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Retirement of Dutch Male Older Workers

The Role of Mid-Life Educational, Work, Health, and Family Experiences

Discussion Paper 09/2010-048

Retirement of Dutch Male Older Workers:

the Role of Mid-life Educational, Work, Health, and Family Experiences

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ABSTRACT

Objectives. The life course perspective suggests that the retirement process cannot be understood thoroughly without paying attention to distal life experiences. In empirical studies on predictors of retirement, however, mid-life experiences often have remained implicit or have been neglected. This study aims to improve our understanding of retirement, by studying the impact of mid-life experiences in the educational, work, health, and family life spheres on retirement intentions and behavior.

Methods. Using panel data of 1229 Dutch male older workers, we estimated linear regression models to explain retirement intentions and Cox proportional hazards regression models to explain retirement behavior.

Results. Mid-life experiences in all studied life spheres were related to retirement intentions. For mid-life work experiences (dismissal and employer change) the relationships were explained by the perceived financial consequences of these experiences (pension shortcomings). The effects of most mid-life experiences in the educational, health, and family spheres remained significant after controlling for different aspects of the preretirement financial situation. Only some of the predictors of retirement intentions also predicted retirement behavior.

Discussion. Given the de-standardization of life courses, information on distal life experiences might become even more important for understanding retirement in the future.

INTRODUCTION

The transition from work to retirement can be perceived as a complex process, which can follow various pathways and evolves from multiple influences (Szinovacz, 2003). Studies on factors influencing retirement have predominantly focused on proximal precursors of the retirement transition, such as the work, wealth, health, and family situation of older workers (See for reviews Schalk et al., 2010; Wang & Shultz, 2010). Even though both in the scientific and in the policy-oriented literature it is assumed that distal life experiences are also of importance for understanding retirement, mid-life experiences have often remained implicit (Henretta, 2003; Szinovacz, 2003) or have been neglected in empirical studies. This raises the question: To what extent and how can retirement of male older workers be explained by mid-life experiences in the educational, work, health, and family life spheres?

In the scientific literature the life course perspective proposes that individual development is lifelong, which implies that individual behavior cannot be understood thoroughly without information on preceding life experiences (Elder, 1994; Settersten, 2003). Especially for understanding behavior of older individuals this notion will be relevant, since they draw from a relatively great "pool of experiences" (Pienta, 1999, p.70). In the policy-oriented literature mid-life experiences are also expected to be relevant predictors of labor market behavior later in life. For example, mid-career opportunities for improving skills, good working conditions, and flexible working-time arrangements in mid-life are expected to positively influence labor market participation when individuals are older (OECD, 2006).

While a few qualitative studies have discussed retirement in light of earlier experiences in different life spheres (August & Quintero, 2001; Higgs, Mein, Ferrie, Hyde, & Nazroo, 2003), quantitative studies have principally focused on the impact of earlier life experiences in one life sphere − the work sphere − on one aspect of the retirement process, namely retirement behavior (Elder & Pavalko, 1993; Hayward, Friedman, & Chen, 1998; Mutchler, Burr, Pienta, & Massagli, 1997; Raymo, Warren, Sweeney, Hauser, & Ho, 2009; Singh & Verma, 2003). A small number

of quantitative studies has investigated the impact of earlier life experiences in both work and family life spheres on retirement (e.g., Szinovacz & DeViney, 1999, 2000), but these studies have mainly focused on women (Hank, 2004; O'Rand & Henretta, 1982; Pienta, 1999; Pienta, Burr, & Mutchler, 1994). Besides, only a few studies have paid attention to the relationships between mid-life experiences and aspects of the retirement process that precede retirement behavior (Han & Moen, 1999; Raymo, Warren, Sweeney, Hauser, & Ho, 2010).

This study will contribute to the literature in three ways. First, this study will follow the suggestion put forward by Raymo and his colleagues (2009) to build to a greater extent on the life course proposition of 'multispheral development'. This proposition implies that individual development occurs in work, family, education, leisure and other spheres and that these experiences in different spheres are closely connected to each other (Settersten, 2003). In line with this proposition, we will not only study experiences in the work and family spheres, but also address experiences in other life spheres (i.e., educational and health sphere) and simultaneously test the impact of these mid-life experiences on retirement. Such a comprehensive approach is necessary to disentangle the separate effects of various connected mid-life experiences.

