A survival analysis of organizational turnover in the auditing profession

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Abstract

This study uses survival analysis to examine employee turnover in the auditing profession. Building on the Job Demands-Resources model, I analyze the impact of job characteristics (demands and resources) and personal characteristics on organizational turnover. The study is based on a survey among a sample of 309 employees who either were or had been employed in the Belgian auditing profession. At any particular point in time, excess job demands (e.g., workload) increase and job resources (e.g., organizational support for alternative work arrangements) decrease the risk of organizational turnover. Higher family involvement (personal demands) is also associated with increased turnover risk.

Relevance for practice

It is important for audit firms to keep job demands at tolerable levels in order to retain their employees for the auditing profession. Workload is more important than in other jobs, but support for AWAs reduces the risk of employee turnover. Results may inform audit firms about employee retention.

Keywords

Employee turnover, organizational turnover, turnover, survival analysis, auditing profession

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1. Introduction

Retaining highly qualified staff is a critical issue in professional service firms. This is especially true for auditing firms where organizational turnover peaks at 15-20% (AFM 2022; AICPA 2017; The Economist 2007). In the auditing profession, the critical question does not seem to be if employees will leave but *when* their departure occurs. Firms benefit from employee turnover if departure is concentrated among low performers. High turnover rates may also be somewhat unavoidable, given auditing firms' pyramidal hierarchy and "up-or-out" promotion systems. However, recent research suggests that audit firm employee turnover has detrimental effects on audit quality (Knechel et al. 2021; Ma et al. 2022; Van Linden et al. 2022) and that auditing firms are increasingly using alternative career arrangements to retain talented individuals (Almer et al. 2012; Vandenhaute and Hardies 2022). Retaining staff and reducing employee turnover is also regularly identified as a key priority within the profession and by auditing firms (e.g., Eyden 2013; KPMG 2017; Pitstick 2022).

There is extensive research on employee turnover, both within the accounting literature (for a review, see Nouri and Parker 2020) and in the broader psychological literature (for reviews, see Hom et al. 2017; Rubenstein et al. 2018). Compared to most existing research, however, the current paper has some notable features. First, most studies examining turnover focus on turnover *intentions* rather than actual turnover behavior. While intentions to quit are a reasonable predictor of actual turnover behavior, it is argued, both within psychology (e.g., Rubenstein et al. 2018) and in the accounting literature (e.g., Nouri and Parker 2020), that more research is needed studying actual turnover behavior. Second, most turnover studies employ linear or logistic regression (Allen et al. 2014), even though there are methodological problems associated with

these approaches because they do not account for employees' length of employment. Therefore, this study applies survival analysis to capture the actual occurrence of turnover while accounting for the length of time prior to turnover (Kleinbaum and Klein 2006; Somers and Birnbaum 1999).[1]

Specifically, I apply survival analysis to determine the survival rates of employees in their first job in the auditing profession and to examine factors related to their turnover. Survival analysis is a statistical technique that analyses the time duration until a specific event of interest happens, also referred to as "survival time". In the present study, the event of interest is leaving the initial firm of employment. The survival time is the length of stay within the initial firm of employment (i.e., organizational turnover). This analytical approach has a number of advantages compared to more conventional analyses such as logistic regression or linear regression. Whereas logistic regression analysis only focuses on the occurrence of an event (i.e., leaving the firm or not), survival analysis also accounts for the time elapsed until an event occurs (i.e., the length of stay in the firm). The length of stay in the firm can be modeled as the dependent variable in a linear regression model. However, the sample contains responses from participants still employed at their first employer (and for whom there is thus not yet an exact survival time). In other words, the data are "right-censored", as some respondents did not (yet) experience the event of interest (i.e., leave their firm). Survival analysis can adequately accommodate the loss of observations when censoring occurs, whereas traditional regression models cannot resolve this issue (Kleinbaum and Klein 2006).

Finally, the current study focuses on how long audit firm employees stay at their first employers. Studying initial employment is important because audit firms play a crucial role in

[1] Only about 10% of turnover studies use surival analysis (Allen et al. 2014). A notable exception from the accounting literature is the study by Chi et al. (2013).

auditors' identity formation (Brouard et al. 2017; Stack and Malsch 2022). During their first job, employees start identifying with the auditing profession (Stack and Malsch 2022) and develop occupational commitment (Nägele and Neuenschwander 2014). These initial job experiences have a lasting impact and affect employees throughout their careers (Stack and Malsch 2022). Despite the importance of initial employment, few turnover research studies focus specifically on initial employment (e.g., Kerckhofs et al. 2022).

2. Theoretical Framework and Hypotheses Development

I draw upon the Job Demands-Resources (JD-R) model to examine the effects of job characteristics (demands and resources) and personal characteristics on organizational turnover in the Belgian auditing profession. The JD-R model was originally developed to explain burnout (Bakker et al. 2005). Over time, however, it has become more broadly used in the psychological and public health literature to understand various organizational outcomes (for an overview, see Bakker and Demerouti 2017), including employee turnover (e.g., Fletcher et al. 2018; Knudsenet al. 2009; Schaufeli and Bakker 2004; Van der Heijden et al. 2018).

