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Do Spouses Coordinate Their Work Exits? A Combined Survey and Register Analysis From Norway

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Abstract

Research on spouses' joint work exits is scarce, although household factors such as spouses' work status, marital quality, and caregiving burdens are likely to affect seniors' work engagement. We therefore examine whether the work exit probability of one spouse affects that of the other. Discrete-time hazard regression analyses of survey data linked to later registry information including all gainfully employed married respondents aged 50–74 with a working spouse ($N = 1{,}764$) were used to assess subsequent work exits. A spouse's work exit is a strong predictor of a respondent's work exit (hazard ratio 3.1, 95% confidence interval [2.5, 4.0]). Educational attainment, poor marital quality, and spouses' health and care needs do not predict work exits. Surprisingly, no gender differences are observed. Research on larger survey samples to distinguish different work exit routes and reasons for

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spouses' joint work exits appears warranted. To account for cultural and welfare state characteristics, cross-national studies ought to be undertaken.

Keywords

employment, married, retirement, retirement behavior, spouse, work exit

Introduction

The share of the working age population receiving disability or (early) old-age pension has increased over the last decades, in spite of both subjective and objective improvements in public health (Organisation for Economic Co-operation and Development, 2011). A vast literature on general retirement behavior and different labor force exit routes thus exists (see, e.g., Lumsdaine & Mitchell, 1999; Wang, 2013). The majority of the studies consider individual behavior, and this may be a limitation as most workers live in households with other persons who may influence their labor participation decisions. For married couples, spouses' actual work behavior, income, and attitudes toward work and leisure are likely to be particularly pertinent (Feldman & Beehr, 2011; Henkens, 1999; Matthews & Fisher, 2013). Research on spouses' joint work disengagement behavior is nevertheless relatively scarce and the results are conflicting, in part due to vast differences in public policies and welfare benefits cross nationally (see, e.g., Börsch-Supan, 2007). As the Norwegian welfare system and those of the other Nordic countries differ in part substantially from those found in for instance the United States and other European systems (Hvid et al., 2011), a study on joint work exits from a Norwegian perspective appears warranted to complement existing findings from dissimilar settings.

The Norwegian setting

Ekerdt (2010) presents four important social structural contexts for work exit behaviors among seniors: the welfare state, the workplace, the cultural norms and values about age and work and leisure, and the family. Although our main focus is on the role of the family, we begin by providing a brief description of the Norwegian welfare system and the pension scheme to provide a perspective and to help enable the potential generalizability of our findings.

Norway is a small Nordic country, with around 5 million inhabitants. It is a social–democratic welfare state, with around a quarter of its population

relying on welfare benefits as one means of living. Welfare benefits account for around one third of the state budget. The welfare system is rights based and funded through a "pay-as-you-go" principle. All Norwegian inhabitants are members of the national insurance scheme (NIS) that ensures free or low-cost health care to all inhabitants regardless of age and secures a minimum income for all citizens, termed social assistance, unrelated to poor health and/or prior income (Molven & Ferkis, 2011). NIS further includes various retirement schemes, sickness and disability benefits, work assessment allowances, and unemployment insurance (Kjonstad, 2007). The magnitude of these public benefits is strongly linked to prior labor earnings.

Access to disability (through age 66), contractual early age (age 62–66), or regular old-age pensions (from age 67) may thus provide a low-cost opportunity to increase spousal joint leisure time in Norway. In principle, disability pension is only available if poor health prevents self-support.

The contractual early retirement program in Norway includes the entire public sector and around 60% of the private sector and allows all workers to retire at age 62, with a compensation rate similar to what it would have been had the worker remained employed until the standard retirement age.[1] Contractual early-age pension uptake is slightly more common among married women. For the period studied here, the formal standard retirement age has been 67 years, although certain specified occupational groups have lower age limits (from 55 to 65 years). This applies to, for instance, pilots, cabin crew, divers, oil platform workers, truckers, miners, police men, fire fighters, nurses, and traveling sales personnel (Norwegian Ministry of Labour, 2012). In addition to the government-provided schemes, individuals may also choose to purchase insurances to further increase their incomes in case of injuries, disabilities, and/or old age. From 2011 onward, a major reform of the pension system has been introduced, with flexible retirement from age 62 as an integral part (Norwegian Ministry of Labour, 2011). This does not affect the current analyses as the data are limited to the period right prior to this.

In 2006, the workforce in Norway comprised around 76% of men and 68% of women aged 18–66. The unemployment rate in Norway is around 3% for both genders. Around 90% of the individuals aged 50–54 were employed in 2001, likewise pertains to 85% aged 55–59, 65% aged 60–64, and around 30% aged 65–69. Around 75% of the individuals in these age groups are married or cohabitating, and there are no or minor differences in the employment rate between married and unmarried men and women. Around 13% of women and 9% of men aged 50–67 received disability pensions during the period of our study (Norwegian Ministry of Labour, 2010).

