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## Article

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## **Developmental Proactivity and Professional Ability as Older Workers' Employability Resources: A Longitudinal Study Explaining Career Events**

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### ***Abstract***

This four-year longitudinal study examines how two facets of employability—professional ability and developmental proactivity—are linked to career events among workers ages 45 years and older. We construe employability as a personal resource that predicts a higher likelihood of experiencing positive career events and a lower likelihood of experiencing negative ones. Results reveal that developmental proactivity leads to a higher probability of internal promotion, while professional ability leads to a lower probability of salary loss, demotion, and unemployment. The findings indicate that these two facets of employability can offer critical insights for understanding the career events of older workers.

**Keywords:** employability, personal resources, career resources, longitudinal design, older workers

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## 1. INTRODUCTION

With the ageing of the workforce it is becoming ever more crucial that older workers can sustain their careers and keep them exciting, or at least satisfying. As such, these workers have good reason to focus on their job tenure and internal opportunities within their current workplaces because of their precarious position in the external labour market (Van der Heijden et al., 2009; Van Harten, 2016; Van Veldhoven & Dorenbosch, 2008).

Ideas for enhancing career sustainability centre on the concept of employability, which HRM gurus and policy makers tend to view as amenable to substantial improvement through investments (Pruijt & Dérogée, 2010). Employability is a broad concept that spans a range of resources. One of these resources is proactivity, especially in the form of pursuing learning opportunities (termed developmental proactivity). An additional resource is the level of the ease and confidence with which workers perform their day-to-day work (professional ability). In this study, we focus on these two resources and assess their impact on career development, while considering both positive and negative career outcomes.

The gap in the employability literature that this paper addresses concerns problematic employability. The existing literature is mainly brimming with positivity and frames employability in the light of opportunities that employees need to grab. Thus, substantial research exists that shows how promotions and salary gains depend on conforming to an ideal of proactive attitude and behaviour (Ng et al., 2005; Raemdonck et al., 2012; Van der Heijden et al., 2009; Volmer & Spurk, 2011). A small number of studies provide a more balanced picture by including negative career events among the possible outcomes, specifically the loss of job security or becoming unemployed. However, these studies also choose the predictors from the realm of ideal attitudes and behaviours, especially proactivity and personal adaptability (De Cuyper, Mäkikangas et al., 2012; Van der Heijde & Van der Heijden, 2006). These studies do not consider that this may be a luxury, and that workers' employability could depend solely on being able to confidently keep up in the job.

This study followed the career development of a large group of older workers (ages 45 to 64) during a four-year period (2010–2013). The longitudinal design allowed for more insight into time-effects and causality, and thus adds to previous research, which is mostly cross-sectional (e.g. De Vos et al., 2011; Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2009; Volmer & Spurk, 2011).

## 2. THEORETICAL BACKGROUND—CONSERVATION OF RESOURCES THEORY

Employability is empowerment in matters of career development. This definition follows Gazier (2001, p. 23), who sees employability as what makes *'each worker a more aware and a more independent organizer of the succession of activities and commitments that, combined, constitute his/her working life.'*

In this study, we focus on the supply side of employability—the dispositions, competencies, and attitudes that workers bring to their organizations and the labour market (De Cuyper, Mäkikangas et al., 2012; Forrier & Sels, 2003; Fugate et al., 2004; Hillage & Pollard, 1998; Thijssen et al., 2008; Van der Heijde & Van der Heijden, 2006). In contrast, the demand side of employability includes such factors as sectoral or governmental arrangements (Pruijt, 2013; Pruijt & Dérogée, 2010) or organizational policies to accommodate the work-life balance (Xanthopoulou et al., 2009).

Conservation of resources (COR) theory distinguishes between resource conservation and resource acquisition. The key scenario in resource conservation is *resources circumvent resource losses* (Hobfoll, 1989; Hobfoll, 2002). The individual with resources is less prone to resource losses and is able to invest in the conservation of those resources (Hobfoll et al., 2018). Conversely, when individuals engage in resource acquisition, the scenario is *resources beget resources*. The individual is thriving and able to invest in the acquisition of even more resources (Hobfoll, 2002).

A central employability resource which makes the acquisition of more resources possible is proactivity (Eby et al., 2003; Fugate et al., 2004; Van der Heijde & Van der Heijden, 2006), more specifically *developmental proactivity*. This is the worker's motivation to learn new things, build relationships with colleagues, explore ways to improve the work (Dorenbosch, 2014), and assess future skill requirements (Van Veldhoven & Dorenbosch, 2008). Developmental proactivity overlaps with several other psychological and social resources, such as the propensity to learn (Fugate et al., 2004), openness to change and curiosity or "career adaptability" (Hirschi, 2012), the inclination to build a (developmental) network (Arthur & Rousseau, 1995; Hirschi, 2012), and to some extent, self-management orientation and ability (Savickas, 2000). Overall, proactivity does not seem to be related to age (Zacher & Kooi, 2017).

We view *professional ability* as an employability resource that workers are motivated to conserve (De Cuyper, Raeder et al., 2012; Xanthopoulou et al., 2012). Crucially important is whether workers operate close to or beyond

their abilities, or whether they have headroom to draw upon their intellectual, physical, and emotional resources to meet their work demands (Hirschi, 2012). With such headroom, older workers can invest in the conservation of their resource pools. Conversely, workers who struggle in their jobs may lose personal resources and fail to replenish them. Then, any endeavour becomes an uphill battle (Trougakos et al., 2015). Workers' professional ability can decline with age, to the extent that their abilities depend on physical, mental, and sensory capacities rather than on experience, expertise, and soft skills; however, this decline is subject to individual differences, of course (Hardy & Reyes, 2015).

Because resource conservation and resource acquisition are separate processes (Halbesleben et al., 2014), professional ability and developmental proactivity can be viewed as separate employability resources. Another reason for making a sharp distinction between professional ability and developmental proactivity is that we sought to avoid the implicit assumption that proactivity is *the* key to being able to thrive sustainably in the world of work. Such an underlying implicit assumption seems to exist in much of the employability literature, which promotes a variety of proactive behaviours: assessing skill sets, acting on assessments by honing, redirecting, and expanding skills (Waterman et al., 1994), becoming more aware of the marketability of one's skills and presenting them in an effective way (Ghoshal et al., 1999), network building (Arthur & Rousseau, 1995), creating one's own opportunities in an entrepreneurial fashion (Kanter, 1993), and job crafting (Dorenbosch, 2014).

The concept of a career event refers not only to "career" in the sense of a possible progression (Hirschi, 2012), but also to the effects of employment shocks, offshoring, and downsizing (Bosch & Ter Weel, 2013; Ng & Feldman, 2014). This view deviates from the "boundaryless" career perspective, which emphasizes mobility between companies while the workers' personal development takes centre stage and employers become contingent and replaceable (Littleton et al., 2000). The boundaryless career perspective is less applicable to older workers (for empirical evidence, see Appendix 1).

We focus entirely on what Spurk et al. (2019) called 'objective career success'. Thus, this study covers positive and negative career events or outcomes. Promotion is a positive career event, and the study covers four possible negative career events: salary loss, demotion, salary loss combined with demotion, and transition into unemployment.

The linkage between employability resources and career events consists of several pathways. Employability resources can affect performance (De Cuyper et al., 2014). Moreover, the sheer amount of resources in one's possession affects others' judgments (Hobfoll, 2002). For (older) workers, the judgments of their immediate managers play a major role, since monitoring employees is part of a manager's official duties. Managers' judgments, in turn, inform decisions that determine whether or not various career events occur (Van der Heijden et al., 2009). A third mechanism is the resource crossover between interacting individuals (Hobfoll et al., 2018), which implies that a worker's resources affect those enjoyed by co-workers, and in turn can influence personnel management decisions.