According to the JD-R model (Bakker & Demerouti 2007; 2017), any job can be characterized by two kinds of characteristics: job demands and job resources.[2] In the current study, I investigate how organizational turnover is associated with the following job demands and resources: perceived workload, work-life conflict, job challenge and variety, and perceived organizational support for alternative work arrangements. Additionally, I investigate "careerism", career involvement, and family involvement as personal demands and resources. I focus

[2] The JD-R model does not provide well-defined sets of demands, resources, and outcomes, but offers an open model that allows flexibility in its application in different contexts. For this reason, the current study does not include strain and motivation as potential mediators between, respectively, demands and resources and turnover, although some versions of the model suggests that it is through these mediators that the two different processes (to wit, a health-impairment and a motivational process) affect organizational outcomes such as turnover..

specifically on these factors because the existing literature suggests their potential relevance to understanding organizational turnover in the auditing profession. Figure 1 presents an overview of the conceptual model, elaborated in the next paragraphs.

2.1 Job Demands in the Auditing Profession

Job demands are the physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort or skills and are therefore associated with certain physical and/or psychological costs; job demands potentially evoke strain if they exceed the employee's adaptive capability (Bakker and Demerouti 2007). Excess job demands exert an energy-draining effect on employees through a stress process, leading to negative outcomes (e.g., sickness absenteeism, poor performance). Job demands are expected to be positively related to organizational turnover. Specifically, I consider perceived workload and work-life conflict relevant job demands in the auditing profession. Therefore, I hypothesize that:

Hypothesis 1a: Perceived workload is positively associated with organizational turnover.

Hypothesis 1b: Work-life conflict is positively associated with organizational turnover.

First, auditing is characterized by high workloads, especially during the "busy season" (Cohen and Single 2001; Jones et al. 2010). Prior research has identified workload as an important driver of stress and burnout in the accounting profession (Greenhaus et al. 1997; Sweeney and Summers 2002). As workload is a core dimension of job demands (Veldhoven 2014), I expect that perceived workload is negatively related to organizational turnover.

Second, as job demands may interfere with family demands, they can create work-life conflict. The auditing profession is infamous for its high levels of work-life conflict, with auditors experiencing higher levels of work-life conflict than accountants in industry (Buchheit et al. 2016; Pasewark and Viator 2006). In addition to the high (compressed) workload, strong

cultural norms about working hours and heavy client demands are important sources of work-life conflict in the auditing profession (Crompton and Lyonette 2010; Pasewark and Viator 2006). Prior research suggests that work-life conflict is positively associated with turnover in auditing (Greenhaus et al. 1997; Pasewark and Viator 2006).

2.2 Job Resources in the Auditing Profession

Job resources are the physical, psychosocial, social, or organizational aspects of the job that are either instrumental to achieving work goals, reducing job demands, or stimulating personal growth and development (Bakker and Demerouti 2007). High levels of job resources are related to positive work outcomes (e.g., organizational commitment, superior performance) through a motivational process. Job resources are expected to be negatively related to organizational turnover. Specifically, I consider job content and alternative work arrangements to be relevant job demands in the auditing profession. Therefore, I hypothesize that:

Hypothesis 2a: Job content (challenge and variety) is negatively associated with organizational turnover.

Hypothesis 2b: Perceived organizational support for alternative work arrangements is negatively associated with organizational turnover.

First**,** job characteristics such as challenge and variety of skills have been identified as one of the antecedents of organizational commitment in the early stages of a career (Meyer and Allen 1988). According to Hackman and Oldham (1980), skill variety is associated with intrinsic work motivation. Furthermore, Zaniboni et al. (2013) found that increased task variety led to lower turnover intentions for younger workers, while increased skill variety led to lower turnover intentions for older workers. As auditors perform many routine tasks in their early career stages, they may experience a lack of job challenge and variety.

Second, by offering alternative work arrangements (AWAs), audit firms can potentially reduce work-family conflict (Pasewark and Viator 2006). AWAs include many arrangements, such as part-time employment, compressed workweeks, flextime, and telecommuting. Prior research shows that AWAs are positively associated with a better work-life balance, higher job satisfaction, and lower turnover intentions (Almer and Kaplan 2002; Moen et al. 2011). While AWAs are commonly available in audit firms, the success of such arrangements depends on the level of organizational support of such AWAs. Prior research suggests that audit firm employees generally do not believe they could remain effective at their jobs while using AWAs because their firms do not genuinely support such arrangements (Buchheit et al. 2016; Dalton et al. 2014). The relationship between AWAs and audit employee turnover itself has not yet been examined.

2.3 Personal Demands and Resources of Auditing Employees

In addition to job demands and resources, the JD-R model acknowledges the potential role of personal demands and resources to affect organizational outcomes such as turnover. Personal demands are "the requirements that individuals set for their own performance and behavior that force them to invest effort in their work and are therefore associated with physical and psychological costs" (Barbier et al. 2013, p. 751). Personal resources are the beliefs about how much control we have over our environment (Bakker and Demerouti 2017). Specifically, I consider careerism, career involvement, and family involvement to be relevant personal demands and resources that may affect turnover in the auditing profession. Therefore, I hypothesize that:

Hypothesis 3a: Careerism is positively associated with organizational turnover.

Hypothesis 3b: Career involvement is negatively associated with organizational turnover.