Second, this study will contribute to the literature by formulating and testing hypotheses regarding the impact of mid-life experiences on retirement in a more systematic way than often has been done until now. Mid-life experiences are regularly expected to influence retirement because of their consequences for the *financial* preretirement opportunities and constraints (e.g., pension build-up or wealth) of older workers. However, mid-life experiences can also influence retirement because of their consequences for *non-financial* aspects of the preretirement opportunity structure (i.e., the work, health, or family situation of older workers). Systematically using this theoretical distinction to formulate hypotheses appears to be relevant, because it indicates that relationships between some mid-life experiences and retirement might not be unequivocal.

Third, this study will extend the literature by not only studying effects of mid-life experiences on the behavioral part of the retirement process, but also on retirement intentions, which precede retirement behavior. Employees often have limited choice in their actual retirement decision (Van Soest, Kapteyn, & Zissimopoulos, 2006). In industrialized countries involuntary or forced early retirement is widespread (Dorn & Sousa-Poza, 2010; Szinovacz & Davey, 2005; Van Solinge & Henkens, 2007). The limited freedom employees have in retirement decisions may reduce the effects of mid-life experiences on retirement behavior. Therefore, studying intentions in addition to behavior might be helpful to achieve a better understanding of the relationships between mid-life experiences and retirement.

This article is based on panel data collected in 2001 and 2007 among 1229 Dutch male older employees. The panel character of the data offers the possibility to study both retirement intentions and actual behavior. Retrospective questions on workers' life history, which were included in the questionnaires, offer the possibility to study the effects of mid-life experiences on retirement. In the Netherlands there has been a strong "early exit culture" the last decades (De Vroom, 2004, p.120). From 2001 to 2007 the mean retirement age of Dutch male employees has been around age 61, which was considerably lower than the official (and mandatory) retirement age of 65 (Statistics Netherlands, 2010).

THEORY AND HYPOTHESES

The life course principle of 'human agency within structure' implies that individuals have plans, make choices and undertake actions within the opportunities and constraints of their social worlds, which are shaped by history and social circumstances (Elder & Johnson, 2003; Settersten, 2003). Accordingly, mid-life experiences (which are part of the individual life history) are expected to affect later life outcomes (e.g., retirement) via their influence on the individual opportunity structure in the preretirement years. The arguments used in the literature to link mid-life experiences to retirement have to a large extent been in line with this theoretical starting point.

The dominant argument focuses on finances: mid-life experiences will influence the preretirement financial opportunities and constraints and consequently retirement (e.g., Hank, 2004; Hayward et al., 1998; O'Rand & Henretta, 1982; Pienta, 1999; Pienta et al., 1994; Raymo et al., 2009; Szinovacz & DeViney, 2000). Some studies also noticed that mid-life experiences can influence retirement via non-financial aspects of the preretirement opportunity structure, such as via the preretirement state of health (Hayward et al., 1998; Raymo et al., 2009), work situation (Hayward et al., 1998; Raymo et al., 2009), or family context (Hank, 2004). Few studies, however, have noted that opposing forces might be at work. For example, a certain mid-life experience can via the financial aspects of the preretirement opportunity structure be expected to result in earlier retirement, while via the non-financial aspects the same experience is expected to result in later retirement.

In the subsequent paragraphs hypotheses will be formulated regarding the relationships between mid-life experiences in several life spheres and retirement. Since opposing forces might be at work, for every mid-life experience we will argue how this experience is related to retirement via (a) *financial* aspects and (b) *non-financial* aspects of the preretirement opportunity structure (for an overview of hypotheses, see Table 1). In the empirical models, we will examine these relationships by estimating the mid-life effects without and with controlling for financial aspects of the preretirement opportunity structure.

Educational experiences

Recent reports on lifelong learning have pointed at the importance of lifelong investments in education and training to maintain and enhance the employability of older workers (European Centre for the Development of Vocational Training, 2002; OECD, 2006). On the basis of human capital theory (Becker, 1975), investments in education and training during mid-life can be expected to increase employees' productivity and income. Given that both pension benefits and preretirement wealth may be dependent upon these earnings during the life course, individuals

who invested more in education or additional training might realize the financial security to retire at a younger age than those who made less of these investments. We therefore hypothesize that men who participated more in education or training during mid-life (intend to) retire at a younger age than men who participated less (Financial hypothesis; 1a).

Educational investments will not only influence the preretirement financial situation, but also the attributes of preretirement work. Educational attainment has been found to be an important determinant of access to jobs involving complex work, or in other words, jobs characterized by a high level and broad scope of cognitive challenge (Hyllegard & Lavin, 1992). Since research has suggested that substantively complex or challenging preretirement jobs result in later (intended) retirement (Hayward et al., 1998; Hayward, Grady, Hardy, & Sommers, 1989; Henkens, 1999) via this non-financial argument the following prediction can be made: After taking into account the effects of financial opportunities and constraints, men who invested more in education during mid-life (intend to) retire at an older age than men who invested less (Non-financial hypothesis; 1b).

