

Retiring intentions:

the role of conflicts with the boss and health status as a moderator



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Abstract. This paper considers an employee's retirement intentions and its influencing factors. The role of conflicts that an employee experiences with his/her boss and the role of his/her health status are analyzed using Socio-Economic Panel (SOEP) data. Estimation results show that conflicts matter as well as an individual's health status when considering the probability of retirement. Having conflict with the boss rises the probability of retiring intentions significantly, even after accounting for a wide set of controls. Employees in good health have fewer intentions to retire. Split into subgroups, there appears to be a slight but notable moderating role of health status: Among healthy employees conflict with the boss raises retirement intentions even more. This suggests that healthy people (compared to unhealthy people) may well be able to continue working but not necessarily do so because social factors – namely conflict with the boss – become more important.

Keywords conflicts with the boss, retirement intentions, health status

JEL J26, J29, I12, M54

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1. Introduction

Specific sectors and certain regions in Germany face a huge share of older employees in their workforce. The resulting skill shortage and approaches to cope with it are extensively discussed. The legal retirement age may be adjusted, the education of the youth may be enhanced and women and foreigners may enlarge the workforce. Anyway, there is a widely disregarded aspect: promoting the wish of older employees to stay longer in the workforce and minimizing their intentions to leave as soon as possible. Older employees are usually more experienced than young employees and constitute an important resource of experience and knowledge. This paper focuses on the retirement decision of older employees. Besides the obvious financial determinants within the retiring process there may be social factors of relevance. As good working atmosphere is an important factor for older workers, conflicts with the boss may play a decisive role for their intentions to retire.

Good relations at work usually come along with a set of favorable side-effects like higher job satisfaction, higher employee's motivation or higher productivity. In contrast, conflicts at work are associated to lower performance, less health and decreased job tenure.

Moreover, there are some hints that conflicts with the boss may be of particular importance for older employees. Older employees report higher life satisfaction if social support is reciprocal, they give priority to emotional goals and they rather maintain emotionally meaningful relationships than potentially problematic ones.

Retiring, finally, seems a possible response on conflicts at work for older employees. Intended retirement is compared to actual retirement of special interest to this paper. Retiring intentions are focused because intentions are connected to the individual's engagement into work and thus of special interest for the management.

Certainly one's health status is a very important influencing factor when deciding to retire. Anyway, it is a necessary but not necessarily a sufficient condition to continue working. Can health possibly interact with conflicts at work, i.e. deteriorate or alleviate the effects of conflicts? Do conflicts with the boss matter differently depending on the employee's health status?

Former papers focus on a broad concept like work quality rather than on specific factors as conflicts with the boss (Siegrist et al. 2006, Siegrist/Wahrendorf 2009). Other investigations focus on interpersonal conflicts and their influences on health, work disability or occupational mobility, omitting possible influences on early voluntary retirement (De Raeve et al. 2009, Appelberg et al. 1996). The contribution of this paper is twofold: First, it analyses the effect that conflicts with the boss can have on the retiring intentions of older workers. Second, it takes into account a possible interaction of health and conflict.

This paper is structured as follows. Section 2 provides the relevant background discussion and findings of previous research It also derives theoretical predictions for conflicts with the boss and health status. Section 3 introduces the dataset and variables used in the analysis. Section 4 presents the empirical findings of the regression analysis. The last section 5 concludes.

2. Background discussion and Previous Research

Conflicts with the boss

Usually, good relations at work are relevant to an overall positive feeling: good relations with colleagues and the boss turn out to be a strong determinant for job satisfaction (Winstead et al. 1995; Praag/Ferrer-i-Carbonell 2004; Cornelißen 2009). Lazear et al. (2015) recently reveal that good bosses make employees more productive and reduce worker turnover. Conflicts at work not always matter but when they do they tend to evolve negative consequences. Conflicts may decline an employee's motivation to work (Bergmann/Volkema 1994) and have influence on job attitudes. Jaramillo et al. (2011) show that interpersonal conflicts lead to altered attitudes towards the job, which in turn results in lower performance and higher turnover intentions. Conflicts at work increase the number of employees becoming sick (Bergmann/Volkema 1994) and are significantly associated to increased psychiatric morbidity (Romanov et al. 1996).

