Chapter #3

(RE)CAREER SCALE: PILOT STUDY FOR THE VALIDATION OF A SCALE ABOUT CAREER POST-CAREER TRANSITIONS

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ABSTRACT

This article aims to validate the factorial structure of the (Re)Career Scale: Coping Styles, which evaluates how late adults think and feel about career changes, in particular the transition to a career post-career. A career post-career is a development phase that takes place after the formal retirement of a job/ continued work and requires the involvement in a set of developmental tasks related to one's own, the environment, and the decision-making and planning (Pinto, in press). Thirty-six items were developed, considering the literature review of the main career development models. These items were administered to a total of 95 Portuguese late adults (31 (32.6%) men and 64 (67.4%) women; M_{age} =62.91; SD_{age}=6.901), of which 47 are in an active professional situation and 48 already retired. The Exploratory Factor Analysis (EFA) indicated a three-dimensional career post-career model considering a set of developmental tasks related to Identity, Opportunity and Adaptation. The final version of 30 items has good psychometric properties, with Cronbach's alphas ranging from .82 to .89. The descriptive study and the correlation between the three dimensions suggest that the scale has potential to be used in research and intervention programs to support the transition to a career post-career.

Keywords: career post-career, late adults, transition, exploratory factor analysis, pilot study.

1. INTRODUCTION

Current economic, political, social, housing and health conditions have greatly contributed to the increase of average life expectancy, particularly in developed countries. In the European Union, life expectancy in 2018 was estimated to increase, at the age of 65, about 20 years, of which approximately 9.8 would be healthy life years (Eurostat/Pordata, 2020). This situation entails new challenges, particularly regarding the experience of aging, since almost 20% of a person's life cycle will be lived within this period (UNECE, 2017).

Transition to retirement has been considered the main milestone that characterizes entering the aging process, being often anticipated (and even experienced) as a negative change in a person's life project, characterized by dissatisfaction and unhappiness (e.g., Kloep & Hendry, 2006; Schlossberg, 2003). The exit from the labor market leads to the need for a (re)conceptualization of the life project, mainly when the person gathers conditions (namely health conditions) that allow him/her to be involved in a diverse set of productive activities (paid or unpaid), that can contribute to his/her well-being at different levels (physical, psychological, social), at the same time that let him/her continue contributing to the community in which he/she lives (Hershenson, 2016).

However, a review of the main theoretical models in the life cycle psychology (e.g, Human Life Course Theory, Buhler, 1964; Psychosocial Development Theory, Erikson, 1959 Career Self-Management Models, Greenhaus, Callanan & Godschalk, 2010; Developmental Task Theory, Havighurst, 1953; Adult Career Development Theory, Levinson, 1978, 1986; Career Development Model, Super, 1953,1980) is indicative of the insufficient importance that has been given to this stage of life. In general, it is observed the homogeneousness of people with 65 or more years as a group that, especially after the formal retirement of a professional activity, enters a spiral of progressive unemployment, decadence and dependence while "waiting for the death" (Wang & Wanberg, 2017).

Also, an analysis of the intervention methodologies and strategies, aimed at supporting this stage of life, in particular, with regard to the transition to retirement, reveals an almost exclusive focus on the financial, legal, and leisure aspects (De Vries, 1979; Denton & Spencer, 2009), wrongly based on the assumptions of linearity, uniformity and predictability of careers, without taking into account the specificity of late adults who, as already mentioned, most of the time have the (physical and psychological) conditions to devote themselves to productive (and inclusive) activities within the scope of a career post-career (e.g., Feldman, 2013; Hutchens, 2010; Wang & Wanberg, 2017).