### 3. HYPOTHESIS DEVELOPMENT

Hypothesis 1 concerns the likelihood that older workers will experience an internal promotion. Performance appraisals may be pervasive in managers' decisions to grant their subordinates (new) career entitlements (Van der Heijden et al., 2009).

We reason that resource-rich workers, those who favourably assess their professional ability and developmental proactivity, will project a corresponding image. Managers value resource-rich workers. Promotions are widely recognized as proximal indicators of workers' assessed net worth or typically classified as tangible rewards for valuable organizational assets (Ng et al., 2005).

The idea that employability affects employees' promotion rates is well-accepted. For instance, Van der Heijde and Van der Heijden (2006) along with Van der Heijden et al. (2009) and Volmer and Spurk (2011) posited that employability predicts a higher likelihood of experiencing an (internal) promotion. Likewise, Raemdonck et al. (2012) related self-directedness in learning (which displays overlap with developmental proactivity) to low-qualified employees' chances for a promotion. Proceeding from these considerations, we hypothesize:

*Hypothesis 1: Self-perceived employability (professional ability and developmental proactivity) is positively related to the likelihood of experiencing a future internal promotion.*

*Hypotheses 2 through 5 concern negative career events in the form of a salary loss, demotion, and transition into unemployment.*

Workers who confidently meet work demands (who possess high levels of professional ability) are less likely to be judged as underperforming employees, and, based on performance at least, there is no reason for a salary loss to occur. Likewise, workers who exhibit proactive learning behaviour should be able to minimize the risk of a salary

loss because they can anticipate conditions in which their activities may be less valuable to the organization and, therefore, can prepare for new, more important activities.

Contemporary research has stringently focused on the salary level or gain. For instance, Van der Heijden et al. (2009) along with Van der Heijde and Van der Heijden (2006) and Volmer and Spurk (2011) posited that being employable is associated with higher salaries. The outcome of salary loss is relatively absent from the literature. Based on these considerations, we propose:

*Hypothesis 2: Self-perceived employability (professional ability and developmental proactivity) is negatively related to the likelihood of experiencing a future salary loss.*

Workers with ample resources—even resources to spare—to perform their work adequately and who learn proactively are likely to win managers' confidence (Van der Heijden et al., 2009). Managers are not likely to perceive such workers as bad decision makers or inadequate performers, which could be reasons for a forced demotion. Also, workers who are in control and thriving seem to have little reason to consider relinquishing their job responsibilities (voluntary demotion). Also relevant is the notion that the leadership exercised by a resourceful individual can engender resource increases in colleagues (Hobfoll et al., 2018; Ma et al., 2019). Thus, demoting such a person would entail a disadvantage for the organization in the form of a decline in resources or potential new resources among a group of workers. Hence, we hypothesize:

*Hypothesis 3: Self-perceived employability (professional ability and developmental proactivity) is negatively related to the likelihood of experiencing a future demotion.*

A loss in salary and a loss of job responsibility (demotion) can occur together. In the Dutch HRM literature there are indications that demotion combined with a reduction in salary tends to be a management intervention directed at a structurally underperforming employee. Such action is the outcome of a process triggered when a worker is no longer able to meet the minimally required performance level and can be seen as an alternative to dismissal (De Rooij, 2014; Jongsma, 2014). A vignette study by Van Dalen and Henkens (2015) suggested that managers employ this procedure reluctantly, because workers across the organization will see it as the employer's breaking the agreed-upon rules and acting untrustworthily. Thus, we assume that workers need only relatively modest employability resources in order to prevent the procedure from being triggered. The corollary is that workers who experience both salary loss and demotion have lower professional ability and developmental proactivity than those who experience only one of these negative career events. Accordingly, we predict:

*Hypothesis 4: The negative association between self-perceived employability (professional ability and developmental proactivity) and future negative career events is stronger when salary loss and demotion occur concurrently.*

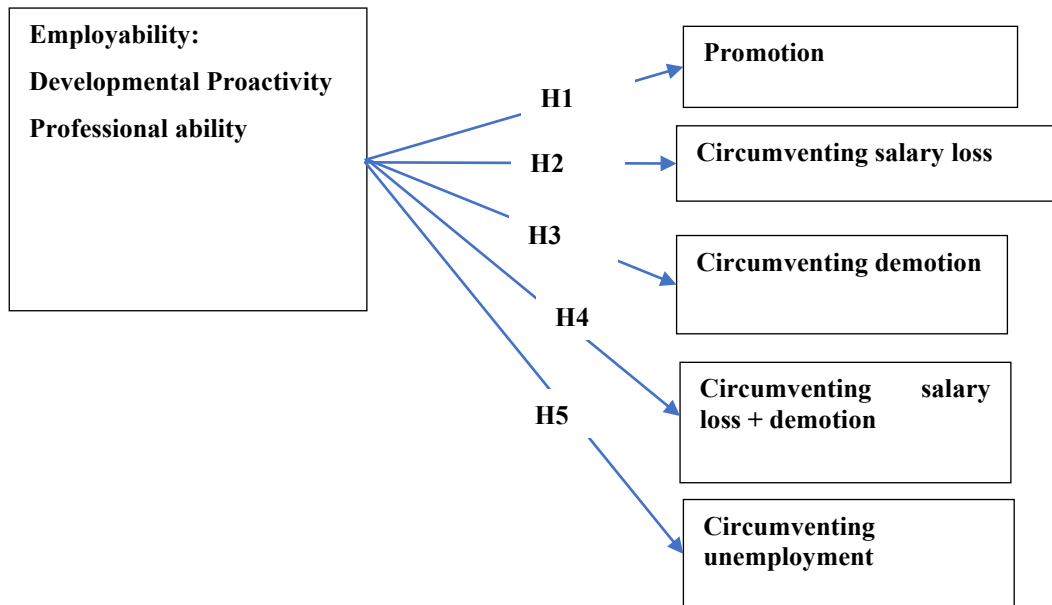
Finally, we posit that self-perceived employability (professional ability and developmental proactivity) affects the likelihood of becoming unemployed. Employable workers possess qualities that managers seek; therefore, resource-rich workers have a higher chance of retaining employment compared with resource-poor workers. A number of studies show that a crossover of resources can occur in the course of interpersonal exchange in teams (Bakker et al., 2006; Hobfoll et al., 2018). In this way, resource-rich employees create extra value for the organization, which could imply some protection against dismissal.

Van der Heijde and Van der Heijden (2006) posited that employable employees are less likely to be confronted with periods of unemployment. De Cuyper, Mäkikangas et al., (2012) proposed that perceived employability reduces job insecurity. Accordingly, we posit:

*Hypothesis 5: Self-perceived employability (professional ability and developmental proactivity) is negatively related to the likelihood of experiencing future unemployment.*

Figure 1 displays our theoretical framework.

**Figure 1 The proposed theoretical framework**



## 4. METHODOLOGY

### 4.1 Sample

We based this study on the *Dutch Study on Transitions in Employment, Ability and Motivation* (STREAM), a prospective cohort study with a four-year time span conducted by The Netherlands Organisation for Applied Scientific Research or TNO (Ybema et al., 2014). The sample is stratified by age (45 to 64 years at baseline) and employment status (employed, self-employed and non-employed or those inactive in the labour market).

For the baseline measurement, the Dutch panel agency, Intomart Gfk, invited 26,601 individuals in 2010 to complete an online questionnaire on topics such as proactivity, health, work, and labour market transitions. Respondents received a small financial incentive, which increased slightly each year the respondent completed the questionnaire, depending on the time spent. The final sample at baseline included 15,118 respondents, a response rate of 71%, which is above average for survey research conducted among individuals (Baruch & Holtom, 2008). Respondents who participated in all follow-up waves (conducted in 2011, 2012, and 2013) numbered 9,639, or 64% of the baseline number.