In addition, the kind of social relationships at work and possible conflicts may have greater weight to older than to younger individuals. In a study on social support, Antonucci et al. (1990) focus on older individuals. The researchers find out that if social support is reciprocal – e.g. older individuals receive as much support from others as they provide to others – than elderly report higher life satisfaction. Moreover, social relationships vary over the lifespan. They become fewer with age but do not suffer a loss of quality: older people still have the same number of very close relationships as their younger counterparts (Carstensen, Fung, Charles 2003). According to the Socioemotional Selectivity Theory individuals seek social partners consistent with their broader goals. To older people, emotional goals have priority (Carstensen, Isaacowitz, Charles 1999) and they rather maintain emotionally meaningful relationships than potentially problematic ones (Carstensen, Fung, Charles 2003). When comparing workers with good health, a finding of Heywood et al. (2005) is that older workers report greater conflict with the boss. This leads to the idea that conflicts with the boss may be of particular importance for the elderly of the workforce. Conflicts with the boss have been analyzed in several studies (Appelberg et al. 1996; De Raeve et al. (2) 2008), but few have done so explicitly within the context of older workers facing their retirement decision.

Retirement Decision

A simple lifetime retirement model assumes the retirement decision to be a worker's issue of maximizing his utility of leisure and expenditures on goods subject to the budget constraint (Lazear 1986). Further development of that model is made by Stock and Wise (1990) whose more complex option value model takes into account that the retirement decision usually is irreversible. According to their option value model a person will continue to work at any age if the expected present value of continuing work is greater than the expected present value of immediate retirement. In addition a person reevaluates this retirement decision as more information about future earnings – and thus future retirement benefits – becomes available with age.

Interpersonal conflicts at work seem able to decline one's expected present value of continued working and raise one's expected present value of immediate retirement. Retrospectively, retirees assign importance to conflicts when they decided to withdraw from the workforce: in a qualitative survey older Dutch employees (aged 60-64 years) who had retired early were asked about their reasons for having done so. Among work-related factors, employees mentioned conflicts at work as a reason to leave the workforce early (Reeuwijk et al 2013). Further evidence is provided by the analysis of quasi-experimental and time series data. A Finnish twin cohort study revealed an elevated risk to claim work disability pension for women who experienced interpersonal conflict at work (Appelberg et al. 1996). Blanchard-Fields et al. 2007 found out that older people who face interpersonal conflicts more often use emotion-focused strategies. These strategies include cognitive avoidance or efforts to withdraw from the situation that provoked the conflict. Lund/Villadsen (2005) conducted a representative longitudinal survey among Danish employees aged 57-62 years in order to detect determinants of early retirement. Among several work environment factors high conflict in work turned out to be one of the mayor predictors for early retirement.

Thus retiring may be an alternative when conflicts at work persist. The theoretical considerations lead to the assumption that conflicts with the boss influence a worker's decision to retire. Conflicts generate an unpleasant atmosphere or even psychological strain and workers that are able to may prepone their time of retirement (**H1**). This paper explores if the results from the Dutch, Finnish and Danish workforce hold true for Germany as well.

The moderating effect of Health Status

Among the various determining factors of the retirement decision the worker's health status is certainly one of most prominent. Vast research work underlines the importance of an individual's health status to stay in the labor force or to withdraw from it (Van den Berg et al. 2010, De Preter et al. 2012, Hochmann and Lewin-Epstein 2013 or Radl 2013 to list some recent analysis). Particularly compared to other determinants the health effect is found to be more important than other covari-

ates. By means of combined survey and administrative data on nurses, Friis et al. (2007) find out that poor self-rated health has a stronger influence to retire early than do have work-related factors. Poor working conditions only marginally increased the probability of retiring early. Among a wide set of covariates, health turns out to be the key determinant for early retirement (Roberts/Rice/Jones 2010). Following these results the health effect on retirement intentions should be negative: healthy workers show fewer intentions to retire (H2).

