FACULTAD DE MEDICINA

DEPARTAMENTO DE SALUD PÚBLICA

FUNCTIONAL LIMITATIONS AMONG CHILEAN OLDER ADULTS: THE IMPACT OF
CHILDHOOD SOCIOECONOMIC POSITION AND EMPLOYMENT TRAJECTORIES.

por

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Abstract

Objectives: Based on a life course approach we explored the effects of childhood socioeconomic position (SEP) and employment trajectories on functional limitations among older people living in Santiago de Chile.

Methods: We used data from a comprehensive and representative life history dataset of persons aged 65-75. We then used logistic regression analyses to assess the effects of childhood SEP and employment trajectories on functional limitations, including 3 physical domains.

Results: Low childhood socioeconomic position and employment trajectories characterized by informal and part-time work were associated with experiencing functional limitations. Both appear to have a direct effect on functional ability.

Discussion: The life course approach could enrich the study of functional limitations, helping to better understand how social factors impact people’s functional ability. This, in turn, can optimize the design of different public policies and strategies to reduce the number of years of life dependent on others.

Functional limitations, childhood socioeconomic position, employment trajectories, healthy aging
Introduction

As reported by World Population Ageing 2019: Highlights (United Nations [UN], 2019), the share of older persons will at least double by 2050 in four regions, including Latin America and the Caribbean. If poor health accompanies those gained life years, the expenditure on health and long-term care of older people will raise. This could amplify the existing economic burden of health services (Bloom et al., 2015), consideration of special importance in developing countries where the pace of this process has been faster (Yokota et al., 2017).

In order to tackle the challenges of population aging, the United Nations General Assembly proclaimed the action plan ‘Decade of Healthy Ageing 2020-2030’. Healthy aging refers to the process of developing and maintaining functional ability, which allows older people to continue taking part in their communities, thus achieving well-being (World Health Organization[WHO], 2015).

Functional limitations are difficulties or restrictions in using abilities to perform physical tasks (Sauerteig et al., 2021; Shrira & Litwin, 2014). In different models of disablement process, they represent a critical step on the pathway towards disability (Palumbo et al., 2020; Long & Pavalko, 2004). Hence, their assessment could provide relevant information about functional decline before more severe outcome develop. For this purpose, different approaches can be used. Based on the Survey of Health, Aging and Retirement in Europe (SHARE), Wang et al. (2019) used three different domains of physical function to assess functional limitations: mobility function, arm function and fine motor function.

Among older people, functional limitations are more common. As age increases, a gradual decline in physical capacity is expected to occur (Scheel-Hincke et al., 2019; Slaug et al., 2011). However, that
decline also depends on different factors. Low physical activity, obesity, and having chronic conditions have been identified as risk factor for developing functional limitations (Brown & Flood, 2015). Women, and those who have lower educational level are also at greater risk of presenting functional limitations (Bleijenberg et al., 2017). Consequently, functional limitations do not only relate to chronological age, but also to social environment in which people live (World Health Organization [WHO], 2015), thus they are closely linked to social inequalities.

**Childhood socioeconomic position and functional limitations in older age**

From the life course approach, several studies have suggested that experiences and exposures faced during certain sensitive periods, such as childhood, impacts on later health. It has been described that childhood disadvantaged socioeconomic circumstances associates with experiencing poor health later in life (Broek, 2021). Different theoretical approaches have been used to understand that relationship. For instance, one attributes a direct long-lasting effect to childhood experiences, while other state that childhood experiences are moderated by subsequent exposures at different life stages (Arpino et al., 2018; Corna, 2013).

A growing body of evidence consistently shows that low childhood socioeconomic position (SEP) associates with experiencing a greater number of chronic diseases (Pavela & Latham, 2016) such as diabetes and heart disease (Friedman et al., 2015), a greater probability of facing metabolic syndrome (Montez et al., 2016), depression (Angelini et al., 2019), and work disability (S. B. Laditka & Laditka, 2019).

Regarding specifically functional limitations, few life course epidemiology studies have identified low childhood SEP as one of its most important predictors. Montez and Hayward (2014) stated that adults who experienced low early-life SEP spent a great portion of life functionally impaired. Bowen and Gonzalez (2010) found that low childhood SEP was associated with moderate and severe
functional limitations among U.S adults. Similarly, a study conducted in Indonesia showed that low childhood SEP was associated with higher odds of experiencing lower body functional limitations (LBFL)(Peele, 2019). In contrast, higher childhood SEP is associated with significantly lower functional limitations in later life (Huang et al., 2011; Luo & Waite, 2005).

**Lifetime employment trajectories and functional limitations in older age**

Employment is a key domain of adulthood (Tosi & Grundy, 2021), and some association between its characteristics and later life health have been described, such as the effects of temporary employment, part-time work and informal work (Quinlan, 2015).

Currently, employment arrangements are characterized by increased flexibility, insecurity, fragmentation and differentiation (Wahrendorf et al., 2019). To better understand the different aspects of employment arrangements and their impact on health, and also considering that health outcomes cannot be attributed to work status at specific observation points (Madero-Cabib et al., 2021a), it becomes necessary to move from the traditional static model of work and health to one capable of capturing the dynamism of that relationship (Amick et al., 2016). With this in mind, life course epidemiology studies have begun to study complete employment trajectories (Wahrendorf et al., 2019).

It has been described that disadvantageous employment trajectories exerts deleterious effect on later health (Di Gessa et al., 2020; Giudici & Morselli, 2019; Lu et al., 2017; Zella & Harper, 2021). On the other hand, continuous, formal and full-time employment trajectories during adulthood are associated with experiencing fewer chronic conditions in old age (Madero-Cabib et al., 2019a). In addition, Di Gessa et al. (2020) reported that men with weak attachment to the labor market, and those who exited from it at age 60, had significantly poorer subjective quality of life and physical
health than those with continuous employment. According to Wahrendorf et al., (2019, 2021), adverse employment histories, including repeated periods of unemployment, involuntary job losses, weak labor market ties, and low occupational position negatively affect later physical functioning.

**Research gaps**

Most studies addressing functional limitations have been conducted in developed and high-income countries. In those settings, it has been demonstrated that both low childhood SEP and disadvantageous employment trajectories are associated with experiencing a greater number of functional limitations later in life. It is important to note that despite the numerous international studies addressing functional limitations, to our knowledge only one study has incorporated employment trajectories as possible mediator in the relationship between childhood SEP and functional limitations (Arpino et al., 2018).