Work experiences

Over the last decades work patterns have changed among Dutch men. Different forms of employment mobility, such as transitions into part-time work, short periods of unemployment, and job switches have become more common (Luijkx, Kalmijn, & Muffels, 2006). Given that pension benefits are dependent upon income and years of service, these and other forms of mid-life employment mobility can be expected to affect retirement via their influence on pension build-up. Unstable work patterns – characterized by mid-life experiences of dismissal, part-time work, or employer change – can be expected to slow down pension build-up and consequently are hypothesized to result in later (intended) retirement (Feldman, 1994; Hank, 2004; Pienta, 1999; Pienta et al., 1994; Raymo et al., 2009; Szinovacz & DeViney, 2000). Making promotion,

conversely, can be expected to enhance pension build-up and is therefore hypothesized to result in earlier (intended) retirement (Financial hypothesis; 2a).

Mid-life employment mobility might also affect retirement via the preretirement work situation. For instance, Hayward (1998) has argued that upward career mobility will result in later retirement, because upward career mobility is expected to result in an improvement of working conditions (e.g., more self-direction). Following this non-financial line of reasoning, promotions and voluntary between employer mobility can be expected to result in a more beneficial preretirement work opportunity structure. Consequently, after taking into account the effects of financial opportunities and constraints, mid-life promotions and employer changes are hypothesized to result in later (intended) retirement. By contrast, mid-life experiences of dismissal and part-time work can be expected to result in a less beneficial preretirement work opportunity structure and are hypothesized to result in earlier (intended) retirement, when taking the effects of financial opportunities and constraints into account (Non-financial hypothesis; 2b).

Health experiences

In the retirement literature it is well-known that persons with health problems in their preretirement years are more likely to retire (early), than those with good health (See reviews by Feldman, 1994; Schalk et al., 2010; Topa, Moriano, Depolo, Alcover, & Morales, 2009; Wang & Shultz, 2010). Nevertheless, insights regarding the effects of health problems earlier in life are limited.

In general, mid-life health problems can be expected to increase expenditures (e.g., on health care and medication) and suppress earnings (e.g., due to constraints in work capabilities), which will negatively influence the employees' preretirement financial situation. Consequently, based on a financial argument, mid-life health problems are hypothesized to result in later (intended) retirement (Financial hypothesis; 3a). In the Netherlands, however, because of the

diverse (mandatory) sickness and disability insurance acts that were in force in the twentieth century (Van de Ven & Schut, 2008) this effect can be expected to be relatively weak.

Health problems in mid-life will influence retirement via the preretirement health situation as well. Since health problems in childhood have been found to increase chronic health problems of persons in their fifties or sixties (Blackwell, Hayward, & Crimmins, 2001), which suggests that health experiences have long-term consequences, we also expect mid-life health problems to increase the likelihood of health problems in the preretirement years. Accordingly, we hypothesize that after taking into account the effects of financial opportunities and constraints, men who experienced health problems during mid-life (intend to) retire at a younger age than men who did not experience these health problems (Non-financial hypothesis; 3b).

Family experiences

Patterns of mid-life experiences in the family sphere have changed considerably during the twentieth century. Among other things, the entry into parenthood has been postponed and the proportion of relationships ending in a divorce has increased in the Netherlands (Liefbroer & Dykstra, 2000).

The timing of the transition into parenthood can be expected to affect retirement via the preretirement financial opportunities and constraints. Research has shown that financially dependent children make early retirement less likely (Henkens & Tazelaar, 1994; Higgs et al., 2003). Assuming that the later men had their first child the more likely they are to have financially dependent children in their preretirement years, the following hypothesis can be formulated: the later the transition into parenthood, the later men (intend to) retire (Financial hypothesis; 4a).

Via a non-financial line of reasoning the relationship between timing of first birth and retirement is expected to be in the same direction. Men who had their first child relatively late can be expected to have a preretirement family situation favoring continued work (e.g., children

living at home). For them adapting a retiree identity might not feel appropriate yet. Men who had their first child at a young age, on the other hand, might have a preretirement family situation pulling them out of employment. For example, they will be more likely to have had grandchildren at younger ages, which might make them feel older (Kaufman & Elder, 2003), and might make the retiree identity more appropriate and attractive. Consequently, it can be hypothesized that after taking into account the effects of financial opportunities and constraints, the later men made the transition into parenthood, the later they (intend to) retire (Non-financial hypothesis; 4b).