Hypothesis 3c: Family involvement is positively associated with organizational turnover.

First, individuals driven by "careerism" may leave their employer sooner. Careerism refers to the view that employment within an organization is merely a stepping stone toward a career in another firm (Rousseau 1990). Hence, employees intend career advancement by pursuing employment in various organizations and thus expect to change employers many times during their careers. Because the auditing profession provides extensive training, continuing professional education, experience in accounting, and exposure to many different clients within different industries, it provides an attractive starting point for career-minded individuals. Auditing is, therefore, used by many as a learning experience and stepping stone to other employment opportunities (Almer et al. 2005; Blank et al. 1991; Kerckhofs et al. 2021). Furthermore, as audit firms are perceived to provide good training, diverse experiences, and specialization opportunities (Bagley et al. 2012), employment at an audit firm can act as a signal of high competence and experience to potential employers. Many young graduates indeed seem to perceive auditing as a stepping stone towards better job opportunities rather than a life-long career choice (Blank et al. 1991; Chevis et al. 2011; Padgett et al. 2005).

Second, people differ not just in their "careerism" but also in the importance they ascribe to their careers (versus family). That is, they differ in terms of their career (family) involvement. Career (family) involvement refers to the degree to which someone identifies with their work (family) or the importance they place on their work (family) (Lodahl and Kejner 1965). High career involvement is likely to attenuate the negative effects of excess job demands, as employees to whom work is very important are likely to use "job crafting behaviors" (i.e., proactive behaviors that decrease hindering job demands or increase job resources) (Baker and Demerouti 2017; Rudolph et al. 2017). Conversely, high family involvement may be associated with high

levels of job strain, although a meta-analysis by Rudolph et al. (2017) found job crafting not significantly related to turnover intentions.

3. Materials and Method

3.1 Sample and Procedure

This study relies on a sample of 309 participants (Mean age = 34.26; *SD* = 9.13; 61.5% male) collected through an anonymous online survey developed for the purposes of this study. Participants were recruited in November-December 2015 by e-mailing all the persons in Belgium who had ever entered into at least one course of theoretical instruction organized by the Belgian Institute of Registered Auditors (IBR) as a prerequisite to enter the practical training to become a certified auditor.[3] This information was obtained with the support of the IBR, but the surveys were distributed by the author without any reference to the IBR.

A total of 3,708 persons were contacted by e-mail and invited to participate in the online survey. In total 376 persons who either were or had been employed in the auditing profession participated in this study, corresponding to a response rate of 10%. I excluded 67 participants due to missing data, resulting in a final sample of 309. Although the response rate is comparable to other studies on turnover in the auditing profession using online surveys (e.g., Lynn Stallworth 2003; Moyes et al. 2011), I conducted a non-response analysis to assess the representativeness of the sample. I followed the procedure of Armstrong and Overton (1977) and compared key constructs between early and late respondents because late respondents are often similar to non-respondents. Therefore, I performed *t*-tests and chi-square tests on the responses of those

[3] EU Directive 2014/56/EC, regulating entrance to the auditing profession in the EU at that time, required a test of theoretical knowledge, related to 19 subjects, as prerequisite for becoming a certified auditor. In Belgium, this testing of theoretical knowledge was organized by way of organizing an exam for each subject matter seperately ("entrance exams"). At the time of the study, the successful completion of all such exams (save for exemptions based on equivalent qualifications) was a prerequisite for entering the practical training of (at least) three years. Therefore, audit employees generally entered the entrance exams fairly quickly after starting employment as an auditor.

responding to the first mailing (early respondents; n = 173) and those responding to the second mailing (late respondents; n = 136). My analysis revealed no significant differences between early and late respondents, providing some comfort that non-responses do not bias the study's findings.

3.2 Measures

Organizational turnover was measured as the time between employment at the initial audit firm and the date when employment at the firm ended ('leavers') or the date of completing the survey for respondents who were still employed at their first employer ('stayers').

Perceived workload was measured with four items adapted from Moore (2000). A sample item is "I feel that the amount of work I have to do is too much to be able to perform well" (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficient (Cronbach's alpha) for this scale was 0.76.

Work-family conflict was measured with the work-family conflict scale of Karatepe and Uludag (2007), which consists of five items. A sample item is "The demands of my work interfere with home, family and social life." (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficient (Cronbach's alpha) for this scale was 0.91.

Job content was measured using three questions from Allen et al. (2008). Respondents were asked to indicate the extent to which they agreed with statements regarding job related challenge and variety. A sample item is "My job as an auditor is a job with great variety" (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficient (Cronbach's alpha) for this scale was 0.71.

Perceived organizational support for AWAs was measured with the scale developed by Dalton et al. (2014), which consists of four items. Respondents were asked to indicate the extent

to which they believed their firm would support them if they wanted to use different alternative work arrangements (flexible scheduling, part-time work, telecommuting, compressed workweek). The answers ranged from 1 = "strongly disagree" to 5 = "strongly agree". The reliability coefficient (Cronbach's alpha) for this scale was 0.78.

Careerism was measured with the scale developed by Rousseau (1990) to measure their level of "careerism". The scale consisted of four items. A sample item is "I took this job as a stepping stone to a better job with another organization" (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficient (Cronbach's alpha) for this scale was 0.81.

