Predicting Retirement Upon Eligibility:

An Embeddedness Perspective

Peter A. Bamberger*
Recanati Graduate School of Business Administration
Tel Aviv University
Ramat Aviv 69978 ISRAEL
peterb@post.tau.ac.il
Tel. +972-544-834876
Fax +972-4-8263936

AND

Smithers Institute, School of Industrial and Labor Relations
Cornell University
Ithaca, NY 14853
Tel. 212-340-7931
Fax 212-340-2893

Samuel B. Bacharach
Department of Organizational Behavior, School of Industrial and Labor Relations
Cornell University
Ithaca, NY 14853
Sb22@cornell.edu
Tel. 212-340-7931
Fax 212-340-2893

* Corresponding Author

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Abstract

Concern over the impact of baby-boomers' retirement on needed skills and proprietary knowledge has stimulated an interest in identifying workplace factors associated with retirement upon eligibility. Drawing from embeddedness theory, the authors identify work-based antecedents potentially underlying a related, but distinct, form of withdrawal—*retirement upon eligibility.* The authors generate and test hypotheses regarding the impact of fit-, sacrifice- and links-related antecedents using a prospective study design and a national probability sample of some 500 older individuals who, at the time of the initial interview, were within months of becoming–*for the first time*–eligible to receive such benefits. The findings indicate that, beyond the effects of person-based antecedents (e.g., age, health, assets, expected retirement income), a combination of fit- (i.e., job challenge), sacrifice- (i.e., perceived organizational support), and links-related factors (i.e., stability of close workplace peer relations) have a substantial influence on the decision to retire upon eligibility.

Older adults (i.e., ages 55+) represent an increasingly larger segment of the workforce in the United States[1] and are expected to account for 39% of the population by 2050 (versus 29% in 2005) (Toossi 2006). This increasing dominance of older adults in the American workforce poses a unique dilemma for employers. On the one hand, older adults' increasing tendency to defer retirement—"the exit from an organizational position or career path of considerable duration, taken by individuals after middle age, and taken with the intention of reduced psychological commitment to work thereafter" (Feldman 1994: 287)—provides employers with the opportunity to amortize investments in human capital over an extended period of time. On the other hand, because a significant portion of this workforce is eligible to receive some sort of income replacement in the form of retirement benefits, the retention of such workers over the long-term can be a tenuous matter. Moreover, given that much of a firm's human and social capital is often embodied precisely within this workforce (Toossi 2006; McKinsey Global Institute 2008), in order to avoid the sudden loss of needed skills and proprietary knowledge, and overcome shortfalls in matching HR requirements with availabilities, such trends suggest the need to give greater consideration to policies and practices aimed at retaining an older, workforce beyond the point at which they become eligible to receive some sort of retirement benefit (Alley, Suthers, and Crimmins 2007; Wang, Zhan, Liu, and Shultz 2008; Shultz and Wang 2011).

Yet, in spite of the demands such labor market transformations are likely to place on employers, and in contrast to the attention paid to retirement matters by researchers in economics, law, and gerontology, retirement issues have received relatively scant attention from management researchers (Feldman 1994; Wang and Shultz 2010). Much of the literature on

[1] According to the BLS (2010), the labor force participation (LFP) rate for men aged 60 to 72 increased 38% in the period from 1985 to 2010, from 26.5% to 36.7%. The LFP rate for women aged 60 to 72 increased by 80% in the period from 1985 to 2010, from 15.4% to 27.7%.

retirement decisions focuses on person-specific, demographic and economic antecedents (e.g., age, net worth) beyond the ability of management to directly influence (Schwerha, Ritter, Robinson, Griffeth, and Fried 2011). Moreover, that research on retirement conducted from a more organizational perspective tends to focus on isolated sets of antecedents informed by a particular theoretical perspective (e.g., rational choice [Hatcher 2003]; P-E fit theory [Feldman 1994]) and/or grounded at a single level of analysis (Wang and Shultz 2010:186). This is problematic in that the retirement decision is likely influenced by factors associated with a variety of perspectives and operating at different levels (Wang et al. 2008; Wang and Shultz 2010). Accordingly, in shaping employment practices geared toward retaining workers beyond the point at which they become retirement-eligible, employers have little evidence-based research upon which to formulate strategy.

We attempt to address these gaps by examining the impact of factors at the job and organizational levels on retirement among those becoming eligible—for the first time—to draw some form of retirement benefit. To do so, we draw from embeddedness theory (Mitchell, Holtom, Lee, Sablynski, and Erez 2001), using it as a conceptual framework facilitating the identification of a parsimonious set of work-related antecedents offering potentially robust predictive utility. We ground our analysis on embeddedness theory because: (a) like voluntary turnover, retirement upon eligibility is a form of withdrawal that is generally volitional in nature (Hanisch and Hulin 1990; Adams and Beehr 1998), and (b) its three dimensions (i.e., fit, sacrifice, and links) reflect multiple theoretical perspectives, allowing for a more comprehensive analysis of workplace factors at both job and organizational levels potentially associated with retirement upon first-time eligibility.

The current study offers an important theoretical contribution by specifying a more comprehensive framework, grounded on embeddedness principles, for understanding how, *above and beyond* the effects of person-specific retirement antecedents noted above, a variety of job and organizational factors may affect retirement decisions. Furthermore, recognizing that such contextual influences on retirement may be subject to individual differences and that age serves as one of the most consistently robust individual-level determinants of retirement (Wang and Shultz 2010), our model contributes to the retirement decision-making literature by examining the degree to which the impact of work-related variables on the decision to retire upon first-time eligibility may be age contingent. Our study also offers an important empirical contribution by testing this framework on the basis of a prospective design with data collected from a national probability sample of workers who, at Time 1, were about to become eligible—for the first time—to draw retirement benefits, with Time-2 criterion-related data collected one year later. Finally, our study offers a significant practical contribution by examining the impact of HR policies and practices on older adults' *actual* retirement decisions (as opposed to intentions).

What is Retirement and Who is Eligible for It?

