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Indicators of Sustainable Employability among Older Finnish Postal Service Employees: A Longitudinal Study of Age and Time Effects

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Abstract: We first clarify the definition of sustainable employability, and then we study how the indicators of sustainable employability among older Finnish postal service employees have changed over time. Finally, we estimate the effect of age on these indicators in a two-year follow up. A questionnaire survey among the Finnish postal service employees was conducted in 2016, and a follow-up was conducted in 2018. We analyze data from 1262 subjects who replied to both the baseline and the follow-up surveys. Sustainable employability is defined as a multidimensional construct using nine indicators and covering three domains (health, well-being and employability) based on Fleuren and colleagues' model. Measurement time (repeated measure) is used as a within-subjects factor, and age is used as a between-subjects factor. The estimated marginal means of the indicators of sustainable employability at the baseline and the follow-up by age in years are calculated. No significant change is found in eight indicators (work ability, time and resources, recovery after work, job satisfaction, motivation, perceived employment, enough training on the job and relevance of work) of sustainable employability after the two-year follow-up. We find a statistically significant effect of time on self-rated health (F = 6.56, p = 0.011). Six out of nine indicators (self-rated health, work ability, time and resources, recovery after work, job satisfaction, and perceived employment) have a statistically significant effect of age between subjects. Partial Eta Squared (η^2_p) shows a very small difference in the indicators of sustainable employability during the follow-up, indicating that the employability of the workers was sustained throughout. We used the Fleuren model as the basis for our definition of sustainable employability. Although they are based on single items, these indicators of sustainable employability remain stable after the two-year follow-up. Significant effects of age between subjects are found for six out of nine indicators. The results suggest that age may be an important determinant of sustainable employability.

Keywords: sustainable work; employment; well-being; older workers; aging

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1. Introduction

The labor force is aging globally because of the aging of the population. At the same time, the number of younger workers entering the labor market is decreasing, and employment among older workers is lower, which decreases the total labor force [1,2]. A very fast decline in labor force participation rates has occurred in European economies. The COVID-19 pandemic and many other factors have led to this decline, including early retirement from paid employment at the age of 65 or earlier until recent years [3]. These

changes in the labor force emphasize the importance of sustainable employment, which is the extent to which workers are able and willing to remain working until reaching an extended retirement age [4].

Sustainable employability is a multifaceted concept that involves the abilities and motivation of the individual to perform in jobs that are offered. This concept has become an important concern in the context of keeping people in the labor market, and it enables the extending of working life [5]. However, making work sustainable requires accommodation between the requirements of work and the needs of individuals, as both change over time. A few earlier studies have presented definitions of sustainable employability in different contexts, yet a clear and a comprehensive framework, especially targeted towards older employees, is still missing. This study provides a short overview of earlier research on the definition of sustainable employability and presents a comprehensive conceptual model of sustainable employability for older employees and its indicators.

This article is structured in the following way: We first present a short literature review to introduce the concepts of sustainable employability and to examine how the concept of sustainable employability is linked with well-being, older workers, aging and the theories around them. Next, we present the methods, describe the data, introduce measures of employability indicators and our analysis procedure. Then, the results are summarized, followed by a discussion of our findings in relation to the previous literature, our study's contributions to theory and practice and its strengths and limitation.

2. Literature Review

The definition and concept of sustainable employability, especially among older workers, is not very clear in the literature. Earlier research on sustainable employability is mostly focused on the labor market participation of older employees. We conducted a scoping review literature search in Medline using the key words 'sustainable employability', 'employability index', 'employability' and 'employment' along with the words 'older workers', 'workers' and 'older employees', and we found 193 results. Furthermore, only a handful of articles were relevant to the topic.

The most cited definition of sustainable employment is by van der Klink et al. [6], which describes sustainable employability as:

> *" . . . achieving tangible opportunities in the form of a set of capabilities by the workers throughout their working lives. The workers also enjoy the necessary conditions that allow them to make a valuable contribution through their work, now and in the future, while safeguarding their health and welfare. This requires, on the one hand, a work context that facilitates this for them and on the other hand; the attitude and motivation to exploit these opportunities".*

This definition highlights sustainable employability as a multidimensional concept and involves the longitudinal aspects of the work environment, individual capability and well-being. In line with van der Klink's definition, another study by van Dam et al. [4] presented employability, work engagement and affective commitment as three indicators of sustainable employability and investigated the role of an intrinsically motivating job and an age-supportive climate. These indicators have been mentioned as important factors underlying sustainable employment in other studies, as well [4,7].