The identification of these gaps highlights the relevance and urgency of developing, on the one hand, evaluation tools and, on the other hand, empirically sustained intervention methodologies and strategies that support late adults in reformulating their life projects in order to fully experience a career post-career (Beehr & Bowling, 2013). In this sense, Pinto (in press-a; in-press b) and Pinto and Rebelo-Pinto (in press), based on the analysis of the previously mentioned theoretical models, have been presenting a proposal for a new substage of adult career development - the career post-career - which requires the involvement in a set of developmental tasks related to the self (Identity dimension), to the environment (Opportunity dimension), and to decision making and planning (Adaptation dimension). The Identity dimension combines career development tasks associated with the reconstruction of the sense of identity, usefulness and self-esteem, that is, a set of steps, strategies and activities that people must put into practice in order to explore information about themselves, focusing on the past and its relationship with the present (c.f., Buhler, 1964; Erikson, 1959; Havighurst, 1953; Levinson, 1978, 1986; Peck, 1956). The Opportunity dimension gathers career development tasks associated with the active exploration of the environment, that is, a set of steps, strategies and activities that people must put into practice in order to proactively explore information about activities, resources and relationships, focusing on the present and its relationship with the future (c.f., Buhler, 1964; Havighurst, 1953). And, finally, the Adaptation dimension aggregates career development tasks associated to the development of an optimized and future oriented attitude, that is, a set of steps, strategies and activities that people must put into practice in order to plan and implement decision making, focusing on the future (c.f., Buhler, 1964; Greenhaus et al., 2010; Levinson, 1978, 1986; Peck, 1956; Pinto, Taveira, & Ordonez, 2016; Super, 1953, 1980). These developmental tasks served as inspiration for the development of the (Re)Career Scale - Coping Styles, (Pinto & Rebelo-Pinto, in press). This study aims, in an exploratory way, to analyze the psychometric properties of this new self-report instrument that assesses how late adults think and feel their (transition to) career post-career. Specifically, this general objective translates into the following specific goals and procedures: (i) to perform a sensitivity analysis, (ii) to analyze the factorial structure through the development of an exploratory factor analysis, (iii) to study the internal consistency of the scale and its dimensions, and (iv) to explore the correlation between the different dimensions of the scale and between these and the global scale.

J. C. Pinto

2. METHOD

2.1. Participants

Participants in this study were from a non-probabilistic sample, collected by snowball, consisting of 95 Portuguese late adults, 31 (32.6%) men and 64 (67.4%) women, aged between 50 and 87 years (M=62.91; SD=6.901), mostly from the Lisbon region (n=73, 76.8%; North=6, 6.3%; Centre=10, 10.5%; Alentejo=4, 4.2%=; Azores=1, 1.1%¹). Of these adults, 47 (49.5%) are in an active professional situation, while 48 (50.5%) are retired. Those who are active are mostly specialists in intellectual and scientific activities (n=19, 20%), technicians and intermediate level professionals (n=11, 11.6%) and representatives of the legislative branch, executive bodies, directors and executive managers (n=11, 11. 6%)², expecting to retire, on average, within 6.25 years (M=75.10 months; SD=62.378; Min-Max=8-300 months), and being in the current occupation for about 25 years (M=333.04 months; SD=148.831; Min-Max=12-564 months). Those who are retired were mostly specialists in intellectual and scientific activities (n=16, 16.8%), technicians and intermediate level professionals (n=16, 16.8%) and administrative staff (n=10, 10. 5%), having retired on average 7.34 years ago (M=88.06 months SD=65,409; Min-Max=1-252 months), and having performed their professional roles for approximately 32 years (M=389.60 months; PD=118.762; Min-Max=84-600 months).

2.2. Instrument

Re(Career) Coping Styles (Pinto & Rebelo-Pinto, 2020): It is an instrument of self-reporting consisting of a total of 36 questions related to the experience of a career post-career, that is, the way late adults (with 55 or more years) think and feel the transition to this new stage of their career development. For each question, 4 statements were created, which constitute alternative answers. Each alternative represents a distinct way to deal with (transition to) retirement, i.e., a distinct coping style. The participant's task is, for each question, to select the answer that best corresponds to the way he/she thinks or feels his/her current (transition to a) career post-career situation. The 36 questions presented in the original version of the scale derive from the developmental tasks identified in the literature review (previously mentioned), and three questions have been generated for each of the twelve tasks (table 1). At the end of the completion of the instrument frequencies for each coping style are calculated.

¹ Note: Organization according to NUTS II - Territorial Units for Level II Statistical Purposes

² Note: Organization according to NCP, 2010 - National Classification of Professions

Dimension	Objetive	Development tasks related to self exploration				
		Re-evaluate the self				
		Re evaluate the sen				
	Reconstruct the sense of	Re-evaluate life trajectory/history	4, 5,6			
Identity	identity, utility and self-	Recognize and explore new interests and skills	7, 8, 9			
	esteem		10,			
		Re-evaluate life values	11,			
			12			
Dimension	Objetive	Development tasks related to the environment				
Dimension	Objetive	exploration				
		Analyze expectations, beliefs, and myths about career post-	13,			
		career and analyze attitudes, needs, and fears in relation to	14,			
		this new stage of life	15			
			16,			
	Proactively explore activities, resources and relationships	Identify and recognize resources	17,			
Oportunity						
		Identify and explore possibilities for paid work,				
		volunteering and new leisure activities, and/or re-entry into				
		the education system	21			
			22,			
		Develop warm and affective relationships with others				
			24			
Dimension	Obietive	Development tasks related to planning and decision-				
	0%j0470	making				
		Define objectives and develop action plans				
	Develop an optimized and future-oriented attitude					
		Monitor the implementation of the transition and adaptation	28,			
		nlan to a career post-career				
Adaptation		plan to a career post-career				
		Reorganize/ reconfigure the life project				
					Assess the levels of resilience and well-being with this new stage of life	