Less is known about the predictors of functional limitations in developing countries. In Chile, for example, scarce research has addressed the topic. Madero-Cabib et al. (2021b) highlighted that the attention has rather focused on calculating its prevalence using cross-sectional data. Beyond the importance of having this information, identifying the predictors of functional limitations may allow designing appropriate strategies for the different needs of older people.

Albala et al. (2011) demonstrated a close association between SEP of older persons and functional ability. Supporting that finding, Fuentes-García et al. (2013) reported the existence of an inverse association between older persons’ SEP and functional limitations, where middle and high SEP acted as a protective factor on experimenting functional limitations. Even though SEP has been recognized as an important predictor for functional limitations in Chilean older people, the relationship between
childhood SEP and functional limitations remains unclear. At the same time, no studies conducted in Chile have addressed the relationship between employment trajectories and subsequent functional ability, nor if these can moderate the effects of low childhood SEP on functional limitations.

Chile, a developing country in Latin America, is characterized by high levels of socioeconomic inequality (Gini coefficient= 0.46) (Organisation for Economic Co-operation and Development [OECD], 2021). In this context the country is facing a more accelerated aging process than other countries in the region (United Nations [UN], 2019). Considering the previously described association between certain types of employment trajectories with experiencing functional limitations in old age, it is worth mentioning that the cohort of this study initially entered the labor force around the 1970s where neoliberal policies were adopted after the military dictatorship. Social, economic and labor reforms led to labor market deregulation. (Madero-Cabib & Cabello-Hutt, 2021c; Ruiz et al., 2019). Accordingly, using the same study cohort, Madero-Cabib & Cabello-Hutt (2021c) identified different types of employment trajectories and reported the existence of informal work in most of them. All these particularities make Chile a novel scenario to explore possible predictors of functional limitations.

In this study, using a cohort of older people aged 65 -75, we aim to generate knowledge about the predictors of functional limitations in a developing country facing a rapid aging process. The objectives of this article are to explore the impact of low childhood SEP and employment trajectories on functional limitations of older people living in Santiago de Chile, and to examine how employment trajectories moderate the relationship between childhood SEP and functional ability on later life.

Specifically, we address the following research questions:
1. How does low childhood SEP affect functional limitations in older age?

2. How do different types of lifetime employment trajectories affect functional limitations in older age?

3. How do employment trajectories moderate the relationship between low childhood SEP and functional limitations of older people?

Methods

Data and sample

Data for this research were drawn from the longitudinal and population-representative survey ‘Life course and vulnerability among older people in Santiago, Chile’. Conducted between March and August 2019, it is the first face-to-face survey carried out in Chile that collects detailed annual retrospective information on numerous dimensions of the life course. In accordance with the most recent quality standards for data collection defined by the American Association for Public Opinion Research (AAPOR) [AAPOR, 2016], a sample of 802 older individuals born between 1944 and 1954 (aged 65 – 75 at the time of the interview) living in Santiago, Chile’s capital and largest city, were randomly selected and asked about childhood circumstances, educational and occupational trajectories, cohabitation histories, lifetime behavioral risk factors, marital patterns and fertility, work and financial vulnerabilities, and health status in the old age.

The collection of data was conducted by trained interviewers using face-to-face structured interviews administered at respondent’s home, which entailed continuous interaction between interviewer and respondent. This process involved the use of two types of questionnaire designed to be applied on paper: a traditional cross-sectional questionnaire to explore sociodemographic characteristics and
current health conditions, and a retrospective longitudinal life-history-calendar questionnaire to reconstruct long-term trajectories in different life domains. The latter enabled participants to remember and chronologically organize various events during their lives, along with approximate dates of occurrence (Morselli, 2015). This research has been approved by the Ethics Committee of the Faculty of Social Sciences at Pontificia Universidad Católica de Chile (institutional review board [IRB] approval number: 190124005), which conforms to the provisions of the Declaration of Helsinki, the Declaration of Singapore, and the Nuremberg Code. Informed consent was obtained from all subjects involved in the study.

In order to avoid potential selection bias, and to provide representative estimates of the population, the study sample was weighted by an expansion factor that corrects the estimates based on four known characteristics of the 65-75 age group of the population of Santiago: zones of residence, age ranges, educational level and sex. Our results are representative of and valid for the older adults aged 65–75 living in Santiago de Chile only.

The present study has the approval of the Ethics Committee of Health Sciences at Pontificia Universidad Católica de Chile (CEC-Salud UC), (institutional review board [IRB] approval number:201201005).

**Variables**

**Independent variables**

The independent variables of interest in this research were: (1) childhood SEP and (2) employment trajectories. The childhood SEP was measured considering the self-reported household economic situation from birth to age 15. For this purpose, we used the question: ‘Would you say that your
family’s economic situation was ‘quite good’, ‘around the average’ or ‘bad’?’. The answers were collapsed into ‘did not experienced low childhood SEP’ if the answer was ‘quite good’, ‘around the average’ or ‘varied’ and ‘experienced low childhood SEP’ if the answer was ‘bad’.

For the employment trajectories this study used a set of seven types of employment trajectories, previously identified by Madero-Cabib & Reyes (Forthcoming) using sequence analysis (SA). SA is a longitudinal statistical technique whose main objective is to identify representative types of trajectories in a certain population. The employment trajectories were reconstructed using a variable included in the retrospective longitudinal life-history-calendar questionnaire mentioned earlier. This variable, called ‘employment status’, collected experiences of the employment domain, and annually measured three dimensions: (i) presence or absence of paid employment; (ii) presence of full-time or part-time paid employment; and (iii) presence of formal or informal paid employment. The formal/informal employment refers to being (or not) in an employment from which one contributes to the individual retirement account, which is a representative indicator of work formality in Chile (Madero-Cabib et al., 2019b). The combination of these three dimensions led to five mutually exclusive indicators in which individuals may have been every year until the time of the interview: ‘inactive’, ‘full-time formal employment’, ‘part-time formal employment’, ‘full-time informal employment’, and ‘part-time informal employment’. The seven types of employment trajectories identified are described in Table 1.

**Dependent variables**

Functional limitations were measured in the cross-sectional questionnaire using 10 Nagi-based questions (Buz & Cortés-Rodríguez, 2016; Nagi, 1976). Each respondent was asked whether they had any difficulty (yes/no) in performing ten activities of the following list: (1) kneeling, (2) climbing
one flight, (3) climbing several flights of stairs, (4) walking 100 meters, (5) sitting for 2 hours, (6) getting up from a chair, (7) pulling large objects, (8) lifting heavy weights, (9) lifting hands above

Table 1

Types of employment trajectories.