Nilsson [8] presented a model for a sustainable working life for all ages (swAge) in three levels with nine determinate areas for work–life participation. The three levels of sustainable extended working life that were presented are the micro (individual level), meso (the organizational and enterprise level) and macro level (society level) [8]. The nine determinant areas of the swAge model are self-rated health, physical work environment, mental work environment, working hours, personal finances, family situation, social support at work, work satisfaction, and opportunities for development. These determinant areas are mostly similar with earlier definitions and models [4,6]. Based on Nilsson's [8] swAge model, Deng et al. [9] presented their definition and dimensions of sustainable employability with the aim of developing sustainable employability scales in the future.

The definition by Deng et al. [9] considers the interaction of individual and environmental factors which distinguish employability from work ability.

Other definitions include the multivariate approach of Peters et al. [10], which includes several indicators such as health, general fatigue, emotional exhaustion, work ability, work engagement, work–home interference, job satisfaction, and sickness absence. These other definitions are mostly built on the previous definition by van der Klink et al. [6]. This also includes the Le Blanc et al. [11] definition, which highlights that, to continue working, people need to be able, to be motivated, and to have the opportunity to continue. Ybema et al. [12] presented the concept of transitions in employment and maintaining sustainable employment, and Harten [13] presented employment opportunities, willingness to change and skills as the main indicators.

Overall, most of these definitions highlight that sustainable employability is a multidimensional concept and that it involves a longitudinal aspect of change in the indicators of employability. However, most of these definitions fail to present a clear conceptual framework that includes the potential indicators of sustainable employability.

Most previous studies on sustainable employability have focused on the well-being of older workers. However, sustainable employability requires not only the well-being of employees at all ages but also places requirements on employee health and the work environment. Earlier, we reported that the quality of a work environment is associated with employees' intention to retire [14]. A good working environment consists of flexible work time, treating workers fairly and employer appreciation that motivate employees to work longer [14]. However, sustainable employability is more than the intention of employees to work for longer or having skills, knowledge and competencies [15,16]; it also depends upon the employee's personal health, well-being and employability characteristics [17].

2.1. Theory

Employees' motivation needs and values at work change with age and time [18,19], and some aspects of work become more important than others with age [20,21]. Earlier studies state that certain job characteristics may guide increased productivity for one age group more than others [22]. Selection optimization and compensation theory proposed by Baltes and Dickson [20] refers to age-related changes and individual differences that support our overall sustainable employability model. With aging, some work aspects, such as long working hours and competition, become less attractive for older workers [23].

However, older workers have accumulated more experience, resources, intelligence, work-related expertise and skills [24], which are key to sustaining employment. For the given nature of work, employees need to be sufficiently skilled to remain employable. Self-Determination theory [25] states that the fulfillment of basic psychological needs, such as autonomy in terms of time and resources for friends, family and personal hobbies, is crucial for optimal functioning, personal health and well-being. These prerequisites of psychological well-being are not explicitly included in previous definitions of sustainable employability.

2.2. Conceptual Framework

The most recent review by Fleuren et al. [17] analyzes the pros and cons of the existing definition of sustainable employability and presents a comprehensive definition, conceptual framework and its multidimensional indicators in a longitudinal setting. This definition includes a temporal component of sustainable employability, considered as an individual characteristic, and excludes a contextual component. It covers functioning at work and in the labor market as a multidimensional construct; includes three main domains of health, well-being and employability; and also includes indicators that can be considered to be outcomes of employment. Based on this definition presented by Fleuren et al. [17,26], we present here a modified conceptual framework (Figure 1) which is suited to older employees. We have defined our model using single-item indicators, which is more practical than using

multi-item indicators, and we studied their sustainability during the follow-up among older employees.