 Table 1.

 Organizational structure of the (Re)Career Scale: Coping Styles.

2.3. Data collection procedure

This study is part of a broader research project whose main purpose is to develop an empirically validated model about the different ways of dealing with the transition to a career post-career, analyzing coping styles as well as levels of resilience and well-being. The study is being carried out at the Faculty of Human Sciences of the Catholic University of Portugal and is aimed at Portuguese late adults, aged 55 or over, who are in a transition to retirement or already retired.

The assessment protocol was posted on an online data collection platform (Qualtrics) between January and June 2020. This protocol consisted of a brief socio-demographic questionnaire, the (Re)Career Scale-Coping Styles (Pinto & Rebelo-Pinto, 2020), and the Portuguese versions of the Resilience Scale (Cd-Risc-10; Connor & Davidson, 2003) and the Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, & Griffin, 1985); adapted by Simões, 1992). Participants were informed about the ethical procedures involved in this research, namely, its objectives, the voluntary nature of their participation, the anonymity and confidentiality of their data, and the possibility of withdrawal at any time. The total time to complete the assessment protocol was, on average, 20 minutes.

2.4. Data analysis procedures

The data collected were entered into a database and analyzed with a statistical analysis software in the field of social sciences (SPSS, version 23 for Windows). First, the sensitivity of the scale was studied through a set of measures of central tendency and dispersion. The global reliability level was also analyzed through the correlation of each item with the total of the scale (higher than .30) and its effect on Cronbach's alpha (higher than .70; Marôco & Garcia-Marques, 2006; Streiner, 2003). To test the hypothesis about the (Re)Career Scale - Coping Styles factor structure, an Exploratory Factor Analysis was performed, with orthogonal Varimax rotation and Kaiser normalization. To test the convenience of the factorial model the Kaiser-Meyer-Olkin (KMO) criterion and the Bartlett Sphericity Test (Dziuban & Shirkey, 1974) were taken into consideration. KMO values were considered adequate if higher than .80 (Pasquali, 2011;), and Bartlett's test values were considered favorable when the significance levels were lower than .005 (Tabachnick & Fidell, 2007). The option for the Varimax rotation was aimed at maximizing the variance of factor loads for each factor through the increase of high loads and the decrease of low loads. Factors with eigenvalues higher than 1 were retained. For the decision about the final factorial structure the following criteria and recommendations pointed out by Loewenthal (2001) were considered: (i) items with factor load \geq .40 in one factor, (ii) items with communality \geq .50; (iii) difference in factor load of items between factors \geq .30; and, (iv) percentage of variance explained of the final factor solution \geq .40). For the assessment of the construct, Pearson's correlations between the dimensions of the (Re)Career scale and between these and the global (sum of items) of the scale were also performed. The results were considered statistically significant when the significance value was below .05 (p<.05).

3. RESULTS

The sensitivity analysis indicated adequate results in most items, although there were problems of dispersion, asymmetry and kurtosis in the participants' answers to items 2, 10, 11, 12, 17 and 20. There was also a high correlation between most of the items and the total of the scale, with exception of item 17 (ritc=.284). For the remaining items, the lowest correlation values between the item and the total of the scale were .311 and .357 for items 2 and 20, respectively. The global reliability index of the 36 items was α =.94, not being modified significantly when eliminating any of the items.

An exploratory factor analysis (EFA) was carried out (principal axis factoring), with Varimax rotation and Kaiser normalization. The Kaiser-Meyer-Olkin (KMO) measurement was .841, which suggests a good sample adequacy index for the analysis. The Bartlett sphericity test value was $\chi^2(630)=2075.617$, p=.000, which is also appropriate for further analysis.