Theoretical Framework

As a theoretical framework to help explain joint work exits, we have chosen to rely extensively on Ekerdt (2010) who presents four social structural contexts for work exit behaviors among seniors: the welfare state, the workplace, the cultural norms and values about age and work and leisure, and the family. From this framework, we have chosen to focus explicitly on the family and specifically on the influence of the work status of the spouse. This in part is also discussed in the simplified family life cycle supply model proposed by Becker (1991). According to this theory, spouses are endowed with fixed amounts of leisure time that they can either sell in the labor market or use in home production. On one hand, one spouse's work exit and the resulting lowered income could thus be hypothesized to result in the other spouse increasing his or her time or effort in the workforce to compensate for the household's income loss, often termed "the added worker effect" (Cullen & Gruber, 2000; Lundberg, 1985; Maloney, 1987). On the other hand, "complementary leisure" has been hypothesized as a different mechanism, suggesting that older people will enjoy their leisure time more when their spouse is with them and thus attempt to exit the workforce jointly (Blau, 1998; Hallberg, 2003; Hesselius, 2009), in line with Ekerdt's views on the important role of the family. As we restrict our analysis to dual-earning couples, it is the latter hypothesis that is examined here but within Ekerdt's (2010) framework where additional factors will also play a role. The welfare state factors may be assumed to be similar across respondents. Work factors are, however, likely to vary and have been accounted for, likewise have cultural norms and values about age and work and leisure been taken into account, where adequate information was available. Our main focus is nevertheless on the role of the spouse. According to both Ekerdt (2010) and Becker (1991), gender differences may be expected as the usefulness and need of leisure time in home production tend to vary between husbands and wives.

Literature Review

According to a fairly recent overview by Hutchens and Dentinger (2005), more couples are attempting to retire at about the same time today compared to earlier. As mentioned earlier, one suggested mechanism underlying joint work exits of spouses has been preferences for shared spousal leisure time, which has been documented in earlier studies (Blau, 1998; Hallberg, 2003; Hamermesh, 2000; Hesselius, 2009). In line with this, a recent Norwegian

study by Johnsen and Vaage (2012) finds that a woman's probability of becoming a disability pensioner is significantly higher if her husband is eligible for early retirement compared to that of a woman whose husband is not eligible. Similarly, a recent Danish study examining the probabilities of 59-year-olds to retire within the next year shows that dual-earning marital partners coordinate their work disengagement (Friis, 2011). Alternatively, the wife exits the labor market before the husband. Very rarely do husbands exit first. Both the Norwegian and the Danish studies are based solely on registry data.

Earlier studies by Hurd (1988), Gustman and Steinmeier (2000), and Maestas (2001) find that complementarity of leisure is a key factor in explaining why husbands and wives often retire simultaneously. This is contrary to the hypothesized added worker effect, suggesting that one partner will increase his or her labor efforts when the other partner disengages, reported from other countries (Cullen & Gruber, 2000; Lundberg, 1985; Maloney, 1987).

One reason why the added worker effect appears to be of little relevance in Norway and Denmark might be the relatively generous welfare system previously described, which is a defining feature of the "Nordic model" (Hvinden, 2012). In countries with less extensive welfare options, individual and joint finances may play a more important role in work exit decisions, and one could perhaps expect to see tendencies of an added worker effect (Weaver, 1994).

Household factors other than preferences for spousal leisure are, however, also likely to impact work exit behaviors. The health of one's spouse, possible caregiving burdens and the general quality of the marital relationship, has been shown to affect seniors' work engagement (Lima, Allen, Goldscheider, & Intrator, 2008; Maestas, 2001; Siegel, 2006; Syse, Tretli, & Kravdal, 2009; van Solinge & Henkens, 2008).

Poor health or disability may have an ambiguous effect on labor supply. On one hand, since disability almost certainly decreases the labor supply of the affected spouse, it lowers the family's income. Norway has a fairly generous national insurance scheme in terms of both extensive sickness and disability benefits. Absence or low levels of compensatory mechanisms could lead the other spouse to work more, which most often has been seen in countries with limited compensations such as the United States. Access of family to government benefits or employer-provided benefits may thus crowd out the spousal labor supply response. Poor health may, however, also lower a person's productivity at home while simultaneously raising his or her need for attention. This effect may raise the family's valuation of the nondisabled spouse's leisure time, especially if the spouse needs assistance with activities of daily living or has a relatively low life expectancy. If older people enjoy

their leisure time more when their spouse is with them, the health-related work exit of one spouse may lead the other to retire as well (Coile, 2004).

In summary, one spouse's health-related work exit may have a theoretically ambiguous effect and may be hypothesized to differ across families according to the importance placed on the above-mentioned factors. The current study differs from the registry-based studies in that information on many of the more subjective household factors hypothesized to influence the relative value placed on leisure time may be taken into account.

Conflicting results exist regarding possible gender differences in joint retirement behavior and consequences of such behavior. Although some find that wives' work detachments tend to be more affected by their husbands' work exits than vice versa, others do not find this (Pienta, 2003; Pienta & Hayward, 2002; Szinovacz, DeViney, & Davey, 2001). Also, the consequences of work exits may vary by gender: According to Szinovacz and Davey (2004), recently retired men seem to be negatively affected by their spouses' continuous employment when compared with men whose wives were continuously not employed. In contrast, spouses' joint retirement has a beneficial influence on both recently retired and longer retired men. This is perhaps not surprising as work exits change more than just life styles—it affects many relationships as well as one's sense of self, which may be tied to gendered work roles to greater or lesser extents (Szinovacz et al., 2001). Work exits may for instance bring changes to existing social relationships as one has more time to spend with certain individuals like one's spouse or other family members, whereas other relationships such as those to colleagues and members of professional networks are left behind (Adams & Rau, 2011). Such role transitions may be viewed as either opportunities or losses (Wang, Henkens, & van Solinge, 2011), and van Solinge and Henkens (2005) has shown how adjustment problems faced by one partner may affect the quality of the other partner's work exit experience. Joint work exit may thus be either a positive or a negative experience as spouses' lives and work exits are interdependent (Wang, 2007).