As noted by Ekerdt (2010: 70), "the designation of retirement status is ambiguous because there are multiple overlapping criteria by which someone may be called retired including career cessation, reduced workload, pension receipt, or self-report." However, to the extent that retirement is framed as "motivated choice behavior" it can be viewed as a transition process beginning at the point at which the employee opts to "decrease their psychological commitment to work and to behaviorally withdraw from work" (Shultz and Wang 2011: 174). While for some workers, this decision is manifested by the abrupt cessation of all work activity,

for an increasing number of others, it is manifested by a longer-term transition involving a decision to leave one's career job and engage in some form of bridge employment. Regardless of the path taken, because it is not feasible for older workers to exit from their organizational position or career with the intention of reducing their work involvement (i.e., retire) unless they have the financial wherewithal to do so (Beehr, Glazer, Nielson, and Farmer 2000; Feldman and Beehr 2011), we focus upon individuals approaching eligibility for some retirement benefit. More specifically, we model how job and organizational factors influence the decision of those becoming eligible to receive some sort of retirement benefit *for the first time* to exit their career job (Beehr et al. 2000) and draw from their benefits, either with the intention to leave the labor force entirely or to seek alternative employment as part of a longer-term transition out of the labor force.

While a variety of alternative retirement benefits may become available to older workers depending on their age or organizational tenure, we focus on eligibility for any of three primary forms of retirement-related benefits, namely defined contribution benefits (e.g., IRA, 401(k)), defined- benefit pension, and Social Security—the latter included because only 63% of older boomers (ages 48-57) and 49% of pre-retirees (ages 58-64) participate in any form of pension plan (Verma 2006). While each of these benefits may provide the financial means to exit the labor force, for many workers, it may be difficult to make ends meet strictly on the basis of the payout such plans provide. Moreover, each form of benefit is governed by a strict body of law specifying at what age benefits may be drawn. Thus, while we view eligibility for at least one of these benefits as the defining element of retirement eligibility, we assume that for most, such eligibility alone is likely to be a necessary but insufficient condition for the type of older-worker "exit" described by Feldman (1994).

Proposed Model and Hypotheses

Mitchell et al. (2001: 1104) describe job embeddedness as "a net or a web in which one can become 'stuck'," with many aspects of one's work potentially leading to such a sense of enmeshment. Numerous studies have consistently found a strong inverse relationship between an employee's embeddedness and his/her tendency to quit (c.f., Lee, Mitchell, Sablynski, Burton, and Holtom 2004), and studies have consistently found a strong association between embeddedness and turnover criteria even when taking job satisfaction, organizational commitment, and job alternatives into account (Lee et al. 2004; Mallol, Holtom, and Lee 2007; Tanova and Holtom 2008). Recently, however, scholars (Crossley, Bennett, Jex, and Burnfield 2007; Tanova and Holtom 2008) have suggested two main problems with the assessment of embeddedness as a composite of forces binding people to the firm. First, this approach assumes that the whole is greater than the parts and that all of the parts are equally weighted by all when contributing to this sense of enmeshment. Second, this approach combines reflective items (items to which responses are indicative of this underlying sense of embeddedness), with formative items (i.e., items that cause or serve as antecedents of embeddedness) making it difficult for scholars and practitioners alike to isolate the cause from the effect. Accordingly, as argued by Tanova and Holtom (2008), especially when the interest is in understanding the role played by particular job and organizational factors in affecting employee withdrawal, it makes sense to use embeddedness theory as a sensitizing framework for identifying those specific parameters likely to generate a sense of psychological enmeshment and thus motivate retention. Accordingly, in the current study, we use each of the three job embeddedness dimensions as a framework for identifying specific organizational and job factors that, in theory, are likely to provide a basis for

greater enmeshment and hence increase the probability that retirement-eligible employees will defer retirement.

Fit

Mitchell et al. (2001: 1104) define fit as "an employee's compatibility or comfort with an organization with his or her environment." Fit is enhanced to the degree that workplace policies/practices and job characteristics are consistent with employees' interests, values, and competencies. A recent meta-analysis found correlations of -.46 and -.47 between person-job and person-organization fit (respectively), and intent to quit (Kristoff-Brown, Zimmerman, and Johnson 2005). To the degree that retirement, like turnover, may be conceptualized as a form of withdrawal, it stands to reason that fit-related factors are also likely to be predictive of retirement upon eligibility.

While typically conceptualized in terms of individuals' direct perceptions of *complementary* fit (i.e., the degree to which organizational characteristics are viewed by the employee as filling a gap in individual needs), Kristoff-Brown et al. (2005: 291) note that such approaches can result in inflated assessments of fit due to a variety of consistency biases. Accordingly, while we too focus on complementary fit, we operationalize the degree of fit in terms of the consistency between subjective perceptions of the organization and job environment (on the one hand), and those conditions noted in the literature as likely to meet the particular needs and interests of older workers in general (on the other).

At the *organizational level*, a number of studies (e.g., Weckerle and Shultz 1999; Rau and Adams 2005) suggest that flexible policies/practices, particularly those relating to work scheduling (i.e., *temporal flexibility*), are likely to influence retirement-eligible workers' sense of

person-organization fit and hence influence retirement decisions. While older employees may not yet be prepared to retire, physical, cognitive, and/or practical constraints may limit their ability to work an increasingly longer, "normal" work day (Hardy 2008; Shultz and Wang 2011). Accordingly, an increasing proportion of firms are offering "phased retirement," allowing retirement-eligible employees to reduce their hours and/or cycle in and out of employment (Hardy 2008). To the degree that employers enable older workers to adjust work schedules to meet their individual needs, they are likely to provide an infrastructure allowing for enhanced fit, and thus–from an embeddedness perspective–reduce the probability of retirement upon eligibility. Hence, we posit:

> Hypothesis1a. The greater the perceived temporal flexibility of organizations with respect to their older workforce, the lower the odds of retirement upon eligibility.