In a first approach, defining the extraction of factors with eigenvalues equal to or greater than 1, an eight-factor solution was obtained, which explained 68.67% of the variance. However, this solution presented several problems, namely, the absence of theoretical rationale for the organization of items in such factors, items with very low factor loads, and items that saturated simultaneously in several factors with high loads. Through the analysis of the scree plot a solution with three factors was tested. In this solution the criteria previously mentioned and highlighted by Loewenthal (2001) were considered, i.e. (factor load \geq .40 in one factor, communality \geq .50; factor load difference between factors \geq .30; and, percentage of variance explained in the final factor solution \geq .40). These three factors (dimensions), with eigenvalues greater than 1, explained 47.52% of the total

variance of the scale. However, following the criteria and recommendations previously mentioned (Loewenthal, 2001), and without neglecting the theoretical background and coherence of the final factorial solution of the scale, items 2, 3, 7, 10, 17 and 20 were eliminated. Consequently, the final factorial solution (table 2) was the following (this solution represents 52.03% of the explained variance; KMO=.841; Bartlett's sphericity test: $\chi^2(630)=2075.617$, p=.000):

- (i) Factor 1 explains 35.54% of the variance and contains items 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36. All these items had been previously associated with the Adaptation dimension, as they are related to the definition of goals and development of action plans, the monitoring of the implementation of the transition and adaptation plans, the reconfiguration of the life project, and the assessment of the resilience and well-being levels.
- (ii) Factor 2 explains 6.70% of the variance with saturation of the items 6, 8, 9, 16, 18, 19, 21, 22, 23 and 24. Items 6 to 9 had been previously associated to the Identity dimension, while items 16 to 24 were initially associated to the Opportunity dimension. In general, it is considered that, theoretically, all items refer to the exploration of the environment, that is, to recognize and explore new interests and skills, to identify and recognize resources, to identify and explore possibilities of paid work, volunteer work and new leisure activities, and/or re-entry into the education system; and, to develop warm and affective relationships with others.
- (iii) Factor 3 explains 5.03% of the variance with saturation of the items 1, 4, 5, 11, 12, 13, 14 and 15. Items 1, 4, 5, 11 and 12 had been previously associated with the Identity dimension, while items 13 to 15 were initially associated with the Opportunity dimension. In general, it is considered that, theoretically, all items refer to participants' self-exploration, namely, to reevaluate their life trajectory/history, principles and values, and to analyze expectations, attitudes, needs and fears in relation to this life stage.

Itams	Factors			
itellis	1	2	3	
1. How do I see myself, as a person, in this stage of life?	.185	.217	.464	.560
4. How do I see the story of my life?	.185	.137	.577	.585
5. How does it feel to think about my past?	.233	.144	.640	.620
6. How do I relate my past to my future?	.221	.544	032	.637
8. Am I aware of what I am capable of doing?	.119	.572	.129	.649
9. Am I aware of my strengths?	.066	.780	.167	.674
11. Do I know what is important to me as a family member?	.266	.241	.476	.698
12. Do I know what is important to me as a citizen?	061	.072	.892	.793
13. What ideas do I have about this stage of life?	.227	.177	.517	.563
14. What expectations do I have for this stage of life?	.258	.395	.691	.669
15. What fears do I have about this stage of life?	.201	.320	.647	.729
16. Do I know what social support I can have at this stage of life?	.021	.569	.066	.555

Table 2.

Saturation matrix of the 30 items with Varimax solution and Kaiser normalization to three factors $(n = 95)^3$.

³ The factor loads are maintained if \geq to 30.

J. C. Pinto

18. Do I know how to activate my supports at this stage of life?	.033	.447	.193	.536
19. What leisure and/or volunteer opportunities have I already explored for this phase of life?	.171	.600	.225	.514
21. What family opportunities have I explored for this phase of life?	.037	.505	.133	.553
22. How do I feel among other people?	.037	.780	.167	.773
23. How do I connect with other people?	.094	.531	.231	.693
24. Do I like to build friendships and look for new friends?	.142	.700	.189	.749
25. Do I have goals for the future?	.414	.127	.074	.505
26. Do I have plans for the future?	.472	.027	.144	.610
27. If I can't achieve my plans, what other options do I have?	.589	.285	.189	.750
28. What am I doing to accomplish my plans for this stage of life?	.206	.605	008	.556
29. What am I doing to get what I want at this stage of life?	.621	.425	.155	.726
30. How do I respond to obstacles?	.579	.219	.066	.578
31. Am I aware of the changes the retirement entails?	.395	.181	.160	.559
32. Am I aware of the impact of retirement on my lifestyle?	.491	.141	.074	.633
33. Am I aware of the impact of the retirement on the management of my daily life?	.642	.259	.105	.578
34. How do I deal with the retirement?	.558	.197	.229	.643
35. How do I feel about retirement?	.816	.123	.135	.742
36. What is my current a satisfaction with retirement?	.492	171	.112	.670
% of variance explained	35.54	6.70	5.03	
Cronbach's α	.89	.82	.83	