Respondents in STREAM do not constitute a representative sample of the Dutch population; however, we do not consider this problematic because our aim is to draw causal conclusions about the relationship between employability and career events rather than to determine the proportion of older workers in the Dutch population who have experienced particular career events. Therefore, for our purpose, heterogeneity is preferable to representativity. A flowchart about the responses to the STREAM questionnaire is found in Appendix II.

To test hypotheses 1 through 4, we used a sub-dataset that enabled us to assess the likelihood of experiencing a career event (promotion, salary loss, demotion or combination of salary loss and demotion) rather than sustained “stability” (remaining employed throughout the study without experiencing any of these career events). Since we were interested in respondents’ career development *at a later point in time*, we focused on respondents who participated at the baseline and at least one follow-up wave (N=13,781).

Next, we excluded self-employed persons, since they may have different career trajectories and thus score differently on employability resources (remaining N=12,573). We also excluded non-employed persons, because we wanted to concentrate on career events occurring *while working* relative to no event occurring (remaining N=8,666). Finally, we omitted those respondents who had experienced a career event in the 12 months prior to the baseline measurement to ensure a stable and equal starting position for all. The final sample included 7,751 respondents.

To test hypothesis 5, we relied upon a second sub-dataset. This sub-dataset is comparable to the first in that all self-employed persons were removed and only those who participated in at least two waves were included. As a result, only respondents classified as ‘employed’ or ‘non-employed’ who participated at the follow-up were part of

our sample (N=12,573). Next, we removed respondents with a mixed employed/non-employed status at the same point in time to avoid biases in our estimates. We wanted to compare those who had remained employed with those who had made the transition to unemployment at follow-up (remaining N=10,027). In addition, we removed participants who were non-employed at the baseline, so the starting position was similar for all (i.e., everyone was employed; remaining N=8,335). Finally, we excluded participants who had an inactive labour market status other than unemployment at the follow-up (such as work disability). The final sample included 7,241 respondents. Appendix III provides details of the participation pattern of respondents in both samples.

We performed drop-out analyses to compare the scores on our predictor variables of respondents who participated only at the baseline with scores of those who participated in at least two measurement waves. Because we employed two sub-datasets, we performed two drop-out analyses using T-tests and  $\chi^2$ -tests. We compared each study sample (N=7,751 and N=7,241) to a sample of workers who took part only in the baseline questionnaire (N=912 for sub-dataset 1; N=929 for sub-dataset 2<sup>1</sup>). Except for gender (only in sub-dataset 2), age, relaxation and recovery, and professional ability, we did not find any serious loss to follow-up biases. Although significant, mean differences remained rather small, in part due to the large sample sizes. In essence, the Cohen's d effect size measure was  $|\leq .20|$  or lower in all cases<sup>2</sup>. Also,  $\Phi$  was  $|\leq .03|$  for gender. Based on these small to negligible effect sizes, we do not consider loss to follow-up a problem when interpreting the results from both sub-datasets.

#### **4.2 Measurements**

For the dependent variables, we used factual questions, which seem less susceptible to self-selection and common-method biases than perceptual measures.

Participants belonging to sub-dataset 1 were asked whether they had received a promotion in their company in the past 12 months. The question was included in each measurement wave. Scale anchors were 1 (yes) and 2 (no). Workers who answered 'no' were asked if they had moved from a higher to a lower position or from a higher to a lower salary in the past 12 months. Respondents could choose one of four answers: 1 (no), 2 (yes, lower position and lower salary), 3 (yes, lower position), 4 (yes, lower salary). These questions were collapsed into one variable with five mutually exclusive categories at each follow-up wave: promotion, salary loss, demotion, salary loss and demotion (combined), and sustained "stability" (those experiencing no career event).

Since we restricted our sample to those who had not experienced a career event in the 12 months prior to the baseline measurement, four transition categories could be distinguished from baseline stability to promotion, salary loss, demotion, and salary loss and demotion (combined) at follow-up, as well as a category encompassing those who had not experienced a career event at follow-up. Based on these transitions, we created a final variable for sub-dataset 1 that prioritized promotion over combined salary loss and demotion; combined salary loss and demotion over salary loss (singular); and salary loss (singular) over demotion (singular). Thus, respondents were categorized as "promoted" if they had experienced a promotion at least once at follow-up. We consider this hierarchical classification valid, because older workers' career patterns were quite consistent over time. In fact, only 10% had a mixed participation pattern in which they had experienced two or more different career events at follow-up.

We classified participants in sub-dataset 2 as employed or non-employed (unemployment) based on the question 'Are you currently'..., after which respondents could choose between nine possible choices of status. These choices were not mutually exclusive. Participants were categorized as employed if they held at least one job with one or multiple employers or combined a career as an employee with a career as an entrepreneur (self-employment), but spent most hours as an employee. The non-employed were those who had lost their jobs and were thus fully unemployed or were combining unemployment with another inactive status, such as studying or running the household.

Our rationale for classifying the non-employed in the aforementioned way is that we were interested in whether respondents became unemployed at follow-up (and hence, lost the jobs they had) rather than in how they spent their time as an unemployed person. Nor could we not rule out the possibility that respondents who classify themselves as 'unemployed' also spent time on other activities outside the work domain.

As for the independent variables: for both datasets, we measured employability based on whether workers had two resources—professional ability and developmental proactivity—which we assessed at the baseline.

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<sup>1</sup> Due to differences in the composition of our study samples (see heading 'Datasets and participants'), the sizes of the benchmark samples differed slightly.

<sup>2</sup> According to Cohen (1977), values for Cohen's d between .20 and .35 are indicative of a small effect size, while values below .20 indicate effect sizes that can be considered negligible; however, Wolf (1986) considers an effect meaningful when Cohen's d is .25 or above.

We measured *professional ability* using a scale developed by TNO which consists of five items that reflect workers' assessment of their reactive adjustment to future work-related changes. Example items are 'Able to perform the work in the coming 12 months' and 'Able to continue working if work becomes physically more demanding'. Answers ranged from 1=certainly not to 5=certainly. Only respondents with a valid score on at least four items contributed to the mean scale. Cronbach's alpha was .85 in both samples.

We measured *developmental proactivity* using four items to assess workers' judgement of their willingness to learn new skills and proactive adjustment to future job requirements. The scale was originally developed by Van Veldhoven & Dorenbosch (2008) and includes items such as 'In my work, I keep trying to learn new things' and 'With regard to my skills and knowledge, I see to it that I can cope with changes in my work'. Response anchors ranged from 1=strongly disagree to 5=strongly agree. Only respondents with a valid score on at least three items contributed to the mean scale. Cronbach's alpha was .81 in both samples, which is comparable to the coefficient found by Van Veldhoven & Dorenbosch (2008).

Appendix IV lists the items used to operationalize professional ability. For an overview of the items used to operationalize developmental proactivity, we refer the reader to the technical report on STREAM, which can be found in the reference list (Van den Heuvel et al., 2014).

### 4.3 Analysis

The aforementioned employability resources have not yet been studied simultaneously; therefore, we first performed an exploratory factor analysis on one random half of the samples for sub-dataset 1 (N=3,910) and sub-dataset 2 (N=3,655) using baseline data. In both datasets, two factors with an eigenvalue greater than 1 emerged from the principal component analysis with oblimin rotation. All cross-loadings fell below .32, while intended loadings exceed .50 (mean  $\lambda$  value=.79). The average variance explained (AVE) amounted to .63 for both professional ability and developmental proactivity (.64 for sub-dataset 2). The composite reliability (CR) was .90 for professional ability in both datasets, and .87 and .88 respectively for developmental proactivity.