Career and family involvement were measured with eight items from Aryee et al. (1999), with four items for each dimension. Sample items are "My work is a large part of my life" (career involvement), "My family and friends are a large part of my life" (family involvement) (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficients (Cronbach's alpha) were respectively 0.64 for the career involvement scale and 0.83 for the family involvement scale.

Demographic variables were included as control variables because prior research shows that demographic variables are related to turnover. Therefore, I measured and controlled for the effects of *age*, *sex* (0 = *male*, 1 = *female*), *marital status* (0 = *no relationship*, 1 = *relationship*), and *parenthood* (0 = *no children*, 1 = *children*). Additionally, I also control for the *type of firm* where the respondent was employed (0 = *small firm*, 1 = *Big 4 accounting firm*), as prior research suggests higher work-family conflict and burnout among Big 4 employees (Buchheit et al., 2016). Furthermore, *job satisfaction* is one of the most important predictors of turnover (Griffeth et al. 2000). I adapted five items from Greenhaus et al. (1990) to measure participants' level of career satisfaction in terms of overall career goals, income, and advancement. Sample items are "I am satisfied with the progress I have made toward meeting my overall career goals", "I am

satisfied with the progress I have made toward meeting my goals for income" (1 = "strongly disagree," 5 = "strongly agree"). The reliability coefficient (Cronbach's alpha) for this scale was 0.82.

3.3 Methodology

I employed survival analysis as this technique provides insight into why turnover occurs while accounting for the length of time prior to turnover (Somers and Birnbaum 1999). Survival analysis is a statistical technique that analyses the time duration until a particular event of interest happens, also referred to as "survival time". In the present study, the event of interest is leaving the initial firm of employment. The survival time is the length of stay within the initial firm of employment (i.e., organizational turnover). This analytical approach has a number of advantages compared to more conventional analyses such as logistic regression or linear regression. Whereas logistic regression analysis only focuses on the occurrence of an event (i.e., leaving the firm or not), survival analysis also accounts for the time elapsed until an event occurs (i.e., the length of stay in the firm). The length of stay in the firm could be modeled as the dependent variable in a linear regression model. However, the sample contains responses from participants who are still employed at their first employer (and for whom there is thus not yet an exact survival time). In other words, the data are "right-censored", as some respondents did not (yet) experience the event of interest (i.e., leave their firm). Survival analysis can adequately accommodate the loss of observations when censoring occurs, whereas traditional regression models cannot resolve this issue (Kleinbaum and Klein 2006).

The respondents are classified into two groups based on the occurrence of the event: leavers and stayers. For leavers, organizational turnover is measured as the number of years based upon their length of stay at their first firm of employment. For stayers, the data are right-

censored and their organizational turnover is measured as the number of years based upon the time between the date they started working at their first firm of employment and the date on which they participated in the survey.

I analyzed the data using Cox proportional hazards survival analysis. The hazard rate function h(t) describes the conditional probability of an employee leaving their firm (i.e., organizational turnover). This probability depends on the employee's organizational turnover.

4. Results

4.1 Preliminary Analyses

First, data were cleaned and screened for missing data. I excluded data from 67 respondents: 53 who had more than 50% missing data and 14 who failed to complete any item on at least one scale (e.g., left the whole AWA scale blank). For the remaining data, a missing value analysis was conducted on all items of the scales. Given that Little's MCAR test was non-significant (χ^2 = 2461.62, df = 2363, $p > 0.05$), we can assume that data are missing completely at random (MCAR). The expectation maximization (EM) algorithm was used to impute all missing values for the scale items. All analyses were conducted with these imputed values. The final sample consists of responses from 309 respondents.[4]

Second, although all scales in this study were conceptually distinct and had been validated previously, I further tested the validity and internal consistency of the scales in the present study. Therefore, I conducted two factor analyses.[5] The first factor analysis included the items associated with job characteristics (i.e., perceived workload, job-related challenge and variety,

[4] There were 33 items missing for the final sample of 309 respondents (i.e., 0.3% of all scale items). Dropping respondents with any missing values yields similar results to those reported.

[5] Initially, measures of sample adequacy were carried out to see whether the data was suitable for factor analysis. The Kaiser-Meyer-Okin value was 0.83 and the Bartlett's Test of Sphericity indicated a chi-square value of 4755.522 ($p < 0.001$), supporting the suitability of the data for factor analysis. I employed principal component and promax with Kaiser Normalization as the method of factor extraction and rotation, respectively. An oblique rotation (promax) was used because some of the variables were likely to be correlated (e.g., perceived workload and work-family conflict).

perceived organizational support for AWAs, work-family conflict, and career satisfaction). A five-factor solution emerged. This explained 64.5% of the variance and showed that the five concepts were empirically and conceptually distinct. The second factor analysis combined the scales related to personal characteristics (i.e., careerism, career involvement, and family involvement). A three-factor solution emerged from this analysis, explaining 58.0% of the variance.

4.2 Descriptive Statistics

More than half of the respondents in the sample (52.8%) were still employed at their initial accounting firm at the time of the survey (i.e., they were 'stayers'). Table 1 shows that of those respondents that had left their first audit firm of employment (i.e., 'leavers'), 66% (n = 97) had left the auditing profession entirely, whereas 34% (n = 49) were still employed elsewhere in the auditing profession. Most respondents who left their first firm of employment had done so voluntarily (86%).

