisure activities, health, financial security, volunteering, housing, family, and partner relationships. These nine life domains were adapted from research conducted by Henrich and Herschbach (2000), who report that the domains are relevant, albeit to varying degrees, for people living in the Western world.

### 1.1. Individual influences: Demographic and health correlates of retirement adjustment

Two well-documented variables known to influence retirement adjustment are health and income. Research has shown that retirees who report better health or higher income tend to report positive adjustment and higher life satisfaction (Quinn, Burkhauser, & Myers, 1990; Taylor & Shore, 1995). Marital status has also been correlated with retirement adjustment (e.g., Kim & Moen, 2001; Price & Joo, 2005), such that married persons tend to report better mental health outcomes and happiness than non-married persons (Bierman, Fazio, & Milkie, 2006; Diener, Gohm, Suh, & Oishi, 2000).

Other demographic variables that have been identified as important to retirement adjustment include age, gender, and the number of years since retirement. Research into age-related effects suggests that age is positively associated with well-being (e.g., Warr, 1992), but negatively associated with physical health (e.g., Moor, Zimprich, Schmitt, & Kliegel, 2006). With regard to gender differences, results are less conclusive. Whereas earlier studies have reported that women experience fewer adjustment difficulties than men (Arnold & Feldman, 1982; Gratton & Haug, 1983; Neuhs, 1990), subsequent research has suggested that women experience more adjustment difficulties than men (Calasanti, 1996; Quick & Moen, 1998), ostensibly because of women's initially elevated levels of retirement-related distress (e.g., Midanik, Soghikian, Ransom, & Tekawa, 1995). With regard to years since retirement, researchers have found evidence that whilst retirement may initially be distressing, the majority of retirees eventually adjust with time (e.g., Butterworth, Gill, Rodgers, Anstey, Villamil, & Melzer, 2006; Gall, Evans, & Howard, 1997; Von Hippel, Henry, & Matovic, 2008). That is, any initial elevation in stress or anxiety eventually dissipates the longer a person has been retired.

Collectively, these results suggest that demographic and health variables influence retirees' subsequent adjustment. Although health, income, and marital status have more consistently predicted retirement adjustment (Pinguart & Schindler, 2007), the results of recent studies suggest that older male retirees who have been retired for more years tend to be better adjusted to their retirement. In the current study, we therefore expected that healthier, wealthier, or married retirees would report better retirement adjustment than less healthy, poorer, or unmarried retirees. We also expected that older, male, or longer-term retirees would report poorer retirement adjustment than younger, female, or more recent retirees.

### 1.2. Psychosocial influences on retirement adjustment

Mein and Ellison (2006) suggest that individual differences in retirement adjustment arise, in part, because of differences in people's attitudes towards work. This idea is explored further using role theory and work centrality as a framework for understanding the retirement experience.

#### 1.2.1. Role theory

According to role theory (e.g., George, 1993), individuals occupy a number of roles, each critical to the self concept and personal identity (Moen, Erickson, & Dempster-McClain, 2000; Petters & Asuquo, 2008). Retirement, which typically involves exiting the workforce and hence relinquishing the work role, can represent a phase of "rolelessness" (Richardson & Kilty, 1991). For many individuals, retirement involves the loss of a valued personal identity and source of role-related activities (Hopkins, Roster, & Wood, 2006) and this role loss can create difficulties with adjustment (Parsons, 1942). Indeed, researchers have found evidence that role loss predicts decreased life satisfaction (Fry, 1992) and is linked to poorer adjustment (van Solinge & Henkens, 2008) as well as elevated levels of stress, depression, and anxiety (Adams, Prescher, Beehr, & Lepisto, 2002; Moen, Dempster-McClain, & Williams, 1992; Thoits, 1992).

### 1.2.2. Work centrality

Work centrality may also factor into the psychological experience of retirement. Defined as the extent to which work is of primary importance compared with all other life roles (Kanungo, 1982; Parboteeah & Cullen, 2003), work centrality provides an indication of an individual's affective commitment to his or her work (Schmidt & Lee, 2008). To the extent that people with higher work centrality are more committed to their work role, they may experience greater difficulty adjusting to retirement than those with lower work centrality. In line with role theory and work centrality research, we therefore expected that retirees with higher work centrality would report poorer retirement adjustment than retirees with lower work centrality.

### 1.3. Psychosocial influences on post-retirement behavior

This raises an important question: If the centrality of the work role has important psychological consequences for retirees, does it also have important behavioral consequences? Stryker (1968, 1977) argues that the strength of an individual's commitment to an identity has the power to guide his or her subsequent behavior. Ashforth (2001) also contends that an individual's involvement with a specific role affects his or her behaviors and decisions. In the current study, work centrality was expected to influence retirees' activity levels. Specifically, retirees with higher work centrality were expected to be more active than retirees with lower work centrality. This may be because higher activity levels help to distract retirees from the adverse psychological impact of their lost work role or because the pursuit of non-work roles (e.g., friend, family member, volunteer) provides a renewed sense of purpose. Retirees' activity levels were operationalized as the amount of time purportedly spent in each of nine life domains (for a full description, see Henrich & Herschbach, 2000). This enabled investigation of the impact of work centrality on retirees' participation in specific role-related activities in addition to their overall activity levels, summed across the nine life domains.

### 1.4. Organizational influences on retirement adjustment

Unfortunately, many people do not have personal choice in the decision to retire; retirement is often the result of organizational imperatives or extenuating personal circumstances (e.g., de Vries, 1979; Szinovacz & Davey, 2005). Researchers have only just begun to explore the conditions of workforce exit and how these conditions might alter an individual's retirement experiences (e.g., Fouquereau, Fernandez, Fonseca, Paul, & Uotinen, 2005; Shacklock, 2005). Greater understanding of the organizational influences that predict retirement adjustment is needed in order to advance current theory and practice, particularly in the context of organizational planning for retirement. Drawing upon earlier research by Wells and colleagues (Wells, deVaus, Kendig, Quine, & Petralia, 2006), five variables relevant to workforce exit were examined: preparedness for retirement, ease or difficulty of the retirement decision, a gradual versus abrupt entry into retirement, perceived choice in the decision to retire, and perceived say in the timing of retirement.

#### 1.4.1. Perceived preparedness and difficulty of the retirement decision

Planning for retirement has been associated with lower anxiety, better adjustment and higher satisfaction than not planning (Feldman, 1994; Glamser & de Jong, 1975; Glass & Flynn, 2000). If effective, retirement planning should enhance an individual's sense of preparedness for the retirement event (Taylor & Shore, 1995) and make for an easier retirement decision if it reduces any anticipatory anxiety associated with the retirement event. If, as research suggests, planning predicts better retirement adjustment, then so too should preparedness and an easier retirement decision.