However, this paper argues that there is more than that. Health status may not only show a direct effect on retirement intentions. Related to conflicts at work health may also reveal an indirect effect on retirement intentions. Different health statuses may provoke a different dealing with the conflicts that occur at work. Being in perfect health conditions may enable a worker to deal with severe conflicts at work whereas ill health may inhibit a worker to cope with that same conflict. De Raeve et al. (2008a) observe in their study on risk factors for interpersonal conflicts that conflicts with coworkers and supervisors relatively more often occurred among persons with a long-term illness. Ill health and conflicts at work then seem a double burden and thus raise retirement intentions even more. The other way around, one may argue that a good state of health is a necessary, but not necessarily a sufficient condition to continue working. Healthy people are able to continue working, but they not necessarily do so because other factors (e.g. social relationships at work) gain more importance. It may happen that conflicts with the boss raise retirement intentions more if the worker is healthy.

These considerations raise the question if there is a moderating role of health status in the retirement process. And while there is much empirical evidence on the fact that an individual's health status influences one's retirement decision, less evidence is to be found on a possible interaction between health status and conflicts with the boss within the retirement process. One exception put Harkonmäki et al. (2006). They show that mental health has influence on the retirement decision but this influence declines after adjustment for work and family related factors. Though, Harkonmäki et al (2006) failed to detect significant interactions between mental health and social network size which is an indicator for social support. The present paper hypothesises a notable difference be-

tween workers of good and ill health with regard to an effect that conflicts can have in the retirement decision (**H3**).

3. Dataset and Variables

The paper uses data at the individual level from the Socio-Economic Panel (SOEP). SOEP is a representative longitudinal study that started in 1984. Currently, about 30,000 person are interviewed in about 11,000 households per year.

Corresponding information on conflict with the boss is available in 1995, 2001 and 2006. Data from 2001 and 2006 is pooled to fit a two period random-effects ordered logistic model (Wagner et al 2007). Data from 1995 is not included into the analysis because of changing regulations of the German public pension system (Boersch-Supan/Juerges 2011) as well as different coding schemes of the dependent variable in the SOEP. Due to lacking information on retirement intentions in 2006 corresponding information from 2007 is merged. The analysis is restricted to employed persons aged 55 to 64 conforming an unbalanced panel of 1,701 observations.

Variables used in the analysis are defined in table 1. The dependent variable is a worker's retiring intention. In contrast to actual retirement, retirement intentions are somewhat preliminary and something that can still be influenced by unexpected events in the future. Nevertheless, retirement intentions are of special importance to this paper because they not only influence labour supply but also investments in continued training and engagement to work.

First, retiring intentions serve as an indicator for the likeliness of actual retirement. Theoretical considerations to link retirement plans and retirement behavior found on the attitude-behavior theory of Ajzen and Fishbein (1974). Their theory describes the correlation between behavioral intentions and behavior. Liska (1984) and Bagozzi (1992) add considerable aspects and refine the attitude-behavior theory. Empirical evidence provide Burkhauser and Quinn (1985) who analyze the factors which determine the accuracy of retirement plans using data from Retirement History Study (RHS) from 1969-1979. The most significant factor for accuracy of retirement plans is the number of years

between the moment of being surveyed and the planned retirement year. Anderson, Burkhauser and Quinn (1986) found out that retirement plans of workers were inaccurate in 40 percent of the times and this was partly due to unexpected changes in determining variables. An analysis of Prothero/Beach (1984) found out that over a two-year period the actual retirement was correctly predicted to 76 percent on behalf of intentions to retire. Henkens/Tazelaar (1997) reason that behavioral intentions can be considered as good predictors of actions if they concern a specific behavior in a restricted time span in which individuals have a great freedom of choice. Results by Benitez-Silva and Dwyer (2005) also support models that assume retirement intentions as consistent with rational behavior.

Second, intended retirement seems connected to the probability of continued training. Those workers with high intended retirement age show also high probability of skill updating (Messe et al. 2014). Investments into continued training may be higher if the time of retirement is likely to be in distant future.

Third, retiring intentions may reflect an employee's motivation to work and are thus of special interest for the management. Richer et al. (2002) test a motivational model of work turnover. Their findings from a survey-based study indicate that work motivation is negatively associated with emotional exhaustion and positively associated with work satisfaction. Further results show that the more emotional exhausted an individual is and the less satisfied he or she is at work the higher turn out to be his or her intentions to leave the job. A meta-analysis reveals that organizational commitment leads to fewer intentions to search for job alternatives as well as to leave one's job (Mathieu/Zajac 1990).