Table 1 provides an overview of the respondents' characteristics. On average, respondents were employed at their initial audit firm for 6.9 years. The majority of respondents were men (61.5%). Respondents' age ranged from 23 to 70 years, with an average of 34 years. During their first employment, most respondents were in a relationship (69%), but less than 30% of respondents had children. Most respondents' initial employment was at a Big 4 audit firm (64%). Table 1 also provides descriptive statistics for stayers and leavers separately. Stayers more often had children (31%) than those who left the auditing profession entirely (22%) but less often than those who left their first audit firm but stayed employed elsewhere in the profession (41%). Conversely, stayers were less often employed at a Big 4 audit firm (62%) than those who left the auditing profession entirely (76%) but more so than those who stayed employed elsewhere in the

auditing profession (49%). Perceived organizational support for AWAs was higher for stayers than for leavers (3.1 vs. 2.3). Conversely, careerism was higher for respondents who left the auditing profession entirely (3.6) than for stayers (3.1) or for respondents who left their first audit firm but stayed employed elsewhere in the profession (3.0). Other differences between stayers and leavers are negligible. Respondents who left the auditing profession entirely left their initial audit firm of employment sooner than those who remained working elsewhere in the auditing profession (5.2 vs. 6.8 years). They were, on average, also younger when they did so (33 vs. 42 years).

Table 2 provides correlations of all the variables in the study. The highest correlations between organizational turnover and any independent variables are with age ($r = 0.7$) and parenthood ($r = 0.6$). The highest correlation between any independent variables is between job content and career satisfaction ($r = 0.5$).

[Insert Table 1 here]

[Insert Table 2 here]

4.3 Survival Analysis

Table 3 presents the results of the Cox proportional hazards regression analysis to test the hypotheses.[6] The estimate for perceived workload is 0.53, with only a narrow range of plausible true effects being compatible with the data (95% CI [0.38-0.74], $p < .01$). This means that, at any particular point in time, half as many respondents who perceived workload to be high left their initial audit firm of employment compared to those perceiving workload to be lower. This result is consistent with Hypothesis 1a. The point estimate for work-family conflict is 1.11 but this

[6] The proportional hazard assumptions for Cox regression were tested by means of Schoenfeld residuals and were found not to be violated. In addition, I tested the proportional hazards assumption by adding time-dependent covariates to the model. None of the interaction terms were significant and thus the assumption was met.

estimate is not very precise (95% CI [0.88-1.4], $p = .38$). This means both negative and positive values of work-family conflict on turnover are compatible with the data. The current data do thus not provide evidence for Hypothesis 1b. Overall, the data are consistent with job demands positively affecting organizational turnover.

The estimate for job content is 0.76. This result means that, at any particular point in time, two-thirds as many respondents left their initial audit firm if they did not consider their job to be challenging and varied. This estimate is somewhat precise but is still compatible with the effect being zero (95% CI [0.56-1.0], $p = .08$). This provides some support for Hypothesis 2a. The estimate for perceived support for AWAs is 0.39, with only a very narrow range of plausible true effects being compatible with the data (95% CI [0.31-0.49], $p < .01$). This suggests that, at any point in time, there is a 61% reduction in the risk of turnover for employees who perceive their organization to support alternative work arrangements. This result supports Hypothesis 2b. Overall, these results provide fairly strong evidence that job resources reduce the risk of organizational turnover.

The point estimate for careerism is 1.16, but this estimate is not very precise (95% CI [0.92-1.47], $p = 0.22$). Thus, the current data do not support Hypothesis 3a, as both negative and positive values of careerism are compatible with the data. Likewise, the estimate for career involvement is 1.26, but this estimate is highly imprecise (95% CI [0.91-1.74], $p = 0.16$). The current data do thus not provide evidence for Hypothesis 3b, with a wide range of plausible true effects being compatible with the data. Finally, the data provide relatively strong evidence that family involvement is negatively associated with organizational turnover (hazard ratio= 1.59, $p < .01$), supporting Hypothesis 3c. A wide range of plausible true effects, however, is compatible with the data (95% CI [1.15-2.22]), suggesting that the increase in turnover as a result of

increased family involvement may be anything from 15% to 122%. Overall, this provides some evidence that audit employees' personal demands may influence turnover.

4.4 Supplementary Analyses

Supplementary analyses were conducted to examine whether my results are sensitive to *why* audit professionals left their firm. First, I excluded respondents who did not leave their firm voluntarily and ran a survival analysis on the sample of employees who left their first employers voluntarily (n = 288). Employees leaving their firm voluntary may do so for different reasons (e.g., better career opportunities) than employees who are dismissed by their employer (e.g., low-performing or unmotivated audit staff). The results of this analysis are similar to those reported in Table 3.