To summarize, empirical support has been shown for the complementary leisure effect, but existing results are conflicting and likely country and culture specific. The joint effect of spouses' work exits is likely to be ignored in studies where work disengagement is considered as an individual and not a household behavior. On the other hand, should such a household effect be present, it could provide an opportunity for positive consequences of policy changes aimed at increasing the retirement age or reducing the attractiveness of disability pensions beyond those affecting individuals directly. In this study, we therefore aim to assess whether dual working spouses coordinate their

work exits in older age in Norway, and whether gender differences exist, utilizing survey data from 2007 and 2008 linked to longitudinal registry data on a representative sample of gainfully employed married senior workers and their spouses.

Research Design

Data from a large, nationally representative survey called Life cOurse, Gender and Generation (LOGG) were linked to prior and subsequent registry data. These data are well documented and universally available in an easy-to-use format from www.nsd.no and are part of the multinational Generations and Gender Study (GGS; Lappegård & Veenstra, 2010). The LOGG data are described in detail elsewhere (Bjørshol, Høstmark, & Lagerstrøm, 2010; Brunborg, Slagsvold, & Lappegård, 2009). In short, 14,892 persons 18–79 years old were surveyed by a telephone interview and a postal questionnaire in the LOGG study in 2007/2008, and the response rate was 61% (www.ssb.no/logg). Longitudinal registry data have been added to the survey data and are updated on a regular basis. The latest update currently available is January 2011.

All gainfully employed individuals aged 50–74 who were married to gainfully employed spouses at the time of the telephone interview in 2007/2008 were selected. The sample was limited to those individuals whose spouses could be identified through registers (<1% excluded) and an upper age limit of 74 years was also applied to spouses. This resulted in a total sample size of 1,764 married respondents (45% men and 55% women; see Table 1). Individuals were followed over the next 4 years to assess work exits as indicated by yearly registry data (January 2008–January 2011).

Work exits may take many forms. In this study, we have limited work exits to include uptakes of disability and/or old-age pensions of at least 50% after having identified oneself as "mainly an employee" and as "having been active in the labor market during the last week or temporary absent due to illness or other welfare reasons" at the time of the interview. Unfortunately, due to small numbers we were not able to distinguish between the different work exit routes (e.g., long-term sickness absence, disability or old age), and uptakes of either disability or old-age pension were thus modeled jointly as work exits in this study. In cases where disability pension uptake preceded old-age pension uptake, the earliest date was used. In the study period, one could not initiate disability pension uptake after having begun old-age pension uptake due to policy regulations. This applied to both respondents and their spouses. Spouses' work exits were modeled as a time-varying covariate,

Table 1. Characteristics of Respondents and Spouses ($N = 1{,}764$).[a]

	Respondent		Spouse	
	n	%	*n*	%
Male[b]	795	45	969	55
Female	969	55	795	45
Age <55[c]	737	42	616	35
Age 55–59	612	35	516	29
Age 60–64	358	20	386	22
Age 65–69	53	3	178	10
Age 70–74	4	0	68	4
<High school	151	9	187	11
High school	520	29	539	31
Basic college	343	19	302	17
Bachelor's degree	571	32	546	31
>Bachelor's degree	179	10	190	11
Good health[d]	1,418	80	1,563	89
Poor health	346	20	201	11
Work exit[e]	369	21	385	22
No work exit	1,395	79	1,379	78

[a]Survey respondents were interviewed in 2007 (92%) and 2008 (8%) and followed up by registry data through January 2011, unless work exit, age 75, marital dissolution, emigration, or death occurred first.[b]No same-sex couples were present in the current sample, and the gender variables are thus reciprocal.[c]Spouses were not subject to the same strict age limitations but limited upward to age 74. This category thus includes all spouses 54 years and younger (37–54 years old). [d]Self-reported health from respondents and reports of long-standing illness in spouse.[e]All individuals and spouses were employed at the time of the interview in 2007/2008, and the work exits are thus subsequent (through January 2011).

and spouses could thus exit the workforce up to 3 years before their spouse. This was nevertheless termed "joint" or "coordinated" work exits in the present study. A closer examination of the timing of work exits of spouses showed that 71% of those who retired jointly retired the same year, whereas 19% retired 1 year after their spouse. A total of 9% retired 2 years after their spouse and less than 1% ($N = 1$) retired after 3 years.[2]

Next, univariate descriptive analyses of both spouses' characteristics were undertaken to explore distributional patterns of potential influential factors on retirement.

Individuals entered the study at age 50 or above in 2007 (92%) or 2008 (8%) and were followed to work exit, age 75, marital dissolution (divorce or spousal death), death, emigration, or January 2011, whichever occurred first. Series of 1-year observation intervals were created. Univariate and

multivariate discrete-time hazard regression models were then applied to assess the degree to which individuals' work exit behavior was influenced by spouses' work exit, net of individual and spousal characteristics, and household factors. Individual and spousal characteristics and household factors were selected a priori and included spousal work exit, gender, both spouses' age, their age difference, education, and educational differences, household income, and number of children (all from registry data) as well as individual' reports of satisfaction with work, means of living, marital quality and housework task sharing, importance placed on family, general happiness with life, recent changes in work ability and enjoyment, work-related factors such as the importance placed on work, the type, intensity and flexibility of the work, whether the position was fixed or temporary as well as general health status and spouse's health or care needs (all from interview, see Table 4 in Slagsvold et al. (2012) for details). Age, year, and spouses' work exits were included as time-dependent covariates. Interaction terms between spousal work exit and the other covariates were added to assess possible effect modification, and stratified analyses were undertaken where modification was indicated to be of importance. All analyses were performed in Stata 12 using the *pgmhaz* command to account for unobserved heterogeneity as described in detail by Jenkins (1997). Model selection was guided by minimizing the log likelihood ($-0.5\times$ deviance). The statistical significance level was set at 5%.