#### 1.4.2. Gradual versus abrupt entry into retirement

As de Vries (1979) suggests, the initial shock of retirement may be eased if retirement occurs more gradually (i.e., a progressive withdrawal rather than an abrupt exit from the workforce; de Vaus et al., 2007). Ostensibly, a more gradual retirement would provide the departing individual with more time to adjust to the changes in roles and lifestyle that typically accompany retirement. In the current study, we therefore expected that a more gradual exit from the workforce would predict better retirement adjustment than a more abrupt exit.

#### 1.4.3. Personal choice and having a say in the timing of retirement

Personal choice and perceived control in the decision to retire have been linked to better adjustment (Calvo et al., 2007; de Vaus et al., 2007; Rosenman & Warburton, 1995). For example, Quine and colleagues (Quine, Wells, de Vaus, & Kendig, 2007) have found evidence that retirees who perceived greater choice in their retirement decision tended to report higher adjustment and life satisfaction when assessed 12 and 36 months after retirement. Furthermore, perceived lack of choice (i.e., involuntary or forced retirement) has been associated with more negative experiences, including poorer adjustment (Reitzes & Mutran, 2004; Van Solinge & Henkens, 2008), poorer health and wellbeing (Ebersole & Hess, 1998; Gallo et al., 2000; Szinovacz & Davey, 2005) and lower satisfaction (Botti & Iyengar, 2004). A similar relationship has also been observed between perceived say in the timing of retirement and subsequent adjustment (e.g., Hershey, Jacobs-Lawson, & Neukam, 2002; Zimmerman, Mitchell, Wister, & Gutman, 2000). In the current study, we expected that perceived personal choice in the decision to retire and perceived say in the timing of retirement would both predict positive retirement adjustment.

### 1.5. An integrated model of individual, psychosocial, and organizational influences

As previously mentioned, research into the individual, psychosocial, and organizational influences on retirement adjustment has typically focused on only one or two levels of influence. Although the results of such research provide information about the *independent* contribution of each level of influence to retirement adjustment, they do not provide information about the added benefits of higher-level psychosocial and organizational influences over and above lower-level individual influences. In order to determine the *incremental* contribution of higher-level influences to retirement adjustment, an integrated model was tested with predictors at three levels: (1) low-level individual influences (age, gender, income, marital status, years retired, and health); (2) mid-level psychosocial influences (work centrality); and (3) high-level organizational influences (conditions of workforce exit). Higher-level influences, by virtue of being more changeable, were expected to have incremental predictive value over more stable lower-level influences.

### 1.6. The current study

Formally stated, the hypotheses for the current study were as follows:

*Hypothesis 1a (Individual Influences):* Better psychological health, higher income, or being married will predict *better* retirement adjustment, as will being older, male, or retired for more years. In contrast, poorer psychological health, lower income, or not being married will predict *poorer* retirement adjustment, as will being younger, female, or retired for fewer years.

*Hypothesis 1b (Psychosocial Influences):* Higher work centrality will predict poorer retirement adjustment than lower work centrality.

*Hypothesis 1c (Organizational Influences):* More favorable conditions of exit from the workforce (i.e., retirees' perceptions of preparedness, an easier decision to retire, a more gradual retirement, personal choice in the decision to retire, and say in the timing of retirement) will predict better retirement adjustment.

*Hypothesis 1d (Integrated Model):* Higher-level psychosocial or organizational influences will add to the prediction of retirement adjustment over and above lower-level individual influences.

*Hypothesis 2:* Retirees with higher work centrality will spend more time in the nine life domains measured than retirees with lower work centrality.

## 2. Methods

### 2.1. Participants

In this cross-sectional study, participants were retirees aged 45 years or more who classified themselves as either fully-retired or semi-retired from the workforce (i.e., retirement status was self-defined). Retirees were recruited using "snowball sampling" (Rowan & Huston, 1997), a type of chain-referral sampling method (Jeffri, 2004) which has demonstrated value in studies where participants represent a hidden or difficult to identify subgroup of the general population (Brown, 2003; Buddenbaum & Novak, 2001; Streeton, Cooke, & Campbell, 2004). Through their social networks, two contacts at Rotary Down Under, the Australian branch of the Rotary International organization, provided access to retirees living in Australia. Although involvement in the study was voluntary, participation was incentivized for the Rotarians distributing questionnaires and for individual respondents. Two gift vouchers, each valued at AU\$150, were donated to the Rotary International Foundation in the name of (a) the Club that returned the highest *number* of completed questionnaires, and (b) the Club that returned the highest *proportion* of completed questionnaires per Club member. A third gift voucher (also valued at AU\$150) was awarded to a randomly selected respondent.

Of the 918 questionnaires that were distributed, 397 were returned, yielding a response rate of 43%. Of these, two questionnaires had been returned blank (i.e., non-completes) and one had been completed by a non-retiree and so was excluded from analyses. The final sample consisted of 394 retirees of whom 303 (77%) were fully-retired and 91 (23%) were semi-retired.

### 2.2. Materials

The questionnaire was organized into three sections. First, retirees were asked to rate their current status in retirement, specifically their adjustment, health and wellbeing. Second, retirees were asked to rate the centrality of work to their life and their activity levels in nine life domains both before and after retirement. Third, retirees were asked about the conditions of exit from the workforce. Important demographic information was also collected.

#### 2.2.1. Retirement adjustment

Retirement adjustment was assessed with the 13-item measure reported by Wells et al. (2006). Respondents were asked to rate their level of agreement with each of 13 statements about what it felt like to leave their job and retire. Items included "I am well adjusted to the changes" and "I have had to adjust to a big drop in my income". Ratings were made using a 5-point

semantic scale (1 = strongly disagree, 5 = strongly agree). Total adjustment scores were the sum of ratings across the 13 items and ranged from 13 to 65. Thus, higher scores indicated better adjustment to retirement. The scale has been supported with evidence of high internal consistency (Cronbach's  $\alpha = .81$ ; Wells et al., 2006). In the current study, Cronbach's alpha was .83, in line with past research.

### 2.2.2. Psychological health

The 12-item version of the General Health Questionnaire (GHQ-12; Goldberg, 1972; Goldberg & Williams, 1988) was used to assess retirees' psychological health. Respondents were asked to rate the degree to which they were currently experiencing problems with, for example, concentration, self-confidence, worry, decision making, and mood (both depressed and happy). Items included "I have recently lost much sleep over worry" and "I have recently been losing confidence in myself". Ratings were made using a 4-point semantic scale (1 = never, 4 = always) for how frequently the item had occurred over the past two weeks. Total scores were the sum of ratings on the 12 items (6 items were reverse-scored) and ranged from 0 to 36. Higher scores indicated better psychological health. The GHQ-12 has been supported with evidence of high reliability and validity (Cronbach's  $\alpha = .89$ ; Goldberg et al., 1997). In this study, internal consistency reliability of the GHQ-12 was slightly lower (Cronbach's  $\alpha = .75$ ) but still acceptable (Nunnally, 1978).