Second, I focused on whether employees left the auditing profession altogether (occupational turnover) rather than just their firm (organizational turnover). There is much less research on occupational turnover than on organizational turnover, but their determinants and consequences may differ. For example, organizational turnover may be more affected by specific workplace characteristics (e.g., job demands and resources) while occupational turnover may be more affected by broader career aspects and goals (e.g., personal demands and resources). For this analysis, I performed a survival analysis in which the event of interest was leaving the auditing profession, and the survival time was the length of stay in the auditing profession. This analysis shows that the risk of leaving the auditing profession is positively associated with perceived workload and negatively associated with job content and perceived organizational support for AWAs. Family involvement is not associated with the probability of leaving the auditing profession. Higher levels of careerism are, however, positively associated with the probability of leaving the auditing profession (hazard ratio = 1.37, $p < 0.05$).

Third, I examined whether there were any interaction effects present (e.g., between family involvement and sex). The data did not provide support for the existence of any interaction effects.

[Insert table 3 here]

5. Discussion and Concluding Remarks

The auditing profession provides a context in which turnover is both highly frequent and very costly. As is the case for other professional service firms, the primary asset in auditing firms is human capital (the knowledge, skills, and connections of its professionals). This makes (voluntary) turnover of skilled professionals highly costly to audit firms. Retention of professionals is, therefore, typically considered one of the most important issues in audit and other professional service firms (Greenwood et al. 2005; von Nordenflycht 2010).

Understanding the causes of employee turnover can help audit firms to develop effective retention plans and to retain talented personnel in the auditing profession. The results of the current study thus provide some valuable insights for audit practice. First, (perceived) workload has a large effect on both organizational and occupational turnover. This findings is in line with claims from practice (e.g., Schweppe 2021) but has actually received little attention in the accounting literature on turnover (see Nouri and Parker 2000). Workload also seems to be a stronger determinant of turnover in the auditing profession than in other contexts (Rubenstein et al. 2018). Hence, it seems important for audit firms to keep demands of the job of their audit employees at tolerable levels in order to retain them for the auditing profession. This may be in tension with ever-increasing demands of auditors due to new developments (e.g., ESG reporting and auditing) and declining numbers of accounting graduates (AFM 2022). Of course, these

observations only reinforce the urgency for audit firms to retain those employees who start their careers in the auditing profession.

The result on perceived workload aligns with the theoretical predictions of the JD-R model that excess job demands lead to negative outcomes such as employees quitting their job (i.e., voluntary turnover). At the same time, however, results of the current study also suggest that not every conceivable job demand is necessarily negative. While work-family conflict is often claimed to be an important reason for employees leaving the auditing profession (e.g., AFM 2022), data from the current study are consistent with no effect of work-family conflict on employee turnover.

Second, in line with the JD-R model, the results of the current study suggest that high levels of job resources can reduce employee turnover. Audit firms can thus mitigate undesirable employee turnover by providing their employees with the necessary resources to achieve work goals, reduce job demands, or stimulate personal growth and development. Specifically, the current study's data suggest that perceived support for AWAs substantially reduces the risk of employees voluntarily walking away from their audit firm or the auditing profession entirely. These results stress the importance for audit firms to create appropriate work climates that their employees consider supportive. While such AWAs are in place in most audit firms nowadays, their use is often undermined by organizational expectations about availability and commitment (Crompton and Lyonette 2011; Kornberger et al. 2010).

Perhaps surprisingly, the current study does not provide strong support for the idea that job characteristics, such as job-related challenge and variety, play an important role in understanding employee turnover in the auditing profession. Such characteristics typically show a

moderately negative relationship with employee turnover in other contexts (Rubenstein et al. 2018).

Third, the results are relevant to employee selection and hiring. Employee turnover is costly to firms, especially if highly competent employees leave at a higher rate than preferred. Such concerns may be more important to audit firms than most other firms, including other professional service firms. After all, due to their offering of extensive training, continuing professional education, and exposure to a wide variety of clients, audit firms are very attractive to career-minded individuals who use initial employment at these firms as a learning experience and stepping stone to other employment opportunities (Almer et al. 2005; Blank et al. 1991). While the current study does not provide evidence for an association between careerism and organizational turnover, the results show that higher careerism levels increase the risk of employees leaving the auditing profession entirely. This finding suggests that persons who enter the auditing profession viewing it as a stepping stone towards a better job are likely to immediately leave the profession rather than switch to another audit firm. Again, due to changes in the demand for accounting and audit services and the supply of accounting graduates, it seems ever-important for audit firms to try to retain such employees once they have started their careers in the auditing profession.

Finally, the current study provides relatively strong evidence that family involvement is negatively associated with organizational turnover. In contrast, the data are consistent with family involvement not increasing the risk of leaving the auditing profession entirely. These results might be explained by the fact that most employees in the sample who left their firm without leaving the profession changed from working at a larger (Big 4) to a smaller (non-Big 4) audit firm. Employees with high levels of family involvement arguably fit better within such smaller

audit firms, as such organizations are associated with less work-family conflict and burnout (Buchheit et al. 2016). Independent samples *t*-tests on the current survey data indeed show that perceived workload was rated lower by employees of smaller audit firms ($M = 3.50$; $SD = 0.69$) than by employees of larger audit firms ($M = 3.75$; $SD = 0.69$), $t(307) = -3.05$, $p < 0.01$, and employees of smaller audit firms also indicated lower levels of work-family conflict ($M = 3.10$; $SD = 0.93$) than employees of larger audit firms ($M = 3.40$; $SD = 0.89$), $t(307) = -2.80$, $p < 0.01$.