A new analysis of the internal consistency of these dimensions was developed. Reliability for the total scale was α =.94 (30 items); for factor 3 (Identity dimension - 8 items) was α =.83, for factor 2 (Opportunity dimension - 10 items) was α =.82, and for factor 1 (Adaptation dimension - 12 items), was α =.89.

For each dimension the scores of the respective items were added together and the average score was calculated. Table 3 presents the descriptive statistics for the items of each dimension identified in EFA. There are some trends in the central tendency and dispersion values of the several items. The items 11 and 12 of the Identity dimension, the items 8 and 9 of the Opportunity dimension and the items 27, 28 and 33 of the Adaptation dimension have the higher average values. And items 13 and 14 of the Identity dimension, items 19 and 21 of the Opportunity dimension and item 29 of the Adaptation dimension have the lower average values. Almost all items were answered according to all possible points in the response scale, except for item 12 (Identity dimension), where no participant selected option 2, and items 6, 8 and 9 (Opportunity dimension), and items 27, 28, 30 and 33 (Adaptation dimension) where a very small number of participants chose options 1 and 2 of the response scale.

Dimension	Item		Scale			Mean (SD)	Median	Min- Max	IQ range (P75- P25)
		1 (Freq, %)	2 (Freq, %)	3 (Freq, %)	4 (Freq, %)				
Identity	1	2 (2.1)	3 (3.2)	30 (31.6)	60 (63.2)	3.558 (.664)	4	1-4	1 (4-3)
	4	1 (1.1)	5 (6.4)	47 (49.5)	41 (43.2)	3.362 (.637)	3	1-4	1 (4-3)
	5	2 (2.1)	2 (2.1)	37 (38.9)	54 (56.8)	3.505 (.650)	4	1-4	1 (4-3)

Table 3. Descriptive statistics of the items, by (Re)Career Scale dimension (n=95).

	11	2 (2.1)	1 (1.1)	12	80 (84.2)	3.790	4	1-4	0 (4-4)
	12	4 (4.2)	0	7 (7.4)	84	3.800	4	1-4	0 (4-4)
	12	2 (2 2)	8 (8 4)	46	(88.4) 38	(.646) 3.253	2	1 4	1 (4 2)
	15	3 (3.2)	0 (0.4)	(48.4)	(40.0)	(.743)	3	1-4	1 (4-3)
	14	1 (1.1)	(11.6)	(50.5)	(36.8)	(.692)	4	1-4	0 (4-4)
	15	6 (6.3)	3 (3.2)	52 (54.7)	34 (35.8)	3.200 (.780)	3	1-4	1 (4-3)
	6	3 (3.2)	2 (2.1)	31	59	3.537	4	1-4	1 (4-3)
	0	2 (2 1)	2 (2 1)	(32.6)	(62.1)	3.737	4	1 4	0 (4 4)
	0	2 (2.1)	2 (2.1)	(15.8)	(80.0)	(.605)	4	1-4	0 (4-4)
	9	3 (3.2)	1 (1.1)	(17.9)	(77.9)	(.650)	4	1-4	0 (4-4)
	16	9 (9.5)	5 (5.3)	44 (46 3)	38 (38 9)	3.147	3	1-4	1 (4-3)
	18	3 (3.2)	3 (3.2)	44	45	3.379	3	1-4	1 (4-3)
Opportunity	10	12	0 (0 5)	(46.3) 44	<u>(4'/.4)</u> 30	2.968	2	14	1 (4 2)
	19	(12.6)	9 (9.5)	(46.3)	(31.6)	(.962)	3	1-4	1 (4-3)
	21	(17.9)	6 (6.3)	42 (44.2)	(31.6)	2.895 (1.047)	3	1-4	1 (4-3)
	22	7 (7.4)	2 (2.1)	14 (147)	72 (75.8)	3.590 (857)	4	1-4	0 (4-4)
	23	6 (6.3)	4 (4.2)	12	73	3.600	4	1-4	0 (4-4)
		- (. ()	(12.6)	<u>(76.8)</u> 69	(.843) 3.537			
	24	5 (5.3)	8 (8.4)	(13.7)	(72.6)	(.861)	4	1-4	1 (4-3)
	25	8 (8.4)	0	58 (61.1)	(30.5)	5.137 (.794)	3	1-4	1 (4-3)
	26	8 (8.4)	1 (1.1)	61 (64 2)	25 (26.3)	3.084	3	1-4	1 (4-3)
	27	7 (7.4)	1(1.1)	34	53	3.400	4	1-4	1 (4-3)
		- (···)	2 (2.1)	(35.8) 29	(55.8) 58	(.843) 3.463	4		1 (1 2)
	28	6 (6.3)	2 (2.1)	(30.5)	(61.1)	(.822)	4	1-4	1 (4-3)
	29	6 (6.3)	(10.5)	61 (64.2)	18 (18.9)	2.958 (.743)	3	1-4	0 (3-3)
Adaptation	30	3 (3.2)	1 (1.1)	62 (65.3)	29 (30.5)	3.232	3	1-4	1 (4-3)
	31	4 (4.2)	3 (3.2)	53	35 (36-	3.253	3	1-4	1 (4-3)
	- 22	(((2))	0 (0.2)	(55.8)	.8) 46	3.274	2	1.4	1 (4 2)
	32	0 (0.3)	ð (ð.4)	(36.8)	(48.4)	(.868)	3	1-4	1 (4-3)
	33	2 (2.1)	1 (1.1)	(36.8)	(60.0)	(.632)	4	1-4	1 (4-3)
	34	4 (4.2)	17 (17.9)	30 (31.6)	44 (46 3)	3.200	3	1-4	1 (4-3)
	35	7 (7.4)	3 (3.2)	49	36	3.200	3	1-4	1 (4-3)
		4 (4 2)	0 (0 1)	(51.6) 37	<u>(37.9)</u> 46	(.820) 3.316	2		1 (1 2)
	36	4 (4.2)	8 (8.4)	(38.9)	(48.4)	(.802)	3	1-4	1 (4-3)