All these values lie above the recommended threshold of .50 for the AVE and .70 for the CR (Hair et al., 2010). As a result, our factor analysis provides sufficient evidence for the convergent validity of our latent constructs. Moreover, the square root of the AVE belonging to a particular construct was higher than the correlation between that construct and the other employability resource, confirming the divergent validity of our measurement model.

To validate our measurement model, we performed a confirmatory factor analysis (CFA) on a second random half of the samples for sub-dataset 1 (N=3,841) and sub-dataset 2 (N=3,586) using data assessed at baseline. Specifically, we compared a hypothesized second-order factor model, in which professional ability and developmental proactivity together with their corresponding items load onto a second-order factor, 'employability resources', with two alternatives. The first alternative concerned a two-factor model in which the items accompanying professional ability and developmental proactivity load onto their corresponding first-order factor. The second alternative pertained to a one-factor model in which the items belonging to professional ability and developmental proactivity load onto one first-order factor.

A CFA model is considered a good fit to the data if the CFI and TLI are .90 or higher, the RMSEA falls below .08 and the SRMR is .10 or lower (Hox, 2010; Van den Broeck et al., 2010). Our results in R lavaan (Rosseel, 2012) indicated that the hypothesized second-order factor model provided a good fit to the data with  $\chi^2(26) = 352.77$ , CFI=.98, TLI=.97, RMSEA=.06 and SRMR=.04 (sub-dataset 1) and  $\chi^2(26) = 298.58$ , CFI=.98, TLI=.97, RMSEA=.05 and SRMR=.04 (sub-dataset 2). However, the two-factor model also provided an acceptable fit. In contrast, the one-factor model provided a very poor fit to the data (see Table 1). These results justify the conclusion that professional ability and developmental proactivity should be treated as two conceptually distinct constructs, which are apparently an integral part of a second-order factor, 'employability resources'.



**Table 1: Confirmatory factor analysis: fit indices for the hypothesized model and two alternative models**

		$\chi^2$	df	CFI	TLI	RMSEA	SRMR
Model 1: Second-order factor model (hypothesized model)	Sub-dataset 1	352.77	26	0.98	0.97	0.06	0.04
	Sub-dataset 2	298.58	26	0.98	0.97	0.05	0.04
Model 2: 2 factor model	Sub-dataset 1	286.68	25	0.98	0.98	0.05	0.04
	Sub-dataset 2	277.27	25	0.98	0.97	0.05	0.04
Model 3: 1 factor model (Harman's model)	Sub-dataset 1	5044.95	26	0.66	0.53	0.23	0.18
	Sub-dataset 2	4319.59	26	0.68	0.55	0.22	0.18

*Notes: N=3,801 for sub-dataset 1 / N=3,539 for sub-dataset 2.*

*$\chi^2$ =Maximum Likelihood chi-square.*

*CFI=Comparative Fit Index; TLI=Tucker-Lewis Index; RMSEA=Root Mean Square Error of Approximation; SRMR=Standardized Root Mean Square Residual.*

*<sup>1</sup>Since different techniques have been used to identify the models, the fit of the different measurement models could not be compared.*

Previous research indicates that demographic, well-being and work-related variables affect workers' employment position and loss of paid employment (e.g. Leijten et al., 2015; Seibert et al., 1999; Van der Heijden et al., 2009; Volmer & Spurk, 2011; Yang & Chau, 2016). Therefore, we included these potential confounders in our analyses. Demographic variables included workers' age (in years), gender (0=male; 1=female), and educational level (dummies for low and middle; reference category is high). In addition, we used workers' years of job tenure to represent work-related aspects. Finally, as a proxy for well-being, we used relaxation and recovery—the degree to which employees could detach from work after a working day (three items,  $\alpha=.71$  in both samples).

We performed two logistic regression analyses, one to address hypotheses 1 through 4 (using sub-dataset 1) and one to address hypothesis 5 (using sub-dataset 2). In the first analysis, we used one outcome variable with multiple categories in a multinomial logistic regression analysis. In the second analysis, we conducted a binary logistic regression analysis of whether paid employment was lost or not. For both analyses, we report the odds ratios or Exp(B) and the statistical significance levels.

For both logistic regression analyses, we estimated three models. In the first, we included the employability resources. In the second, we added the control variables to the equation to address potential confounding relationships. In the third, we included the variable 'participation' as part of a panel attrition analysis. Specifically, we added a main term for participation as well as interaction terms with our employability resources to the equation (see Model 3 in Tables 2c and 3c). In this way, we were able to assess how the frequency of participation affected the outcome variables of interest and the assumed relationships between these outcomes and employability.

The aforementioned panel attrition analysis is analogous to the pattern mixture model frequently used in linear mixed effect models (Son et al., 2012). We used the likelihood ratio test statistic (denoted by  $\chi^2$ ) to assess the improvement in model fit and relied on the AIC to adjust for model complexity. In addition, we used the Nagelkerke  $R^2$  as an analogue to the  $R^2$  commonly used in linear regression analyses.

## 5. RESULTS

Tables 2a and 2b display the descriptive statistics for sub-dataset 1. The reported mean score for professional ability was 4.20 and 3.91 for developmental proactivity, with little variation among the respondents. Our first sample consisted of slightly more males than females, with an average age of 53, and mainly with medium and higher education levels. Multi-collinearity was not a concern because correlations between the study variables (i.e., independent and control variables) fell below the threshold of .80 (Field, 2009). There was a small and positive correlation between professional ability and developmental proactivity ( $r=.16, p<.01$ ). Although these two resources are conceptually distinct, this coefficient indicates that these resources are related, which aligns with their classification as 'employability resources'.

**Table 2a: Descriptive results for sub-dataset 1: means, standard deviations and ranges for the independent and control variables at baseline**

	Mean/proportion	SD	Range
<i>Employability resources</i>			
Developmental proactivity	3.91	0.57	1-5
Professional ability	4.20	0.62	1-5
<i>Demographic characteristics</i>			
Age (years)	53.31	5.04	45-64
Gender (ref=male)	0.44		0/1
Education (ref=high) <sup>1</sup>			
low	0.26		0/1
middle	0.39		0/1
<i>Work-related characteristic</i>			
Job tenure (years)	11.19	9.51	0-45

Well-being related characteristic

Relaxation and recovery	2.91	0.71	1-5
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Notes: Due to missing values (< 1% of total), the N ranges from 7,705 to 7,751. 'low: (not) finished primary school or completed lower vocational education; middle: finished secondary school or higher vocational training; high: obtained a bachelor, master or PhD degree.

**Table 2b: Zero-order (Pearson r) correlation coefficients for the independent and control variables at baseline (sub-dataset 1)**

	1.	2.	3.	4.	5.	6.
1. Developmental proactivity	-					
2. Professional ability	.156**	-				
3. Age (years)	-.035**	-.150**	-			
4. Gender (ref=male)	.033**	-.033**	-.026*	-		
5. Education <sup>1</sup>	.186**	.053**	-.030**	-.056**	-	
6. Job tenure (years)	-.059**	-.075**	.194**	-.061**	-.044**	-
7. Relaxation and recovery	-.123**	.081**	.017	-.072**	-.130**	.006

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ . <sup>1</sup>Spearman correlation used.

Due to missing values (< 1% of total), the N fluctuates between 7,705 and 7,751.

Table 2c shows the results from the sequential multinomial logistic regression analyses for sub-dataset 1. Model 1, which contains only employability resources, provides a statistically significant improvement in fit over the intercept-only model, with  $\chi^2(8) = 113.1$ ,  $p < .001$  and AIC is 1754.3 ( $R^2 = .020$ ). Model 2, which displays the full model, shows a statistically significant better fit than Model 1, with  $\chi^2(24) = 174.6$ ,  $p < .001$  and AIC is 9323.4 ( $R^2 = .052$ ). Model 3, which contains the panel attrition analysis, shows negligible differences in comparison to our full model (Model 2), indicating that respondents' participation patterns did not bias our results.