Some potential limitations to the current study need to be noted. First, even though I performed a non-response analysis based on early and late respondents, I cannot entirely rule out non-response bias. If there are systematic differences with respect to substantive constructs between those that did and did not respond to the survey, the results of the current study will not generalize to the entire population of auditors. If, for example, employees who strongly identify with their work (high career involvement) were less likely to participate in the survey *and* are less likely to leave their organization or the auditing profession entirely, the results for career involvement will be biased. While this cannot be ruled out, about half of the sample in the current study actually had left their initial employer, and about a third of the respondents had left the auditing profession entirely. This does suggest that the survey was able to reach a substantial number of leavers. Second, the results of the current study may also not be perfectly generalizable to the entire population of auditors because the survey was sent to all the persons in Belgium who had entered into at least one course of theoretical instruction (see footnote 4). Employees who left the auditing profession before entering these courses could thus not be identified. To the extent that employees who leave the auditing profession very early on in their careers (i.e., before entering into a single exam) differ with respect to substantive constructs from those who leave their initial audit firm at a later stage, results of the current study do not

generalize to the entire population of auditors. However, this is unlikely to have much effect on the study results because, at the time of the study, the successful completion of all such exams (save for exemptions based on equivalent qualifications) was a prerequisite for entering the practical training of (at least) three years. Therefore, audit employees generally entered these entrance exams fairly quickly after starting employment at an audit firm.