This paper relies on the employee's rating of its probability to retire within the next two years. The SOEP covers retirement intentions as an ordinal variable measured via 'How likely is it that the following career changes - retire, either at the normal age or earlier - will take place in your life within the next two years' and employees rate the probability on a 11-point scale from 0 'definitely not' to 100 'definitely'. The likelihood of retiring within the next two years is 26 percent.

The explanatory variable of interest is conflict with the boss and is scaled ordinal in 2001. Employees state whether they often have conflicts and difficulties with their boss on a 3-point scale 1 'completely', 2 'partly' and 3 'not at all'. In 2006 employees indicated if they occasionally do have arguments or conflicts with superiors at work that weigh upon them. The dummy variable used in the analysis pools the information to equal 1 if the employee experiences a conflict with superiors at work and 0 otherwise. There are 13.3 percent of employees that report about conflict with the boss.

The health status constitutes an important variable for the analysis of retirement. While little doubt is cast on the fact that bad health is a predictor for (early) retirement there is an ongoing discussion about whether empirical analysis should base on objective or subjective health measures or a combination of both (Bound 1990; Dwyer and Mitchell 1999; Kerkhofs et al. 1999; Crossley and Kennedy 2002). A more recent paper of Kalwij and Vermeulen (2008) investigates self-reported health and the value added of various objective health measures within the retirement decision across Europe: Results for Germany indicate that self-reported health does a good job in determining retirement decision. This paper uses the subjective health measure as it provides two decisive benefits. First, it highly correlates with an individual's objective health status. Second, subjective health status is a comprehensive measure for different diseases, some of which may indeed influence labor force participation (cancer, stroke) but others don't (high blood pressure, diabetes). The subjective health status of individuals is a self-rated ordinal variable taking on values from 0 'very good' to 4 'bad'.

Other important determinants of retirement intentions are *age* (metric variable) and *gender* (dummy equal to 1 if male). Whereas age is clearly positively correlated with retirement intentions the association of retirement and gender is less obvious. On the one hand, the statutory retirement ages in Germany cause women to retire earlier than men. On the other hand, different career biographies motivate women to delay retirement. Men usually are a family's breadwinner, work full-time, and have had few and/or short interruptions of working life. Contrarily, women experience more interruptions in working life. And if working, women more often are employed part-time due to child-care, care of parents or other household activities. Empirical evidence hints to an earlier exit of

women: Women leave the labour market earlier because they have a lower class position (Radl 2013).

Family status matters as there is a tendency to retire together. This pattern seems rather due to leisure preferences than to budget constraints (Gustman and Steinmeier 2000). Couples seem to orientate their retirement decision towards the retirement behavior of their partner (Hospido and Zamarro 2014). Thus being married is expected to influence retirement intentions positively.

The amount of *household income* reflects the feasibility to retire in economically terms. For Germany, Wübbecke (2005) finds some evidence for an inverse u-shaped relationship between disposable income and early retirement behavior: Workers with low pension accruals prolonged their working life significantly; workers with highest pension accruals stayed longer in the workforce than those with an average level of pension accruals. Furthermore, this paper argues that not only the amount of household income but also the *individuals' wage in relation to the household income* matters. The ratio of wage and household income reflects the opportunity costs of the household when the individual retires. If the individuals' wage constitutes a relatively huge part of the total household income (e.g. the ratio is close to one) then he or she is the main contributor of the family income. Being the main contributor of the family income may delay retirement plans.

Times of *unemployment* constitute interruptions in income and a loss of pension entitlements. These circumstances lead to lower pension payments and generate significant economic constraints that induce the individual to prolong working life. On the other hand, periods of unemployment may well reduce pension entitlements but still not result in prolonged working life. This would reflect the situation of the German labour market for older workers as older employees with unemployment spells only get into peripheral jobs of lower quality and higher probability of early labour market exit (Heywood/Jirjahn 2015).

Interruptions in income also arise from periods of *parental leave*. An analysis of women's labour force mobility conducted by Hakim 1996 shows that women's labour mobility is affected by their family roles and that women are two to four times more likely than men to enter and exit the work-

force in a given period. These interruptions have a negative effect on earnings and potentially induce the individual to retire later.