Hypothesis 1 predicted that workers with a favourable self-assessment of their employability (professional ability and developmental proactivity) would have a higher probability of experiencing a future internal promotion. The estimated results shown in Table 2c support this hypothesis for developmental proactivity: respondents who assessed their developmental proactivity more favourably at baseline were more likely to have experienced an internal promotion at follow-up ( $\text{Exp}(B) = 1.58$ ,  $p < .001$ ). However, no significant results were found for professional ability. Therefore, hypothesis 1 is partially supported.

Hypotheses 2–4 posited that positive self-rated employability (professional ability and developmental proactivity) predicts a lower probability of experiencing a future salary loss (H2), demotion (H3), or demotion and salary loss (H4). Across these outcomes, no statistically significant findings were found for developmental proactivity. However, professional ability was significantly related to having experienced a salary loss at follow-up. The odds ratio fell below 1, indicating that respondents who assessed their professional ability positively at baseline had a lower likelihood of having experienced a salary loss at follow-up ( $\text{Exp}(B) = 0.68$ ,  $p < .001$ ). Therefore, hypothesis 2 is partially supported.

The analyses also partially support hypotheses 3 and 4. Professional ability reliably distinguished between workers who had experienced a demotion and those who had experienced no career transition at follow-up. Specifically, we found that workers who rated their professional ability favourably at baseline had a lower likelihood of having experienced a demotion at follow-up ( $\text{Exp}(B) = 0.65$ ,  $p < .001$ ). In addition, we found a significant relationship between self-assessed professional ability at baseline and having experienced demotion and salary loss at follow-up. Specifically, workers who rated their professional ability positively at baseline were less likely to have experienced a simultaneous demotion and salary loss at follow-up ( $\text{Exp}(B) = 0.47$ ,  $p < .001$ ). This negative relation is stronger than those separate relationships between professional ability and salary loss (H2) and demotion (H3), which confirms hypothesis 4.

**Table 2c: Multinomial logistic regression analyses for sub-dataset 1: positive and negative career events as well as stability at follow-up as a function of employability resources and control variables assessed at baseline, including panel attrition analyses**

	Model 1 (M1) <sup>†</sup>	Model 2 (M2) <sup>^</sup>	Model 3 (M3) <sup>^^</sup>
	Exp(B)	Exp(B)	Exp(B)
<b>Category 1: promotion (n=597 (M1); n=593 (M2 and M3))</b>			
<i>Employability resources</i>			
Developmental proactivity	1.69***	1.58***	1.49***
Professional ability	1.12	1.03	0.98
<i>Control variables</i>			
Age (years)		0.93***	0.93***
Gender (ref=male)		0.85	0.85
Education (ref=high)			
low		0.86	0.87
middle		0.74**	0.74**
Job tenure (years)		0.97***	0.97***
Relaxation and recovery		0.83**	0.83**
<i>Panel attrition</i>			
Participation in two waves (P1)			1.13
Participation in three waves (P2)			0.03**
Developmental proactivity*P1			1.06
Developmental proactivity*P2			1.49
Professional ability*P1			0.77
Professional ability*P2			1.41
Constant	-4.95***	0.58	1.27
<b>Category 2: salary loss (singular; n=273 (M1); n=272 (M2 and M3))</b>			
<i>Employability resources</i>			
Developmental proactivity	1.07	1.09	1.15
Professional ability	0.67***	0.68***	0.63***
<i>Control variables</i>			
Age (years)		1.01	1.01
Gender (ref=male)		0.98	0.98
Education (ref=high)			
low		1.08	1.08
middle		0.83	0.83
Job tenure (years)		1.01	1.01
Relaxation and recovery		1.02	1.03

<i>Panel attrition</i>			
Participation in two waves (P1)			0.22
Participation in three waves (P2)			1.09
Developmental proactivity*P1			0.95
Developmental proactivity*P2			0.77
Professional ability*P1			1.21
Professional ability*P2			1.18
Constant	-1.76***	-2.36*	-2.13*
<hr/>			
Category 3: demotion (singular; n=216 in all models)			
<i>Employability resources</i>			
Developmental proactivity	1.30*	1.24	1.27
Professional ability	0.67***	0.65***	0.59***
<i>Control variables</i>			
Age (years)		1.00	1.00
Gender (ref=male)		0.92	0.92
Education (ref=high)			
low		0.89	0.90
middle		1.15	1.15
Job tenure (years)		0.97***	0.97***
Relaxation and recovery		0.94	0.95
<i>Panel attrition</i>			
Participation in two waves (P1)			0.18
Participation in three waves (P2)			0.21
Developmental proactivity*P1			0.79
Developmental proactivity*P2			1.01
Professional ability*P1			1.54
Professional ability*P2			1.36
Constant	-2.77***	-2.18*	-1.62
<hr/>			
Category 4: salary loss and demotion (combined; n=113 in all models)			
<i>Employability resources</i>			
Developmental proactivity	1.15	1.09	1.09
Professional ability	0.49***	0.47***	0.43***
<i>Control variables</i>			
Age (years)		0.98	0.98
Gender (ref=male)		1.38	1.39
Education (ref=high)			

low		0.76	0.77
middle		0.82	0.84
Job tenure (years)		0.97*	0.97*
Relaxation and recovery		1.11	1.12
<i>Panel attrition</i>			
Participation in two waves (P1)			5.23
Participation in three waves (P2)			0.16
Developmental proactivity*P1			0.45
Developmental proactivity*P2			1.33
Professional ability*P1			1.06
Professional ability*P2			1.21
Constant	-1.65***	-0.28	1.00
<hr/>			
-2LL ( $\chi^2$ )	1730.3 (113.1***)	9251.4 (287.7***)	9171.1 (369.5***)
$\Delta\chi^2$ (df)	-	174.6 (24)***	81.8 (24)***
AIC	1754.3	9323.4	9291.1
Nagelkerke R <sup>2</sup>	.020	.052	.066
<hr/>			

Notes: Reference category: sustained stability (n=6,527 (M1); n=6,487 (M2 and M3)).

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

<sup>1</sup>Listwise deletion reduced the number of records to n=7,726 (< 1% of total).

<sup>^</sup>Listwise deletion reduced the number of records to n=7,681 (< 1% of total).

<sup>^^</sup>Listwise deletion reduced the number of records to n=7,681 (< 1% of total).

We performed an additional analysis to correct for any changes in organizational setting and work conditions that might have affected the findings for sub-dataset 1. Specifically, we re-ran our multinomial logistic regression analysis on a sample that included participants who had experienced neither a reduction in working hours nor a switch of employer at follow-up (N=6,233). The differences in parameter estimates were negligible, except for salary loss. In that case, the coefficient for professional ability became non-significant, perhaps because of the severe shrinkage in sample size for this category, leading to deflated correlations and inflated Type II error rates. (Results are available from the first author upon request.)

Tables 3a and 3b present the descriptive statistics for sub-dataset 2. Respondents had an average age of 53 years, were predominantly male, and had medium or higher levels of education. Contrary to sub-dataset 1, which assessed career events among employed persons, sub-dataset 2 compared those remaining employed to those who became unemployed at follow-up. Overall, multi-collinearity was not evident, since correlations between the study variables fell below .80 (Field, 2009). As with sub-dataset 1, we found a positive relation ( $r=.17$ ,  $p<.01$ ) between developmental proactivity and professional ability. Also, the mean scores on the employability resources were quite similar to those of sub-dataset 1: 3.93 for professional ability and 4.21 for developmental proactivity. In addition, we found a negative correlation between developmental proactivity and relaxation and recovery ( $r=-.12$ ,  $p<.01$ ), indicating that workers who anticipated knowledge needs in their jobs had more difficulty turning off from work.