### 2.2.3. Work centrality

Work centrality was assessed using Lim and Ng's (1997) four-item measure. Items included "I was fully devoted to my job" and "I enjoyed my job more than my leisure time" and were rated using a 5-point semantic scale (1 = strongly disagree, 5 = strongly agree). Total work centrality scores were the sum of ratings across the four items and ranged from 4 to 20. Thus, higher scores indicated higher work centrality. The measure has been supported with evidence of moderate internal consistency reliability (Cronbach's  $\alpha = .73$ ; Lim & Ng, 1997). In the current study, Cronbach's alpha was comparable (Cronbach's  $\alpha = .77$ ).

### 2.2.4. Activity levels

Retirees' activity levels were assessed in each of nine life domains, adapted from research by Henrich and Herschbach (2000): work, friends, family, leisure pursuits, financial security, housing, volunteering, health, and partner relationships. Respondents were asked to indicate how much time they spent in each life role before they retired and after they retired. These retrospective ratings were made using a 7-point scale with descriptors at 1 (none of my time), 4 (some of my time), and 7 (all of my time). Total activity levels before retirement and after retirement were the sum of ratings across the nine roles and ranged from 9 to 63. Thus, higher scores indicated higher activity levels.

### 2.2.5. Conditions of workforce exit

Five items from the Healthy Retirement Project (Wells et al., 2006) were used to assess the conditions by which retirees exited the workforce. The items measured retirees' preparedness for retirement, the ease or difficulty of the retirement decision, the abruptness of their exit from the workforce, perceived choice in the retirement decision, and perceived say in the timing of retirement. Items were positively anchored such that higher ratings indicated more favorable exit conditions (i.e., more prepared, an easier decision to retire, a more gradual retirement, greater choice in the decision, and more say in the timing of retirement).

### 2.2.6. Demographic information

Demographic information was obtained about retirees' gender (1 = female, 0 = male), marital status (1 = married, 0 = not married), and income (1 = not enough money to make ends meet, 2 = just enough money, 3 = comfortably well off; Wells et al., 2006). Information was also obtained about retirees' location, education, position in their last job, and years since retirement.

## 2.3. Procedure

Two contacts at Rotary Down Under provided referrals to 40 representatives of Rotary Clubs across Australia. These 40 representatives volunteered to distribute questionnaires to members in their local Club, who in turn either completed the questionnaire themselves or distributed the questionnaire to retirees in their local community. The 40 representatives were spread across 30 different Clubs in metropolitan and regional parts of Australia. Questionnaire packs were mailed to each representative along with instructions for distribution. Each pack contained an information sheet outlining the true aims of the study and contact details of the researchers, a paper copy of the questionnaire, an entry form for the AU\$150 individual gift voucher, and an addressed, reply-paid business envelope.

### 3. Results

#### 3.1. Demographic characteristics of the sample

Table 1 shows the demographic profile of study participants. The average age of participants was 71.0 years ( $SD = 7.66$  years, range: 45–93 years) and the average number of years since retirement was 9.9 years ( $SD = 7.14$  years, range: 0–39 years). As can be seen in Table 1, men were slightly over-represented in the sample, as were married retirees and fully-retired individuals, which likely accounts for some of the significant differences that emerged favoring these subgroups in their ratings of retirement adjustment and conditions of workforce exit. Because of the disproportionate sample size of the subgroups, we decided not to exclude participants or split the sample. Instead, the demographic (age, gender, income, marital status, years in retirement) and health variables were included at the first step in subsequent hierarchical regression analyses to control for their effects on retirement adjustment. The results reported below are based on the full sample of 394 retirees.

#### 3.2. What predicts retirement adjustment?

##### 3.2.1. Individual influences: Demographic and health predictors

We expected that better psychological health, higher income, or being married would predict better retirement adjustment, as would being older, male, or retired for more years. Means, standard deviations and correlations for the six individual influence variables and the dependent measure, retirement adjustment, are reported in Table 2.

As expected, both psychological health and income were positively related to better retirement adjustment. Although small (Cohen, 1988), the correlation between marital status and retirement adjustment was significant, such that married retirees tended to report better retirement adjustment. For the remaining individual influences, Pearson correlations were

**Table 1**  
Frequency distribution of participants by demographic variables.

Demographic variables	Frequency	% Participants
<i>Gender</i>		
Men	258	65
Women	136	35
	394	100
<i>Marital status</i>		
Married	302	77
Not married	90	23
	392	100
<i>Income</i>		
Don't have enough money	27	7
Have just enough money	155	39
Am comfortably well off	211	54
	393	100
<i>Location</i>		
Australian Capital Territory	55	14
New South Wales	294	75
South Australia	40	10
Queensland	2	1
	391	100
<i>Status in last job</i>		
Manager	129	34
Professional	132	35
Technician	20	5
Community/Personal services	9	2
Clerical	67	18
Sales worker	12	3
Machinery operator	3	1
Laborer	8	2
	380	100
<i>Education</i>		
Secondary or lower	109	28
Trade/Diploma	115	29
Tertiary	168	43
	392	100

trivially small and non-significant. Contrary to expectations, retirees who were older, male, or retired for more years did not tend to report better retirement adjustment.

As shown in Table 3 Step 1, when entered into a multiple regression analysis, the set of demographic and health variables accounted for approximately 24% of the total variance in retirement adjustment. Consistent with the results of bivariate analyses, the only significant predictors of retirement adjustment that emerged were psychological health ( $\beta = .27$ ,  $p < .001$ ), income ( $\beta = .35$ ,  $p < .001$ ), and marital status ( $\beta = .16$ ,  $p < .001$ ). Thus, there was only partial support for Hypothesis 1a.

3.2.2. Psychosocial influence: Work centrality

The influence of work centrality on retirement adjustment was also investigated. Average ratings of work centrality were high ( $M = 15.2$ ,  $SD = 2.63$ , range: 5–20), indicating that most retirees considered work to be central to their life above all other life roles. To test Hypothesis 1b that higher work centrality predicts poorer retirement adjustment, we conducted a regression analysis. First, we entered the demographic and health variables to control for their independent effects on retirement adjustment. Second, we entered the work centrality measure (Table 3 Step 2) to enable examination of its predictive value independent of demographic and health effects. Contrary to expectations, work centrality did not emerge as a significant predictor of retirement adjustment ( $\beta = -.09$ ,  $p = .09$ ). Moreover, after demographic and health effects were controlled,

**Table 2**

Means, standard deviations, and correlations for the individual influence variables and the dependent variable, retirement adjustment.

Variables	M	SD	1	2	3	4	5	6	7
(1) Age	71.04	7.66	—						
(2) Gender	0.35	0.48	-.14**	—					
(3) Marital status	0.77	0.42	-.13**	-.43**	—				
(4) Income	2.47	0.62	.05	-.14**	.14**	—			
(5) Years retired	9.92	7.14	.65**	.02	-.14**	.04	—		
(6) Psychological health	22.64	3.33	-.01	-.08	.04	.15**	-.14**	—	
(7) Retirement adjustment	49.23	7.04	.01	-.07	.17**	.41**	-.03	.31**	—

Note. Gender (male = 0, female = 1); Marital status (not married = 0, married = 1); Income (I don't have enough money to make ends meet = 1, I have just enough money = 2, I am comfortably well off = 3).