<table>
<thead>
<tr>
<th>Employment trajectory type</th>
<th>Weighted proportion (%)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1. Formal full-time, permanent</td>
<td>41.06</td>
<td>Individuals permanently employed in full-time, formal employment and contributing to social security in adulthood.</td>
</tr>
<tr>
<td>Type 2. Formal full-time, transitory</td>
<td>15.77</td>
<td>Individuals who participate in full-time, formal employment, but only for short periods in adulthood, since most of the time they are outside the labor force.</td>
</tr>
<tr>
<td>Type 3. Out of the labor force</td>
<td>15.10</td>
<td>Individuals who spend inactive or not engaged in paid employment for most of their lives.</td>
</tr>
<tr>
<td>Type 4. Informal full-time, Permanent</td>
<td>12.34</td>
<td>Individuals permanently employed in full-time informal employment, that is, not contributing to social security.</td>
</tr>
<tr>
<td>Type 5. Formal full-time to informal part-time, permanent</td>
<td>8.19</td>
<td>Individuals who participate in full-time, formal employment during early adulthood (aged 18-30), but move to part-time, informal employment and remain most of their lives in it.</td>
</tr>
<tr>
<td>Type 6. Formal to informal full-time, permanent</td>
<td>6.02</td>
<td>Individuals who participate in full-time, formal employment until age 45 approximately, but after move to a full-time, informal employment and remain in it until later in life.</td>
</tr>
<tr>
<td>Type 7. Formal part-time, permanent</td>
<td>1.52</td>
<td>Individuals permanently employed in part-time formal employment.</td>
</tr>
</tbody>
</table>

Source: Obtained from Madero-Cabib, I & Reyes, C (Forthcoming).
shoulders, and (10) picking up a small coin. Based on the answers to each of the activities mentioned, we built a summative score (0 - 10). Then, for the analysis, we created a cut-off based on the mean number of overall functional limitations of the study sample (3.37). Thus, two categories were created, one including individuals with more than 3 overall functional limitations, and the other considering those with 3 or less overall functional limitations. Additionally, using the same list of tasks above mentioned, we followed the study of Wang, T. et al (2019) and defined three domains of physical function: mobility, arm function and fine motor. The limitations of each domain were defined as described by the author. Mobility limitation was defined as the difficulty to complete at least three of six activities (questions 1 to 6). Arm function limitation, as difficulty on performing at least one of three activities (questions 7 to 9). Finally, fine motor limitation was defined as difficulty to pick a small coin up from a table (question 10).

**Control variables**

The estimates were adjusted for variables drawn from the cross-sectional questionnaire. These were chosen for being commonly considered in the literature as risk factors or contributors to the development of functional limitations. First, we included four sociodemographic variables: age, gender (‘women’, ‘men’) and educational level (‘primary or none’ and ‘secondary or higher’). Second, we included self-reported history of health conditions. Individuals were asked whether they have been diagnosed by a medical doctor (yes/no) of heart attack (including myocardial infarction or coronary thrombosis, or some other heart problem), diabetes, rheumatoid arthritis and osteoarthritis or other rheumatism.
Finally, we included the following health behaviors: body mass index (BMI), based on self-reported height and weight (‘not obese’, ‘obese’), current smoking habit (‘yes’, ‘no’), and alcohol consumption during the last seven days (‘yes’, ‘no’).

**Statistical analysis**

To evaluate the associations between the independent variables and the four measures of functional limitations (‘overall functional limitations’, ‘mobility limitations’, ‘arm function limitations’ and ‘fine motor limitation’), we first conducted a weighted bivariate analysis using chi-squared test. It is worth mentioning that for this weighted bivariate analysis, trajectory type 7 (‘Formal part-time permanent’) was merged with trajectory type 5 (Formal full-time to informal part-time, permanent’), due to the low proportion of individuals who followed that employment trajectory. Then, we estimated weighted logistic regression models adjusted for the control variables. Three weighted logistic regression models are presented for each of the domains of the physical function, reaching 12 in total: Model 1 (1a, 1b, 1c, 1d) includes childhood SEP, Model 2 (2a, 2b, 2c, 2d) considers the effect of employment trajectories, and Model 3 (3a, 3b, 3c, 3d) includes both childhood SEP and employment trajectories. Additionally, 4 weighted logistic regression models were included to assess the interaction effects between low childhood SEP and employment trajectories on functional limitations (Models 4a, 4b, 4c and 4d).

In assessing interaction effects, the number of observations of some groups was small, so we adopted an analytical strategy that consisted of grouping the employment trajectories according to whether they were characterized by mostly formal or informal employment. Then, 3 categories were created: (1) outside the labor force (included those trajectories characterized by grouping individuals who remained most of the time outside the labor market, i.e. trajectory type 2 and type 3), (2) formal full-
time/part-time permanent/transitory (included those trajectories characterized by grouping individuals who remained most of the time in formal jobs, either full-time or part-time, i.e. trajectory type 1, type 6 and type 7), and (3) informal full-time/part-time permanent (included those trajectories characterized by grouping individuals who remained most of the time in informal jobs, either full-time or part-time, i.e. trajectory type 4 and type 5).

Cases with missing data were omitted for the analysis. All the statistical analyses were performed in R (R Core Team, 2021), using the ‘survey’ package for weighted analysis (Lumley, 2021).

**Results**

Weighted descriptive statistics of the study sample are presented in Table 2. The mean age was 69.83 (SD = 3.14) years old. The proportion of women was higher than men, representing more than half of the sample (56.66%). Most of the participants did not experienced low childhood SEP (60.53%) and had secondary educational level or higher (61.49%). Among all the employment trajectory types, the majority of the respondents (41.06%) followed a formal full-time permanent trajectory, while the least prevalent was the formal part-time permanent trajectory type (1.52%). In relation to health conditions, about 31% of the sample have been diagnosed by a medical doctor of diabetes, and 19.29% of osteoarthritis or other rheumatism. In terms of health behaviors, nearly one third of the study sample presented obesity, 17.57% were current smokers, and 29.03% consumed alcohol at least once during the last seven days. The mean number of functional limitations was 3.37 and approximately 44% of the study sample reported having functional limitations above the mean number. With regard to the functional limitations domains, a relevant proportion of the participants presented 3 or more mobility limitations (43.71%), and at least one arm function limitation (40.75%). In contrast, only a small proportion presented fine motor limitation (12.72%).
Table 2