Via a financial argumentation, divorced men are expected to retire later than men who have not experienced a divorce, since "a history of marital disruptions can be expected to lower the economic feasibility of retirement even among remarried individuals" (Szinovacz & DeViney, 2000, p.477). The timing of the divorce might also be of importance. Assuming that men who experienced a divorce longer ago have had more time and opportunities to recover from their financial losses, we expect that men who experienced a divorce, especially a divorce later in mid-life, (intend to) retire later than continuously married men (Financial hypothesis; 5a).

A parallel hypothesis can be formulated when arguing via the non-financial aspects of the preretirement opportunity structure. A divorce will reduce the social capital of a person, due to the loss of the partner and shared relationships (Terhell, Broese van Groenou, & Van Tilburg, 2004). As a result, social contacts in the workplace might become more important, which will make the transition into retirement relatively unattractive. Here timing also can be expected to be relevant. Men who experienced a divorce longer ago have had more time to recover from (or to adapt to) their losses (Peters & Liefbroer, 1997; Terhell et al., 2004). Our hypothesis is that after taking into account the effects of financial opportunities and constraints, men who experienced a divorce, especially a divorce later in mid-life, (intend to) retire later than continuously married men (Non-financial hypothesis; 5b).

[Table 1 about here]

METHODS

Sample

The hypotheses were tested by means of panel data collected in the Netherlands. In 2001 (wave 1) a questionnaire was sent to a random sample of 3899 employees aged 50 and older of three large Dutch multinational private sector organizations and of the Dutch national government (response rate 62%). In this survey respondents were, among other things, asked about their retirement intentions. In 2006-2007 (wave 2) participants of wave 1 were approached again. There was some attrition, because of company takeovers (N=122), untraceable participants (N=11), and mortality (N=41). In total 2240 questionnaires were mailed out (response rate 75%). This questionnaire did not only contain questions regarding changes in employment status since 2001, but also retrospective questions regarding mid-life educational, work, health, and family experiences.

Since this study focuses on male older workers, the base sample consisted of 1245 men who completed the survey during both waves of data collection. Men who lacked critical information on the dependent variables (N=2) or who did not answer any of the central questions regarding mid-life experiences (N=14) were eliminated from the sample. This resulted in an analytic sample of 1229 men. About 63% of this sample retired between wave 1 and 2. Their average retirement age was 58.6, whilst their mean intended retirement age was 60.0. These numbers suggest that retirement plans are often thwarted. Even though we do not know per respondent what exactly has thwarted their plans, there are indications that pressures from the employer or colleagues, and reorganizations have played an important role (Van Solinge, Henkens, & Van Dalen, 2009).

Measures

Dependent variables

During wave 1 respondents were asked about their *intentions* to retire by means of five questions, which constitute an extended version of the scale used by Henkens (1999) (see Table 2 for the wording of the questions). Given that response categories differed between the items, an aggregated measure was constructed by calculating the mean score of the available standardized items. Only respondents who answered at least 2 of the 5 items were included in the computations.

Based on information provided during wave 2 retirement *behavior* − whether and when (month and year) respondents retired – was determined. Respondents were perceived as retired if they made use of an (early) retirement arrangement between wave 1 and 2. The number of months between age 50 and the retirement age was used as the dependent measure. Respondents who had not yet retired at wave 2 were treated as right-censored. Left-truncation was accounted for by specifying age 50 as the age at which respondents become 'at risk' of retirement and the age at wave 1 (in number of months after age 50) as the moment at which respondents enter the study (StataCorp, 2005).

Independent variables

Mid-life experiences were measured by two types of retrospective questions. In the first type of question, respondents were asked to indicate for several life experiences (additional training, dismissal, part-time work, between employer mobility, promotion, and severe health problems) whether or not they have had these experiences 'before age 40' and 'between age 40 and 50'. For all these experiences dummy variables were constructed, which indicate whether or not respondents have had a certain experience before age 50. In the second type of question, respondents were asked to indicate the age at which they have had a certain experience (entering

the labor market, having a first child, getting divorced). All but one (age of entering the labor market) questions regarding mid-life experiences were asked during wave 2.