Job-level factors, "making the job repulsive or onerous in some way," may also provide an important basis for fit, and therefore serve as an additional influence on retirement proclivity (Beehr et al. 2000: 208). While a variety of job characteristics may affect older adults' sense of job fit, gerontologists have argued that those characteristics related to meaningfulness may take on particular salience in that such individuals often feel increasingly marginalized in contemporary Western societies (Quadagno 1999). To the extent that the job performed by retirement-eligible employees is perceived as being more meaningful, older employees may be more likely to frame their job as being more compatible with their needs. *Job challenge* may play a particularly important role in providing older adults with a greater sense of meaningfulness in their lives (Hackman and Oldham 1975; Parker 1998), and as such increase the likelihood of retention despite retirement-eligibility (Wang and Shultz 2010). Consistent with

such a perspective, Hayward and Hardy (1985) and Gobeski and Beehr (2009) found older individuals employed in jobs characterized by more challenging tasks to be less likely to retire early than their peers in occupations characterized by less challenging tasks. Accordingly, we posit:

> Hypothesis 1b. The greater the extent to which retirement-eligible employees perceive their job as offering them challenge, the lower the odds of retirement upon eligibility.

Sacrifice

Mitchell et al. (2001: 1105) define sacrifice as "the perceived cost of material or psychological benefits that may be forfeited by leaving a job," and suggest that withdrawal is less likely to the extent that employees place high value on the returns that they are likely to forfeit by leaving the job. Accordingly, we focus on the potential of both tangible and intangible rewards to motivate retention despite retirement eligibility. Organizations may amplify the perceived cost of material or *tangible* rewards forfeited by retiring by increasing the availability of *senior-friendly benefits and services*. Such benefits may include financial planning services, employee wellness programs, tuition reimbursement and "second career" training, and so-called longevity pay (a pay supplement offered to those deferring retirement) (Helman, Copeland, VanDerhei, and Salisbury 2008). Aside from providing what is ostensibly an income supplement to older workers, the fact that such benefits remain relatively rare in the labor market (Hutchens 2003) suggests that those retiring will likely find it difficult to replace them on the basis of part- or full-time bridge employment. Accordingly, by increasing the sense of material sacrifice

associated with retirement upon eligibility, the availability of such benefits and services is likely to be associated with a higher probability of retirement deferment. In other words:

> Hypothesis 2a. The greater the perceived availability of senior-friendly benefits, the lower the odds of retirement upon eligibility.

The likelihood of retirement upon eligibility may also be reduced to the extent that retirement is associated with the forfeiture of key *intangibles* such as working in an organization that values their contribution and with leaders that are supportive (Wang and Shultz 2010; Finkelstein and Farrell 2007). Such concepts are at the core of *perceived organizational support* or POS "an experience-based attribution concerning the benevolent or malevolent intent of the organization's policies, norms, procedures and actions as they affect employees" (Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades 2001: 42). Indeed, because a common concern of older workers is that disengagement may result in social marginalization and a challenge to their self-identity as a contributing member of society (Fletcher and Hansson 1991; Vickerstaff and Cox 2005), the continuation of such an efficacy-bolstering and supportive employment relationship may offer substantial psychological utility. Such intangibles may be deemed difficult to replicate in other post-retirement (i.e., bridge) employment contexts due to both age discrimination (Posthuma and Campion 2009), and the fact that such employment conditions tend to be process-dependent, emerging only over extended periods of time and employee-employer exchange (Lawler and Yoon 1996). Empirical support for an association between POS and withdrawal is consistent and robust with Rhoades and Eisenberger (2002) reporting a mean corrected correlation of -.51 between POS and turnover intention. Similarly, Armstrong-Stassen and

Templer (2004) found POS to serve as a significant predictor of the decision to remain employed despite retirement-eligibility. Accordingly, we posit:

> Hypothesis 2b. The higher the level of perceived organizational support, the lower the odds of retirement upon eligibility.

Links

Embeddedness theory suggests that by generating normative pressures to stay on the job, links—"the formal or informal connections between a person and other people"—have the potential to play a key role in employees' withdrawal-related decisions (Mitchell et al. 2001: 1104). Numerous studies have demonstrated that social enmeshment at work, and in particular with workplace peers, motivates employee retention (Mitchell et al. 2001; Mossholder, Settoon, and Henagan 2005). Such enmeshment, or the degree to which employees are socially integrated in the workplace, may be captured by the strength of close, workplace relationships, and more specifically, the intensity with which work peers engage in supportive behavior such as giving advice or providing other forms of emotional and instrumental assistance (House 1981; Beehr 1985). In contrast to POS for which the focus is on the degree to which the *organization as a whole* enacts supportive policies and practices, social support captures the true essence of links in embeddedness theory by focusing on relationships with particular *individuals* at work.

Research suggests several reasons ways in which links may generate normative pressures on employees in general, and retirement-eligible employees in particular, to remain on the job. First, such ties may enhance employees' commitment to their work or organizational role by enhancing their overall job satisfaction (Monge, Edwards, and Kirste 1983), and strengthening their sense of identification with the organization and its members (Bullis and Bach 1991). Indeed, the theory of relational cohesion (Lawler and Yoon 1996) suggests that the frequent

exchange of social resources and the relational commitment elicited by it reduce the level of uncertainty associated with the relationship and enhance the satisfaction and value associated with both the exchange partner and the relationship as a whole (Thye, Yoon, and Lawler 2002). Second, such ties may provide a basis for support, recovery, and stress-coping (Sonnentag and Zijlstra 2006; Wang and Shultz 2010). Finally, whereas those more central to work-based social networks may feel uncomfortable retiring and leaving their friends behind, those more peripherally linked to such networks may actively seek to disengage from them. This may be particularly true among older workers who feel different or ostracized from younger work-based cohorts, and may thus view retirement as an opportunity to disengage from a context in which they may feel increasingly distant and socially isolated (Sias and Perry 2004; Feeley, Hwang, and Barnett 2008). Accordingly:

> Hypothesis 3a. The greater the amount of social support that retirement-eligible workers perceive themselves as receiving from work peers, the lower the odds of retirement upon eligibility.