Weighted descriptive statistics of the study sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean (SD) or percentage</th>
<th>Variables</th>
<th>Mean (SD) or percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic characteristics</strong></td>
<td></td>
<td><strong>Childhood Socioeconomic Position</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>69.83 (3.14)</td>
<td>Did not experienced low childhood SEP</td>
<td>60.53</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td>Experienced low childhood SEP</td>
<td>39.47</td>
</tr>
<tr>
<td>Men</td>
<td>43.34</td>
<td><strong>Number of Functional limitation (0-10)</strong></td>
<td>3.37 (2.77)</td>
</tr>
<tr>
<td>Women</td>
<td>56.66</td>
<td><strong>Functional limitations above the mean</strong></td>
<td>44.21</td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
<td></td>
<td><strong>Functional limitations domains</strong></td>
<td></td>
</tr>
<tr>
<td>Primary or none</td>
<td>38.51</td>
<td>≥3 Mobility limitation</td>
<td>43.71</td>
</tr>
<tr>
<td>Secondary or higher</td>
<td>61.49</td>
<td>≥1 Arm function limitation</td>
<td>40.75</td>
</tr>
<tr>
<td><strong>Health conditions</strong></td>
<td></td>
<td>1 Fine motor limitation</td>
<td>12.72</td>
</tr>
<tr>
<td>Heart attack</td>
<td>17.37</td>
<td><strong>Employment trajectory type</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>30.78</td>
<td>1. Formal full-time, permanent</td>
<td>41.06</td>
</tr>
<tr>
<td>Rheumatoid arthritis</td>
<td>12.47</td>
<td>2. Formal full-time, transitory</td>
<td>15.77</td>
</tr>
<tr>
<td>Osteoarthritis or other rheumatism</td>
<td>19.29</td>
<td>3. Out of the labor force</td>
<td>15.10</td>
</tr>
<tr>
<td><strong>Health behaviors</strong></td>
<td></td>
<td>4. Informal full-time, permanent</td>
<td>12.34</td>
</tr>
<tr>
<td>Still Smoking</td>
<td>17.57</td>
<td>5. Formal full-time to informal part-time permanent</td>
<td>8.19</td>
</tr>
<tr>
<td>Drunked last seven days</td>
<td>29.03</td>
<td>6. Formal to informal full-time, permanent</td>
<td>6.02</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td>7. Formal part-time, permanent</td>
<td>1.52</td>
</tr>
<tr>
<td>Not obese</td>
<td>68.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>31.52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: SEP = Socioeconomic Position.
Table 3 reports the weighted bivariate associations for both overall functional limitations and each of the physical function domains with (i) childhood SEP, (ii) employment trajectory types and (iii) control variables. There are significant differences between those who experienced low childhood SEP and those who reported not experimenting low childhood SEP. Individuals who experienced low childhood SEP were more likely to present functional limitations above the mean, 3 or more mobility limitations and one or more arm function limitation than their counterparts. No statistically significant differences were observed in the fine motor limitation domain.

In regards to employment trajectory types, individuals most likely to present above-mean functional limitations were those who followed the employment trajectories Type 5 (‘Formal full-time to informal part-time, permanent’) and Type 2 (‘Formal full-time transitory’) that is, people who worked brief periods in formal full-time jobs, and spent most of the time either out of the labor force (Type 2), or in informal employment (Type 5). In contrast, the individuals least prone to present 4 or more functional limitations were those who followed trajectories characterized by continuous formal full-time employment: Type 1 (‘Formal full-time permanent’) and Type 6 (‘Formal to informal, full-time, permanent’).

In relation to the different domains of functional limitations, individuals who followed the employment trajectories Type 5 (‘Formal full-time to informal part-time, permanent’) and Type 2 (‘Formal full-time transitory’) were more prone to present 3 or more mobility limitations. The most prevalent trajectory that presented 1 or more arm function limitation was Type 5 (‘Formal full-time to informal part-time, permanent’). Consistent with the results obtained in the overall functional limitations, the least common trajectories among those who present 3 or more mobility limitations and 1 or more arm function limitation, were trajectories characterized by formal full-time permanent employment: Type 1 (‘Formal full-time permanent’) and Type 6 (‘Formal/informal full time
permanent’). No statistically significant differences were observed in the fine motor limitation domain.

The proportions of individuals who did or did not present above-mean functional limitations, 3 or more mobility limitations and 1 or more arm function limitation were similar for Type 3 (‘Out of the labor force’).

**Table 3**

**Weighted bivariate associations**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Overall functional limitations</th>
<th>Fine motor limitation</th>
<th>Mobility limitations</th>
<th>Arm function limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ mean</td>
<td>&gt; mean</td>
<td>p-value</td>
<td>0</td>
</tr>
<tr>
<td>Childhood SEP (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not experienced low childhood SEP</td>
<td>64.24</td>
<td>35.76</td>
<td>0.012</td>
<td>87.7</td>
</tr>
<tr>
<td>Experienced low childhood SEP</td>
<td>44.37</td>
<td>55.63</td>
<td></td>
<td>86.48</td>
</tr>
<tr>
<td>Employment trajectory type (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Formal full-time, permanent</td>
<td>68.77</td>
<td>31.23</td>
<td>0.021</td>
<td>87.44</td>
</tr>
<tr>
<td>2. Formal full-time, transitory</td>
<td>40.47</td>
<td>59.53</td>
<td></td>
<td>90.30</td>
</tr>
<tr>
<td>3. Out of labor force</td>
<td>47.80</td>
<td>52.20</td>
<td></td>
<td>78.47</td>
</tr>
<tr>
<td>4. Informal full-time, permanent</td>
<td>54.76</td>
<td>45.24</td>
<td></td>
<td>92.61</td>
</tr>
<tr>
<td>5. Formal full-time to informal part-time permanent</td>
<td>36.86</td>
<td>63.14</td>
<td></td>
<td>88.71</td>
</tr>
<tr>
<td>6. Formal to informal full-time, permanent</td>
<td>59.20</td>
<td>40.80</td>
<td></td>
<td>91.43</td>
</tr>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>68.9</td>
<td>31.1</td>
<td>0.012</td>
<td>86.25</td>
</tr>
<tr>
<td>Women</td>
<td>45.38</td>
<td>54.62</td>
<td></td>
<td>88.09</td>
</tr>
<tr>
<td>Education (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Heart attack (%)</td>
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<td>47.08</td>
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(continued on next page)
### Table 3 (continued)

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<td>Overall functional limitations</td>
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<td>Diabetes (%)</td>
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<td>Yes</td>
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<td>Rheumatoid arthritis (%)</td>
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<td>Dranked last seven days (%)</td>
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Note: SEP = Socioeconomic Position. Significant associations in bold.