Results

Descriptive Results

During the follow-up period, 369 (21%) respondents exited the workforce, whereas this was the case for 385 (22%) of the spouses (see Table 1). No gender differences in work exit behavior were observed for respondents or their spouses (23% for men and 22% for male spouses vs. 20% for women and 22% for female spouses). A total of 142 (8%) of the retired respondents had spouses who also exited the workforce during the follow-up period. Around 53% of the respondents who exited work began disability pension uptake, whereas this was true for around 47% of their spouses. This is likely due to differences in age and gender distribution of the respondents and their spouses. The remaining began early retirement or old-age pension uptake (see Table 2).

The majority of the sample, 77%, was 50–59 years old at the time of the interview, whereas 20% was 60–64 years old and only 6% was 65–74 years old. The age distribution was relatively similar for spouses. Around 38% of

Table 2. Percentage Wise Distributions of Various Work Exit Combinations of Respondents and Spouses.[a]

	Spouses		
Respondents	No Work Exit (%)	Disability (%)	Early/Old Age (%)
No work exit	65.0	6.9	6.8
Disability	6.6	2.4	2.2
Early/old age	6.5	1.1	2.5

[a]Exits from January 1, 2008, or from time of interview if subsequent, through January 2011. All respondents and spouses were employed at the time of interview.

the individuals had at most a high school diploma, whereas 19% had a basic college education, 32% had a Bachelor's degree or equivalent, whereas around 10% had a master's or doctoral degree. Also, this distribution was fairly similar for spouses. A total of 20% of the respondents reported poor health, defined as either fair or poor according to the question "In general, would you say your health is excellent, very good, good, fair, or poor?" from the *Short Form 12 Health survey* (Ware, Kosinski, & Keller, 1996). Around 11% of the respondents reported that their spouse had a long-standing illness, one or more chronic health conditions or care needs.

Spousal homogamy prevails with regard to age and education: 45% of the female respondents and 81% of the male respondents had spouses of roughly similar age ($\pm$ 2 years), likewise around 36% of both male and female respondents did have spouses with a similar educational level. Heterogamy is, however, also present: A total of 51% of female respondents had husbands 3 or more years older, whereas 16% of male respondents had wives 3 or more years younger. Further, in general women tended to have better educated spouses (39%) and men less educated spouses (37%).

Results from univariate descriptive analyses by work exit are shown in Tables 3 and 4.

Perhaps surprisingly there was no gender difference in the work exit pattern. The well-known association between older age and an increased probability of exiting work was confirmed. Around 21% of the respondents with partners of similar age ($\pm$ 2 years) exited the workforce. This was true for only 17% of the respondents with younger partners, whereas the percentage rose to 22% for those with older partners. The differences were, however, not statistically significant. The distributions in work exits differed across educational attainment ($p < .01$): Work exits were most common among respondents with the lowest level of education (29%) and least common among

Table 3. Basic Characteristics of Study Participants at Time of Interview by Subsequent Work Exit Status (Univariate Analyses).

	No Work Exit (2007–2011)		Work Exit (2007–2011)		χ^2
	n[a]	%	*n*	%	*p* Value
Male	616	77.5	179	22.5	.14
Female	779	80.4	190	19.6	
Age 50–54[b]	681	92.4	56	7.6	< .001
Age 55–59	517	84.5	95	15.5	
Age 60–64	197	55	161	45	
Age 65–74	0	0	57	100	
Younger partner (>2 yr)	276	82.6	58	17.4	.19
Partner same age	690	78.6	188	21.4	
Older partner (>2 yr)	429	77.7	123	22.3	.71
No children	49	76.6	15	23.4	
1 Child	129	77.2	38	22.8	
>1 Child	1,217	79.4	316	20.6	
<High school[b]	107	70.9	44	29.1	< .01
High school	394	75.8	126	24.2	
Basic college	279	81.3	64	18.7	
Bachelor degree	471	82.5	100	17.5	
>Bachelor degree	144	80.4	35	19.6	
Partner less educated	464	79.2	122	20.8	.99
Partner same education	501	79.1	132	20.9	
Partner more educated	430	78.9	115	21.1	
High income[b]	1,133	81.7	253	18.3	< .001
Low income (4th quartile)	262	69.3	116	30.7	
Good health[b]	1,197	84.4	221	15.6	< .001
Poor health	198	57.2	148	42.8	
Spouse in good health[b]	1,251	80	312	20	< .01
Spouse in poor health	144	71.6	57	28.4	
Spouse exits work[b,c]	243	63.1	142	36.9	< .001
Spouse remains employed	1,152	83.5	227	16.5	

[a]Number of respondents. [b]Significant predictors of respondents' work exits in univariate logistic regression analyses.[c]Subsequent work exit (January 2008–January 2011). All spouses were employed at the beginning of the follow-up period (i.e., at the time of interview in 2007 or 2008.

respondents with some college education (18%–20%). No differences in work exit patterns were observed across educational homogamy/heterogamy. Work exits were most frequent among individuals belonging to the lowest income quartile (31% vs. 18%). Further, work exits were most frequent among those

Table 4. Subjective Characteristics of Study Participants at Time of Interview by Subsequent Work Exit Status (Univariate Analyses).