The *educational level* seems to correlate negatively with early retirement intentions of men. The higher a worker's educational level the less likely he retires as early as he can (Hochmann/Lewin-Eppstein (2013) and the lower his risk to drop into early retirement which is due to higher employment opportunities with age and deferred compensations that were negotiated with the boss (Radl 2007). This effect is expected to be similar for highly educated women resulting in a negative education coefficient.

Jobs with low *autonomy* may induce employees to retire earlier than employees with greater autonomy at work. Autonomy reflects higher authority to make own decisions at work. Those greater opportunities for decision-making lead to higher satisfaction but also come along with higher work commitment. Both high satisfaction as well as high work commitment is likely to prolong working life.

Civil service is a control of interest as public and private sector workers differ in pension rights. Disney et al. 2009 show not only that workers in the public sector are more likely to be covered by defined benefit pension plans than do workers in the private sector. They also find out that the incremental accruals of pension wealth for workers in the public sector exceed those for private sector workers.

The *firm size* constitutes a variable that is associated with several firm characteristics that are important for workers' decision to withdraw from the workforce (Wübbeke 2005). Workers in big firms may retire earlier because they make use of the widespread incentives to early retirement that big firms provide. Workers in small and medium-sized enterprises may retire later because they face a closer relationship to the management and perceive direct appreciation of their work. Estimations of Wübbecke (2005) show that for men in Germany there is indeed a higher risk to retire early in big firms than it is in smaller ones.

The time of exit from labour force might differ across *nationality* as it covers different cultural attitudes and preferences. Therefore, the distinction between German and non-German is introduced as an additional control.

The transition from employment into retirement is not always a drop from full-time to total non-working. The transition can rather include some bridge employment, partial-employment, part-time work or working at reduced hours (Machado/Portela 2014; Ruhm 1990). Thus, part-time employment can indicate a worker's intention to retire anytime soon.

The *occupational status* is an additional control. Radl (2013) analyses how the social class effects retirement behavior and founds out that workers of the upper and lower end of the occupational ladder retire latest. The highest risk for early exit from the labour force bear skilled manual workers and higher-grade blue collar workers.

The working sector may matter because the sectors usually offer different employment and pension regulations that result in different retirement ages (Haverland 2007). De Preter/Mortelmans/Van Looy (2012) find out that older workers in industry, manufacturing and the financial sector retire earlier than older workers in the service sector.

4. Results

Table 2 presents a series of random-effects ordered logistic estimations. The first estimation includes the key variable conflict with boss. The coefficient is significant and has a positive sign. So, having conflict with the boss rises the probability of retirement within the next two years significantly. The result supports hypothesis H1. Employees who experience conflicts with their boss have higher intentions to retire than their counterparts without conflicts at the workplace. The second estimation in table 2 adds health status as the second key variable. The second estimation also includes age and gender. After controlling for these additional variables, the key variable conflict with the boss remains significant. Health status is also significant, and has a negative sign. This indicates that those employees in good health-compared to their counterparts in bad health (reference category) - have fewer intentions to retire. The results from estimation 2 provide support for hypothesis **H2**. The other controls in estimation 2 of table 2 show the expected signs, confirming general results that show that for older individuals the probability of retiring naturally rises whereas men retire later. Estimation 3 extends the model by variables that control for marital status, the financial situation of the household, interruptions of employment (times of unemployment and parental leave) as well as education, autonomy at workplace and being employed in civil service. Though financial determinants (household income, ratio of wage and household income) and budget constraints (month of longterm unemployment, month of parental leave) play a certain role social factors like conflicts with the boss reveal considerable weight on retirement plans. These results are in line with those studies that emphasize the influence of social variables within the retirement process. But rather than ruling out financial vs. social factors it may be a matter of the level that is focused. Schils (2008) and Blanchet/Debrand (2008) provide interesting findings to put the pieces together. They argue that the generosity of retirement schemes is important to explain retirement behavior across countries (i.e. at the macro-level). Anyway, at the micro-level non-financial determinants have a higher impact. Estimation 4 finally adds a wide set of controls exploiting the broad information given in SOEP. These latter estimations 3 and 4 underline the existence of the main effect: Even after taking into account a wide set of other influencing factors, the fact that conflicts with the boss rise retirement intentions remains significant. In estimation 4 the marginal effects on the retirement intentions are calculated at the means of the independent variables. For ease of interpretation the marginal effects are reported if the chance for retiring is at least 50 percent – that is the probability to retire is very likely. Therefore the marginal effects of responses 'retiring is 50 percent likely' up to 'retiring is 100 percent likely' are added (P(Y>=50)). Having conflicts with the boss rises the probability to retire very likely by 9 percentage points. The second key variable health status has a negative impact on retirement intentions and is also significant. For example, being in very good health conditions - compared to being in bad health conditions - decreases the probability to retire very likely by 22 percentage points. Besides the key variables conflict with the boss and health status, several controls remain significant in estimation 4, namely the age and gender of the individual, periods of long-term unemployment and parental leave and the educational level of the individual. The firm size seems to be decisive for an employee's probability of retirement entry. Roughly spoken, compared to big firms with more than 2000 employees being employed in smaller firms reduces the probability to retire very likely. The planned retirement entry is set significantly later in smaller than in bigger firms. All significant controls in estimation 4 show the expected signs.