**Table 3a: Descriptive results for sub-dataset 2: means, standard deviations and ranges for the independent and control variables at baseline**

	Mean/proportion	SD	Range
<i>Employability resources</i>			
Developmental proactivity	3.93	0.57	1-5
Professional ability	4.21	0.63	1-5
<i>Demographic characteristics</i>			
Age (years)	53.05	4.85	45-64
Gender (ref=male)	0.37		0/1
Education (ref=high) <sup>1</sup>			
low	0.26		0/1
middle	0.39		0/1
<i>Work-related characteristic</i>			
Job tenure (years)	10.85	9.60	0-45
<i>Well-being related characteristic</i>			
Relaxation and recovery	2.91	0.72	1-5

*Notes: Due to missing values (< 1,5% of total), the N ranges from 7,168 to 7,241. <sup>1</sup>low: (not) finished primary school or completed lower vocational education; middle: finished secondary school or higher vocational training; high: obtained a bachelor, master or PhD degree.*

**Table 3b: Zero-order (Pearson r) correlation coefficients for the independent and control variables at baseline (sub-dataset 2)**

	1.	2.	3.	4.	5.	6.
1. Developmental proactivity	-					
2. Professional ability	.173**	-				
3. Age (years)	-.027*	-.164**	-			
4. Gender (ref=male)	.037**	-.035**	.001	-		
5. Education <sup>1</sup>	.166**	.067**	-.019	-.051**	-	
6. Job tenure (years)	-.084**	-.071**	.222**	-.062**	-.060**	-
7. Relaxation and recovery	-.120**	.070**	.015	-.066**	-.144**	.010

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ . <sup>1</sup>Spearman correlation used.

Due to missing values (< 1,1% of total), the N fluctuates between 7,168 and 7,241.

Table 3c displays the results from the binary logistic regression analysis for sub-dataset 2. Model 1, which contains the employability resources, provides a statistically significant better fit than the intercept-only model ( $\chi^2(2) = 81.3$ ,  $p < .001$ ). The accompanying AIC is 3150.4 and  $R^2$  is .031. Model 2, which includes the control variables, shows a significant improvement in fit over Model 1, with  $\chi^2(6) = 69.3$ ,  $p < .001$  and AIC is 3070.2 ( $R^2 = .058$ ). Model 3 shows the panel attrition analysis. Differences between the findings of this and our full model (Model 2) were very small, indicating that respondents' participation patterns did not distort our results.

Hypothesis 5 predicted that workers with a favourable self-assessment of their employability (professional ability and developmental proactivity) are less likely to experience future unemployment. Our logistic regression analysis showed a significant relationship for professional ability, that is, those who self-assessed as having greater professional ability at baseline had a higher probability of having retained work ('sustainable employment',  $\text{Exp}(B) = 1.89$ ,  $p < .001$ ). However, the relationship between developmental proactivity and sustainable employment was non-significant. Therefore, the data partially support hypothesis 5. Figure 2 summarizes the outcomes.

**Table 3c: Binary logistic regression analysis for sub-dataset 2: negative career events and stability at follow-up as a function of employability resources and control variables assessed at baseline, including panel attrition analysis**

	Model 1 <sup>1</sup>	Model 2 <sup>^</sup>	Model 3 <sup>^^</sup>
	Exp(B)	Exp(B)	Exp(B)
<i>Employability resources</i>			
Developmental proactivity	0.99	0.96	1.01
Professional ability	1.90***	1.89***	1.98***
<i>Control variables</i>			
Age (years)		0.97***	0.97***
Gender (ref=male)		0.94	0.93
Education (ref=high)			
low		0.71**	0.71**
middle		0.97	0.96
Job tenure (years)		1.04***	1.04***
Relaxation and recovery		0.77***	0.77***
<i>Panel attrition</i>			
Participation in two waves (P1)			8.67 <sup>2</sup>
Participation in three waves (P2)			2.64
Developmental proactivity*P1			0.79
Developmental proactivity*P2			0.90
Professional ability*P1			0.83



Professional ability*P2			0.91
Constant	0.17	2.78***	2.30**
-2LL ( $\chi^2$ )	3144.4 (81.3***)	3052.2 (150.6***)	3041.0 (161.8***)
$\Delta\chi^2$ (df)	-	69.3 (6)***	11.2 (6)
AIC	3150.4	3070.2	3071.0
Nagelkerke R <sup>2</sup>	.031	.058	.062

Notes: Reference category: transition to unemployment at follow-up.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

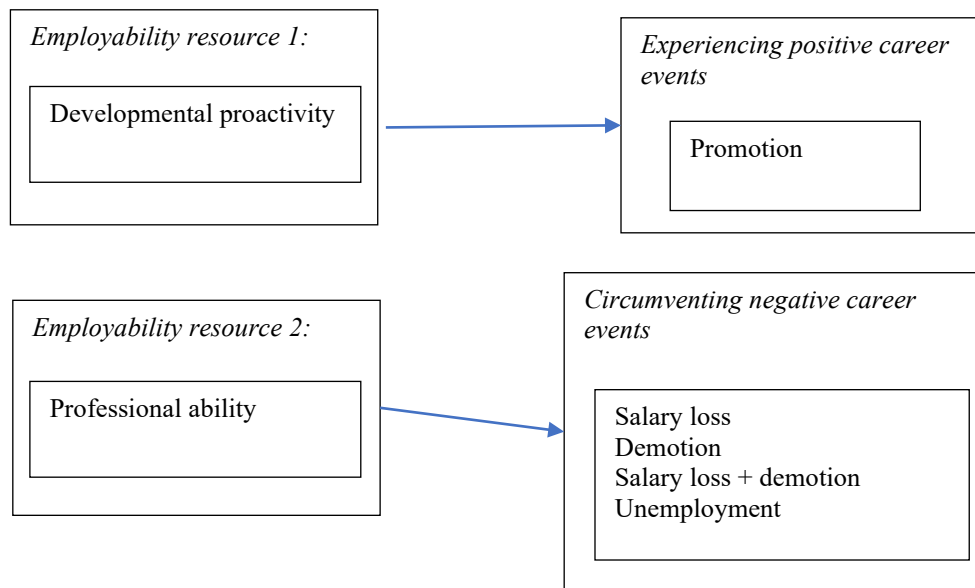
<sup>1</sup>Listwise deletion reduced the number of records to  $n=7,213$  ( $< 1\%$  of total).

<sup>^</sup>Listwise deletion reduced the number of records to  $n=7,161$  ( $=1,1\%$  of total).

<sup>^^</sup>Listwise deletion reduced the number of records to  $n=7,161$  ( $=1,1\%$  of total).

<sup>2</sup>The non-significance of this parameter estimate may be due to an inflated Type II error rate caused by the Wald statistic. However, since the difference in the -2LL between model 2 and model 3 is non-significant, model 3 does not fit the data better than model 2, leading us to conclude that it is not strictly necessary to control for panel attrition when interpreting the findings for sub-dataset 2.

**Figure 2 Corroborated theoretical framework**



In addition, we performed two sensitivity analyses to assess whether the findings for sub-dataset 2 were robust against the unemployment patterns respondents experienced during follow-up. The first analysis assessed whether the year in which respondents first became unemployed was important ( $N=7,241$ ). We performed a multinomial logistic regression analysis consisting of four categories: transition to unemployment in year 2, transition to unemployment in year 3, transition to unemployment in year 4, and sustained employment (reference category). The results aligned with our binary regression analysis: respondents who positively self-assessed their professional ability at baseline were less likely to have become unemployed at follow-up, regardless of the specific year in which the transition occurred.