	No Work Exit (2007–2011)		Work Exit (2007–2011)		χ^2
	n[a]	%	*n*	%	*p* Value
Happy with life	1,196	79.9	301	20.1	.04
Less happy with life	199	74.5	68	25.5	
Satisfied with means of living	1,222	79.8	310	20.2	.07
Less satisfied with means of living	173	74.6	59	25.4	
Satisfied with marriage	1,204	78.6	327	21.4	.24
Less satisfied with marriage	191	82	42	18	
Satisfied with housework division[b]	1,080	77.8	308	22.2	.01
Less satisfied with housework division	315	83.8	61	16.2	
Satisfied with work	1,036	79.4	268	20.6	.52
Less satisfied with work	359	78	101	22	
Blue collar[b]	813	75.8	259	24.2	<.001
White collar	582	84.1	110	15.9	
Spouse blue collar[b]	657	76.7	200	23.3	.01
Spouse white collar	738	81.4	169	18.6	
Work important[b]	999	81.3	230	18.7	< .01
Work less important	396	74	139	26	
Stable work ability	1,143	83.3	229	16.7	<.001
Declining work ability[b]	252	64.3	140	35.7	
Shift work[b]	982	80.4	240	19.6	.04
No shift work	413	76.2	129	23.8	
Fixed employment	1,153	79.1	305	20.9	.04
Temporary employment	226	73.9	80	26.1	
High work intensity[b]	650	86.3	103	13.7	<.001
Low work intensity	745	73.7	266	26.3	
Spouse encourages early work exit[b,c]	419	75.8	134	24.2	.02
Spouse does not encourage early work exit	976	80.6	235	19.4	

[a]Number of respondents. [b]Significant predictors of respondents' work exits in univariate logistic regression analyses. [c]The question read, to what degree does your spouse encourage you to exit the workforce as soon as possible?

reporting poor health (43% vs. 16%) and among those who reported poor spousal health (28% vs. 20%). Most importantly, the work exit behavior among respondents with spouses who exited the workforce was 50% as opposed to only 16% among those with spouses who remained in the workforce.

In examining the "softer" measures that may be correlated with work exits, we found that respondents who reported that they were relatively happy with life exited the workforce less frequently than those who reported that they were less happy (20% vs. 26%), whereas those who were satisfied with the housework division were more likely to exit the workforce compared to those who were less satisfied (22% vs. 16%). Surprisingly, satisfaction with neither marriage nor work correlated with work exit probabilities. However, blue collar workers, categorized according to the Erikson-*Goldthorpe*-Portocarero (EGP) scale (Erikson & Goldthorpe, 1992), exited the workforce more frequently (24% vs. 16%). Similarly did respondents who characterized their work as less important exit more frequently (26% vs. 19%) as did respondents who reported declines in their work abilities over the past year (36% vs. 17%). Work exits were also more frequent among respondents who reported shift work (24% vs. 20%) and held temporary positions (26% vs. 21%). Work exits were more frequent among respondents reporting low work intensities (26% vs. 14%). Finally, work exits were more frequent among respondents who indicated that their spouse encouraged early work exit (24% vs. 19%).

Multivariate Discrete-Time Hazard Regression Results

Multivariate hazard regression models confirmed many of the univariate results shown in Tables 3 and 4, although some differences deserve mentioning. Results from the final model include only statistically significant variables and show that spousal work exit is a significant predictor for respondents' work exit, net of respondents' gender, age, age differences, satisfaction with housework division, joint income, self-reported health, work ability, importance placed on work as well as work intensity (see Table 5).

Some of the variables included in the various models were hypothesized to correlate and might help explain why for instance educational level otherwise known to fairly strongly predict work exits was of little importance here. Correlation matrices evaluated based on Cohen's (1988) suggested criteria revealed that there was a fairly strong correlation between low education and blue collar occupation (.42) and a moderate correlation between low education and low income (.29). A moderate correlation was also seen between low income and blue collar (.29), whereas it was weaker for low income and low work intensity (.22). There was also a moderate correlation between low work intensity and blue collar (.24). All other correlations ranged less than the absolute value of .15.

Table 5. Estimates From a Fully Adjusted Discrete-Time Hazard Regression Model Assessing Whether an Individual's Work Exit Probability is Affected by That of the Spouse.[a]

	Probability of Subsequent Work Exit		
	HR	95% CI	*p* Value
Spouse remains employed	1	ref	
Spouse exits work[b]	3.12	[2.46, 3.96]	<.001
Female	1	ref	
Male[c]	1.92	[1.44, 2.56]	<.001
Age 50–54	1	ref	
Age 55–59	1.63	[1.15, 2.31]	<.01
Age 60–64	4.46	[3.22, 6.18]	<.001
Age 65–74	36.29	[24.15, 54.51]	<.001
Age difference (cont., in years)	1.04	[1.01, 1.08]	.01
Satisfied with housework division	1	ref	
Less satisfied with housework division	1.33	[1.00, 1.78]	.05
High income	1	ref	<.001
Low income (4th quartile)	1.28	[1.02, 1.60]	.03
Good health	1	ref	
Poor health	2.54	[2.01, 3.20]	<.001
Stable work ability	1	ref	
Declining work ability	1.62	[1.29, 2.04]	<.001
Work important	1	ref	
Work less important	1.6	[1.27, 2.00]	<.001
High work intensity	1	ref	
Low work intensity	1.62	[1.26, 2.10]	<.001

Note. CI = confidence interval; HR = hazard ratio; ref = reference.
[a]Further sample descriptives for this analysis are shown in Tables 3 and 4. All respondents and spouses were employed at the time of the interview and work exits are subsequent, that is, from time of interview through January 2011. Only statistically significant covariates were included in this analysis. All interaction terms between the covariates shown and the spouse's employment status were statistically nonsignificant, with the exception of age (young [50–59 yrs] vs. old [60+ yrs]), work intensity, and work importance ($p_{interaction}$ .01, .04, and .05, respectively). Stratified analyses are shown in Table 6. [b]The unadjusted HR for a spouse's work exit is 3.92 (95% CI [3.16, 4.85]). [c]All significant estimates are somewhat stronger for men than women in stratified analyses (available upon request), but the interaction term is nonsignificant.