To further analyze the moderating effect of health, the sample is being subdivided into one group of healthy (health status 'very good' and 'good') and a second group of unhealthy employees (health status 'satisfactory', 'poor' and 'bad'). Comparison of subgroups allows deeper insight into changing effects of control variables between healthy and unhealthy employees. Estimation results are shown in table 3. The influence of the key variable conflict with the boss is significant in both subgroups of healthy and unhealthy employees but different in magnitude between the two subgroups, confirming hypothesis H3. There are slight but still notable differences between healthy and unhealthy employees if they have conflicts with the boss. This finding gives hints that health status indeed moderates the relation between conflict and retirement: In the subgroup of employees in very good or good health conditions the probability to retire very likely is increased by 12 percentage points if

those workers have conflicts with the boss. However, in the subgroup of employee is in bad health conditions the probability to retire very likely increases as well, but slightly less by 9 percentage points. So to say, employees in both subgroups are more likely to retire when having conflicts with the boss. Anyway, among healthy employees the same conflict raises retirement intentions even more. Healthy people may be able to continue working, but they not necessarily do so because other factors — namely conflict with the boss — become more important. Estimations results and marginal effects suggest that being ill is a major obstacle for continued working. An unfavorable health status is influencing retirement intentions quite dominantly, so other factors like conflict with boss loose impact. Once that favorable health conditions are given, social factors like conflict with the boss become more important within retirement planning. These findings are underlined by the fact that several controls become insignificant in the subgroup of healthy employees. For healthy people, factors that usually influence retirement intentions (like gender, family status, financial situation of the household and interruptions in unemployment) seem to loose importance whereas social factors gain weight.

5. Conclusions

The huge share of older employees in Germany's workforce and the consequences that may arise when they retire motivates to place emphasis on older employees and the factors that determine their intentions to retire. Good relations at work seem able to influence an employee's retirement intentions as older employees give more importance to social factors in their private live as well as within the work domain. If that's the case then conflicts with the boss should have an unambiguous positive effect on intentions to leave the workforce. One's health status is certainly a very important factor for retirement planning. Anyway, there might not only be a direct effect of health on retirement but also a moderating effect of health within the 'conflict – retirment' framework. Question is left if the moderating effect intensifies or weakens the effect that conflicts have on retirement intentions.

Data from SOEP in 2001 and 2006 is used to run a two period random-effects ordered logistic model with retirement intentions as the dependent variable.

Estimation results show that conflicts matter as well as an individual's health status when considering the probability of retirement. Having conflict with the boss rises the probability of retirement intentions significantly, even after taking into account a wide set of control variables. Employees in good health have fewer intentions to retire. The analysis of subgroups of 'healthy' and 'unhealthy' employees reveals a slight but still notable moderating effect of health status: Among healthy employees the occurrence of conflict with boss raises retirement intentions even more than it would do among unhealthy employees.

This paper points to the role of social factors within the retiring process. Though financial determinants and budget constraints clearly affect retirement intentions, conflicts with the boss reveal considerable weight within the evolvement of retirement plans. But rather than ruling out financial vs. social factors it may be a matter of level (macro vs. micro) that is focused.