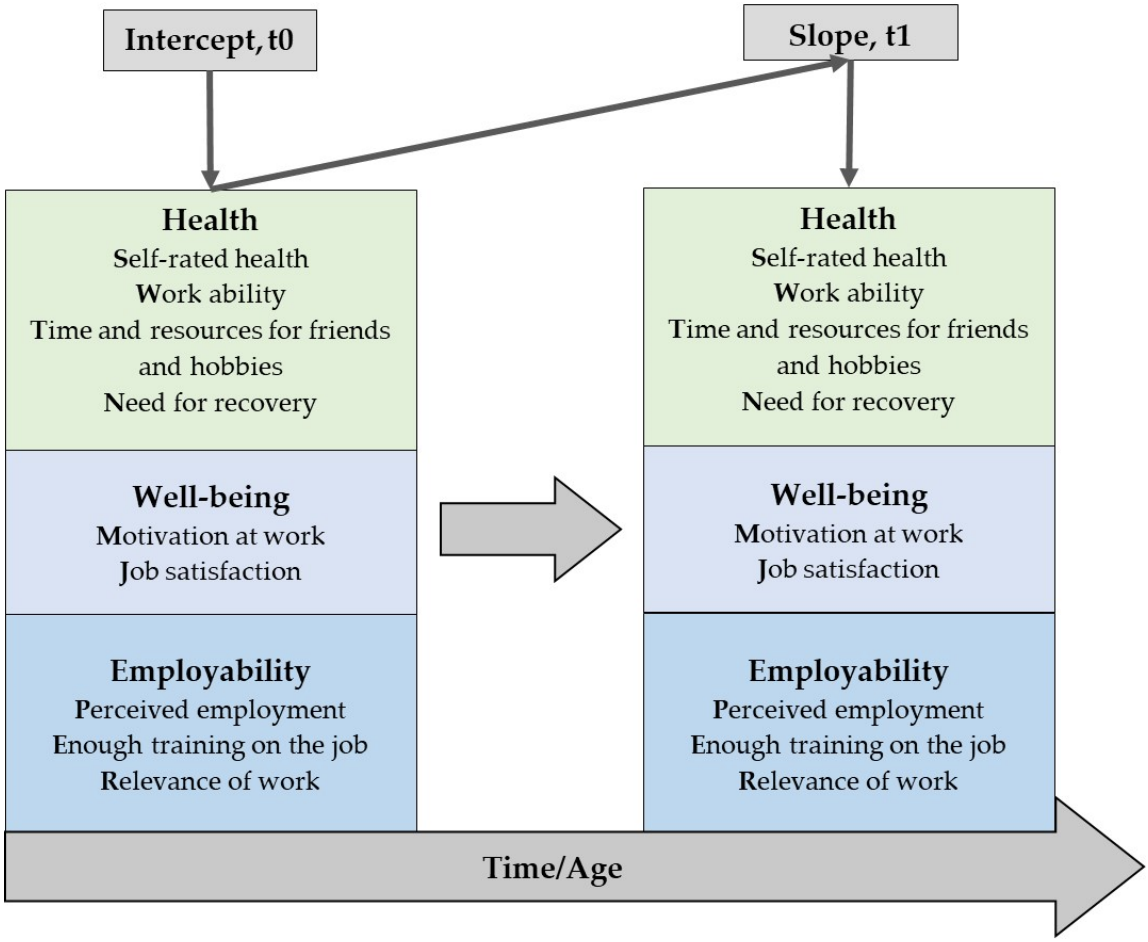

Figure 1. Conceptual framework of sustainable employability, modified from Fleuren et al. [17]. The straight line from t_0 to t_1 is a model slope of how the measures/indicators change over time/age. The intercept of the model shows indicators at t_0.

These indicators within three domains form an individual-level construct representing employment characteristics, and they capture well an individual's ability to function in the labor market. These indicators and their contribution to sustainable employability are described in detail in Fleuren et al. [17]. The indicators presented in our framework above are based on single items, unlike in Fleuren et al. [17]. We have modified some of the items; firstly, because these indicators show a balance between personal capacity, well-being and recovery from work; and secondly, because we relied on pre-existing data, which means that the measures available in the dataset were used.