\*  $p < .05$ .

\*\*  $p < .01$ .

**Table 3**

Summary of hierarchical regression with retirement adjustment regressed on individual, psychosocial, and organizational influences ( $n = 319$ ).

	B	SE B	$\beta$
<i>Step 1: Individual influences</i>			
Age	-0.04	0.06	-.05
Gender	-0.05	0.83	.00
Marital status	3.56	1.20	.16**
Income	4.03	0.57	.35***
Years retired	0.07	0.07	.07
Psychological health	0.63	0.12	.27***
<i>Step 2: Psychosocial influences</i>			
Age	-0.02	0.06	-.02
Gender	-0.01	0.83	.00
Marital status	3.53	1.20	.15**
Income	3.99	0.57	.35***
Years retired	0.06	0.07	.06
Psychological health	0.64	0.12	.28***
Work centrality	-0.22	0.13	-.09
<i>Step 3: Organizational influences</i>			
Age	-0.10	0.06	-.11
Gender	-0.06	0.77	.00
Marital status	3.46	1.12	.15**
Income	2.95	0.55	.26***
Years retired	0.16	0.06	.16*
Psychological health	0.55	0.11	.24***
Work centrality	-0.21	0.12	-.08
Conditions of exit	0.68	0.10	.35***

Note.  $R^2 = .24$  at Step 1 ( $p < .001$ );  $\Delta R^2 = .01$  at Step 2 ( $p = .09$ );  $\Delta R^2 = .10$  at Step 3 ( $p < .001$ ).

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

work centrality accounted for only an additional 1% of the total variance in retirement adjustment. Thus, Hypothesis 1b was not supported.

### 3.2.3. Organizational influences: Conditions of exit

In the current study, five organizational-level variables were examined for their impact on retirement adjustment: perceived preparedness for retirement, ease of the retirement decision, gradual entry into retirement, choice in the retirement decision, and say in the timing of retirement. Means, standard deviations, and Pearson correlations for the five organizational influences are reported in Table 4.

As can be seen in Table 4, all ratings of organizational influences were favorable (means were higher than the midpoint of the scale) and all correlations were significant ( $r$ 's between .19 and .80,  $p$ 's  $\leq$  .001). Given the size and significance of the inter-correlations, an exploratory factor analysis was performed using principal axis factoring with oblique (Direct Oblimin) rotation. Based on the eigenvalues greater than 1 criterion and inspection of the scree plot, a single factor emerged that accounted for 45% of the total variance in retirement adjustment. All five items loaded significantly on this factor (factor loadings ranged from .48 to .84). The single factor was labeled "conditions of exit" and was operationalized as the sum of ratings for the five items ( $M = 16.9$ ,  $SD = 3.81$ , range: 5–23). Internal consistency reliability of the conditions of exit measure was acceptable (Cronbach's  $\alpha = .79$ ). Thus, to preserve degrees of freedom in subsequent analyses, the single conditions of exit measure was used in replacement of the five organizational influence items.

In support of Hypothesis 1c, more favorable conditions of exit predicted better retirement adjustment ( $\beta = .35$ ,  $p < .001$ ). As can be seen in Table 3, after controlling for demographic and health effects (Step 1), and work centrality (Step 2), conditions of exit accounted for an additional 10% of the total variance in retirement adjustment ( $\Delta R^2 = .10$ ,  $p < .001$ ; Step 3). Post-hoc regression analyses revealed that two of the five items from the conditions of exit measure significantly and positively predicted retirement adjustment: perceived preparedness for retirement ( $\beta = .31$ ,  $p < .001$ ) and perceived ease of the retirement decision ( $\beta = .18$ ,  $p < .001$ ).

### 3.2.4. The integrated model: Do higher-level influences predict retirement adjustment above lower-level influences?

Higher-level organizational influences positively ( $\Delta R^2 = .10$ ,  $p < .001$ ) and significantly ( $\beta = .35$ ,  $p < .001$ ) predicted additional retirement adjustment above lower-level individual (Step 1) and psychosocial influences (Step 2). However, the non-significance of work centrality as a predictor of retirement adjustment meant that there was only partial support for Hypothesis 1d and this favored the highest level of influences; conditions of exit (but not work centrality) added to the prediction of retirement adjustment over and above lower-level influences.

### 3.3. Does work centrality predict post-retirement behavior?

Presented in Table 5 are the means and standard deviations for the average amount of time purportedly spent in each of nine life roles and overall for two time periods: before retirement and after retirement. The average total activity of retirees across the nine life roles was marginally higher after retirement than before retirement. Not surprisingly, the average time purportedly spent by retirees in the work role was *lower* after retirement than before retirement. For the remaining eight non-work life roles, the average time purportedly spent in each role was *higher* after retirement than before retirement.

Following from Stryker's (1968, 1977) and Ashforth's (2001) comments, we expected that retirees with higher work centrality would be more active than retirees with lower work centrality. To test this hypothesis, a two-step hierarchical regression was conducted with total activity after retirement as the dependent measure. Total activity levels before retirement were entered at the first step, and work centrality was entered at the second step. This enabled investigation of the unique contribution of work centrality to retirees' post-retirement activity after controlling for retirees' pre-retirement activity levels.

Retirees' pre-retirement activity levels had a positive ( $R^2 = .27$ ,  $p < .001$ ) and significant ( $\beta = .52$ ,  $p < .001$ ) effect on post-retirement activity levels. After controlling for retirees' pre-retirement activity levels, work centrality accounted for only an additional 1% of the total variance in post-retirement activity levels ( $\Delta R^2 = .01$ ,  $p = .13$ ). Contrary to expectations, work centrality did not predict retirees' post-retirement activity levels ( $\beta = .07$ ,  $p = .13$ ). Thus, Hypothesis 2 was not supported. Post-hoc regression analyses of specific role-related activities indicated that work centrality was a significant predictor of

**Table 4**  
Means, standard deviations, and correlations for organizational influence variables.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Preparedness for retirement	3.45	0.99	–					
2. Ease of decision	3.71	1.10	.49	–				
3. Gradual transition	3.08	1.05	.47	.19	–			
4. Perceived choice	3.27	1.08	.44	.37	.41	–		
5. Perceived say in timing	3.39	0.99	.44	.30	.38	.80	–	
6. Retirement adjustment	49.23	7.04	.51	.38	.19	.28	.24	–

Note. Higher scores indicate a more favorable level of the variable. All correlations are significant ( $p$ 's  $\leq$  .001).

**Table 5**

Means and standard deviations for the purported time spent in nine life roles before retirement and after retirement.