This paper analyses the effect that conflicts with the boss can have on retirement intentions. Former research work that investigates retirement intentions did focus on a broad concept like work quality rather than on a very specific factor like conflicts with the boss. Other investigations did focus on interpersonal conflicts and their influences on health, work disability or occupational mobility, omitting possible influences on retirement intentions. Thus, this paper extends former research by connecting the analysis of the very specific factor conflict with boss to the analysis of retirement intentions.

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Table 1 - Variable definitions and descriptive statistics

Variable	Definition	Mean	Std. Dev.
Retiring	Retirement intentions of individual ranging from 0 'definitely not' over 10, 20, 30, 40, 50, 60, 70, 80, 90 to 100 'definitely' on an 11-point scale	26.008	37.938
Conflict boss	Dummy equal to 1 if individual experiences conflict with superiors at work	0.133	0.340
Health status	Subjective health status of individual ranging from 0 'verreference category)	ry good' to	4 'bad' (=
0 - very good	Dummy equal to 1 if individual's health status 'very good'	0.036	0.186
1 - good	Dummy equal to 1 if individual's health status 'good'	0.379	0.485
2 - satisfactory	Dummy equal to 1 if individual's health status 'satisfactory'	0.419	0.493
3 - poor	Dummy equal to 1 if individual's health status 'poor'	0.143	0.350
Age	Age of individual	58.264	2.478
Male	Dummy equal to 1 if individual is male	0.588	0.492
Married	Dummy equal to 1 if individual's family status is married	0.848	0.359
Household		39820.27	20732.13
income	Household post-government income		
Ratio		0.534	0.264
wage/household	Individuals net income last month in relation to the		
income	household post-government income		
Long-term		5.144	14.460
unemployement	Month of long-term unemployment		
Parental leave	Month of parental leave	0.076	0.956
Education	Years of education	12.228	2.790
Autonomy	Occupational autonomy where 1 'apprentice/trainee', 2 'unskilled work', 3 'qualified work', 4 'high-qualified work/leadership role', 5 is 'managerial functions'	1.631	0.822
Civil service	Dummy equal to 1 if individual is employed in civil service sector	0.368	0.482
Firm size	Firm size that individual works in ranging from 1 'less the 'more than 1999 employees' (= reference category)	an 5 emplo	yees' to 5
1 - Firm size <5	, - , - , - , - , - , - , - , - , - , -	0.072	0.259
2 - Firm size 5-19	, - 1 - 1	0.142	0.349
3 - Firm size 20-199	, , , , , , , , , , , , , , , , , , , ,	0.354	0.479
4 - Firm size 200-1999	, - , - , - ,	0.226	0.418
German	Dummy equal to 1 if individual has German nationality	0.928	0.259

Part-time	Dummy equal to 1 if individual is regularily part-time	0.220	0.415
	employed		
Occupational	Occupational status of individual where 1 'apprentice/trainee' (does not ap-		
status	ply because of age restrictions), 2 'blue-collar', 3 'white-collar', 4 'civil		
	servant' (= reference category)		
2 - Blue-collar	Dummy equal to 1 if individual is a blue-collar worker	0.323	0.468
3 - White-collar	Dummy equal to 1 if individual is a white-collar worker	0.557	0.497
Working sector	Sector that the individual is working in where 1 'agriculture', 2 'energy', 3		
	'mining' (= reference category), 4 'manufacturing', 5 'construction', 6 'trade',		
	7 'transport', 8 'bank, insurance', 9 'services'		