Next, an analysis of the validity of the construction was also performed. The correlation between the different dimensions of the (Re)Career Scale and between these and the global scale are indicated in table 4. The correlation between dimensions indicate that

the Adaptation factor is the one that explains the greater variance of the global scale result (about 91%). The correlation between dimensions is moderate to strong, and the Adaptation dimension is the one that is most strongly related with the other two dimensions.

 Table 4.

 Correlation between (Re)Career subscale ⁴.

	Identity	Oportunity	Adaptation	Total
Identity	(.83)			
Oportunity	.643 (.000)	(.82)		
Adaptation	.803 (.000)	.751 (.000)	(.89)	
Total	.874 (.000)	.887 (.000)	.953 (.000)	(.94)

4. DISCUSSION AND CONCLUSION

This study aims to present the results of a preliminary (Re)Career: Coping Styles validation study. From the analyses carried out, 30 of the 36 initial items present very satisfactory psychometric values, pointing out that the scale can be used either as a global measure of evaluation of how late adults think and feel the (transition to a) career post-career, or as an aggregation of three dimensions - Identity, Opportunity and Adaptation. Regarding this aggregation by dimensions, it is important to highlight that the theoretical organization foreseen in three dimensions/factors has been confirmed, although not with exactly the same developmental tasks/items initially foreseen.

Factor 1, concerning the Adaptation dimension, is comprised of four developmental tasks and their respective twelve items, which fully correspond to the underlying theoretical model with 12 items concerning the development of an optimized and future-oriented attitude (Buhler, 1964; Greenhaus et al., 2010; Levinson, 1978, 1986; Peck, 1956; Pinto, 2010; Pinto, Taveira, & Ordonez, 2016; Super, 1953, 1980).

Factor 2, concerning the Opportunity dimension, is consisted of 7 items that previously integrated this dimension (referring to proactively exploring activities, resources and relationships; Buhler, 1964; Havighurst, 1953), but three more items were added, of which one item is related to reassessing the trajectory/history of life, and two items are related to recognizing and exploring new interests and competencies. Regarding this aspect, some authors (e.g., Stumpf, Colarelli & Hartman, 1983) consider that the exploration of oneself and the exploration of the environment, correspond to two interlinked processes, in the sense that the one self's exploration, namely one's interests and competences, will influence the exploration one makes of the environment (the information one seeks about opportunities that interest him/her). In the same way, the exploration one makes of the environment will influence or reinforce the idea one builds upon oneself. It is also important to mention that the items concerning the analysis of expectations, beliefs and myths and the exploration of attitudes, needs and fears in relation to this new stage of life (Buhler, 1964; Havighurst, 1953), initially foreseen in this dimension, did not saturate in this factor.