Life roles	Before retirement M (SD)	After retirement M (SD)
<i>Work role</i>		
Paid work	5.73 (1.46)	1.62 (1.10)
<i>Non-work roles</i>		
Friends/acquaintances	4.23 (1.10)	4.72 (1.10)
Leisure/hobbies	3.35 (1.12)	5.10 (1.06)
Health	3.27 (1.26)	4.44 (1.27)
Income/financial security	3.26 (1.49)	4.05 (1.44)
Volunteer work	2.85 (1.39)	4.14 (1.59)
Housing conditions	2.89 (1.41)	3.37 (1.51)
Family/children	3.51 (1.33)	4.54 (1.35)
Partner relationship	4.24 (1.45)	4.95 (1.73)
Total activity	33.20 (6.27)	36.86 (5.71)

Note. Ratings of time spent in each life role range from 1 to 7 (1 = none of my time, 4 = some of my time, 7 = all of my time). 'Total activity' is the sum of time ratings for the nine life roles before retirement and after retirement (range: 9–63).

post-retirement activity levels in two of the nine life roles that were examined: housing ( $\beta = .10, p = .02$ ) and family ( $\beta = .14, p < .01$ ).

## 4. Discussion

### 4.1. Main findings

The aim of this study was to investigate the independent and incremental contribution of individual, psychosocial, and organizational influences to retirees' adjustment. The study also examined whether retirees' attitudes towards work influenced their post-retirement behavior. Overall, the results suggest that organizational influences predict retirement adjustment over and above psychosocial influences, which have no significant psychological or behavioral impact, and individual influences, which only partly account for differences in retirement adjustment. That is, whether considered independently or as part of an integrated model, only individual and organizational influences predict better retirement adjustment; psychosocial influences appear to have no significant impact on retirees' subsequent adjustment or behavior.

#### 4.1.1. Individual predictors of retirement adjustment

Turning to specific hypotheses, there was partial support for Hypothesis 1a. Consistent with past research, psychologically healthier, wealthier, married retirees were better adjusted to their retirement (e.g., Smith & Moen, 2004). In this way, the results of the current study add to the already extensive literature concerning the psychological benefits of being healthier, wealthier, and married for retirement adjustment.

The apparent null effects of gender, age, and years retired on adjustment suggest a possible limitation of the study. Specifically, the use of a cross-sectional design precludes any inferences about changes in retirement adjustment over time. This may be particularly problematic given evidence that retirement adjustment follows a non-linear trajectory (e.g., Wang, 2007). According to Atchley's (1976) process model of retirement adjustment, the initial elevation in retirees' wellbeing and adjustment immediately after retirement is short-lived; retirement adjustment drops once retirees adopt a more realistic view of retirement and later stabilizes once retirees accommodate to their new life. If, as Atchley's model suggests, retirement adjustment follows a non-linear trajectory, then women and men, older and younger retirees, and recently and longer-term retirees may be at very different phases of the adjustment trajectory at any one point in time (e.g., Taylor et al., 2008).

#### 4.1.2. Psychosocial predictors of retirement adjustment and behavior

With regard to psychosocial influences on retirement adjustment and behavior, neither Hypotheses 1b nor 2 were supported. That is, higher work centrality did not predict better or worse retirement adjustment, nor did it predict elevated or depressed levels of overall activity in retirement. These results are inconsistent with past research in which attitudes towards work have been linked to subsequent adjustment. For example, in their longitudinal study, Reitzes and Mutran (2006) found that identification with the work role positively impacted adjustment for up to 24 months after the retirement event. Although yet to be investigated, it is possible that work centrality, like retirement adjustment, follows a non-linear trajectory. That is, work centrality might initially enhance retirees' adjustment in the first 24 months of retirement, but this salutary effect might eventually weaken with time. Given that retirees in the current study had been retired for an average of 10 years, it is possible that the effect of work centrality on retirement adjustment and activity levels had simply worn off by the time of measurement.

#### 4.1.3. Organizational predictors of retirement adjustment and the integrated model

With regard to organizational influences, there was evidence in support of Hypothesis 1c, such that more favorable conditions of workforce exit predicted better retirement adjustment. With regard to the integrated model, the non-significance of work centrality meant that there was only partial support for Hypothesis 1d. In the current study, only the conditions by which retirees exited the workforce positively predicted retirement adjustment above lower-level individual and psychosocial influences. In terms of specific conditions of exit variables, preparedness for retirement and an easier retirement decision both predicted better retirement adjustment. These results build on the extant literature (e.g., Quine et al., 2007) and lend support to the suggestion that the conditions by which retiring individuals exit their organization deserve attention in career transition and retirement discussions. Furthermore, the results add weight to Matour and Prout's (2007) recommendation that workers be encouraged to plan early for their retirement.

#### 4.2. Limitations and future research directions

The results of the current study suggest a number of limitations and also highlight possible research directions to further investigate the determinants of retirement adjustment and post-retirement behavior. The cross-sectional design, single method of data collection and use of non-probabilistic sampling limit the generalizability of the findings. Future studies that use longitudinal designs, multiple methods of data collection, and probabilistic sampling methods are needed to redress concerns about the external validity of the results.

##### 4.2.1. The need for longitudinal studies of retirement adjustment

Like any cross-sectional study that seeks to explore the existence of rather than changes in demographic, psychosocial, and organizational variables, the analyses presented here provide only a static picture of the retirement adjustment process. Future studies that use a longitudinal design are needed to enable more conclusive statements about the changing dynamic between individual, psychosocial, and organizational influences on retirement adjustment. Longitudinal designs would enable tracking of retirees' adjustment over time. With time-series analyses, it may be possible to map the different retirement adjustment and work centrality trajectories to determine how, if at all, these vary between subgroups of retirees (e.g., between men and women or between recent and longer-term retirees).

##### 4.2.2. Obtaining data from multiple sources

There is also an opportunity for future studies to use multiple methods of data collection to improve the reliability and validity of the work centrality and activity measures. In the current study, the average retiree was aged 71 years and was recollecting an experience that had occurred, on average, 10 years ago. The sole reliance on self-report ratings raises concerns about possible response biases and retirees' ability to accurately recall the emotional valence of their retirement experiences (Pasupathi & Cartensen, 2003). Future studies could combine, for example, Lim and Ng's (1997) self-report work centrality measure with behavioral indicators of work centrality (e.g., the number of hours devoted to work per week) or others' ratings of a target person's work centrality (e.g., asking family members to rate the target person's work centrality). Pooling information from multiple sources may improve the reliability of retirees' assessments and may lead to very different conclusions concerning the predictors of retirement adjustment and post-retirement behavior.