Information was collected on three *aspects of the preretirement financial opportunity structure*: a) preretirement wealth, b) pension build-up (perceived pension shortage), and c) financial dependence of children. These questions were all asked during wave 1. Table 2 presents the wording, means, standard deviations, psychometric properties, and coding schemes of these and all other variables. In general item non-response was low (less than 3.2%). If not mentioned otherwise in Table 2, item non-response was dealt with by using regression imputation ('impute' command in STATA). Different checks suggested that imputation of missing values did not affect the results.

[Table 2 about here]

Analyses

To test the relationships between mid-life experiences and retirement intentions linear regression models were estimated. The hypotheses regarding retirement behavior were tested using Cox proportional hazards regression models. To deal with the multilevel structure of the data (employees of four organizations who are nested in organizational departments) standard errors that allow for intra-department correlation have been used in the analyses ('vce(cluster)' command in STATA). Besides, organizational dummy variables have been included in the models to control for potential organizational level effects. In the Cox models these organizational dummies strongly violated the proportional hazards assumption. For that reason the stratification method was applied, which implies that for every organization a different unspecified baseline hazard function was allowed, while the coefficients of the other covariates were assumed to be constant across the organizations (Blossfeld & Rohwer, 1995; Mills, forthcoming).

RESULTS

The results of the multivariate linear regression analyses and the Cox proportional hazards regression analyses to explain retirement intentions (Model 1a and 1b) and retirement behavior (Model 2a and 2b) of older workers are presented in Table 3. In Model 1a and 2a the relationships between mid-life experiences and retirement are shown. For some mid-life experiences the coefficients in these starting models might represent opposing forces. Therefore, to disentangle these forces, Model 1a and 2a are estimated without indicators of the preretirement financial opportunities and constraints. In Model 1b and 2b these indicators are added to the regression equations. Consequently, the financial hypotheses can be examined by comparing the initial effects of mid-life experiences with the remaining effects after controlling for the preretirement financial situation. The difference in the effect of a specific life history variable between Model 1a and 1b (or 2a and 2b) represents the indirect effect of that variable via preretirement financial opportunities and constraints. The non-financial hypotheses can be examined by interpreting the effects of mid-life experiences when controlling for the preretirement financial situation.

[Table 3 about here]

Explaining retirement intentions by mid-life experiences

The results of Model 1a in Table 3 show that mid-life experiences in all studied life spheres are of importance for explaining retirement intentions. An older age of entering the labor market and additional training during mid-life are related to weaker intentions to retire early. Work experiences of dismissal and employer change before age 50 also result in weaker intentions to retire early. The coefficients for part-time work and promotion are not statistically significant. Health problems during mid-life are related to a stronger intention to retire early. Regarding family mid-life experiences the results show that men who had their first child after age 30 intend to retire later than men who had their first child between age 22 and 29. Men who divorced after

age 50 are more inclined to retire later than married men who have not experienced a divorce. There is no difference between married men and men who divorced before age 50.

The financial aspects of the preretirement opportunity structure (added in Model 1b) also appear to be highly relevant for explaining retirement intentions. The wealthier workers are, the stronger their intention to retire early. Besides, older workers without a pension shortage are more inclined to retire early than workers with a pension shortage. The more financially dependent children older workers have, the weaker their intention to retire early.

When comparing Model 1a and 1b for mid-life work experiences, the results show that the effects of mid-life dismissal and employer change are no longer statistically significant when the preretirement financial variables are included in the model. Examination of correlations between the variables indicates the perceived pension shortage as the principal mediating financial variable. These findings provide support for the financial hypothesis. Mid-life job changes – either voluntary or involuntary – lead to later intended retirement because they are associated with a perceived pension shortage.

The effects of most mid-life educational, health, and family experiences are not or only partially mediated by the preretirement financial variables. The coefficients of mid-life educational and health experiences are not reduced when adding the financial variables to the model. About 35% of the effect of a late first birth and 33% of the effect of a late divorce are mediated by the preretirement financial opportunity structure. The effect of a late divorce is no longer significant in Model 1b. These findings provide some support for the financial hypotheses but they also support the non-financial hypotheses since most of the effects remain significant after taking the financial variables into account.

Explaining retirement behavior by mid-life experiences

The results of Model 2a in Table 3 show that some studied mid-life experiences are relevant for explaining retirement behavior. In the educational sphere, the effect of the age of entering the labor market is statistically significant. The older a worker was when entering the labor market, the later he retires. The positive effect of part-time employment implies that part-time work before age 50 results in earlier retirement. Further, men who made the transition into parenthood relatively late retire at an older age than men in the reference group.