We conducted a second multinomial logistic regression analysis to test whether respondents who had recovered from unemployment at follow-up showed any differences in their baseline employability scores compared with those who did not ( $N=7,241$ ). The odds ratios of both groups were comparable

for professional ability, implying that this employability facet, with a certain probability, protects against unemployment, regardless of whether unemployment continues. (Results are available from the first author upon request.)

Finally, it seems worth noting that the inclusion of age as a control variable provided exploratory findings that pertain to potential differentiations within the spectrum between 45 and 65 years. We see that professional ability declines with age, but the correlation was small ( $r = -.15$ ,  $p < .01$ ., Table 2b). The results from the binary logistic regression analysis for sub-dataset 2, model 2, show a significant positive relationship between age and sustainable employment (see Table 3c). Thus, in our sample of workers aged 45 to 64, older participants were less likely to transition into unemployment.

## 6. DISCUSSION

Would it be possible to optimize organizations to boost developmental proactivity while conserving professional ability? As far as *developmental proactivity* is concerned, a crucial factor would be the extent to which the work organization is geared towards learning. Important features of such a work organization are job rotation, job enlargement, and job enrichment, such as adding managerial tasks to production work (Pruijt, 1997; Pruijt, 2003; Weichel et al., 2009). The latter includes rotating workers to positions in which they can learn rather than keeping them in positions in which they can maximize productivity (Svensson, 2004). The transparency that exists in a learning-oriented organization enables workers to operate on the basis of a complex mental model of the work. There is team learning, and workers are able to make changes to the work processes (Kira & van Eijnatten, 2009). Teams engage in self-design (Stebbins & Shani, 2009). Finally, workers and managers strive to neutralize prevalent stereotypes about older workers as being change-averse (Taylor et al., 2010; Van Veldhoven & Dorenbosch, 2008). The ideal is to achieve polyvalence in flexible teams in a learning organization.

As for the *conservation of professional ability*, the point of departure is the notion that the variation in abilities tends to increase as workers get older (Hardy & Reyes, 2015). Because of this variation, HRM practices that treat workers as standardized assets do not fit. Instead, job design gets customized so that workers do what they can do well and avoid what they cannot (Zinsmeister & Meerman, 2013). The organization has to be flexible in the sense that it can adapt the division of labour to accommodate the growing variation in abilities that tends to characterize an ageing workforce (Weichel et al., 2009). Employment protection for older workers can incentivize organizations to put in the required effort to stabilize older workers in their jobs (Pruijt, 2013). In the Netherlands, such employment protection exists in the form of tenure-dependent redundancy compensation (Pruijt & Dérogée, 2010). This employment protection might explain our exploratory finding that the unemployment risk did not increase with age. However, an ability-driven division of labour can make it difficult for workers to cope with change, and the same holds for the organization (Mintzberg, 2009).

Thus, there seems to be a contradiction between optimizing for the enhancement of developmental proactivity and for the conservation of professional ability, but a radical choice between one or the other seems risky with respect to career sustainability. This dilemma is not likely to disappear as workers tend to retire later—in the Netherlands the retirement age rose from 63.8 years on average in 2014 to 65 years in 2018 (CBS, 2019)—while change due to restructuring and new technology seems unrelenting.

## 7. CONCLUSION

This study tested a parsimonious model that relates two facets of employability—professional ability and developmental proactivity—to older workers' career events. The main findings are that developmental proactivity led to a higher probability of internal promotion, and professional ability led to a lower incidence of negative career events (salary loss, demotion, and unemployment). These findings suggest an implication for theory: the role of proactivity should be put into perspective, at least as far as older workers are concerned. In general, proactivity is central to ideas about employability, and current thinking about sustainable organizational performance tends to reflect the same emphasis (Dorenbosch, 2014). However, although proactivity is certainly relevant for older workers, the ability to perform day-to-day work confidently seems critical.

The study shows that the conservation of resources (COR) model provides a valuable heuristic framework for studying the employability of older workers. The model symmetrically covers potential positive and negative developments, and therefore, directs attention not only to the ideal of proactivity, but also to the less glamorous ability to cope with day-to-day work demands.

Our findings support the view that the value of resources depends on the specific goals that individuals set for themselves (Hobfoll et al., 2018; Halbesleben et al., 2014). Our study shows how a

particular resource—developmental proactivity—seems to be valuable mainly for older workers who are pursuing promotion. Similarly, professional ability is especially important for older workers who aim to maintain their positions.

The use of age as a control variable allows for a tentative conclusion about the spectrum between 45 and 65 years and potential differentiations. This concerns the exploratory finding that age is associated with a declining risk of transition into unemployment. This could be due to the employment protection that existed in the Netherlands during the data collection. Generally, employers were required to pay compensation of one month's salary per year of tenure when dismissing a worker. Since then, this compensation has been halved.

### **7.1 Theoretical Implications**

The main theoretical contribution of this paper is a conceptualization of employability geared to older workers, and characterized by a sharp distinction between resource conservation and resource acquisition. An additional theoretical implication of our analysis is that COR theory is a suitable framework for explaining diverging outcomes.

In the light of recent renderings of COR theory, this is not self-evident. These recent renderings posit that resources have *equifinality*, which means that different resources can contribute to the achievement of the same goal, and that resources may be substituted for one another (Halbesleben et al., 2014). Equifinality makes it hard to conceptualize how resource A can cause Outcome X and resource B Outcome Y. Moreover, in recent COR theory, the notion of *resource caravans*—that resources are highly correlated—has gained currency (Hobfoll et al., 2018). This notion leads away from considering the possibility of diverging outcomes.

### **7.2 Practical Implications**

To draw out practical implications, we need an interpretation of the questions and answers that underlie the predictors. The items in the professional ability scale could be seen as measuring the extent to which the employee is struggling. Not to be struggling protects against negative career events farther down the road. In themselves, such events may or may not have negative consequences for the organization; however, the trajectory that begins with struggling to cope at work and ends with a negative career event tends to involve personal resource depletion, which is always costly for an organization. One may think of impacts on productivity, error rate, quality, safety, and morale.

Whether an employee is struggling depends on characteristics of both the individual and the work. Important areas for management interventions are issues that can cause experienced and suitably qualified employees to struggle, and those issues are highly context-dependent. Examples are: administrative duties on top of professional work; long working hours; lack of support to deal with complex social problems that patients, students, or clients bring to the workplace; uncertainty-generating reorganizations; or excessive physical demands. Efforts to address such issues may well do more for older workers' employability than interventions directed at attitudes or behaviours. Organizations and managers are advised to monitor employees' struggles and to address preventable causes promptly.

In the study, the construct of developmental proactivity represents behavioural and attitudinal aspects. The fact that developmental proactivity did not seem to protect against negative career events is a reason to doubt the benefits of attitude- or behaviour-directed interventions for organizations. Developmental proactivity does predict promotions; therefore, it seems especially relevant for individual employees. Therefore, as Cheung et al. (2019) noted, it is a suitable theme for career advice. Topics could include cultivating a habit of looking for new things to learn, routinely reflecting on ways to improve the work, networking with an eye toward learning opportunities, and assessing future skill and knowledge requirements.

### **7.3 Limitations**

We acknowledge three limitations to this study. First, we did not study COR's resource gain and loss spirals or the cumulative gain in or loss of resources (Ungerath, 2012). Second, we did not include mediators in the link between employability and career events. Third, the findings in this study are strictly about the employability of older workers, not employability in general.

### **7.4 Future Research Suggestions**

A longitudinal design with a longer view of individuals' working lives than the STREAM study could shed light on resource gain and loss spirals or the cumulative gain in, or loss of, resources. When probing gain and loss spirals, researchers could use latent transition modelling or sequence analysis in combination with logistic regression analysis.