##### 4.2.3. Improving generalizability with probabilistic sampling methods

The current study used a purposive snowballing method to recruit participants. The main criticism of this type of data collection is that respondents are selected from the friendship network of willing participants, potentially biasing the sample towards socially connected (cf. socially isolated) respondents (e.g., Berg, 1988). Despite this criticism, proponents of snowball sampling believe that the method is effective at penetrating hidden populations (Salganik & Heckathorn, 2004). Although snowball sampling appeared to be an effective method of recruiting retirees to the current study, the majority of respondents were members of Rotary (57%). Furthermore, approximately two-thirds (69%) had been last employed in a managerial or professional position. Thus, our sample of retirees may have had greater access to retirement planning or support resources than the broader population of retirees. Future studies should consider the use of probabilistic sampling methods to improve the generalizability of results. Alternatives to purely probabilistic methods include mixed methods sampling, where participants are recruited using both probabilistic and purposive sampling (Teddlie & Yu, 2007), and quasi-experimental research designs, which take advantage of serendipitous interventions (e.g., changes in organizational or government policies; Beehr, 1986) and enable cause-and-effect statements about the retirement adjustment experience.

#### 4.3. Theoretical and practical implications

The current study makes several important contributions to retirement theory and practice. As will be elaborated on below, role theory may not provide an adequate account of the retirement experience. Furthermore, although unrelated to overall activity levels, work attitudes appear to have a specific impact on retirees' subsequent behavior. Additionally, the results suggest that career counselors may have an integral role in facilitating retirement planning amongst retiring individuals and employers.

#### 4.3.1. Retirement as a transition, adjustment as a process

The results of the current study challenge the role theory assumption that relinquishing the work role creates difficulties for retirees' subsequent adjustment. Although traditionally viewed as a discrete and universally distressing event, retirement has increasingly been conceptualized as a transition and retirement adjustment as a dynamic and individual process (e.g., Wang, 2007). The direct, linear relationships predicted by a role theory approach may not adequately capture the whole of the retirement adjustment process. In particular, the role theory assumption that loss of the work role predicts poorer adjustment might only be relevant for the latter part of the adjustment trajectory. Although yet to be investigated, it is possible that work centrality initially enhances retirees' adjustment but this salutary effect might weaken over time. Furthermore, the amount of time it takes for this effect to weaken might depend on how central work is to one's life to begin with. Potentially, retirees with higher work centrality might experience a more protracted adjustment trajectory simply because it takes longer for them to "let go" of their work role relative to retirees with lower work centrality. Thus, a role theory approach has limited ability to account for the totality of the retirement experience. A more holistic approach, such as that afforded by a life-course perspective (Elder, 1995; Elder & Johnson, 2003), is needed to capture the non-linear trajectories of retirement adjustment and work centrality.

#### 4.3.2. Linking work attitudes to specific retirement behaviors

Researchers in the social psychology domain have long since established the link between people's attitudes and their behavior (e.g., Fishbein & Ajzen, 1975). There is, however, a relative paucity of research concerning the link between work attitudes and post-retirement behavior. In the current study, work centrality did not influence retirees' overall activity levels, a result which suggests that retirees' work attitudes do not impact post-retirement behavior. Only when specific role-related activities were examined did work centrality appear to influence retirees' behavior and even then in only two domains: family and housing. Thus, work attitudes appear to have a targeted impact on retirees' subsequent behavior. While they are not more active overall, retirees with higher work centrality seem to devote what was previously their work time to specific activities involving their immediate family (e.g., spending time with children or grandchildren) and their home or living conditions (e.g., spending time maintaining the home or moving house). Despite their continued attachment to their work, retirees do not appear to fill their spare time in retirement with additional work-related activities. Thus, there is hope for the "workaholic"; the individual who regards work to be of central importance to life appears to, upon retirement, redirect his or her time to the family and home environment (the reformed workaholic).

#### 4.3.3. The importance of planning for retirement

Another significant contribution of the current study to the retirement adjustment literature is the finding that *how* a person exits the workforce enhances their adjustment above the well-established salutary effects of individual influences. That is, whilst a healthy, wealthy, or married retiree is better adjusted to retirement, there are added psychological benefits for the retiree who also exits the workforce feeling prepared or feeling as though the decision to retire was relatively easy. These results highlight the importance of planning for retirement and suggest that career counselors may have an integral role in facilitating retirement planning for both retiring individuals and employing organizations.

Unfortunately, the majority of existing retirement planning programs emphasize only the health or financial implications of retirement. Although important, it is clear from the current study that health and finances should not be the sole focus of these programs. To be maximally effective as an intervention, retirement planning needs to incorporate information about individual and organizational influences on retirement adjustment. Such information will likely benefit both intending retirees, by promoting better retirement adjustment, and employers, by enabling the design of more effective exit strategies that move an older worker out of the organization without compromising the departing individual's welfare and wellbeing.

## 5. Conclusion

The current study highlights the importance of adopting a more holistic approach to retirement research, theory, and practice. Rather than solely focusing on the demographic and health factors important for retirees' adjustment, researchers and practitioners need to consider the influence of the broader organizational context in retirement discussions. Although further investigation of the psychosocial influences of retirement adjustment and behavior is needed, it is clear from the current study that both the individual and the organization play an integral role in ensuring a positive retirement experience.

## References

- Adams, G. A., Prescher, J., Beehr, T. A., & Lepisto, L. (2002). Applying work-role attachment theory to retirement decision-making. *International Journal of Aging and Human Development*, 52, 125–137.
- Arnold, H. J., & Feldman, D. C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology*, 67, 350–360.
- Ashforth, B. (2001). *Role transitions in organizational life: An identity-based perspective*. Mahwah, NJ: Erlbaum.
- Atchley, R. C. (1976). *The sociology of retirement*. Cambridge, MA: Schenkman Publishing.
- Atchley, R. C. (1999). Continuity theory, self, and social structure. In C. D. Ryff & V. W. Marshall (Eds.), *Families and retirement* (pp. 145–158). Newbury Park, CA: Sage.
- Beehr, T. A. (1986). The process of retirement: A review and recommendations for future investigation. *Personnel Psychology*, 39, 31–55.
- Berg, S. (1988). Snowball sampling. In S. Kotz & N. L. Johnson (Eds.), *Encyclopaedia of statistical sciences* (pp. 528–532). New York: John Wiley and Sons.