Spousal work exit is the second strongest predictor after old age. Interaction terms between spousal work exits and all the other covariates in Table 6 were added one by one and showed that effect modification was present for age (50–59 vs. 60+ years, $p_{interaction}$ .04), work intensity ($p_{interaction}$ .04), and work importance ($p_{interaction}$ .05).

Results from analyses stratified on these variables are portrayed in Table 6. The effect of a spouse's work exit appeared to be most pronounced for older respondents (hazard ratio [HR] 4.40 vs. 1.80) and for respondents who placed less importance on their work (HR 4.25 vs. 2.64). Further, stratified analyses revealed that the effect of spousal work exit was strongest for respondents who reported being in a high intensity work situation (HR 5.69 vs. 2.68). Although the interaction term indicated no effect modification ($p_{\text{interaction}}$ .66), an additional stratified analysis was performed for men and women as the effects were hypothesized to vary with gender based on previous research. The results from these analyses were virtually similar to those obtained with control for gender (not shown, available upon request).

Finally, as the actual exit options, along with the cultural values and norms concerning retirement, vary with age, subanalyses with fairly strict age limitations were employed. Unfortunately, our numbers of retirees in some of the subgroups are very limited, even though we restrict only on the age of the respondent and not on that of the spouse as ideally should have been done. The point estimates for the youngest (50–54) and the second youngest age groups (55–59) suggest an increased risk for work exits when the spouse exits the workforce (HR 1.74, confidence interval [CI]: [0.76, 3.96] and HR 1.54, CI [0.94, 2.54], respectively) but due to small numbers of retirees they are not statistically significant. Table 6 shows that when these two groups are merged, statistical significance is achieved. The point estimate is statistically significant for the larger age group 60–64 (HR 2.54, CI [1.75, 3.67]). Restricting the sample to include only respondents 64 years or younger at the time of the interview results in a somewhat lower point estimate than that obtained for the sample as a whole (HR 2.10, CI [1.60, 2.76]), but our conclusion regarding the impact of family life and spousal retirement in particular remains unchanged.

Discussion

In line with previous research, we found that respondents' age and self-reported health are the main *individual* predictors of work exits (Schuring, Burdorf, Kunst, & Mackenbach, 2007; Shultz & Wang, 2007; Stattin, 2005). In line with this, also self-reports of recent declines in work abilities predicted work exits. However, spousal work exit is also a definite predictor of respondents' work exits, net of respondents' own age, gender, education, income, self-reported health and work ability, work importance, and work intensity. This is in line with the emphasis placed on the role of the family by Ekerdt and with the "complementary leisure" framework provided by

Table 6. Estimates From Stratified Discrete-Time Hazard Regression Models Assessing Whether an Individual's Work Exit Probability is Affected by That of the Spouse Dependent on Selected Covariates.[a]

	Analyses by Age				Analyses by Work Importance				Analyses by Work Intensity			
	Probability of Subsequent Work Exit				Probability of Subsequent Work Exit				Probability of Subsequent Work Exit			
	Young (50–59 yrs)		Old (60–74 yrs)		Work Important		Work Less Important		High-Intensity Work		Low-Intensity Work	
	HR[b]	95% CI[c]	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Spouse remains employed	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Spouse exits work	1.80	[1.17, 2.77]	4.40	[3.25, 5.96]	2.64	[1.96, 3.56]	4.25	[2.86, 6.32]	5.69	[3.58, 9.08]	2.68	[2.03, 3.56]
Female	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Male	2.12	[1.35, 3.34]	1.51	[1.06, 2.16]	2.41	[1.66, 3.51]	1.31	[0.82, 2.07]	1.92	[1.06, 3.51]	1.85	[1.32, 2.57]
Age 50–54	N/A	N/A	N/A	N/A	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Age 55–59	N/A	N/A	N/A	N/A	1.68	[1.08, 2.61]	1.54	[0.87, 2.71]	1.40	[0.64, 3.06]	1.73	[1.17, 2.55]
Age 60–64	N/A	N/A	N/A	N/A	4.84	[3.19, 7.34]	3.80	[2.24, 6.43]	7.19	[3.57, 14.50]	3.94	[2.72, 5.71]
Age 65–74	N/A	N/A	N/A	N/A	48.50	[29.14, 80.71]	21.06	[10.51, 42.17]	57.55	[27.60, 119.99]	26.35	[15.52, 44.74]
Age difference (cont., in yrs)	1.05	[1.00, 1.10]	1.07	[1.02, 1.12]	1.05	[1.01, 1.10]	1.03	[0.97, 1.08]	1.11	[1.04, 1.19]	1.02	[0.98, 1.06]
Satisfied w/ housework division	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Less satisfied with housework division	1.86	[1.19, 2.92]	1.22	[0.83, 1.79]	1.73	[1.18, 2.56]	0.95	[0.61, 1.47]	1.23	[0.65, 2.33]	1.37	[0.99, 1.90]
High income	1.00	Ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Low income (4th quartile)	1.88	[1.31, 2.71]	1.22	[0.92, 1.63]	1.38	[1.04, 1.83]	1.13	[0.77, 1.65]	1.37	[0.90, 2.09]	1.29	[0.99, 1.69]
Good health	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Poor health	4.41	[3.14, 6.19]	1.56	[1.14, 2.13]	2.28	[1.69, 3.07]	3.35	[2.29, 4.91]	2.35	[1.45, 3.81]	2.67	[2.04, 3.48]
Stable work ability	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref	1.00	ref
Declining work ability	2.27	[1.59, 3.24]	1.43	[1.06, 1.91]	1.71	[1.29, 2.27]	1.62	[1.08, 2.43]	1.21	[0.76, 1.93]	1.80	[1.38, 2.35]
Work important	1.00	ref	1.00	ref	N/A	N/A	N/A	N/A	1.00	Ref	1.00	ref
Work less important	1.85	[1.29, 2.65]	1.48	[1.12, 1.96]	N/A	N/A	N/A	N/A	1.08	[0.69, 1.70]	1.85	[1.42, 2.41]
High work intensity	1.00	ref	1.00	ref	1.00	ref	1.00	ref	N/A	N/A	N/A	N/A
Low work intensity	2.27	[1.45, 3.56]	1.03	[0.76, 1.40]	1.38	[1.00, 1.92]	2.25	[1.46, 3.45]	N/A	N/A	N/A	N/A