Model 2b shows that the preretirement financial situation is highly relevant for explaining retirement behavior. The wealthier men are, the earlier they retire. Moreover, men without a pension shortage retire earlier compared to men with a pension shortage. The more financially dependent children men have, the lower their rate of retirement.

Comparison of Model 2a and 2b suggests that the preretirement financial opportunity structure hardly plays a role in explaining the significant effects of the educational and work mid-life experiences. These results provide support for the non-financial hypotheses. On the contrary, the effect of the timing of first birth is no longer significant when the preretirement financial opportunities and constraints are added to the model, providing support for the financial hypothesis.

DISCUSSION

In line with life course propositions of lifelong and multispheral development, this study suggests that mid-life experiences in various life spheres are relevant for understanding retirement.

The research findings indicate that not only mid-life experiences in the work sphere − which often have been central in studies among men − but also mid-life experiences in the educational, health, and family sphere are relevant for understanding men's retirement process. Given that work participation of middle-aged Dutch men hardly is influenced by their experiences in the family sphere (Liefbroer & Dykstra, 2000), it is particularly interesting to see that mid-life

family experiences do influence (intended) labor market participation later in life. A relatively late transition into parenthood is associated with later retirement, which resembles research findings among women (Hank, 2004; Pienta, 1999).

The theoretical and empirical distinction that has been made between financial and non-financial aspects of the preretirement opportunity structure via which mid-life experiences can influence retirement revealed that especially mid-life experiences in the work sphere (dismissal and employer change) are related to retirement intentions via the financial aspects of the preretirement opportunity structure (i.e., pension shortcomings). Experiences in the family sphere are also related to retirement via the preretirement financial situation, but the financial situation could not always totally explain the effects. In the educational and health spheres the preretirement financial situation did not play an explanatory role. As hypothesized the relationships might run via the preretirement work, health, and family situation. Yet, other factors such as attitudes regarding work and leisure (Raymo et al., 2009) might also offer an explanation.

Studying retirement intentions in addition to retirement behavior has proven to be highly relevant. Whereas only a few mid-life experiences could explain differences in retirement behavior, most studied mid-life experiences could explain differences in retirement intentions. Therefore, instead of concluding that only few mid-life experiences affect retirement, we were able to draw a more comprehensive conclusion: multiple mid-life experiences affect the retirement process, however, the limited freedom employees often have in their actual retirement decision (Van Soest et al., 2006) or changing opportunity structures in late-life thwart the effects of mid-life experiences on retirement behavior. In the future the discrepancies between predictors of retirement intentions and behavior might be reduced in the Netherlands. Opportunities for employers to force employees into retirement seem to be decreasing and the individual freedom of employees to decide how and when to retire seems to be increasing. There is a shift from "standardised and collective approaches to all kinds of flexible and individualised plans" (De

Vroom, 2004, p.146). This suggests that our results in the model for retirement intentions will become more important in the near future.

When interpreting the research findings some limitations of this study should be kept in mind. First, though the sample has substantial variation in important variables as educational level, work characteristics, and health, the workers in the studied sample are not representative of all Dutch male older workers. Second, even though the availability of information on mid-life experiences is an important strength of our data, it cannot be ruled out that recall or memory bias effects play a part. Past events and experiences most likely have been recorded in terms of the present (Elder & Johnson, 2003). However, the salience and low incidence of the studied life events might have influenced the recall accuracy positively (Eisenhower, Mathiowetz, & Morganstein, 1991).

Despite the limitations, this study clearly shows that the transition from work to retirement is related to mid-life experiences. In light of policy objectives to increase the labor force participation of older workers (OECD, 2006) these findings suggest, on the one hand, that measures directed at workers in mid-life (e.g., additional training) might positively influence these workers' labor market participation later in life. On the other hand, the results suggest that changing life courses might contribute to a future trend towards later intended retirement. Whereas the lives of Dutch men and women born between 1931 and 1940 generally reflected the standard life course, among cohorts born after 1950 life courses de-standardized. Variation in behavior increased (e.g., divorce became more common), and major responsibilities (e.g., entry into the labor market, family formation) were postponed (Liefbroer & Dykstra, 2000). When linking these trends to the findings of this study, we would expect a decline in the desire to retire early in the (near) future.

Among social scientists it is widely acknowledged that retirement is a complex transition, which is influenced by various factors from multiple life spheres, such as the educational, work, health, and family sphere. This study shows that − in all these life spheres − mid-life experiences

already "set the stage" (Settersten, 2003, p.29) for retirement decision making. Given the de-standardization of life courses studying retirement as a process embedded in the total life course will become increasingly important for understanding retirement in the future.