Another possibility is that rather than waiting to feel distant or socially isolated as an increasing number of their cohort peers retire, retirement-eligible workers relate to the rate at which their cohort members are retiring as a signaling device. Higher cohort retirement rates may serve as a disincentive for retention among retirement-eligible workers to the extent that they view the retirement of their close, cohort peers as a signal that they will either need to find a way to integrate into younger, alternative social networks or risk a sense of increasing social isolation at work. Additionally, in the same way that the "transmission of a tendency to leave occurs as employees watch and converse with their coworkers" (Felps, Mitchell, Hekman, Lee,

Holtom, and Harman 2009: 547), so might occur the transmission of a tendency to *retire* as retirement-eligible employees observe the retirement of their cohort peers. Given that for many, retirement (like the job transition process) embodies precisely the kind of novel, risky, and ambiguous situation in which social comparisons are most useful and likely (Festinger 1954), consistent with social identity (Tajfel and Turner 1986) and self-categorization (Turner 1985) theories, Felps et al.'s theory suggests that retirement-eligible workers will closely watch the behavior of their cohort peers for signals as to when it may be most suitable and/or legitimate to exercise their retirement option. Accordingly, we posit that:

> Hypothesis 3b. The greater the proportion of close, work-based others who retired in the past year, the higher the odds of retirement upon eligibility.

The Moderating Effect of Employee Age

Recent research suggests that beyond any direct effects of age on employee behaviors, age may also moderate the impact of situational (e.g., extrinsic rewards) and dispositional attributes (e.g., conscientiousness) on employee behaviors (Kanfer and Ackerman 2004; Truxillo 2009). For example, Bertolino, Truxillo, and Fraccaroli (2011) find age to moderate the impact of proactive personality on a variety of training related outcomes with these relations stronger for younger than older employees. Underlying these moderating effects is the notion that age-related changes in employees' motives and interests affect the perceived utility associated with particular effort, performance or career choices (Kanfer and Ackerman 2004; Shultz and Wang 2011). Consistent with such logic, we posit that age may also moderate the degree to which the six job and organizational factors noted above influence retirement upon eligibility as a career choice. More specifically, we posit that while the job and organizational factors noted above that

may enmesh younger retirement-eligible workers and increase the likelihood of their retention despite retirement-eligibility, these same factors may be less salient to their older colleagues, and hence—for them—serve as less robust predictors of retirement upon eligibility.

Prior research provides indirect empirical support for such a notion, indicating that as employees age, even those conditions "pulling" them to remain at work may be likely to lose salience relative to those factors "pushing" them to retire (Shultz, Morton, and Weckerle 1998; Luchak, Pohler, and Gellatly 2008). For example, while several studies suggest that the older a person is, the later the planned retirement age (Adams 1999; Taylor and Shore 1995), Kim and Feldman (1998; 2000) found that age was positively correlated with *actual* acceptance of an early retirement offer. Bidewell, Griffin, and Hesketh (2006) explain this finding in terms of delay discounting, or the tendency of older adults to increasingly discount the benefits associated with deferring retirement as they age. More specifically, Bidewell et al. (2006) posited and found that as individuals age and approach the age at which they plan on retiring, they are more willing to sacrifice many of those benefits enjoyed or likely to be enjoyed (e.g., higher retirement benefit payout) once retired. According to these researchers, underlying this tendency is likely to be the recognition that while there may be significant financial benefits accrued by deferring retirement, the increasing probability of ill health as one ages serves as a cognitive disincentive to delay retirement for too long. In the same way that delay discounting motivates a greater willingness among older retirement-eligible adults to receive a smaller retirement payout in return for the opportunity to retire earlier, we posit that many of the factors associated with retirement deferment above will have an attenuated effect on such deferment as a function of employee age. Accordingly, we posit that:

Hypothesis 4a. Age attenuates the generally inverse association between temporal flexibility, job challenge, pro-senior policies, POS, and support received (on the one hand), and the odds of retirement upon eligibility on the other such that the impact of these job and organizational characteristics on the odds of retirement upon eligibility will weaken as a function of age.

Hypothesis 4b. Age attenuates the generally positive association between the proportion of close, others who retired and the odds of retirement upon eligibility such that the impact of the proportion retired on the odds of retirement upon eligibility will weaken as a function of age.

Method

Study Design and Sample

We collected our data at two points in time. At Time 1 (August-December, 2008), we drew a national probability sample of individuals meeting screening criteria regarding retirement eligibility, and conducted telephone-based interviews with those meeting our criteria focusing on the job and organizational predictors noted above. At Time 2 (occurring one year later), data were collected regarding retirement upon first-time eligibility, again on the basis of telephone-based interviews. Time1 interviews took approximately 40 minutes, but the Time 2 interviews were considerably shorter. All telephone interviewers, blind to the purpose of the study and its hypotheses, received training in the interview protocol.

To identify a national probability sample of individuals meeting our screening criteria, we purchased a random-digit dial sample of listed households with at least one fully (i.e., 35+

hours/week) employed member in the desired age range of 50 to 62. This age range was selected to capture the full range of adults likely to become eligible to receive any of the retirement benefits noted above *for the first time*. We excluded individuals under 50 in that legal restrictions make it impossible for them to begin drawing from defined-contribution plans, while the minimum age and/or tenure requirements associated with most defined-benefit plans typically make it unreasonable for those under 50 to draw those benefits (Luchak et al. 2008). We excluded individuals 62 or older in that such individuals are already eligible to draw Social Security benefits.

Based on the definition of retirement above, participants were considered eligible for retirement *for the first time* if they satisfied one of the following four criteria: (a) Within one year of eligibility for Social Security (i.e., age between 61 and 62), having no IRA or 401(k), and either not participating in any defined-benefit plan or not yet eligible to receive benefits from such a plan; (b) 54-55 years old and participating in a 401(k) plan (55 being the age at which one may begin drawing—penalty-free—from a 401(k)), but not in possession of an IRA or participating in a defined-benefit plan (or not yet eligible to receive benefits from such a plan); (c) Between 58 ½ and 59 ½ years of age and contributing to an IRA (59 ½ being the age at which one may begin to withdraw—penalty-free—from an IRA), but not participating in either a 401(k) or defined-benefit plan (or not yet eligible to receive benefits from a defined-benefit plan); or (d) Eligible for employers' defined-benefit (i.e., pension) plan for the first time within the next 12 months and either has no defined-contribution plan (i.e., IRA, 401 (k)), or is too young to be able to draw from such plans or from Social Security. Note that each of these four inclusion categories also include exclusion criteria (e.g., "having no IRA or 401(k)") to ensure that we captured individuals at the point at which they *first* become eligible to draw some form of retirement benefit. Thus, for example, a 61-year old with 30+ years of work experience, but without a 401(k), IRA or defined

contribution pension would be considered as within one year of eligibility for retirement for the first time, while a 54-year old with similar work experience and an IRA (but without a 401(k)or pension) would not.