Weighted logistic regression models estimating the associations between the independent variables and functional limitations, controlling for sociodemographic, health conditions and health behavior factors, are presented in Table 4 and Table 5 (results shown in odds ratios [ORs]). Twelve of the sixteen models developed in this study are presented in Table 4. Table 5 shows four models that include the interaction effects between low childhood SEP and employment trajectories on functional limitations.

Findings shown on Table 4 suggest that there are significant associations between childhood SEP and three out of four dependent variables (Model 1a, 1c, 1d). As expected from the bivariate analysis,
Table 4

Weighted logistic models on functional limitations (odds ratios).

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<tr>
<th>Variables</th>
<th>Overall functional limitations</th>
<th>Functional limitations</th>
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<tbody>
<tr>
<td></td>
<td>Model 1a</td>
<td>Model 2a</td>
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<tr>
<td>Childhood SEP (Reference: Did not experienced low childhood SEP)</td>
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</tr>
<tr>
<td>Experienced low childhood SEP</td>
<td>1.95 (1.07 - 3.58)*</td>
<td>1.87 (1.00 - 3.51) +</td>
</tr>
<tr>
<td>Employment trajectory type (Reference: Out of labor force)</td>
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<td></td>
</tr>
<tr>
<td>1. Formal full-time, permanent</td>
<td>0.89 (0.31 - 2.59)</td>
<td>0.93 (0.32 - 2.67)</td>
</tr>
<tr>
<td>2. Formal full-time, transitory</td>
<td>1.28 (0.64 - 2.59)</td>
<td>1.40 (0.69 - 2.84)</td>
</tr>
<tr>
<td>4. Informal full-time, permanent</td>
<td>1.19 (0.44 - 3.28)</td>
<td>1.35 (0.48 - 3.85)</td>
</tr>
<tr>
<td>5. Formal full-time to informal part-time permanent</td>
<td>3.77 (1.00 - 14.22)*+</td>
<td>3.66 (1.03 - 13.00)*</td>
</tr>
<tr>
<td>6. Formal to informal full-time, permanent</td>
<td>0.87 (0.10 - 7.51)</td>
<td>0.85 (0.11 - 6.74)</td>
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<tr>
<td>Age</td>
<td>1.03 (0.94 - 1.14)</td>
<td>1.04 (0.94 - 1.15)</td>
</tr>
<tr>
<td>Gender (Reference = Men)</td>
<td>2.07 (0.92 - 4.66)*+</td>
<td>2.02 (0.82 - 5.00)</td>
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<tr>
<td>Educational level (Reference = Secondary or higher)</td>
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<td>Primary or less</td>
<td>1.16 (0.60 - 2.23)</td>
<td>1.35 (0.69 - 2.66)</td>
</tr>
<tr>
<td>Still Smoking (Reference = No)</td>
<td>0.65 (0.34 - 1.25)</td>
<td>0.56 (0.28 - 1.10)*+</td>
</tr>
<tr>
<td>BMI (Reference = Not obese)</td>
<td>2.24 (1.23 - 4.06)**</td>
<td>2.52 (1.34 - 4.72)**</td>
</tr>
<tr>
<td>Drunked last seven days (Reference = No)</td>
<td>0.60 (0.31 - 1.16)</td>
<td>0.68 (0.36 - 1.27)</td>
</tr>
<tr>
<td>Heart attack (Reference = No)</td>
<td>1.83 (0.73 - 4.58)</td>
<td>1.97 (0.73 - 5.30)</td>
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<tr>
<td>Diabetes (Reference = No)</td>
<td>1.57 (0.84 - 2.96)</td>
<td>1.42 (0.69 - 2.92)</td>
</tr>
<tr>
<td>Rheumatoid arthritis (Reference = No)</td>
<td>1.73 (0.69 - 4.38)</td>
<td>1.93 (0.88 - 4.22)</td>
</tr>
<tr>
<td>Osteoarthritis or other rheumatism (Reference = No)</td>
<td>1.71 (0.69 - 4.27)</td>
<td>1.41 (0.58 - 3.44)</td>
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</table>

Note: SEP= Socioeconomic position. 95% Confidence intervals in parentheses. Significant associations in bold.
Valor p: *** p<0.001, ** p<0.01; * p<0.05; + p<0.10

(continued on next page)
Table 4 (continued)