- Bierman, A., Fazio, E. M., & Milkie, M. A. (2006). A multifaceted approach to the mental health advantage of the married: Assessing how explanations vary by outcome measure and unmarried group. *Journal of Family Issues*, 27, 554–582.
- Bosse, R., Spiro, A., & Kressin, N. R. (1996). The psychology of retirement. In R. T. Woods (Ed.), *Handbook of the clinical psychology of ageing* (pp. 141–157). Chichester, UK: John Wiley and Sons.
- Botti, S., & Iyengar, S. S. (2004). The psychological pleasure and pain of choosing: When people prefer choosing at the cost of subsequent outcome satisfaction. *Journal of Personality and Social Psychology*, 87, 312–326.
- Brown, E. J. (2003). Double whammy: Accessing, recruiting and retaining the hidden of the hidden. *Journal of Ethnicity of Substance Abuse*, 2, 43–52.
- Buddenbaum, J. M., & Novak, K. B. (2001). *Applied communication research*. Ames, Iowa: Iowa State University Press.
- Butterworth, P., Gill, S. C., Rodgers, B., Anstey, K. J., Villamil, E., & Melzer, D. (2006). Retirement and mental health: Analysis of the Australian national survey of mental health and well-being. *Social Science & Medicine*, 62, 1179–1191.
- Calasanti, T. M. (1996). Gender and life satisfaction in retirement: An assessment of the male model. *Journal of Gerontology: Social Sciences*, 51B, S18–S29.
- Calvo, E., Haverstick, K., & Sass, S. A. (2007). What makes retirees happier: A gradual or 'cold turkey' retirement? *Center for Retirement Research at Boston College* (Working Paper 2007–18, pp. 1–45) [Electronic version]. Retrieved September 12, 2008. Available from [http://crr.bc.edu/images/stories/Working\\_Papers/wp\\_2007-18.pdf](http://crr.bc.edu/images/stories/Working_Papers/wp_2007-18.pdf).
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- De Vaus, D., Wells, Y., Kendig, H., & Quine, S. (2007). Does gradual retirement have better outcomes than abrupt retirement? Results from an Australian panel study. *Ageing & Society*, 27, 667–682.
- De Vries, M. F. (1979). Is there life after retirement? *California Management Review*, 22, 69–76.
- Diener, E., Gohm, C. L., Suh, E., & Oishi, S. (2000). Similarity of the relations between marital status and subjective well-being across cultures. *Journal of Cross-Cultural Psychology*, 31, 419–436.
- Ebersole, P., & Hess, P. (1998). *Toward healthy aging: Human needs and nursing response* (5th ed.). St. Louis, MO: Mosby.
- Elder, G. H. (1995). The life course paradigm: Social change and individual development. In P. Moen, G. H. Elder, & K. Luscher (Eds.), *Examining lives in contexts: Perspectives on the ecology of human development* (pp. 101–139). Washington, DC: American Psychological Association.
- Elder, G. H., & Johnson, M. K. (2003). The life course and aging: Challenges, lessons, and new directions. In R. A. Settersten Jr (Ed.), *Invitation to the life course: Toward new understandings of later life* (pp. 49–81). Amityville, NY: Baywood.
- Feldman, D. C. (1994). The decision to retire early: A review and conceptualization. *Academy of Management Review*, 19, 285–311.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fouquereau, E., Fernandez, A., Fonseca, A. M., Paul, M. C., & Uotinen, V. (2005). Perceptions of and satisfaction with retirement: A comparison of six European Union countries. *Psychology and Aging*, 20, 524–528.
- Fry, P. S. (1992). Major social theories of aging and their implications for counseling concepts and practice. A critical review. *Counseling Psychologist*, 20, 24–329.
- Gall, T. L., Evans, D. R., & Howard, J. (1997). The retirement adjustment process: Changes in the well-being of male retirees across time. *Journal of Gerontology: Psychological Sciences*, 52B, P110–P117.
- Gallo, W. T., Bradley, E., Siegel, M., & Kasl, S. V. (2000). Health effects of involuntary job loss among older workers: Findings from the Health and Retirement Survey. *Journal of Gerontology: Social Sciences*, 55B, S131–S140.
- Gendell, M. (1998). Trends in retirement age in four countries 1965–95. *Monthly Labor Review*, 121, 20–30.
- George, L. K. (1993). Sociological perspectives on life transitions. *Annual Review of Sociology*, 19, 353–373.
- Glanser, R., & De Jong, G. (1975). The efficacy or pre-retirement preparation programs for industrial workers. *Journal of Gerontology*, 30, 595–600.
- Glass, J. C., & Flynn, D. K. (2000). Retirement needs and preparation of rural middle-aged persons. *Educational Gerontology*, 26, 109–134.
- Goldberg, D. P. (1972). *The detection of psychiatric illness by questionnaire*. London: Oxford University Press.
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., et al (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, 27, 191–197.
- Goldberg, D. P., & Williams, P. (1988). *A user's guide to the general health questionnaire*. Windsor: NFER-Nelson.
- Gratton, B., & Haug, M. (1983). Decision and adaptation. *Research on Aging*, 5, 59–76.
- Hedge, J. W., Borman, W. C., & Lammlein, S. E. (2006). *The aging workforce. Realities, myths, and implications for organizations*. Washington, DC: American Psychological Association.
- Henrich, G., & Herschbach, P. (2000). Questions on life satisfaction (FLZ<sup>M</sup>): A short questionnaire for assessing subjective quality of life. *European Journal of Psychological Assessment*, 16, 150–159.
- Herbertsson, T. T., & Orszag, J. M. (2001). The costs of early retirement in the OECD. *Institute of Economic Studies Working Papers 1987–2001* (W01:02). Retrieved August 19, 2008. Available from <http://ssrn.com/abstract=273370>.
- Hershey, D. A., Jacobs-Lawson, J. M., & Neukam, K. N. (2002). Influences of age and gender on workers' goals for retirement. *International Journal of Aging and Human Development*, 55, 163–179.
- Hopkins, C. D., Roster, C. A., & Wood, C. M. (2006). Making the transition to retirement: Appraisals, post-transition lifestyle, and changes in consumption patterns. *Journal of Consumer Marketing*, 23, 87–99.
- Isaksson, K., & Johansson, G. (2000). Adaptation to continued work and early retirement following downsizing: Long-term effects and gender differences. *Journal of Occupational and Organizational Psychology*, 73, 241–256.
- Jeffri, J. (2004). Research on the individual artist: Seeking the solitary singer. *Journal of Arts Management, Law and Society*, 34, 9–23.
- Kanungo, R. N. (1982). *Work alienation: An integrated approach*. New York: Praeger.
- Kim, J. E., & Moen, P. (2001). Is retirement good or bad for subjective well-being? *Current Directions in Psychological Science*, 10, 83–86.
- Lim, G. S., & Ng, L. T. (1997). Early retirement and bridge employment intentions among older workers in Singapore. *Asia Pacific Journal of Management*, 14, 185–210.
- Matour, S., & Prout, M. F. (2007). Psychological implications of retirement in the 21st century. *Journal of Financial Service Professionals*, 61, 57–63.
- Mein, G., & Ellison, G. T. (2006). The impact of early retirement on perceptions of life at work and at home: Qualitative analyses of British civil servants participating in The Whitehall II Retirement Study. *International Journal of Aging and Human Development*, 63, 187–216.
- Midanik, L. T., Soghikian, K., Ransom, L. J., & Tekawa, I. S. (1995). The effect of retirement on mental health and health behaviors: The Kaiser Permanente Retirement Study. *Journal of Gerontology: Social Sciences*, 50B, S59–S61.
- Moen, P., Dempster-McClain, D., & Williams, R. M. Jr., (1992). Successful aging: A life-course perspective on women's multiple roles and health. *The American Journal of Sociology*, 97, 1612–1638.
- Moen, P., Erickson, M. A., & Dempster-McClain, D. (2000). Social role identities among older adults in a continuing care retirement community. *Research on Aging*, 22, 559–579.
- Moor, C., Zimprich, D., Schmitt, M., & Kliegel, M. (2006). Personality, aging self-perceptions, and subjective health: A mediation model. *International Journal of Aging and Human Development*, 63, 241–257.
- Neuhs, H. P. (1990). Predictors of adjustment in retirement of women. In J. D. Hayes (Ed.), *Pre-retirement planning for women: Program design and research* (pp. 133–149). New York: Springer.
- Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Organisation for Economic Cooperation, Development. (1995). *The transition from work to retirement*. Paris: OECD Publishing.
- Organisation for Economic Cooperation, Development. (2006). *Live longer, work longer*. Paris: OECD Publishing.
- Organisation for Economic Cooperation, Development. (2007). *Pensions at a glance. Public policies across OECD countries*. Paris: OECD Publishing.
- Parboteeah, K. P., & Cullen, J. B. (2003). Social institutions and work centrality: Explorations beyond national culture. *Organization Science*, 14, 137–148.