An additional interesting avenue for research would be to include mediating factors, such as job performance and well-being. Recent research (De Cuyper, Mäkikangas et al., 2012; Van Harten, 2016; Vanhercke et al., 2015) has shown that employability predicts the possession of these and related resources. Some competencies such as corporate sense, which figures as an independent variable in existing research (Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2009), could arguably also be considered a mediating factor.

It would also be interesting to know if, and to what extent, the pattern uncovered in this paper applies to younger workers, especially because these workers have to survive in an unpredictable world of work where a stable intra-firm career is no longer the prerogative of many. Including both younger and older workers also opens up the possibility of treating age as a moderator in the link between employability and career events. According to life course theorists (Baltes et al., 1999), workers in their early and mid-careers (<45 years) attach importance to knowledge acquisition. In contrast, workers in their late careers (≥45 years) value protection of losses. These motivational differences between age groups suggest that the effects of investments in personal resources such as employability on career outcomes might vary between workers of different ages.

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**APPENDICES**

**Appendix I: Older workers' intra- and inter-firm mobility patterns in the cohort study STREAM (2010-2013)<sup>1</sup>**

	<i>Measurement wave</i>							
	Time 1 (2010)		Time 2 (2011)		Time 3 (2012)		Time 4 (2013)	
<i>Sub-dataset</i> →	1	2	1	2	1	2	1	2
<i>Mobility pattern</i> ↓								
Same employer, same job	7,039	6,213	6,180	5,579	5,940	5,294	5,468	4,732
Same employer, different job	422	651	567	575	538	532	475	446
Different employer, same job	196	233	162	150	149	148	143	140
Different employer, different job	92	140	67	78	64	56	59	59
<i>Total n responses</i> <sup>3</sup>	7,749	7,237	6,976	6,382	6,691	6,030	6,145	5,377
<i>Total n unemployed</i> <sup>2</sup>	NA	-	NA	109	NA	202	NA	315
<i>Total n participation in wave</i>	7,751	7,241	6,978	6,493	6,692	6,233	6,145	5,692

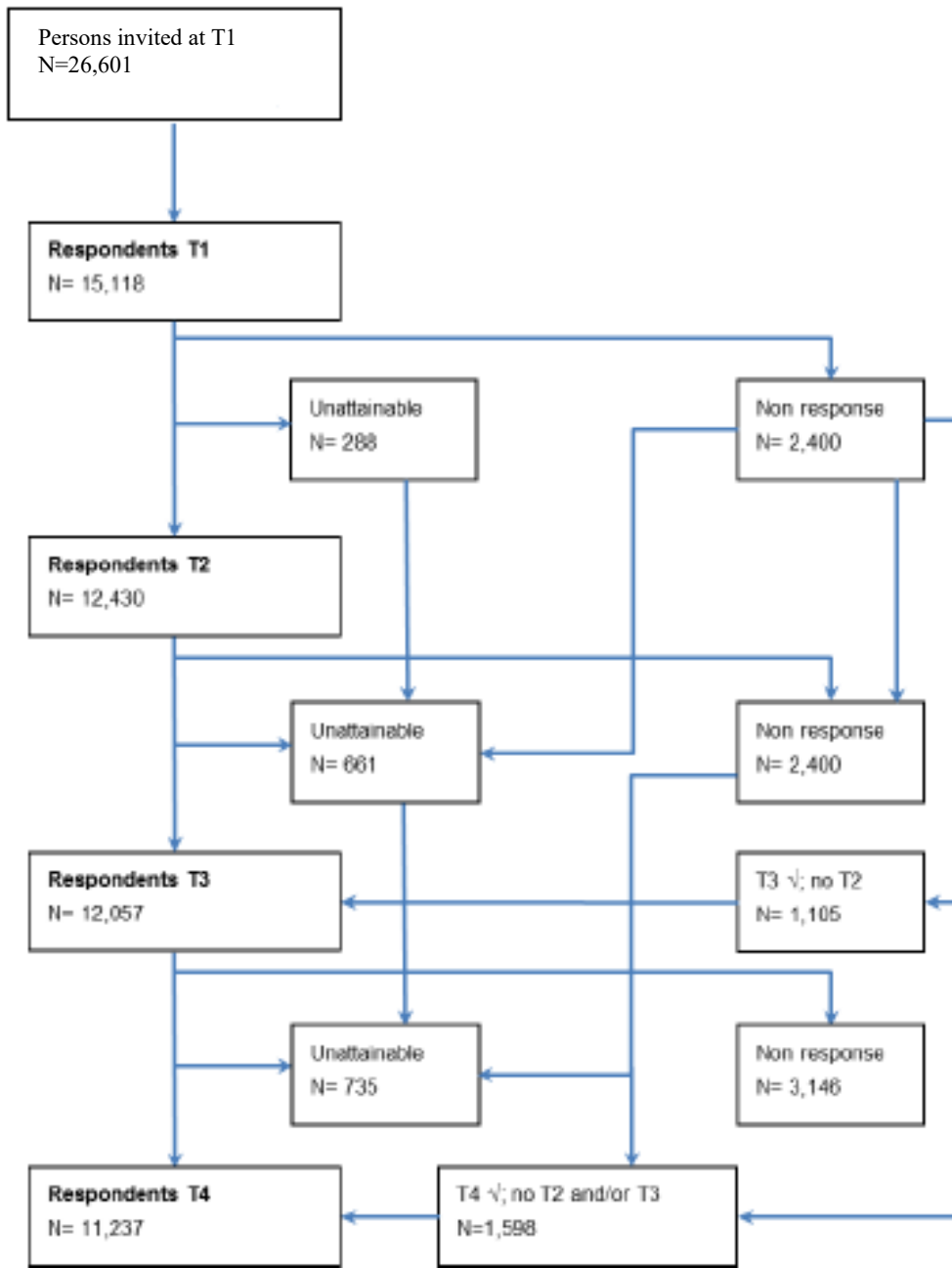
<sup>1</sup>Figures showcase the number of respondents who participated in a specific wave and indicated having switched employers and/or jobs or otherwise reported having been at the same employer and job in the 12 months preceding the measurement wave.

<sup>2</sup>Respondents who indicated becoming unemployed during a specific follow-up wave did not receive the question regarding employer/job switch.

<sup>3</sup>The question regarding employer/job switch was not mandatory, meaning that the total n responses is not necessarily equal to the total n participation in that wave (minus the number of unemployed persons in case of sub-dataset 2). Differences are, however, very small.



**Appendix II: Flowchart of the responses to all measurements of the STREAM questionnaire**



Source: Van den Heuvel et al., 2014: 8 (adapted version)

**Appendix III: Participation pattern of respondents comprising sub-dataset 1 and 2 compared to the participation pattern of respondents included in the entire STREAM study**

	Sub-dataset				STREAM	
	1		2		Total	
Participation pattern <sup>1</sup> ↓	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1-1-1-1	5,257	67,8	4,827	66,7	9,639	63,8
1-1-1-0	804	10,4	792	10,9	1,313	8,7
1-1-0-1	355	4,6	339	4,7	628	4,2
1-1-0-0	562	7,3	535	7,4	850	5,6
1-0-1-1	391	5,0	392	5,4	724	4,8
1-0-1-0	240	3,1	222	3,1	381	2,5
1-0-0-1	142	1,8	134	1,9	246	1,6
1-0-0-0	NA		NA		1,337	8,8
<i>Total</i>	7,751	100	7,241	100	15,118	100

<sup>1</sup>A 1 signifies that a respondent has participated in a specific wave; a 0 signifies that a respondent has skipped that wave.

**Appendix IV: Survey items employability**

Scale professional ability

In the coming 12 months, will you be able to...

1....perform the work?

2....keep up with the speed of the changes in your work?

In the coming 12 months, will you be able to continue working if...

3....your work becomes physically more demanding?

4....your work becomes emotionally more demanding?

5....your work becomes more difficult?