The baseline measurement of the indicators at t_0 is the intercept of the model, and the change captures the sustainability [17] of the indicators. Cognitive and physical abilities decline with age [27], meaning that work ability decreases with age [28]. However, individual variation in age-related decline increases at older ages [29]. To study age-related variation, longitudinal data are needed, which most earlier studies are lacking. Moreover, previous studies are conceptualized based on cross-sectional studies and lack information on individual-level constructs to define sustainable employability. Therefore, in this study, we aimed to explore single-item indicators of sustainable employability among older Finnish postal service employees and to estimate the effect of age on these indicators in a two-year follow-up (baseline in 2016 and follow-up in 2018). These indicators are later used

to construct a sustainable employability index and are presented in a separate manuscript. Based on the background, we derive the following hypotheses:

H1. *There is a significant change in the mean scores of the indicators of sustainable employability between the baseline and follow-up.*

H2. *Age groups have a significant effect on the mean scores of the indicators during the two-year follow-up.*

3. Methods

A longitudinal questionnaire survey was conducted among Finnish postal service employees in 2016, and a follow-up was conducted in 2018. A questionnaire was sent to all workers aged $\geq$ 50 years in the year 2016 (n = 4386), and 44% (n = 2096) replied to the survey. For employees who had an email address (n = 1313), a link to the electronic survey was sent. The paper version of the questionnaire was sent mainly to those engaged in operational work (distribution, transport, sorting, in-store work, warehouse and newspaper distribution). A follow-up questionnaire was sent to 1935 employees (161 respondents from the baseline survey did not provide permission for a follow-up survey). The follow-up survey was completed in 2018, with a 76% response rate from baseline respondents (n = 1466). The mean age of the study population was 56.43 years (SD = 3.41), and 60% were males. This study utilized data from 1262 subjects, who replied to both the baseline and the follow-up surveys. The study was approved by the Academic Ethics Committee of the Tampere Region (ethical approval number: 32/2016).

3.1. Measurement of Variables

All nine indicators from the three domains of health, well-being and employability were assessed using a validated self-reported questionnaire at the baseline and follow-up.

3.1.1. Health

Self-rated health: Employees were asked to rate their health from the point of view of work on a response scale of 0 (extremely bad) to 10 (extremely good) [30].

Work ability: The first item of the work ability index, "work ability at present compared to the lifetime best", was measured on a scale of 0 (extremely poor) to 10 (excellent). This single-item question is validated against the full work ability index and can be used as a reasonable alternative to it [31,32].

Time and resources for friends and hobbies: The employees were asked, "Do you have enough time and resources for your friends and hobbies?" with response options ranging from 0 (hardly) to 10 (totally) [30].

Recovery after work: Recovery after work was measured with the question, "How well do you recover from the workload after a day/shift of work?" with response options ranging from 0 (very poorly) to 10 (very well) [33].

3.1.2. Well-Being

Job satisfaction: Employees were asked the question, "How satisfied are you with your current job?" with response options on a scale of 1–6, where 1 = very satisfied, 2 = nearly satisfied, 3 = neither satisfied nor dissatisfied, 4 = quite dissatisfied, 5 = very dissatisfied and 6 = cannot say [34].

Motivation at work: Motivation at work was asked with response options ranging from 0 (not at all) to 10 (very much) [30].

3.1.3. Employability

Perceived employment: Perceived employment of the employees was asked in the question, "If you now became unemployed, do you think you would get a new job which corresponds to your profession and work experience?" with response options on a scale of

1–5, where 1 = yes/sure, 2 = probably, 3 = probably not, 4 = definitely not and 5 = cannot say [34].

Enough training on the job: Employees were asked to report if they get sufficient training to support their job, with response options from 0 (not at all) to 10 (quite enough) [30].

Relevance of Job: Employees' frequency of experiencing doing important and significant work for the company was measured on a scale of 1–6, where 1 = daily, 2 = weekly, 3 = monthly, 4 = less often, 5 = never and 6 = cannot say [34].

The following basic information at the baseline was measured: age in years, which was used as a categorical variable (51 to 64+). Since there were few employees aged 64 years or older, we therefore combined all employees aged 64 years and above into one category. Other variables used were gender (male or female), work experience in years, education (basic school, secondary-level, academic degree or other vocational training), occupational class (white-collar or blue-collar), work shifts (regular day work or two shifts, including night work) and marital status (married/living together or single/others).

3.2. Statistical Analysis

The distribution of the demographic characteristics of the study population is presented first as frequencies and proportions or as the mean and standard deviation (SD). We tested for common method bias with Harman's single factor score, which showed that the total variance for a common single factor was 44 %, which is below the recommended threshold (50%). This indicates that the instrument used to measure sustainable employability indicators does not bias our results. A repeated-measures ANOVA was used to determine the changes in the mean values of the indicators of sustainable employability using the baseline and 2-year-follow-up measures. The mean differences (baseline minus follow-up values) were calculated, and they are presented with their 95% confidence intervals (CIs). *p*-values for the differences in means were calculated.