Weighted logistic models on functional limitations (odds ratios).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1c</th>
<th>Model 2c</th>
<th>Model 3c</th>
<th>Model 1d</th>
<th>Model 2d</th>
<th>Model 3d</th>
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<td>Childhood SEP (Reference: Did not experienced low childhood SEP)</td>
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<td></td>
</tr>
<tr>
<td>Experienced low childhood SEP</td>
<td>2.28 (1.35 - 3.88)**</td>
<td>2.29 (1.36 - 3.85)**</td>
<td>2.29 (1.21 - 4.30)*</td>
<td>2.19 (1.18 - 4.06)*</td>
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<tr>
<td>Employment trajectory type (Reference: Out of labor force)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Formal full-time, permanent</td>
<td>1.13 (0.36 - 3.55)</td>
<td>1.19 (0.38 - 3.76)</td>
<td>1.23 (0.43 - 3.50)</td>
<td>1.24 (0.44 - 3.49)</td>
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</tr>
<tr>
<td>2. Formal full-time, transitory</td>
<td>1.72 (0.76 - 3.90)</td>
<td>1.96 (0.86 - 4.46)</td>
<td>0.96 (0.38 - 2.43)</td>
<td>1.07 (0.43 - 2.63)</td>
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</tr>
<tr>
<td>4. Informal full-time, permanent</td>
<td>1.50 (0.51 - 4.44)</td>
<td>1.75 (0.57 - 5.34)</td>
<td>1.15 (0.45 - 2.92)</td>
<td>1.12 (0.41 - 3.03)</td>
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<tr>
<td>5. Formal full-time to informal part-time permanent</td>
<td>3.53 (0.90 - 13.82)+</td>
<td>3.41 (0.93 - 12.46)+</td>
<td>4.90 (1.35 - 17.73)*</td>
<td>4.42 (1.30 - 15.07)*</td>
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<tr>
<td>6. Formal to informal full-time, permanent</td>
<td>1.05 (0.13 - 8.80)</td>
<td>1.03 (0.14 - 7.54)</td>
<td>0.29 (0.06 - 1.40)</td>
<td>0.29 (0.07 - 1.24)+</td>
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<tr>
<td>Age</td>
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<td>1.04 (0.94 - 1.15)</td>
<td>1.02 (0.93 - 1.12)</td>
<td>1.01 (0.92 - 1.11)</td>
<td>1.02 (0.93 - 1.11)</td>
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<td>Gender (Reference = Men)</td>
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<tr>
<td>Women</td>
<td>2.38 (1.10 - 5.15) *</td>
<td>2.35 (0.92 - 5.97)+</td>
<td>2.49 (1.02 - 6.05)*</td>
<td>2.08 (1.00 - 4.28) +</td>
<td>2.35 (1.05 - 5.26)*</td>
<td>2.28 (1.10 - 4.72)*</td>
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<td>Educational level (Reference= Secondary or higher)</td>
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<td>Primary or less</td>
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<td>1.26 (0.62 - 2.56)</td>
<td>1.01 (0.49 - 2.10)</td>
<td>0.97 (0.53 - 1.78)</td>
<td>1.15 (0.66 - 1.99)</td>
<td>0.95 (0.55 - 1.63)</td>
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<td>1.14 (0.56 - 2.33)</td>
<td>1.01 (0.50 - 2.05)</td>
<td>1.10 (0.55 - 2.18)</td>
<td>0.70 (0.34 - 1.43)</td>
<td>0.58 (0.27 - 1.24)</td>
<td>0.64 (0.31 - 1.33)</td>
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<tr>
<td>BMI (Reference = Not obese)</td>
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<tr>
<td>Obese</td>
<td>2.78 (1.62 - 4.75)***</td>
<td>3.05 (1.75 - 5.33)***</td>
<td>2.95 (1.74 - 4.98)***</td>
<td>1.94 (0.99 - 3.81) +</td>
<td>2.38 (1.18 - 4.78)*</td>
<td>2.40 (1.24 - 4.66)*</td>
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<td>0.62 (0.34 - 1.14)</td>
<td>0.69 (0.38 - 1.23)</td>
<td>0.66 (0.37 - 1.16)</td>
<td>0.71 (0.36 - 1.39)</td>
<td>0.78 (0.41 - 1.50)</td>
<td>0.77 (0.40 - 1.47)</td>
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<td>Heart attack (Reference = No)</td>
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<tr>
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<td>1.98 (0.80 - 4.89)</td>
<td>2.22 (0.84 - 5.86)</td>
<td>2.04 (0.88 - 4.73)+</td>
<td>1.55 (0.66 - 3.60)</td>
<td>1.54 (0.62 - 3.86)</td>
<td>1.44 (0.63 - 3.31)</td>
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<td>Diabetes (Reference = No)</td>
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<tr>
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<td>1.70 (0.95 - 3.04) +</td>
<td>1.54 (0.80 - 2.96)</td>
<td>1.52 (0.81 - 2.83)</td>
<td>1.43 (0.77 - 2.65)</td>
<td>1.54 (0.80 - 2.97)</td>
<td>1.42 (0.76 - 2.66)</td>
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<td>Rheumatoid arthritis (Reference = No)</td>
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<td>1.62 (0.69 - 3.81)</td>
<td>1.84 (0.87 - 3.88)</td>
<td>1.62 (0.76 - 3.49)</td>
<td>0.93 (0.37 - 2.32)</td>
<td>1.20 (0.55 - 2.64)</td>
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<td>Osteoarthritis or other rheumatism (Reference = No)</td>
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<tr>
<td>Yes</td>
<td>1.33 (0.48 - 3.67)</td>
<td>1.09 (0.41 - 2.94)</td>
<td>1.28 (0.47 - 3.50)</td>
<td>1.87 (0.91 - 3.86) +</td>
<td>1.83 (0.91 - 3.70)+</td>
<td>1.91 (0.93 - 3.93)+</td>
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</table>

Note: SEP= Socioeconomic position. 95% Confidence intervals in parentheses. Significant associations in bold. Valor p: *** p<0.001, ** p<0.01; * p<0.05; + p<0.10
those individuals who experienced low childhood SEP were significantly more likely to have above-mean functional limitations (OR=1.95, CI95%=1.07–3.58), 3 or more mobility limitations (OR=2.28, CI95%=1.35–3.88), and at least one arm function limitation (OR=2.29, CI95%=1.21–4.30). The effect on fine motor limitation was not statistically significant (OR=1.14, CI95%=0.52–2.48).

When including the employment trajectories variable (model 3a, 3c, 3d), the associations between low childhood SEP and presenting above-mean functional limitations and at least one arm function limitation were slightly attenuated but remained significant (OR=1.87, CI95%=1.00–3.51 and OR=2.19, CI95%=1.18–4.06, respectively). On the other hand, the effect of low childhood SEP on mobility limitations increased marginally (OR=2.29, CI95%=1.36–3.85).

The effects of employment trajectories on the four dependent variables are described below. Model 2a, 2c and 2d shows that in relation to individuals who followed employment trajectory 3 (‘Out of the labor force’), individuals who followed trajectory 5 (‘Formal full-time to informal part-time, permanent’) were more likely to have above-mean functional limitations (OR=3.77, CI95%=1.00–14.22), 3 or more mobility limitations (OR=3.53, CI95%=0.90–13.82) and one or more arm function limitation (OR=4.90, CI95%=1.35–17.73). In terms of fine motor limitation (model 2b), individuals who followed employment trajectories characterized by permanent formal/informal full-time employment, type 1 (‘Formal full-time permanent’) and 4 (‘Informal full-time permanent’), were less likely to present fine motor limitation when comparing to individuals who followed employment trajectory 3 (‘Out of the labor force’), whether or not including low childhood SEP in the model.

When including the variable childhood SEP (model 3a, 3c, 3d), the associations between trajectory 5 (‘Formal full-time to informal part-time, permanent’) and presenting above-mean functional limitations, 3 or more mobility limitations and at least one arm function limitation were slightly
attenuated but remained significant (OR=3.66, CI95%= 1.03–13.00, OR=3.41, CI95%=0.93–12.46 and OR=4.42, CI95%=1.30-15.07, respectively).

As shown in Table 5, findings suggest that compared with individuals who spent most of their lives out of labor force, following formal employment trajectories mitigate the deleterious effect of having experienced low SEP in childhood on presenting fine motor limitation (OR=0.031, CI95%= 0.004-0.20). Interestingly, this is the only significant difference observed among all dependent variables. Employment trajectories did not mitigate the effects of low childhood SEP on experiencing above-mean functional limitations, mobility limitations, and arm function limitations.