FUNDING:

This work was supported by the Netherlands Organization for Scientific Research NWO (452-05-314 to K.H.); and the Netherlands Interdisciplinary Demographic Institute.

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TABLES

Table 1 Overview of hypotheses regarding mid-life experiences and retirement (earlier or later)

	Hyp. No.	**Financial hypotheses**	**Hyp. No.**	**Non-financial hypotheses**
Educational experiences (<age 50)				
Educational level	1a	Earlier	1b	Later
Additional training		Earlier		Later
Work experiences (<age 50)				
Dismissal	2a	Later	2b	Earlier
Part-time work		Later		Earlier
Between employer mobility		Later		Later
Promotion		Earlier		Later
Health experiences (<age 50)				
Severe health problems	3a	Later	3b	Earlier
Family experiences				
Relatively late first birth	4a	Later	4b	Later
Relatively late divorce	5a	Later	5b	Later

Table 2 Means, standard deviations, coding of items and descriptions of all variables

	Mean	SD	Coding and psychometric properties	Description (questions translated from Dutch)
Dependent variables				
Retirement intention	7.08	1.50	The scale was linearly transformed into a range from 0 (weak intention to retire early) to 10 (strong intention to retire early). Cronbach's alpha = 0.87	Questions: Do you intend to stop working before age 65? (1=no, 2=I do not know (yet), 3=yes); At which age do you want to stop working? (continuous, reversed); Do you intend to continue working after you reach the age of 60? (1=yes certainly, 5= no certainly not); If there had been a possibility to continue working after age 65, would you make use of it? (1=yes certainly, 5= no certainly not); If you were able to choose: at which age would you like to stop working? (continuous, reversed).
Retirement behavior	102.3	29.55	Number of months between age 50 and the age of retirement (for right-censored cases: the age at wave 2), continuous variable ranging from 22 to 184	Questions: Did you make use of an arrangement for early retirement? (1=no, 2=yes, in year …, 3=not applicable); When did you stop working? (year, month). For respondents (2.5% of the sample) of whom no information regarding the month of leaving was available, it was assumed they left halfway the year (July).
Independent variables				
Age at baseline	54.17	2.90	Continuous variable ranging from 50 to 64	Age at wave 1 (May 1, 2001) based on date of birth (no missing values).
Mid-life educational experiences				
Age entering labor market	19.11	3.99	Continuous variable ranging from 12 to 38 (proxy of educational level)	Question: At which age did you start working? (no missing values).
Additional training	0.65	0.48	Dummy variable coded 0-1, 1=started new training before age 50	Combined measure of 2 questions, see description of mid-life work variables.
Mid-life work experiences				
Dismissal	0.05	0.22	Dummy variable coded 0-1, 1=was dismissed before age 50	Combined measure based on 2 analogous questions concerning different time periods: Can you indicate for the following events whether you experienced them before age 40/ between age 40 and 50? (1=yes, 2=no). Six of the nine listed events were used in the analyses. Missing values were coded as 'no' scores.
Part-time work	0.04	0.20	Dummy variable coded 0-1, 1=started to work part-time before age 50	
Between employer mobility	0.38	0.49	Dummy variable coded 0-1, 1=changed jobs (other employer) before age 50	
Promotion	0.85	0.36	Dummy variable coded 0-1, 1=got promotion before age 50	

Table 2 (continued) Means, standard deviations, coding of items and descriptions of all variables