Next, to investigate the effect of time and age on the indicators of sustainable employability, a general linear model (GLM) repeated-measures analysis was used, in which measurement time (repeated measure) was used as a within-subjects factor, and age was used as a between-subjects factor. The F-value was calculated by dividing the mean squares for the variables by their error mean squares (i.e., the systematic variance divided by the unexpected, unsystematic variance).

The Partial Eta Squared (η^2_p) was calculated to explore the magnitude of the change in the indicators, i.e., the proportion of variance in the indicators in the GLM model. If η^2_p is 0.14 or more, it indicates a large variance, and 14% of the total variance is accounted for by that indicator. Similarly, if η^2_p is 0.06 or more, it is a medium, and if η^2_p is 0.01 or more, it indicates a small proportion of the total variance [35]. Post hoc testing was conducted using Bonferroni correction to keep Type I error at 5% overall.

The estimated marginal means and their 95% confidence intervals (CIs) of the indicators of sustainable employability at the baseline and follow-up by age in years were calculated, and they are presented in a graph separately for all nine indicators. Regardless of the magnitude and direction of the time and age effects in the test of within- and between-subjects variance analysis, we analyzed the magnitude of the within-subjects variance over time. Overall, low within-subjects variance over time improves the feasibility of modelling sustainable employability as a time-dependent construct [15].

All analyses were performed in SPSS 26.

4. Results

Table 1 shows the demographic characteristics of the study population. The mean age of the study population was 55.97 (SD = 3.13), and 60% were male employees. Participants were predominantly aged 51–61 years, and only a few were aged 62–67 years. On average, people had worked for more than 28 years. Nearly half of the employees (47%) had basic schooling, and about one third (30%) had secondary-level education. A majority of the

employees were working in a blue-collar job (87%), and 70% were working a regular day shift. A majority (73%) were married or cohabiting.

Table 1. Baseline characteristics of the study participants.

	Frequency (N = 1262)	Percentage	Mean (SD)
Age			55.97 (3.13)
51	105	8.3	
52	99	7.8	
53	103	8.1	
54	146	11.6	
55	133	10.5	
56	132	10.5	
57	127	10.0	
58	129	10.3	
59	97	7.7	
60	75	5.9	
61	74	5.9	
62	20	1.6	
63	12	0.9	
64+	10	0.8	
Gender			
Female	502	39.8	
Male	760	60.2	
Work experience (years)			28.11 (10.56)
Education			
Basic school	587	46.9	
Secondary level	371	29.7	
Academic degree	59	4.7	
Others	234	18.7	
Occupational class			
White-collar	166	13.2	
Blue-collar	1090	86.8	
Work shifts			
Regular day work	879	69.9	
Two shifts or other types	378	30.1	
Marital status			
Married/living together	910	72.6	
Single/others	344	27.4	

Changes in the indicators of sustainable employability from the baseline to the follow-up are presented with a 95% CI for the mean difference in Table 2. No statistically significant changes in the mean values of indicators of sustainable employability were found during the follow-up, except for the self-rated health ($p = 0.011$), which was significantly lower at the follow-up. Overall, the mean values of the indicators slightly decreased for almost all indicators. For job satisfaction and sufficient education, the mean values improved at the follow-up.

The results of the two-way repeated-measures GLM are shown in Table 3. We found statistically significant effects of time on self-rated health (F = 8.71, $p = 0.003$). No other indicators had a statistically significant effect of time. Six out of the nine indicators (self-rated health, work ability, time and resources, recovery after work, job satisfaction and perceived employment) had statistically significant effects of age. Only three indicators, motivation at work, enough training on the job and relevance of work, did not have a significant age effect. The Partial Eta Squared (η^2_p) shows very little change in the indicators of sustainable employability from the baseline to the follow-up for both within and between subjects (Table 3). The between-subjects change by age shows increased variation with increasing age (Figure 2). Overall, the means of most of the indicators improved between 60 and 63 years and worsened after that.