Table 5
Weighted logistic models on functional limitations (odds ratios): Interaction effects

<table>
<thead>
<tr>
<th>Variables</th>
<th>Overall functional limitations</th>
<th>Fine motor limitation</th>
<th>Mobility limitations</th>
<th>Arm function limitations</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Model 4a</td>
<td>Model 4b</td>
<td>Model 4c</td>
<td>Model 4d</td>
</tr>
<tr>
<td>Childhood SEP (Reference: Did not experienced low Childhood SEP)</td>
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</tr>
<tr>
<td>Experienced low childhood SEP</td>
<td>2.36 (1.11 - 5.02)*</td>
<td>7.76 (1.80 - 33.56)**</td>
<td>2.63 (1.28 - 5.38)**</td>
<td>3.16 (1.34 - 7.45)*</td>
</tr>
<tr>
<td>Employment trajectory type (Reference: Out of labor force)</td>
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</tr>
<tr>
<td>Formal full-time/part-time permanent/transitory</td>
<td>0.94 (0.33 - 2.69)</td>
<td>1.92 (0.58 - 6.32)</td>
<td>0.93 (0.30 - 2.90)</td>
<td>1.32 (0.43 - 4.05)</td>
</tr>
<tr>
<td>Informal full-time/part-time permanent</td>
<td>2.08 (0.69 - 6.26)</td>
<td>1.15 (0.16 - 8.35)</td>
<td>2.15 (0.67 - 6.92)</td>
<td>2.60 (0.83 - 8.16)</td>
</tr>
<tr>
<td>Age</td>
<td>1.03 (0.94 - 1.14)</td>
<td>1.30 (1.08 - 1.56)**</td>
<td>1.04 (0.93 - 1.15)</td>
<td>1.02 (0.93 - 1.12)</td>
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<tr>
<td>Gender (Reference = Men)</td>
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<td></td>
</tr>
<tr>
<td>Women</td>
<td>2.04 (0.87 - 4.75)</td>
<td>1.23 (0.49 - 3.05)</td>
<td>2.37 (0.97 - 5.78)+</td>
<td>2.33 (1.11 - 4.91)*</td>
</tr>
<tr>
<td>Educational level (Reference secondary or higher)</td>
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</tr>
<tr>
<td>Primary or less</td>
<td>1.14 (0.57 - 2.28)</td>
<td>0.64 (0.23 - 1.78)</td>
<td>1.00 (0.48 - 2.07)</td>
<td>0.98 (0.55 - 1.76)</td>
</tr>
<tr>
<td>Still Smoking (Reference = No)</td>
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<tr>
<td>yes</td>
<td>0.66 (0.35 - 1.26)</td>
<td>1.24 (0.43 - 3.60)</td>
<td>1.16 (0.57 - 2.34)</td>
<td>0.72 (0.35 - 1.48)</td>
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</table>

(continued on next page)
Table 5 (continued)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Overall Functional limitations</th>
<th>Fine motor limitation</th>
<th>Mobility limitations</th>
<th>Arm function limitations</th>
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<tbody>
<tr>
<td></td>
<td>Model 4a</td>
<td>Model 4b</td>
<td>Model 4c</td>
<td>Model 4d</td>
</tr>
<tr>
<td>BMI (Reference = Not obese)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>2.24 (1.16 - 4.34)*</td>
<td>1.05 (0.39 - 2.86)</td>
<td>2.77 (1.55 - 4.95)**</td>
<td>2.02 (0.98 - 4.15)+</td>
</tr>
<tr>
<td>Drunked last seven days (Reference = No)</td>
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<tr>
<td>yes</td>
<td>0.58 (0.30 - 1.12)</td>
<td>5.33 (2.80 - 10.15)**</td>
<td>0.59 (0.32 - 1.10)</td>
<td>0.68 (0.35 - 1.33)</td>
</tr>
<tr>
<td>Heart attack (Reference = No)</td>
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</tr>
<tr>
<td>yes</td>
<td>1.85 (0.74 - 4.59)</td>
<td>4.41 (1.76 - 11.05)**</td>
<td>2.01 (0.83 - 4.87)</td>
<td>1.56 (0.69 - 3.56)</td>
</tr>
<tr>
<td>Diabetes (Reference = No)</td>
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<tr>
<td>yes</td>
<td>1.49 (0.74 - 3.02)</td>
<td>1.06 (0.43 - 2.65)</td>
<td>1.62 (0.85 - 3.08)</td>
<td>1.42 (0.74 - 2.73)</td>
</tr>
<tr>
<td>Rheumatoid arthritis (Reference = No)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>1.66 (0.71 - 3.85)</td>
<td>2.55 (1.11 - 5.89)*</td>
<td>1.55 (0.71 - 3.40)</td>
<td>0.83 (0.34 - 2.05)</td>
</tr>
<tr>
<td>Osteoarthritis or other rheumatism (Reference = No)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>1.63 (0.64 - 4.15)</td>
<td>0.55 (0.15 - 1.97)</td>
<td>1.27 (0.46 - 3.54)</td>
<td>1.80 (0.85 - 3.87)</td>
</tr>
<tr>
<td>Interaction effects (Reference: Out of labor force)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal full-time/part-time permanent/transitory:Low Childhood SEP</td>
<td>0.80 (0.33 - 1.95)</td>
<td>0.031 (0.004 - 0.20)***</td>
<td>0.91 (0.40 - 2.06)</td>
<td>0.62 (0.22 - 1.77)</td>
</tr>
<tr>
<td>Informal full-time/part-time permanent: Low Childhood SEP</td>
<td>0.59 (0.14 - 2.53)</td>
<td>0.12 (0.005 - 2.90)***</td>
<td>0.57 (0.14 - 2.39)</td>
<td>0.55 (0.12 - 2.47)</td>
</tr>
</tbody>
</table>

Note: SEP= Socioeconomic position. 95% Confidence intervals in parentheses. Significant associations in bold.

Valor p: *** p<0.001, ** p<0.01; * p<0.05; + p<0.10

Discussion

Using data from a population-representative longitudinal survey, this study examined the associations of childhood SEP and employment trajectories with the presence of functional limitations at age 65-75, and whether employment trajectories moderate the effect of low childhood SEP. Considering the age range of our study sample, 10 Nagi-based questions were used to measure functional limitations.
Our analysis was based on Wang et al., (2019) incorporating 3 domains of physical function: two related to gross motor skills (mobility and arm function) and one related to fine motor skills.