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Figure 1

Conceptual model and hypotheses

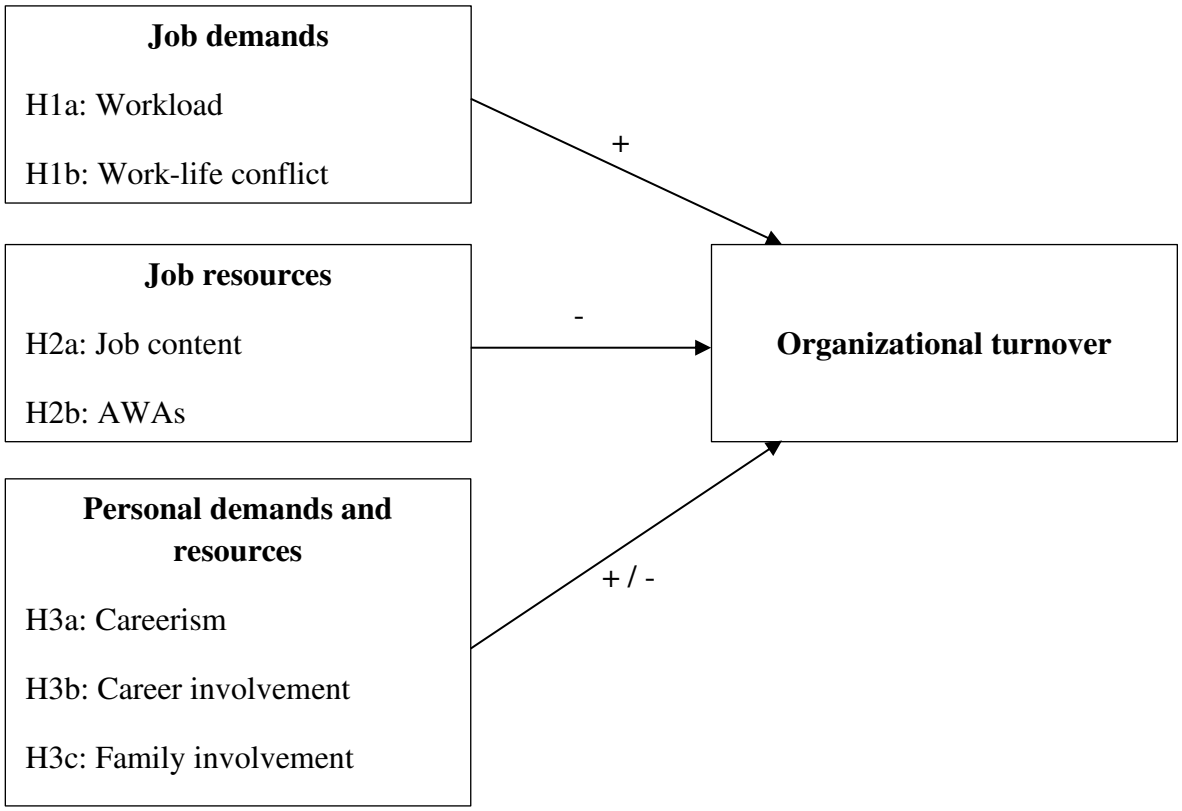

Table 1

Descriptive statistics of the variables in this study

	Full sample $N = 309$					Stayers $n = 163$			Leavers (firm) $n = 49$			Leavers (entirely) $n = 97$		
	M	*SD*	*min*	*Mdn*	*max*	*M*	*SD*	*Mdn*	*M*	*SD*	*Mdn*	*M*	*SD*	*Mdn*
1. Organizational turnover	6.90	6.69	0.08	4.42	34.67	7.95	7.41	5.25	6.83	7.13	4.00	5.17	4.54	3.58
2. Age (in years)	34.26	9.13	23.00	31.00	70.00	32.77	8.79	30.00	41.65	11.15	41.00	33.05	6.46	31.00
3. Sex	0.39	0.49	0.00	0.00	1.00	0.41	0.49	0.00	0.33	0.47	0.00	0.38	0.49	0.00
4. Marital status	0.69	0.47	0.00	1.00	1.00	0.68	0.47	1.00	0.73	0.45	1.00	0.67	0.47	1.00
5. Parenthood	0.29	0.46	0.00	0.00	1.00	0.31	0.46	0.00	0.41	0.50	0.00	0.22	0.41	0.00
6. Big 4	0.64	0.48	0.00	1.00	1.00	0.62	0.49	1.00	0.49	0.51	0.00	0.76	0.43	1.00
7. Career satisfaction	3.84	0.58	1.60	4.00	5.00	3.91	0.54	4.00	3.75	0.53	4.00	3.78	0.67	4.00
8. Workload	3.66	0.70	1.75	3.75	5.00	3.72	0.69	3.75	3.43	0.77	3.50	3.69	0.70	3.75
9. Work-family conflict	3.29	0.91	1.00	3.40	5.00	3.25	0.91	3.20	3.25	0.96	3.40	3.38	0.88	3.40
10. Job content	3.71	0.65	1.50	3.75	5.00	3.83	0.61	4.00	3.70	0.62	3.75	3.51	0.69	3.50
11. Support for AWAs	2.75	0.88	1.00	2.75	5.00	3.13	0.70	3.25	2.36	0.94	2.25	2.30	0.82	2.25
12. Careerism	3.25	0.84	1.00	3.40	5.00	3.14	0.78	3.20	2.96	0.86	3.00	3.56	0.82	3.80
13. Career involvement	3.10	0.61	1.25	3.00	4.75	3.13	0.63	3.25	3.17	0.59	3.25	3.03	0.59	3.00
14. Family involvement	3.67	0.64	2.00	3.75	5.00	3.66	0.65	3.75	3.71	0.63	3.75	3.68	0.64	3.75

Note. Stayers are respondents who were still employed at their first employer, leavers (firm) are respondents who had left their first audit firm of employment but were still employed elsewhere in the auditing profession, leavers (entirely) are respondents who had left the auditing profession entirely.

Sex (0 = male, 1 = female), marital status (0 = no relationship, 1 = relationship), parenthood (0 = no children, 1 = children), Big 4 (0 = small firm, 1 = Big 4 accounting firm) were dummy coded .

Table 2

Correlations of the variables in this study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Organizational turnover	1													
2. Age (in years)	0.71**	1												
3. Sex	–0.12*	0.20**	1											
4. Marital status	0.13*	0.15**	–0.04	1										
5. Parenthood	0.59**	–0.56**	–0.09	0.35**	1									
6. Big 4	–0.12*	0.20**	0.07	–0.04	–0.05	1								
7. Career satisfaction	0.07	0.00	0.12*	–0.03	0.02	0.07	1							
8. Workload	–0.03	0.12*	0.06	–0.02	–0.06	0.17**	–0.05	1						
9. Work-family conflict	0.03	–0.01	0.08	–0.07	0.01	0.16**	–0.09	0.65**	1					
10. Job content	0.18**	–0.15**	0.26**	0.07	0.21**	0.04	0.46**	0.09	–0.07	1				
11. Support for AWAs	0.25**	–0.05	0.15**	0.08	0.25**	0.11	0.16**	–0.13*	0.16**	0.24**	1			
12. Careerism	–0.21**	0.29**	–0.29**	–0.04	–0.29**	0.15**	–0.13	0.10	–0.04	–0.26**	–0.13*	1		
13. Career involvement	0.17**	–0.18**	0.06	–0.05	0.07	–0.06	0.21**	0.02	0.11*	0.27**	0.07	0.15**	1	
14. Family involvement	–0.20**	0.20**	0.15**	0.12*	–0.13	0.12*	–0.04	0.12*	–0.00	–0.08	0.01	0.06	–0.48**	1

Note. $N = 309$; * $p < 0.05$; ** $p < 0.01$.

Sex (0 = male, 1 = female), marital status (0 = no relationship, 1 = relationship), parenthood (0 = no children, 1 = children), Big 4 (0 = small firm, 1 = Big 4 accounting firm) were dummy coded .

Table 3

Results of Cox proportional hazards regression

Variables	Hazard ratio	95% CI	*p*-value
Perceived workload	0.533	0.383 – 0.742	0.000***
Work-family conflict	1.111	0.878 – 1.405	0.382
Job content	0.764	0.564 – 1.036	0.083*
Perceived support for AWAs	0.387	0.306 – 0.488	0.000***
Careerism	1.160	0.918 – 1.465	0.215
Career involvement	1.258	0.911 – 1.738	0.163
Family involvement	1.594	1.146 – 2.217	0.006***
Age (in years)	1.060	1.028 – 1.092	0.000***
Female (vs. male)	1.171	0.793 – 1.729	0.428
In a relationship (vs. not)	1.308	0.882 – 1.940	0.181
Children (vs. not)	0.542	0.340 – 0.863	0.010**
Big 4 (vs. non Big 4)	1.509	1.034 – 2.204	0.033**
Career satisfaction	0.893	0.654 – 1.219	0.475

Note. $N = 309$; χ^2 for the model (df = 13) = 144.373; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.