Table 2 - Random-effects estimations on retirement intentions

	E1	E2	E3	E4
Conflict boss	0.389 (2.919)***	0.492 (2.766)***	0.533 (2.943)***	0.515 [.093] (2.811)***
Very good health		-1.159 (2.283)**	-1.097 (2.141)**	-1.061 [222] (2.052)**
Good health		-1.482 (3.656)***	-1.420 (3.472)***	-1.455 [278] (3.515)***
Satisfactory health		-1.007 (2.582)***	-0.949 (2.412)**	-0.966 [206] (2.420)**
Poor health		-0.643 (1.608)	-0.550 (1.361)	-0.534 [123] (1.303)
Age		0.449 (8.918)***	0.465 (9.082)***	0.492 [0.080] (9.482)***
Male		-0.200 (1.569)	-0.320 (2.094)**	-0.383 [-0.062] (2.227)**
Married			0.246 (1.292)	0.267 [0.043] (1.385)
Household income			0.000 (1.760)*	0.000 [0.000] (1.308)
Ratio wage/household income			0.366 (1.193)	0.344 [0.056] (0.996)
Long-term unemployment			0.005 (1.227)	0.008 [0.001] (1.856)*
Parental leave			-0.277 (1.865)*	-0.324 [-0.052] (2.110)**
Education			-0.080 (2.723)***	-0.061 [-0.010] (1.801)*
Autonomy			0.134 (1.562)	0.009 [0.001] (0.069)
Civil service			0.008 (0.054)	-0.001 [0.000] (0.005)
Firm size<5				-1.150 [-0.186] (3.575)***
Firm size 5-19				-0.708 [-0.114] (2.904)***
Firm size 20-199				-0.557 [-0.090] (2.951)***
Firm size 200-1999				-0.736 [-0.119] (3.536)***
German				0.027 [0.004] (0.104)
Part-time				0.205 [0.033] (1.134)

Blue-collar				0.198 [0.032] (0.600)
White-collar				0.352 [0.057] (1.041)
Working Sector				included
Loglikelihood	-2,498.735	-2,326.032	-2,315.577	-2,291.441
N	1,701	1,701	1,701	1,701

* p<0.1; ** p<0.05; *** p<0.01

Dependent variable: Probability of retiring within the next two years (11-point scale).

Method: Random-effects ordered logistic model.

The table shows the estimated coefficients. Z-statistics are in parentheses. Marginal effects are in square brackets and show the effect on the probability of retiring that is added from 50 to 100 percent (P(Y>=50)). Marginal effects of dummy variables are evaluated for a discrete change from 0 to 1.

Table 3 - Random-effects estimations on retirement intentions of healthy and unhealthy sample subgroups

	Healthy	Unhealthy
	('very good', 'good')	('satisfactory', 'poor', 'bad')
Conflict boss	0.782 [0.124] (2.537)**	0.469 [0.096] (2.095)**
Age	0.445 [0.058] (5.762)***	0.492 [0.094] (6.715)***
Male	0.034 [0.004] (0.121)	-0.615 [-0.117] (2.851)***
Married	-0.118 [-0.015] (0.406)	0.485 [0.093] (1.947)*
Household income	-0.000 [0.000] (0.253)	0.000 [0.000] (1.773)*
Ratio wage/household income	0.269 [0.035] (0.515)	0.367 [0.070] (0.829)
Long-term unemployment	0.008 [0.001] (1.044)	0.010 [0.002] (1.791)*
Parental leave	-0.191 [-0.025] (0.592)	-0.326 [-0.062] (1.965)**
Education	-0.053 [-0.007] (1.048)	-0.067 [-0.013] (1.541)
Autonomy	0.196 [0.026] (0.940)	-0.090 [-0.017] (0.548)
Civil service	-0.234 [-0.031] (0.782)	0.150 [0.029] (0.641)
Firm size<5	-0.928 [-0.131] (1.813)*	-1.219 [-0.233] (3.053)***
Firm size 5-19	-1.008 [-0.139] (2.457)**	-0.607 [-0.128] (2.015)**
Firm size 20-199	-0.631 [-0.098] (2.180)**	-0.538 [-0.115] (2.231)**
Firm size 200-1999	-0.669 [-0.102] (2.097)**	-0.731 [-0.150] (2.777)***
German	0.247 [0.032] (0.598)	-0.105 [-0.020] (0.330)
Part-time	0.640 [0.084] (2.014)**	-0.059 [-0.011] (0.274)
Blue-collar	0.582 [0.069] (1.136)	-0.104 [-0.019] (0.249)
White-collar	0.472 [0.054] (0.897)	0.188 [0.036] (0.446)
Working sector	included	included

Loglikelihood	-825.879	-1,457.175
N	706	995

* p<0.1; ** p<0.05; *** p<0.01

Dependent variable: Probability of retiring within the next two years (11-point scale).

Method: Random-effects ordered logistic model.

The table shows the estimated coefficients. Z-statistics in parentheses. Marginal effects are in square brackets and show the effect on the probability of retiring that is added from 50 to 100 percent (P(Y>=50)). Marginal effects of dummy variables are evaluated for a discrete change from 0 to 1.