Related to our first research question, results showed that after controlling by multiple sociodemographic, health conditions and health behavior factors, experiencing low childhood SEP associates positively with the presence of functional limitations in older age. This finding is consistent with results of previous studies from both developed and developing countries, which identified childhood SEP as a predictor of functional limitations (Henretta & McCrory, 2016; Huang et al., 2011; J. N. Laditka & Laditka, 2018; Peele, 2019; Zhong et al., 2017). It was shown that the effect of childhood SEP was homogeneous for all the dependent variables, concretely the association is significant only for above-mean functional limitations, mobility limitations and arm function limitations.

Regarding our second research question about how employment trajectories affect functional limitations, the results indicate that their effects are diverse, varying according to the physical function domain evaluated. Firstly, moving from a full-time, formal employment to a part-time, informal employment during early adulthood and remaining most of the time in it (employment trajectory 5), increased the odds of experimenting functional limitations in older age, excepting for fine motor limitation. Employment trajectory 5 is characterized by informal and part-time work at early stages. Both of these employment arrangement have been described as having deleterious effects on health (Ahn et al., 2019; López-Ruiz et al., 2015; Quinlan, 2015). Secondly, in the case of fine motor limitation, trajectories characterized by full-time and continuous employment exert a significant protective effect when compared to ‘Out of the labor force’ trajectory.
The results obtained from the interaction effects contributed to partly answering our last research question, showing that formal employment trajectories significantly mitigate the effect of childhood SEP on fine motor limitation, but does not have that effect on moderating the effects of low childhood SEP on the other dependent variables. Different pathways linking the association between low childhood SEP and functional limitations have been described. Multiple authors suggest that rather than directly impacting functional ability, the effects of SEP in childhood are mediated by later adult exposures (Haas et al., 2017; Henretta & McCrory, 2016; Luo & Waite, 2005; Peele, 2020; Zhong et al., 2017). In this study, besides the interaction effects results, when considering both childhood SEP and employment trajectories in the Models (Model 3a, 3c, 3d), their detrimental effects on functional limitations barely change and remain significant. This finding suggests that in this context the effects of these variables may be independent, which could mean that both directly impact functional limitations in older age. This result here obtained, in part, is consistent with a study developed by Arpino et al. (2018) which indicate that family and employment trajectories does not appear to mediate the effects of childhood SEP on functional limitations.

Although the associations between older persons’ SEP and functional limitations had been described in Chilean research, until now there were no studies on the association with childhood SEP and employment trajectories. In a non-highly developed country context, this study reinforces the findings of previous international studies on the statement that low childhood SEP associates with facing more functional limitations. Additionally, it supports the reports claiming that disadvantageous employment trajectories, characterized by informal and part-time work, increase the risk of facing functional limitations, while more favorable ones may exert a protective effect on specific physical functional domains. It also suggests that formal employment trajectories can mitigate the effect of low childhood SEP on fine motor limitation.
To our knowledge, there is no previous evidence exploring the impact of childhood SEP and employment trajectories on limitations in different domains of physical function. Although the results presented are descriptive, they shed light on the importance of assessing functional limitations taking into account the different domains of physical function, since the impact of possible predictors may vary depending on the domain involved. Specifically, in this study the results show that employment trajectories may differentially impact physical function, depending on whether fine motor or gross motor skills are involved, while the impact of low childhood SEP is homogeneous for all the physical function domains.

Some limitations of our study should be recognized. First, childhood SEP was a self-reported retrospective measure, and although it is described that retrospective data on childhood SEP is reliable (Krieger et al., 1998) it may be subject to recall bias. Second, this study only considered childhood SEP and employment trajectories as possible predictors of functional limitations, and did not evaluated other factor that may also have an impact on physical function, such as residential and parenthood trajectories. Third, the employment trajectories used in this research were reconstructed using 3 dimensions related to the employment status, but did not take into account the type of occupation and, therefore, their respective physical demands, which may be related to the presence of functional limitations (Melchior et al., 2006; Nicholas et al., 2020). Fourth, due to characteristics of the study sample, the number of observations of some groups to assess interaction effects (especially in the fine motor function domain) was small, so we opted to regroup the types of employment trajectories according to formality. This regrouping of employment trajectories could have affected the level of statistical significance of the other function domains.
Further studies could attempt to overcome these limitations, for example, by considering the incorporation of the occupational type in employment trajectories. It would also be interesting to assess the impact of simultaneous employment and family trajectories on functional limitations. For future research on this topic, we propose to consider in the analysis the different domains of physical function used in this study in order to further explore the associations here demonstrated. Finally, given that previous studies have reported that women are more likely to present functional limitations (Serrano-Alarcón & Perelman, 2017; Zhong et al., 2017), we recommended stratifying future analysis by gender.

In the present study, while there are individuals that reported having no difficulties on performing Nagi-based tasks, other reported having more than three and even ten difficulties. However, it is common for the deterioration of functional ability in older persons to be considered inevitable and dependent on the chronological age of the individual. This perspective neglects the heterogeneity of older people and findings of recent evidence suggesting that age might not be the main source of heterogeneity in functional ability trajectories (Madero-Cabib, 2021b). Therefore, it is important that when developing strategies to address functional limitations, policy makers recognize older adults as a heterogeneous group.

Although strategies focused on older persons should not be overlooked, given that healthy aging is a process that encompasses the entire life course, efforts to improve and maintain functional ability cannot focus exclusively on old age. The life course approach provides an understanding of how different exposures to advantages and disadvantages across the life course may affect health in old age. Thus, incorporating this approach to the study of functional limitations could enrich the analysis and help to better understand how social factors impact people's functional ability. This, in turn, can
optimize the design of different public policies and strategies to reduce the number of years of life dependent on others, directly impacting the quality of life of the older persons.

The results of this study provide insights into the importance of early interventions, as the long arm of childhood can impact later functional health. Investing in the socioeconomic well-being of children and their families could positively impact later functional health. Our findings also demonstrate that employment trajectories characterized by informal work negatively impacts the functional ability of older persons. In this regard, it should be noted that during July-September 2021 quarter, the informal employment rate in Chile reached 27.7%, where the most affected age groups are those over 65 years old and those aged 15-24 (Instituto Nacional de Estadísticas [INE], 2021). Regulating the labor market and developing regulatory public policies that strengthen the protection of workers is imperative.

**Declaration of Conflicting Interests**

The authors declared no potential conflicts of interest.

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