Of the 4559 individuals screened, 850 met one of the four criteria noted above, and 500 of these agreed to participate (response rate =58.8%; the number meeting each of the four criteria above being 133, 101, 73, and 193, respectively). Agreeing to take part in the follow-up survey one year later were 468 participants; a dropout rate of 6%. An additional 11 observations were excluded from our analysis due to extensive missing or suspect data, leaving us with a final sample size of 457 (or 54% of those eligible). 59% of those in the analyzed sample (n=417 due to list-wise deletion) were female, 21% were union members. Mean age was 57. The mean level of education was 14 years, and the mean household income was $68,000. T-test analyses comparing mean scores along all of the study's independent variables indicated no significant differences between those dropped from the analyses for any reason (n=83) and those remaining (n=417).

Measures

Criterion

Retirement upon eligibility was assessed as a dichotomous variable (0=no, 1=yes) in the second stage of the study or 12 to14 months after the data on the predictor variables were collected. Basing our operationalization of retirement upon Feldman's (1994) conceptualization noted above, two criteria had to be met for participants to be coded as having had retired. Specifically, they had to have *voluntarily* exited the position that they held at the time of the initial interview, and they had to have signaled an "intention of reduced psychological commitment to work" by having started to draw some or all of the retirement benefits to which they had just become

entitled. Among the 56 participants reporting that they had exited the position filled at the time of the initial interview, 25 indicated that they had "fully retired" (i.e., exited the labor force with no intention to return to it), 11 had taken part-time employment with an alternative employer, and 20 were not currently working but were seeking part-time employment. However, only 37 of these 56 participants (namely, all of those 25 who had fully retired, as well as all those with or seeking part-time employment) reported to have begun drawing retirement benefits. Accordingly, only these 37 participants (9% of those remaining in the sample) were coded as having retired. Those coded as having retired were slightly older (mean age = 58; s.d. = 2.95), than those deferring retirement (mean age = 57; s.d. = 2.95).

Predictors

Temporal flexibility (alpha = .70) was assessed using a slightly expanded version of the 5-item measure by Armstrong-Stassen and Templer (2006). Participants were asked to what degree (1=not at all, 5=widely available) various flexible work options are "available to older workers like yourself in your current place of employment." Sample items include flexible work schedules/hours, reduced or compressed work week, and working-at-home/telecommuting. *Perceived job challenge* (alpha= .77) was assessed using Allen, Russell, Poteet, and Dobbins's (1999) measure, with participants indicating their level of agreement (1=not at all, 5=very much) with six statements such as: "I am challenged by my job," and "My job requires me to continually extend my abilities and knowledge." We assessed the *perceived availability of senior friendly benefits and services* using an 8-item checklist with items drawn from Helman et al. (2008). Participants indicated to what degree the following options (e.g., tuition reimbursement, longevity pay) "are available to older workers like yourself in your current place of employment" (1= not at all and 5=widely available). Sample items include re-training programs for older

workers, retirement planning seminars, and longevity pay. We calculated the mean availability scores across the eight items (alpha = .77). *Perceived organizational support* was measured using Eisenberger et al.'s six-item instrument (alpha = .84). To assess *social support received from workplace colleagues* (alpha = .79), we asked respondents to indicate how often (1=not at all to 4=very often) "those at work (that is, your coworkers and supervisors)" exhibit the four support behaviors serving as the basis of Caplan, Cobb, French, Harrison, and Pinneau's (1975) measure of social support such as "going out of their way to do things (like sharing your tasks) to make you life easier." We calculated the *proportion of close, work-based others who retired in the past year* on the basis of two single-item questions. First, participants were asked to "think about those work-based peers with whom they feel they have had a close relationship in the past two years, jot down their names," and indicate the number of names recorded. Participants were then asked to look at the names once again and tell us "how many of those recorded retired in the last year." The proportion was coded as the response to the second question relative to the response to the first.

Control Variables

We controlled for *age*, *gender*, *marital status, education* (a categorical variable ranging from 1 [indicating 8 or less years of education] to 7 [graduate school]), *union membership*, health, *number of hours worked weekly*, and a variety of indicators of wealth and economic security in retirement as these have been found to be related to retirement (Brown, Fukunaga, Umemoto, and Wicker 1996; Beehr et al. 2000), and because, as noted above, our interest in this study was to assess the influence of job and organizational variables *above and beyond* these more widely studied person-based predictors. We assessed (ill) health by asking participants whether they had "ever been diagnosed by a physician" with any of four highly prevalent chronic illnesses: heart

disease (heart attack), stroke, cancer, diabetes. *Ill health* was calculated as the total number of diagnosed illnesses reported, with higher values on this variable indicating poorer health. To assess wealth and economic security in retirement, we asked participants to indicate: (a) whether their employer's *health plan covers retirees*, (b) whether they *own their own home*, and (c) what their *expected retirement benefit income from* would be if they were to retire upon first-time eligibility. Additionally, we controlled how many of the benefits noted earlier (other than Social Security) participants would qualify for by the age of 62 (*number of benefits*), *household income* and *household net worth* (the total sum of savings, investments and assets other than a residence held by the household, minus all outstanding debts such as bank loans and credit card debt [excluding mortgage]).

Results

Means, standard deviations, and correlations among the variables are displayed in Table 1. The bivariate results indicate that retirement is positively related to household income, post-retirement health plan coverage, and proportion of close colleagues who retired in the past year (r= .11 [p<.05], .10 [p<.05], and .14 [p<.01], respectively). They also indicate a significant inverse relationship with job challenge and POS (r=.-.11 [p<.05], and -.15 [p<.01], respectively).