Table 2. Employability indicators of the postal employees at baseline and follow-up and their pairwise comparison of the mean and the standard error (SE) (N = 1262).

	Original Scale	Mean, Baseline (SE)	Mean, Follow-Up (SE)	Mean Difference	95% CI	*p*-Value
Self-rated health	0–10	8.08 (0.16)	7.71 (0.17)	0.36	0.09–0.64	0.011
Work ability	0–10	7.17 (0.19)	6.91 (0.18)	0.26	−0.05–0.56	0.104
Time and resources	0–10	6.53 (0.25)	6.48 (0.25)	0.05	−0.39–0.50	0.814
Recovery after work	0–10	6.98 (0.22)	6.84 (0.22)	0.13	−0.26–0.53	0.511
Job satisfaction	1–6	2.43 (0.10)	2.45 (0.10)	−0.02	−0.20–0.17	0.870
Motivation at work	0–10	8.12 (0.20)	8.07 (0.21)	0.05	−0.30–0.41	0.770
Perceived employment	1–5	3.38 (0.08)	3.28 (0.09)	0.10	−0.08–0.27	0.290
Enough training on the job	0–10	6.09 (0.28)	6.20 (0.27)	−0.11	−0.63–0.41	0.628
Relevence of work	1–6	2.18 (0.14)	2.05 (0.14)	0.13	−0.14–0.39	0.339

Table 3. Test of within- and between-subjects variance in the indicators of sustainable employability, and a repeated-measures GLM analysis from two time points.

Indicators	Within-Subjects			Between-Subjects		
	F	*p*-Value	η^2_p	F	*p*-Value	η^2_p
Self-rated health	8.71	0.003	0.007	3.04	<0.001	0.031
Work ability	2.36	0.125	0.002	2.38	0.004	0.025
Time and resources	2.30	0.129	0.002	1.87	0.032	0.019
Recovery after work	0.01	0.908	0.000	2.78	<0.001	0.028
Job satisfaction	0.01	0.921	0.000	2.16	0.009	0.023
Motivation at work	0.47	0.492	0.000	1.83	0.092	0.019
Perceived employment	0.35	0.557	0.000	2.55	0.002	0.026
Enough training on the job	0.10	0.749	0.000	0.91	0.547	0.009
Relevance of work	0.02	0.883	0.000	1.39	0.154	0.014