- Parsons, T. (1942). Age and sex in the social structure of the United States. *American Sociological Review*, 7, 604–616.
- Pasupathi, M., & Cartensen, L. L. (2003). Age and emotional experience during mutual reminiscing. *Psychology and Aging*, 18, 430–442.
- Petters, J. S., & Asuquo, P. N. (2008). Work-role attachment and retirement intentions of public school teachers in Calabar, Nigeria. *Studies on Home and Community Science*, 2, 11–17.
- Pinquart, M., & Schindler, I. (2007). Changes of life satisfaction in the transition to retirement: A latent-class approach. *Psychology and Aging*, 22, 442–455.
- Price, K. F., & Joo, F. (2005). Exploring the relationship between marital status and women's retirement satisfaction. *International Journal of Aging and Human Development*, 61, 37–55.
- Quick, H. E., & Moen, P. (1998). Gender, employment and retirement quality: A life course approach to the differential experiences of men and women. *Journal of Occupational Health Psychology*, 3, 44–64.
- Quine, S., Wells, Y., de Vaus, D., & Kendig, H. (2007). When choice in retirement decisions is missing: Qualitative and quantitative findings of impact on well-being. *Australasian Journal on Ageing*, 26, 173–179.
- Quinn, J. F., Burkhauser, R. V., & Myers, D. A. (1990). *Passing the torch: The influence of economic incentives on work and retirement*. Kalamazoo, MI: Upjohn Institute for Employment Research.
- Reitzes, D. C., & Mutran, E. J. (2004). The transition to retirement: Stages and factors that influence retirement adjustment. *International Journal of Aging and Human Development*, 59, 63–84.
- Reitzes, D. C., & Mutran, E. J. (2006). Lingering identities in retirement. *The Sociological Quarterly*, 47, 333–359.
- Richardson, V., & Kilty, K. M. (1991). Adjustment to retirement: Continuity vs. discontinuity. *International Journal of Aging and Human Development*, 33, 151–169.
- Rosenman, L., & Warburton, J. (1995). The changing context of retirement in Australia. *Social Security Journal*, December, 54–66.
- Rowan, M., & Huston, P. (1997). Qualitative research articles: Information for authors and peer reviewers. *Canadian Medical Association Journal*, 157, 1442–1446.
- Salganik, M. J., & Heckathorn, D. D. (2004). Sampling and estimation in hidden populations using respondent-driven sampling. *Sociological Methodology*, 34, 193–240.
- Savickas, M. (2002). Reinvigorating the study of careers. *Journal of Vocational Behavior*, 61, 381–385.
- Scherer, P. (2002). Age of withdrawal from the labour force in OECD countries. *Labour Market and Social Policy Occasional Paper*, 49. Paris: OECD.
- Schmidt, J. A., & Lee, K. (2008). Voluntary retirement and organizational turnover intentions: The differential associations with work and non-work commitment constructs. *Journal of Business Psychology*, 22, 297–309.
- Shacklock, K. H. (2005). Shall I stay? The meaning of working to older workers in an organisational setting [Electronic version]. Retrieved August 23, 2008. Available from <http://www4.gu.edu.au:8080/adt-root/public/adt-QGU20060818.144021>.
- Smith, D. B., & Moen, P. (2004). Retirement satisfaction for retirees and their spouses: Do gender and the retirement decision-making process matter? *Journal of Family Issues*, 25, 262–285.
- Streeton, R., Cooke, M., & Campbell, J. (2004). Researching the researchers: Using a snowballing technique. *Nurse Researcher*, 12, 35–47.
- Stryker, S. (1968). Identity salience and role performance. The relevance of symbolic interaction theory for family research. *Journal of Marriage and the Family*, 30, 558–564.
- Stryker, S. (1977). Developments in 'two social psychologies': Toward an appreciation of mutual relevance. *Sociometry*, 40, 145–160.
- Szinovacz, M. E., & Davey, A. (2005). Predictors of perceptions of involuntary retirement. *The Gerontologist*, 45, 36–47.
- Taylor, M. A., Goldberg, C., Shore, L. M., & Lipka, P. (2008). The effects of retirement expectations and social support on post-retirement adjustment: A longitudinal analysis. *Journal of Managerial Psychology*, 23, 458–470.
- Taylor, M. A., & Shore, L. M. (1995). Predictors of planned retirement age: An application of Beehr's model. *Psychology and Aging*, 10, 76–83.
- Teddle, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1, 77–100.
- Thoits, P. A. (1992). Identity structure and psychological well-being: Gender and marital status comparisons. *Social Psychology Quarterly*, 55, 236–256.
- Van Solinge, H., & Henkens, K. (2008). Adjustment to and satisfaction with retirement: Two of a kind? *Psychology and Aging*, 23, 422–434.
- Von Hippel, W., Henry, J. D., & Matovic, D. (2008). Aging and social satisfaction: Offsetting positive and negative effects. *Psychology and Aging*, 23, 435–439.
- Wang, M. (2007). Profiling retirees in the retirement transition and adjustment process: Examining the longitudinal change patterns of retirees' psychological well-being. *Journal of Applied Psychology*, 92, 455–474.
- Warr, P. (1992). Age and occupational well-being. *Psychology and Aging*, 7, 37–45.
- Wells, Y., deVaus, D., Kendig, H., Quine, S., & Petralia, W. (2006). Healthy Retirement Project: Technical Report [Electronic version]. Retrieved August 8, 2008. Available from: <http://www.latrobe.edu.au/alpc/projects/hrp.pdf>.
- Zimmerman, L., Mitchell, B., Wister, A. V., & Gutman, G. M. (2000). Unanticipated consequences: A comparison of expected and actual retirement timing among older women. *Women and Aging*, 12, 109–128.