Because some of our predictors have vastly different measurement scales which could affect the parameter estimates, prior to conducting multivariate analyses, all non-binary terms were centered. As can be seen in Model 1 of Table 2, when included in a single model, only one of the 11 person-based control variables, age, was significantly associated with retirement upon eligibility (p = .18; p <.05). To avoid an over-parameterized model, we conducted a backwards selection analysis (Wand 2004), finding that with the exception of age, household income, and

post-retirement health plan coverage, none of the other individual factors have a significant effect on retirement upon eligibility. While all three are strong, positive predictors (estimate = 0.16, 0.08 and 0.73, respectively; $p < .05$ in all cases), as a whole, the model explained just 7% of the variance of retirement upon eligibility (see Table 2, Model 2).

[Insert Tables 1 & 2 about Here]

We tested our six hypotheses in the context of a single model incorporating all three of these person-based factors as controls. We tested these models using logistic regression analysis. Although retirement occurred in only 7.4 percent of the cases (i.e., 37 retirees out of a sample of 500), this is still well above the common threshold for a "rare event" (base rate of under 5 percent) which would necessitate analysis using a rare events form of logistic regression analysis in order to avoid the underestimation of effects (Tomz, King, and Zang, 2003: 157).

As can be seen in Model 3 of Table 2, only one of the two fit-related hypotheses were supported, with job challenge inversely related to retirement eligibility (estimate = -.53; OR=.59; $p<.05$). Similarly, only one of the two sacrifice-related hypotheses, namely that regarding POS, was supported. As with job challenge, higher levels of POS were found to be associated with a lower likelihood of retirement upon eligibility (estimate = -.58, OR= .56; $p<.05$). Finally, consistent with Hypotheses 3b, a higher proportion of close, work-based others who retired in the past year was associated with a higher probability of retirement upon eligibility (estimate = .02, OR=1.02; $p < .05$).

Despite finding support for only half of our hypotheses, the model including the direct effects of the six work-related variables explained 19% of the variance in the probability of retirement upon eligibility; nearly three times that explained by the three significant person-

based, control variables alone. Furthermore, a model including all 6 embeddedness-based, work-related variables along with *all* 13 of the person-based controls explained nearly twice the variance (R^2=.24) as a model including the 13 person-based control variables alone (R^2=.13), with the same three job and organizational parameters noted above (along with age) remaining significant.

In order to test Hypotheses 4a and 4b, positing that the association between the various job and organizational factors (on the one hand) and the probability of retirement would be attenuated as a function of age, we first centered all of the interaction terms (Aiken and West 1991). These interactions terms were then supplemented to Model 3 both individually and as a group (results displayed in Table 3). Regardless of the mode of inclusion, contrary to Hypotheses 4a and 4b, none of the age interactions were significant, indicating that age does not moderate the effects of any of the job or organizational on retirement upon first-time benefit eligibility.

[Insert Table 3 About Here]

Discussion

Using a prospective design, this study sought to determine the relative association between three sets of embeddedness-related job and organizational factors and the likelihood of retirement upon first-time eligibility for a retirement benefit. We found that employee perceptions of factors conceptually linked to all three embeddedness dimensions are associated with the retirement decisions of older workers eligible—for the first time—to receive a retirement benefit. Moreover, we found that these factors play a significant role in explaining the

likelihood of retirement upon first-time eligibility even after taking into account the effect of more widely studied person-based retirement antecedents. However, we found no support for the hypothesis that these work-based effects weaken with age.

At the parameter level, of the two *fit*-based factors we posited to be associated with retirement-upon eligibility, only one—job challenge— was found to have a significant effect. These findings indicate that employees perceiving greater challenge in their work are less likely to retire upon first-time benefit eligibility. Similarly, of the two *sacrifice*-based factors posited to be associated with retirement upon first-time benefit eligibility, only POS was found to have a significant effect. This finding suggests that while older workers may forfeit both tangible (i.e., pro-senior benefits) and non-tangible rewards by retiring upon first-time benefit eligibility, it is the latter—and in particular, employees' sense of being valued, appreciated, and cared about by the organization—that more strongly motivates their retention. Finally, while the depth of social support at work was found to be unrelated to retirement upon first-time benefit eligibility, our hypothesis regarding the proportion of close cohort peers having retired in the past year was supported. More specifically, consistent with *link*-based notions of embeddedness and Felps et al.'s (2009) contagion notion of turnover, we found that the likelihood of older workers retiring upon first-time benefit eligibility increases by two percent for every point increase in the proportion of their close peers who retired in the past year. Thus, those one standard deviation above the mean on this variable (i.e., close peer retirement rate of 22% rather than of 7%) have a 30% greater likelihood of retiring upon first-time benefit eligibility.

Interestingly, while age had a direct effect on participants' odds of retiring upon becoming eligible for benefits for the first time, its effect was relatively small. Moreover, counter to our theorizing, age did not attenuate the association between the job-/organization-based

factors and this outcome. We believe that both findings may be explained by the relatively young age of employees becoming eligible for retirement benefits *for the first time*, as well as the limited variance in their age, both of which are natural outcomes of governmental regulations determining benefit eligibility. More specifically, if the discounting dynamic underlying our theorizing only starts to become salient at a more advanced age (say 65+), the absence of such individuals in our sample (stemming from the fact that such individuals, by definition, would have been eligible for benefits for at least three years) would explain the non-significant effects. Accordingly, scholars examining the odds of retirement among both newly eligible employees *as well as* those having been eligible for some time, may still want to consider and test the potentially attenuating affect of age on the influence of job- and organization-related antecedents.

Also notable is that fact that, with the exception of age, income, and health plan coverage, none of the person-based predictors had any significant association with retirement. The lack of a gender effect on retirement is consistent with the findings of Talaga and Beehr (1995), who suggest that this relationship is moderated by such factors as number of dependent children, spouse's health and retirement status. The lack of an effect for education is also logical in that while education may facilitate continued career employment (Wang and Shultz 2010), such employment can be in the context of either deferred retirement or bridge employment. Finally, the absence of significant effects for personal assets and expected retirement income is also not surprising given that, as noted by Wang and Shultz (2010: 185), "financial motivation may not be a primary driving force for people to keep working."