Factor 3, regarding the Identity dimension, consists of 5 items that previously integrated this dimension, and whose focus is the reconstruction of the sense of identity, utility and self-esteem (Buhler, 1964; Erikson, 1959; Havighurst, 1953; Levinson, 1978, 1986; Peck, 1959), plus three items whose focus is the analysis of expectations, beliefs and

⁴ The internal consistency of each subscale and of the total scale is shown in bold, in brackets

fears about this life transition. Possibly, this combination of items is due to its formulation, whose focus was placed on the set of cognitive and affective mechanisms that participants use to see themselves and their current circumstances (e.g., "how do I see", "how do I feel", "what ideas/expectations/fears do I have"; Savickas, 2005; Stumpf et al., 1983).

The correlation between dimensions shows modest to moderate values, which highlights the usefulness of using the scale with the three dimensions identified. However, the value of the Cronbach alpha of the final scale, with 30 items, was .94, which may be an indicator of some redundancy in the items (Pasquali, 2011). In addition, it was also found that some items show some difficulties associated with the dispersion of participants' responses, with mean values above the mean score of the response scale. Considering the reduced sample used in this pilot study, the results obtained should be considered preliminary and stimulate additional studies of the psychometric qualities of this new assessment tool.

In conclusion, the scale shows good psychometric properties, and this study has demonstrated ReCareer Scale as a promising measure to be used in future investigations, particularly at diagnosing late adults' specific career post-career intervention needs. It is important to emphasize that, compared to previous studies, this study is completely innovative, as it goes beyond the reductionist views of retirement as an end of cycle, recognizing the potential for career growth and renewal in this life's stage. In this sense, it presents a new psychological assessment instrument that goes beyond the exclusive focus on variables such as reasons for retirement, retirement planning (e.g., financial, health, lifestyle, and psychosocial planning) retirement stages, satisfaction with retirement, involvement in activities (e.g., Retirement Satisfaction Inventory by Floyd, et al., 1992; e.g., Process of Retirement Planning Scale by Friedman and Scholnick's, 1997), focusing on a new career management model applied to transition and adaptation to retirement, which addresses a set of developmental tasks (self-exploration, environmental exploration, and adaptation) fundamental to problem-solving and career decision-making in this stage of life (Wang & Shi, 2014; Wang & Shultz, 2010). It is anticipated that the further development of this assessment tool may lead to new strategies and methods of support, guidance, and counseling for people in this stage of transition from a productive active life to a healthy, successful, and socially sustainable post-career living situation.

REFERENCES

- Beehr, T. A., & Bowling, N. A. (2013). Variations on a retirement theme: Conceptual and operational definitions of retirement. In E. Wang (Ed.) *The Oxford handbook of retirement* (pp.42-55). New York: Oxford University Press.
- Buhler, C. (1964). The human course of life in its goal aspects. Journal of Humanistic Psychology, 4(1), 1-18.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety*, 18(2), 76-82.
- De Vries, M. F. K. (1979). Is there life after retirement? *California Management Review*, 22(1), 69-76.
- Denton, F.T. & Spencer, B. G. (2009). What is retirement? A review and assessment of alternative concepts and measures. *Canadian Journal on Aging*, 28, 63-76.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. Journal of personality assessment, 49(1), 71-75.
- Dziuban, C. D., & Shirkey, E. C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological bulletin*, 81(6), 358-361.

J. C. Pinto

Erikson, E. H. (1959). Identity and the life cycle. Selected papers. International Universities Press.