	Mean	SD	Coding and psychometric properties	Description (questions translated from Dutch)
Mid-life health experiences				
Severe health problems	0.17	0.38	Dummy variable coded 0-1, 1=had severe health problems before age 50	Combined measure of 2 questions, see description of mid-life work variables.
Mid-life family experiences				
Timing first child (ref=22-29)			Categorical variable consisting of 4 categories: no children, first birth before age 22, first birth between age 22 and 29 (reference category), first birth age 30 and over (See for similar coding Szinovacz & DeViney, 1999)	Question: At which age did you become a father/mother for the first time? By using the question 'Do you have children?' it was determined whether a missing value should be interpreted as 'no children' or as 'missing'. Missing values were estimated on basis of the age of the youngest child at wave 1, the number of children and the respondent's age at wave 1.
No children	0.12	0.32		
Early (<age 22)	0.03	0.18		
Late (≥age 30)	0.27	0.44		
Timing divorce (ref=married, incl. widowed)			Age of divorce, grouped into 5 categories: married and not divorced before baseline, divorced before age 40/ between age 40 and 50/ after age 50 (before baseline), and never married	Question: Have you ever been divorced? If yes, at which age? Whether a person had been 'at risk' of divorce (whether he ever married) was determined based on the question: What is your marital status?
Before age 40	0.06	0.24		
Between 40-50	0.06	0.24		
After age 50	0.02	0.14		
Never married	0.05	0.22		
Preretirement financial opportunity structure				
Wealth	18.35	15.27	Quasi-interval measure ranging from 0.23 to 56.72	Question: How large do you estimate your total wealth (own house, savings, stocks etc., minus depths/ mortgage)? Response categories ranged from 1 (<10.000 guilders) to 7 (more than 1 million guilders). Class averages (transformed to Euros and divided by 10.000) were used to construct a quasi-interval measure of wealth in ten thousands of Euros.
Perceived pension shortage (ref=yes)[a]			Categorical variable consisting of 3 categories: yes (reference category), don't know, no	Question: Do you think you have sustained pension shortcomings during your career? Answering categories were 1=no, 2=yes, 3=don't know. Missing values were coded as 'don't know'.
Don't know	0.08	0.28		
No	0.65	0.48		
Financially dependent children	0.67	0.91	Continuous variable ranging from 0 to 4	Question: Do you have children who are still financially dependent? If yes, how many? Persons without children were given value 0. Persons with a missing value, but with children living at home, were perceived to have financially dependent children.

[a] Note: In the Netherlands an individual is perceived to have a 'pension shortage' if his old age pension will be less than 70 percent of his wages (percentage is not explicitly mentioned in the questionnaire).

Table 3 Models of retirement intentions and behavior, coefficients and standard errors

	Retirement intention [a] *(Linear regression model)*				**Retirement behavior** [b] *(Cox PH model)*			
	Model 1a		**Model 1b**		**Model 2a**		**Model 2b**	
Explanatory variables	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Intercept	14.77**	0.83	15.51**	0.89				
Age at baseline	-0.12**	0.02	-0.14**	0.02				
Mid-life educational experiences (<age 50)								
Age entering labor market	-0.06**	0.01	-0.06**	0.01	-0.03**	0.01	-0.03**	0.01
Additional training	-0.17*	0.07	-0.18**	0.07	-0.03	0.07	-0.04	0.07
Mid-life work experiences (<age 50)								
Dismissal	-0.46*	0.22	-0.39	0.20	-0.04	0.18	-0.01	0.17
Part-time work	0.24	0.22	0.26	0.22	0.55**	0.18	0.59**	0.18
Between employer mobility	-0.18**	0.06	-0.05	0.07	-0.11	0.08	-0.02	0.09
Promotion	-0.03	0.11	-0.09	0.10	0.04	0.10	0.01	0.09
Mid-life health experiences (<age 50)								
Severe health problems	0.40**	0.13	0.40**	0.14	0.09	0.09	0.08	0.10
Mid-life family experiences								
Timing first child (ref=22-29)								
No children	0.04	0.12	-0.07	0.13	-0.05	0.17	-0.08	0.18
Early (<age 22)	0.05	0.25	0.02	0.22	0.16	0.15	0.18	0.14
Late (≥age 30)	-0.37**	0.09	-0.24**	0.09	-0.22*	0.10	-0.10	0.11
Timing divorce (ref=married)								
Before age 40	0.03	0.30	0.08	0.29	-0.12	0.15	-0.08	0.15
Between age 40 and 50	-0.12	0.17	0.03	0.17	0.18	0.16	0.26	0.16
After age 50	-0.78*	0.37	-0.52	0.37	-0.38	0.29	-0.17	0.27
Never married	-0.39	0.25	-0.33	0.23	0.40	0.21	0.38	0.21
Preretirement financial opportunity structure								
Wealth			0.01**	0.00			0.01*	0.00
Perceived pension shortage (ref=Yes)								
Don't know			0.27*	0.13			0.34*	0.14
No			0.39**	0.10			0.28**	0.11
Financially dependent children			-0.18**	0.04			-0.18**	0.05
N	1229		1229		1229		1229	
F	34.96**		65.55**					
Wald Chi-square					80.51**		102.45**	

Note 1: * p<0.05; ** p<0.01

Note 2: In all models organization is controlled for, either by including organizational dummies (intention models) or by stratifying by organization (behavior models)

a Retirement intention − High scores indicate that respondents are more inclined to retire earlier

b Retirement behavior − High scores indicate that respondents have a higher rate of retirement after age 50