These findings are important for a number of reasons. First, although other forms of employee withdrawal have been explored from an embeddedness perspective, embeddedness

notions have yet to be applied to retirement. While we too did not directly examine the impact of employee embeddedness perceptions on the decision to retire, our findings are consistent with the conclusion reached by Feldman (2007: 191), namely that the retirement literature could be "enriched" by considering such embeddedness-related factors and by paying closer attention to the role played by "social and professional ties … in keeping older employees from retiring from their job."

Second, our findings are important in that they suggest that employers may have significant leverage in influencing the retirement decisions of employees newly eligible to retire. In contrast to many of the person-based controls included in our model (e.g., age), all of the work-based variables found to be associated with retirement-upon-eligibility in the current study relate to parameters which employers may realistically affect in order to motivate retention. For example, to the extent that job challenge plays an important role in motivating retention, our findings suggest that employers interested in retaining such workers might attempt to engage their older workers and deploy them in positions allowing them to apply their experience in new and exciting ways.

Third, consistent with the findings of Felps et al. (2009) regarding turnover contagion, our findings suggest that older workers do not make their initial retirement-related decisions in isolation, but rather pay close attention to the behavior of close, work-based peers. Accordingly, they suggest that employers interested in retaining particular retirement-eligible workers may be hard-pressed to do so without taking action to also retain those in the target employees' close, work-based social networks.

Finally, this study offers an important empirical contribution by testing its hypotheses on the basis of a prospective design with a national probability sample. Not only are our results

broadly generalizable, they are also likely to be less subject to the common method and retrospective biases associated with cross-sectional studies focusing on self-reported retirement intentions, or retrospective studies focusing on retirees' recollections of pre-retirement workplace conditions.

Limitations and issues to be addressed in future research

Along with the study strengths noted above are a number of study limitations which we believe should be addressed in future research. First, although the type of work-based antecedents we explored likely influence retirement decisions by shaping employees' sense of embeddedness (Kilduff and Brass 2010), we neither measured these cognitions nor tested their possible meditational role in the link between perceived workplace conditions and retirement. Given that such cognitions are likely more proximate to retirement behavior than the work-based perceptions upon which they are based, it is possible that the absence of relations between several of the work-based antecedents explored here and retirement upon eligibility may stem from their more distal relationship to retirement behavior (Shrout and Bolger 2002). Accordingly, we view the exploration of the mediating role of embeddedness perceptions as an important next step in understanding retirement decisions.

Additionally, it is possible to dispute our implicit association of each of the six workplace factors analyzed with one of the three embeddedness dimensions identified by Mitchell et al. (2001). For example, despite Eisenberger et al's (2001) conceptualization of POS as reflecting attributions concerning organizational policies, norms and actions rather than a concept capturing the intensity of relations with one or more individuals in the organization, given its emphasis on support, one might argue that it is more reflective of "links" than "sacrifice" (Hayton, Carnabuci,

and Eisenberger 2012). And indeed, the categorization of variables into specific embeddedness dimensions *would* matter were we competitively testing the predictive utility of each dimension. However, such categorization would assume that each embeddedness dimension is orthogonal to the others, something that would clearly go beyond the conceptualization of embeddedness proposed by Mitchell et al. (2001). Furthermore, given our application of embeddedness theory as a conceptual framework guiding the identification of a parsimonious but robust set of work-based retirement antecedents, the dimension-specific assignment of these factors has little theoretical or empirical relevance.

Third, the assessment of retirement within six months of retirement eligibility may have imposed a restriction on the model's explanatory potential. Although, by doing so we were able to capture retirement decisions highly proximate to the point of benefit eligibility, it is possible that many of those retiring upon eligibility do so at a point closer to 12 months after becoming eligible. For example, individuals may only become aware of their eligibility for benefits at the time of eligibility and may take their time in determining the economic feasibility of exiting their career job. To the extent that this may have occurred, our assessment of retirement within the first six months of eligibility may have been somewhat premature, attenuating the base rate of retirement upon eligibility (n=37) and thus potentially making such retirement a so-called "rare event". In order to take into account any bias that might have generated by this, we reran all of our models using Firth (penalized likelihood) logistic regression (Firth 1993). The parameter estimates generated using the Firth approach were essentially identical to those noted above, suggesting that our estimates are robust to relatively small sample and limited number of retirement cases. Nevertheless, we encourage research designed to capture the impact of work-

related factors on the retirement decision at different points in time subsequent to first-time, retirement benefit eligibility.

Further attenuating the base rate of retirement upon eligibility may have been our decision to assume that it is only by drawing from one's benefits upon exiting that one signals an intention to reduce one's psychological commitment to work, and thus that exiting one's career job upon becoming benefit-eligible but *failing* to actually draw from these benefits does not qualify as retirement. Indeed, it is perfectly conceivable that individuals having the independent financial wherewithal to retire at the point of benefit-eligibility (e.g., high net worth) may exit with the intention of transitioning into retirement *without* drawing from their benefits. To the degree that such cases *do* exist in the population as a whole, it would suggest an additional source of attenuation in the base rate of retirement upon eligibility, and thus further reinforce the likelihood of an underestimated effect size. Accordingly, we also encourage research designed to capture the impact of work-related factors on the retirement decision when the criteria for categorizing an individual as "retiring" are relaxed.

Finally, it is important to note that the timing of our data collection coincided with one of the worst economic recessions experienced in the United States and, more importantly, one in which many older workers found the value of their retirement savings severely depreciated (McKinsey Global Institute 2008). While this provides a more conservative context for testing the association between embeddedness-derived workplace conditions and retirement upon eligibility, it may also further increase the risk of Type-II error, and thus limit the temporal generalizability of our findings. This in mind, we encourage replication research aimed at assessing the degree to which our findings are generalizable to more "normal" economic times,

as well as research aimed at assessing how the economic context (e.g., the availability of part-time employment, state of financial markets) may condition the effects that we identified.