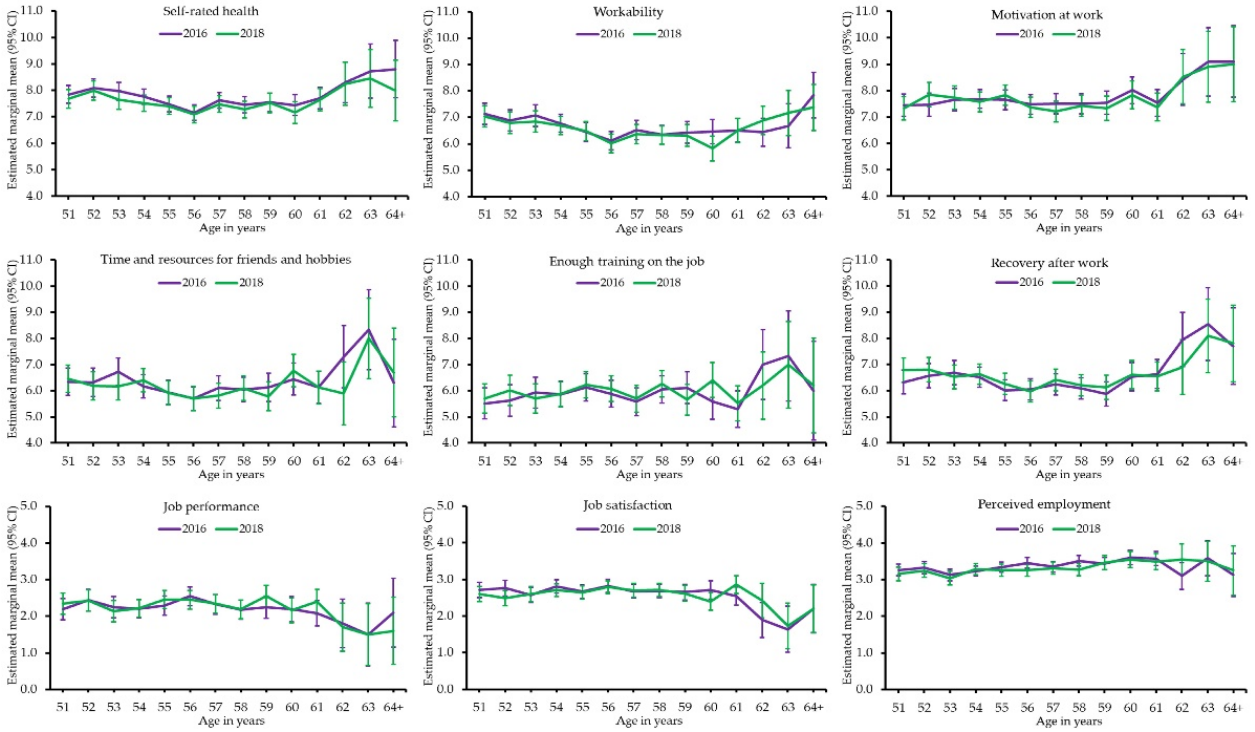

Figure 2. Estimated marginal means with their 95% CIs of the indicators of sustainable employability at baseline and the follow-up by age (in years).

5. Discussion

The aim of this paper was to explore the indicators of sustainable employability and their relationship with age in a two-year follow-up among older postal employees. In line with the previous literature, we explored nine indicators of sustainable employability (self-rated health, work ability, time and resources, recovery after work, job satisfaction, motivation at work, perceived employment, enough training on the job and relevance of work) that represent the three important domains of health, well-being and employability. The results show no statistically significant changes in these indicators between two measurement points in the two-year follow-up except for self-rated health, which did not fully reject our first hypothesis (H1). This means that these indicators represent sustainability in health, well-being and employability of the older employees. We found almost no significant effect of time on these indicators except for self-rated health within subjects. However, significant effects of time on these indicators between subjects were found for six out of the nine indicators, i.e., our second hypothesis (H2) was partially confirmed. Between-subjects variation increased with age for most indicators. Overall, the results suggest that these indicators were consistent during the follow-up and are feasible for the construction of a framework of the sustainable employability of older employees.

The indicators of sustainable employability in our study are mostly based on previous definitions [6,26]. Importantly, as our study relies on existing data, the indicators also rely on the measures available in the dataset. Moreover, the indicators presented in Fleuren's study are based on multi-items, whereas our indicators are all based on single items. Nevertheless, the measures in our study are derived from validated questions. Few indicators are different in our model, and they capture all three important domains of sustainability in employment.

5.1. Health

Four indicators (self-rated health, work ability, time and resources for friends and hobbies and need for recovery) represent the health domains of sustainable employability in our study. These indicators remain consistent with no significant time effects during

the follow-up except for self-rated health. This indicates that these are potential health indicators of sustainable employment. Previous studies show that good self-rated health is associated with working until 65 years and beyond [36], and good work ability has been shown to be associated with sustainable employment [37]. Work ability is a multidimensional concept which essentially captures how able an individual is to perform their job given their physical and mental health [7]. It is obvious that people with good health and work ability are able to work longer. Those with sustainable work ability during their midlife demonstrate a lower risk of mobility limitations and better survival compared to those with decreasing work ability [28].

The literature shows that leisure activities are associated with good health and well-being [38]. In their study, Pressman et al. [38] defined leisure activities broadly as the pleasurable activities that individuals engage in voluntarily when they are free from the demands of work or other responsibilities. This is similar to the time and resources for friends and hobbies variable that we have used. These types of leisure activities aid employees in recovery from job stress and increase their likelihood of being fit for work the next day. This is also one of the key factors of work–family balance, which is associated with job satisfaction, good health [39] and well-being [40].

5.2. Well-Being

Motivation at work and job satisfaction are two key indicators that represent an employee's work well-being. They capture the psychological component of functioning at work and are relevant to sustainable employability because satisfied and motivated employees are able to continue working well. We found no significant effect of time in the within- and between-subjects analyses of these indicators, which means that they are potential indicators representing work well-being aspects of employment. Employees can be stimulated through a supportive, rewarding and developmental work environment, which may be an effective strategy to retain employees in the workforce [4].