[a]Further sample descriptives for these analyses are shown in Tables 3 and 4. Only statistically significant covariates from Table 5 were included in the respective analyses. [b] Hazard ratio. [c] Confidence interval.

Becker (1991), suggesting that older people will enjoy their leisure time more when their spouse is with them and thus attempt to exit the workforce jointly (see, e.g., Blau, 1998; Hallberg, 2003; Ho & Raymo, 2009; Hurd, 1988). This has also been observed in a recent time use study from Norway (Bråthen & Bakken, 2012). However, much previous research has focused solely on female spouses' labor supply (Pozzebon & Mitchell, 1989; Siegel, 2006; Weaver, 1994) or concluded that gender differences exist so that this effect is more pronounced for women with husbands who exit the workforce compared to the other way around (Pienta, 2003; Syse et al., 2009). Surprisingly, no gender differences were observed in the effect of one spouse's work exit on that of the other in our study.

Further, joint work exits have been examined mostly in light of spouses' ill health (Coile, 2004; Hollenbeak, Short, & Moran, 2011; Syse et al., 2009) and also in light of changes in sickness absence patterns (Hesselius, 2009). Perhaps surprisingly a partner's poor health as reported by the respondent did not influence his or her work exit probability. This is in line with conclusions from an earlier review by Weaver (1994), stating that a spouse's labor supply is little affected by their partner's health, but contrary to the findings from a Norwegian register study where cancer in husband significantly lowers the work efforts of the wife (Syse et al., 2009). It is also contrasted in part by findings from Dentinger and Clarkberg (2002), suggesting that wives with husbands with care needs have up to five times higher risks for work exits, whereas the risk remains virtually unchanged for husbands with wives with care needs.

As stated, Norway has relatively generous welfare benefits associated with work exits in later life. This may explain why work exits were most frequent among respondents with low household incomes, in contrast to the findings from other countries (see, e.g., Szinovacz et al., 2001). Further, work exits were most frequent among those who placed little importance on their work, net of education, income, and type of work (blue collar vs. white collar occupation). Placing importance on one's work is likely to be a motivating factor for continuing work, but research on this from a household perspective is scarce.

On the other hand, we did not detect differences in work exits based on reports of marital satisfaction, in contrast to findings from Kubicek, Korunka, Hoonakker, and Raymo (2010). Research is, however, relatively scarce on this subject. Similarly, there is little research on how housework task sharing affects retirement behavior, but some research indicate that gendered patterns in the division of housework exist after retirement, in part depending on the retirement status of the spouse (Szinovacz & Harpster, 1994). It is, however,

less clear whether this remains the case also today. A recent study that touch upon the subject of housework sharing suggests that gender disparity in time spent on household chores may lessen after retirement (Wong & Almeida, 2013).

Further, work exits did not vary across educational groups, net of income, and other important work characteristics. This is in line with the previous Norwegian research (Blekesaune & Veenstra, 2010) but contrary to studies from other countries (Schuring et al., 2007). Likewise did not educational differences between spouses influence retirement patterns. As was noted in the results, we were able to account for several of the variables that correlated strongly with education, and this may help explain our nonsignificant result on education.

Increasing age differences between spouses were predictive of work exits in line with the findings from Pozzebon and Mitchell (1989). In general, there is a fairly high level of homogamy in age, income, and education among Norwegian marital partners (Birkelund & Heldal, 2003). Couples who display nonnormative distributions in their age or educational differences are perhaps likely to differ also in other ways in terms of work exit probabilities.

As the effect of a spouse's work exit appeared to be most pronounced for older respondents and for respondents who placed less importance on their work, this might be useful in identifying individuals who may be at particularly high risk for early work exits, given that their spouses exit work. Older individuals, and particularly older individuals with spouses of similar or older age, have a greater flexibility in planning their retirement as regular old-age pension will be an option for both spouses. It is less obvious why the effect of spousal work exit was strongest for respondents who reported being in a high-intensity work situation. This may, however, indicate that such types of work, including shift work, a high work load, and a stressful job situation may reduce work efforts among individuals with spouses who leave the workforce (Robroek, Schuring, Croezen, Stattin, & Burdorf, 2012) and as such identify individuals at particularly high risk for work exits for whom workplace modifications to lessen the impact of such stressors may be relevant, and this holds true even for individuals who regard their jobs as being of low importance.