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Table 1: Means, Standard Deviations and Intercorrelation (Pearson) of the Measured Variables (N=417)

	Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Retirement upon eligibility	0.08	.0.27	---																		
2	Age	57.27	2.92	.09	---																	
3	Education	5.08	1.53	.06	.02	---																
4	Union member	.21	.41	.09	-.06	.11	---															
5	Gender (1=Female)	.59	.49	-.08	.08	-.02	.01	---														
6	Ill health	0.34	.60	.04	.16	.01	.07	-.15	---													
7	Household income	12.84	4.51	.11	-.08	.42	-.03	-.19	-.02	---												
8	Health plan coverage	.38	.49	.10	-.14	.12	.15	-.09	-.03	.13	---											
9	Own home	.94	.24	.08	-.01	.05	.06	-.05	-.07	.21	.02	---										
10	Net worth (in $1000)	286	265	.06	.10	.28	-.03	-.07	.03	.56	.07	.20	---									
11	Married (1=Yes)	.74	.44	.03	-.03	-.00	-.09	-.17	-.01	.33	-.09	.19	.16	---								
12	Num. retirement benefits	2.01	.78	-.03	.06	.14	.03	-.07	-.07	.16	.13	.02	.15	.03	---							
13	Exp. retirement income	2000	1770	.05	.03	.14	.12	-.23	-.01	.28	.29	.08	.19	.04	.26	---						
14	Num. hours worked	44.11	7.39	.01	-.06	.16	-.03	-.09	-.01	.21	.04	.07	.18	-.06	.07	.13	---					
15	Temporal flexibility	2.29	.92	-.07	.02	-.06	-.28	.01	.01	.04	.01	-.16	.10	-.04	-.03	.01	.03	---				
16	Job challenge	3.74	.89	-.11	-.05	.32	-.04	.09	.03	.30	.09	-.05	.15	.01	.15	.11	.22	.24	---			
17	Pro-senior policies	2.84	.96	-.02	.09	.08	.04	-.04	-.07	.17	.31	-.04	.08	-.01	.25	.22	.08	.35	.30	---		
18	POS	3.63	.96	-.15	.06	.01	-.16	-.00	-.06	.11	.06	.00	.12	.05	-.03	.04	.04	.40	.35	.30	---	
19	Support received	3.00	.75	-.07	.02	.02	-.07	.10	.04	.03	.08	-.10	.01	.03	-.05	.04	.01	.39	.29	.26	.48	---
20	Proportion retired	6.81	15.15	.14	-.03	-.00	.21	-.10	.03	-.03	.10	-.11	-.05	-.01	.06	.14	.01	-.07	.03	-.03	-.15	-.03

p<.05 for coefficients ≥0.10
p<.01 for coefficients ≥0.13

Table 2: Logistic Regression Analysis of Retirement Upon Eligibility (n=417)

Variable	**(1) Full Control model**			**(2) Backwards selected control model**			**(3) Control + Theoretical Variable Model**		
	B	OR	S.E	B	OR	S.E	B	OR^	S.E
Age	0.18*	1.20	0.07	0.16*	1.17	0.07	0.19*	1.21	0.07
Education	0.01	1.01	0.14						
Union Member (1=Yes)	0.79	2.20	0.42						
Gender (1=Female)	-0.59	0.55	0.41						
Health (0 is healthiest)	0.05	1.05	0.31						
Household income	0.11	1.12	0.06	0.08*	1.09	0.04	0.14**	1.16	0.05
Health plan coverage	0.76	2.13	0.41	0.73*	2.08	0.37	0.72	2.05	0.42
Own home (1=Yes)	12.69	1000	476.9						
Net worth (in $1000)	0.00	1.00	0.00						
Married (1=Yes)	-0.07	0.93	0.49						
Num. retirement benefits	-0.30	0.75	0.24						
Expected retirement income	-0.00	1.00	0.00						
Num. hours worked	-0.00	1.00	0.03						
Temporal flexibility							0.02	1.02	0.25
Job challenge							-0.53*	0.59	0.24
Pro-senior policies							0.07	1.07	0.25
POS							-0.58*	0.56	0.26
Support received							0.14	1.16	0.29
Proportion retired							0.02*	1.02	0.01
Max. Rescaled R^2	0.13			0.07			0.19 ΔR^2 Rel. to Model 2 =.12**		

* p<.05, ** p<.01;
Note: All non-binary independent variables are centered.

Table 3: Logistic Regression Analysis of Retirement Upon Eligibility with Age Interactions (n=417)

Variable	**(4) Control + Theoretical Variables + Age Interaction Model**		
	B	OR^	S.E
Age	0.22*	--	0.09
Household income	0.14**	1.14	0.05
Health plan coverage	0.72	2.17	0.43
Temporal flexibility	0.02	--	0.26
Temporal flexibility * age	0.05	--	0.09
Job challenge	-0.52*	--	0.25
Job challenge * age	0.05	--	0.09
Pro-senior policies	0.10	--	0.29
Pro-senior policies * age	-0.07	--	0.10
POS	-0.57*	--	0.28
POS * age	-0.11	--	0.10
Support received	0.12	--	0.31
Support received * age	0.07	--	0.10
Proportion retired	0.02*	--	0.01
Proportion retired* age	-0.00	--	0.00
Max. Rescaled R^2	0.21 ΔR^2 Rel. to Model 3 = .02*		

* p<.05, ** p<.01;
Note: All non-binary independent variables are centered.

APPENDIX: ITEMS INCLUDED IN MEASURES ADAPTED FOR USE IN THIS STUDY

Temporal flexibility (based on Armstrong-Stassen and Templer; 2006).

As far as you know, to what degree are the following options available to older workers like yourself in your current place of employment (1 not at all, 2 on very rare, occasions, 3 here and there, 4 fairly available, or 5 widely available):

- Flexible work schedules/hours
- Reduced or compressed workweek
- Job sharing
- Working at home/Telecommuting
- Working on a part-time basis

Perceived availability of senior friendly benefits and services (based on Helman et al.; 2008).

As far as you know, to what degree are the following options available to older workers like yourself in your current place of employment (1 not at all, 2 on very rare occasions, 3 here and there, 4 fairly available, or 5 widely available):

- Web tools available to assist in financial planning for retirement
- An HR benefits specialist dedicated to providing retirement counseling and assistance
- Retirement planning seminars
- Employee wellness program
- Tuition reimbursement
- Health-care coverage for part-time or seasonal workers
- Re-training programs for older workers

- Longevity pay (e.g., for each year the employee works beyond the point of retirement eligibility, there is a seniority bonus or the size of employer contributions to the employee's pension fund—e.g., 401(k)—increases).