5.3. Employability

Three indicators appear in the employability domain of the sustainable employability model, namely perceived employment, enough training on the job and relevance of work. All three indicators were stable during the follow-up, with no significant change within subjects during the follow-up. These indicators are related to functioning and attractiveness to employers [17]. Perceived employment itself shows an employee's perception and competitiveness for employment within or outside an organization. Perceived employment has been shown to be associated with quality of life (life satisfaction and flourishing) in an earlier study [41].

Having enough training on the job is one convenient indicator to capture the competence aspect of employability. Employability is not just about obtaining a job; it is a broader set of competencies and attributes that enables employees to be successful throughout their working career. Another important indicator within the employability domain is relevance of work, which is measured in terms of experience of doing important and significant work for the organization. To be able to be sustainably employable, employees need to be able to be productive. The sustainable employability model framework developed based on the capability approach [27] also emphasizes that the achievement of valuable functioning is one of the key indicators of employability.

Our framework of sustainable employability supports the self-determination theory, which suggests that employees' health, performance and well-being are affected by the type of motivation they have for their job activities [29,42]. When employees are in good health, have good motivation and receive well-being support from their employer, they understand the worth and purpose of their jobs. This helps them to feel ownership and autonomy in carrying their job and to perform better now and in the future. This has also broad implications for organizations. The selection, optimization and compensation theory, on the other hand, also supports our sustainable employability framework, which

is associated with occupational well-being and the maintenance of work ability. The theory suggests that advancing the maximization of gains and minimization of losses associated with aging results in sustainability in employment [43].

Our model has practical implications for individual workers, managers, employers and policy makers. Individual workers can benefit by maintaining their health, work ability and personal resources to achieve valuable goals at work. Therefore, motivation can remain high, and they can obtain satisfaction from the job. Managers and employers can evaluate the capabilities of their workers to continue working now and in the future. Managers can evaluate the health, well-being and productivity of their workers and can provide technical support, e.g., providing training to enhance the skills and knowledge of workers and encouraging workers to achieve relevance of work in order to attain sustainability of productive employment. The model also offers a tool to assess capabilities by structuring interventions [6] aimed at improving the employability of workers to inform policy.

5.4. Study Strengths, Limitations and Future Directions

We studied a large sample of older employees, which is one of the strengths of this study. The nature of postal service work is similar in many countries, and, therefore, the findings may be generalizable beyond the population of the current study. The study population includes both white- and blue-collar employees; however, the majority worked in blue-collar tasks.

There are some methodological issues that should be considered while interpreting the results. We used self-reported measures as indicators of sustainable employability. However, the use of a self-report questionnaire to measure such factors is common. Earlier studies also built sustainable employability models in different populations based on self-reported measures [6,26]. Another limitation of our model is the use of single-item measures, unlike those in a previous study [26]. Nevertheless, the measures used are derived from valid instruments, and they capture satisfactorily three important domains (health, well-being and employability) of employment. Our study is entirely focused on the potential indicators of sustainable employability and possible age and time effects on these indicators; no other explanatory variables were used in the model. Some potential predictors, such as comorbidities, socio-economic position and physical work exposures, may have influenced the significant decline in self-rated health. However, our focus was to see the within- and between-subjects variance in the selected indicators, and these indicators were consistent over time and age. The duration of the follow-up was short, but we believe that a two-year follow-up is long enough to follow employees older than 50 years, as changes in health and comorbidities are more prominent at older ages [44].

There are other definitions of sustainable employability in the previous literature, albeit with different foci. Our study provides a conceptual framework which adds to the existing literature on sustainable employability among older employees. Future studies should confirm these indicators and their sustainability using a longer follow-up period in a larger and more heterogenous sample. There may be other research on sustainable employability which we did not notice. Further research can expand the concept by reviewing the existing literature and by evaluating and improving upon our framework and indicators.

5.5. Conclusions

This study explored the potential indicators of sustainable employability among older postal service employees using longitudinal data. In total, nine indicators were studied, representing the three domains of health, well-being and employability. The indicators showed consistency, with no significant changes over time, except for self-rated health. This indicates that the employability of older postal service workers was sustained during the two-year follow-up. However, a significant effect of age on these indicators between subjects was found for six out of the nine indicators. The results suggest that age may be an important determinant of sustainable employability. This paper contributes to the

literature by providing insights on age and time effects of the potential indicators of sustainable employability.

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