Previous research shows that couples *plan* to retire jointly (Hutchens & Dentinger, 2005; Moen, Huang, Plassmann, & Dentinger, 2006; Pienta & Hayward, 2002) but do not follow-up on how this affects actual work exit behaviors. We find that individuals' work exit behaviors depend on that of their spouses, and this thus needs to be taken into account when policies to promote later work exits are designed, implemented, and evaluated. In

univariate analyses, spouse's attitudes toward one's own work exit were found to matter in line with previous research (Smith & Moen, 1998). However, this did not hold in multivariate analyses.

According to Ekerdt (2010), the welfare state, the workplace, cultural values and norms, and family all matter for seniors' work exit behaviors. Increasing life expectancies and recent crises in public finances have led to profound pension reforms throughout Europe, and in Norway such a reform was implemented in January 2011. One aim of this reform is to encourage workers to postpone work exits (Norwegian Ministry of Labour, 2011). The reform focuses, however, solely on senior workers and their situations at work and their relations to employers. Household considerations are virtually nonexistent. In our study, the institutional setting of the Norwegian welfare state has been described, but as no cross-national comparisons were made, the impact of the welfare state could not be examined. Likewise, information on social networks outside the family was not included. Some studies find, however, little evidence for an effect of social networks, net of household factors (Henkens, 1999), whereas others find that this may be of some relevance (van Solinge & Henkens, 2007). We did, however, find differences associated with self-assessments of workplace features and family characteristics, in line with Ekerdt's assessments of the importance of structural contexts (2010).

Limitations and Generalizability

The requirement that both partners needed to be working at time of study start might have resulted in an underestimation of the effect of spouses' exits. At the same time, since spouses' work exits were included as a time-varying covariate, our analyses have a fairly strict definition of joint retirement (prior to or within the same year). We were thus not able to account for the probability of respondents' spouses exiting one or more year after that of respondents. Similarly, since both partners had to be active in the workforce at the study start, there is likely a highly select sample of higher age respondents included in this study. Further, the associations explored in this study are just that, and the causal nature of the relationships observed has not been assessed.

Although the initial survey sample was rather large, it was still insufficient to allow us to differentiate between different work exit routes. Such a differentiation could perhaps have led to different conclusions for the various subgroups, and further research on this is clearly warranted. Further, our sample size was of insufficient size to adequately assess differences across age for both respondent and spouses. This needs to be addressed in registry studies

in more detail as the norms and cultural values on work exits differ for individuals of different ages.

Respondent to surveys are generally healthier and better educated than the general population, and this is the case of respondents also in LOGG (Lappegård & Veenstra, 2010). More specifically, highly educated women are overrepresented. Our results are thus not directly transferrable to the general population. However, as we have been able to account for respondents' health and educational level, results should nevertheless be fairly robust.

To summarize, more research is needed to understand the joint work exit decision-making processes between husbands and wives. Further, a better understanding of the family context in which decisions are made is warranted. As of today, many theories assume that individuals make decisions based on their own greatest needs and whether work disengagement will meet those needs, whereas also the needs of others ought to be taken into account, for example, caring for a sick spouse or providing day care for grandchildren (Blau, 1998). Lastly, most theories assume that work exits are voluntary, and this perspective has also been applied here. This may, however, not be entirely true, particularly for illness-dependent exits, and warrants further research.

Conclusions

This study suggests that spouses tend to coordinate their work exits. Work exits of spouses thus appear to have some explanatory power for respondents' work exits, perhaps due to the important role played by the family in such decisions. In line with this, preferences for shared spousal leisure time may be of particular relevance as has been shown in earlier studies. This is in contrast to the existing literature on the added worker effect, which we attribute largely to the generous Norwegian Insurance Scheme. Surprisingly, no gender differences were observed, partly in contrast to previous studies.

As the joint effect of spouses' work exit is likely to be ignored in studies where work disengagement is considered as an individual and not a household behavior, further research ought to include household data whenever possible. Further, the suggested presence of a household effect on work exits provides policy makers and planners with a better understanding of how they may encourage postponement of retirement and reduce the attractiveness of disability pension uptake among married individuals to enhance work attachment among older persons. Although active aging not only concerns labor market participation of older workers but also includes elderly's active contribution to society through voluntary work, family care provision, and independent living, workforce participation is one potential

vital component, especially for the age groups considered here (http://www.who.int/ageing/active_ageing/en/). Information on this topic may thus be important to minimize unwarranted, unintended consequences of the recently implemented pension reform. As work exits in older ages appear to depend on an interaction between work- and family-related factors, such an interaction ought to be taken into account when designing policies to increase work attachment among older persons. As such, the recently implemented pension reform may contribute to ensure higher work participation rates among senior workers in Norway but could benefit from including a stronger household perspective in future revisions.

Larger, national registry studies on joint effects of spouses' work disengagement should be undertaken to ensure sufficient power to explore joint work exit behavior in more detail, and further research in larger samples and in different welfare states on spouses' reasons for labor market exits as well as on the different exit routes they choose appears warranted.

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Notes

1. Certain requirements exist, but they affect very few workers and are quite complex. They are described in detail in different Norwegian Laws available at http://www.lovdata.no/info/lawdata.html.
2. Additional analyses excluding this observation do not change the overall results.

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