- Eurostat/Pordata. Indicadores de envelhecimento. [Aging statistics] Retrieved from https://www.pordata.pt/Portugal/Indicadores+de+envelhecimento-526
- Feldman, D. C. (2013). Feeling like it's time to retire: A fit perspective on early retirement decisions. In M. Wang (Ed.), Oxford library of psychology. The Oxford handbook of retirement (p. 280–292). Oxford University Press.
- Floyd, F. J., Haynes, S. N., Doll, E. R., Winemiller, D., Lemsky, C., Burgy, T. M., ... & Heilman, N. (1992). Retirement Satisfaction Inventory. *Psychology and Aging*, 7, 609-621.
- Friedman, S. L., & Scholnick, E. K. (1997). The developmental psychology of planning: Why, how, and when do we plan? New York: L. Erlbaum Associates.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2010). *Career management*. Thousand Oaks: Sage.
- Havighurst, R. J. (1953). Human development and education. Oxford, England: Longmans, Green.
- Hershenson, D. B. (2016). Reconceptualizing retirement: A status-based approach. Journal of Aging Studies, 38, 1-5.
- Hutchens, R. (2010). Worker characteristics, job characteristics, and opportunities for phased retirement. *Labour Economics*, 17(6), 1010-1021.
- Kloep, M., & Hendry, L. B. (2006). Pathways into retirement: Entry or exit?. Journal of Occupational and Organizational Psychology, 79(4), 569-593.
- Levinson, D. J. (1978). The seasons of a man's life. Random House Digital, Inc..
- Levinson, D. J. (1986). A conception of adult development. American psychologist, 41(1), 3.
- Loewenthal, K. (2001). An introduction to psychological tests and scales. Hove, UK: Psychological Press.
- Marôco, J. & Garcia-Marques, T. (2006). Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas? [What is the reliability of the Cronbach's alpha? Old questions and modern solutions?] Laboratório Psicologia, 4, 65-90.
- Pasquali, L. (2011). *Psicometria: teoria dos testes na Psicologia e na Educação* (5^a ed.) [Psychometrics: Theory of the tests in Psychology and Education]. Petrópolis: Editora Vozes.
- Peck, R. (1956). Psychological developments in the second half of life. Paper presented in Conference on Planning Research, American Psychological Association, Bethesda, MD, US. Retrieved from https://psycnet.apa.org/record/2004-15425-005
- Pinto, J. C. (in press b). Envelhecimento e carreira: Novos contornos [Aging and career: new outlines]. In H. Rebelo-Pinto & J. C. Pinto, *Envelhecimento: Dimensões e contextos* [Aging: Dimensions and Contexts]. Lisboa: Universidade Católica Editora.
- Pinto, J. C. (in press a). Escala (Re)Career Estilos de Coping: Estudo de Validade de Conteúdo [(Re)Career Scale – Coping Styles: A study on content analysis]. *Revista Psicologia USP*.
- Pinto, J. C. & Rebelo-Pinto, H. (in press). Envelhecimento: Dimensões e contextos [Aging: Dimensions and Contexts]. Lisboa: Universidade Católica Editora.
- Pinto, J. C. & Rebelo-Pinto, H. (2020). Escala (Re)Career: Estilos de Coping. Versão para investigação [(Re) Career Scale: Coping Styles. Research version]. Lisboa: Faculdade de Ciências Humanas.
- Pinto, J. C., Taveira, M. C, & Ordonez, J. L. (2016). Cómo orientar la gestión de la carrera profesional [How to self-manage your career]. Barcelona: Editorial UOC.
- Savickas, M. L. (2005). The theory and practice of career construction. *Career development and counseling: Putting theory and research to work*, *1*, 42-70.
- Schlossberg, N. K. (2003). *Retire smart, retire happy: Finding your true path in life.* American Psychological Association.
- Simões, A. (1992). Ulterior Validação de uma Escala de Satisfação com a Vida (SWLS) [Validation of the Satifsaction with Life Scale]. *Revista Portuguesa de Pedagogia*, *XXVI*(3), 503-515.
- Streiner, D. L. (2003) Being inconsistent about consistency: when coefficient alpha does and doesn 't matter. *Journal of Personality Assessment*, 80(3), 217-222.
- Super, D. E. (1953). A theory of vocational development. American psychologist, 8(5), 185-190.
- Super, D. E. (1980). A life-span, life-space approach to career development. Journal of Vocational Behavior, 16(3), 282-298.

- Stumpf, S. A., Colarelli, S. M., & Hartman, K. (1983). Development of the career exploration survey (CES). Journal of Vocational Behavior, 22(2), 191-226.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Belmont, CA: Thomson/Brooks/Cole.
- UNECE, Comissão Económica das Nações Unidas para a Europa (2017). Terceiro ciclo de revisão e avaliação da estratégia de implementação regional (RIS) do Plano Internacional de Ação de Madrid sobre o Envelhecimento (MIPAA). Relatório de Portugal. [Third review and evaluation cycle of the regional implementation strategy (RIS) of the Madrid International Plan of Action on Aging (MIPAA). Report from Portugal]. Retrieved from https://www.unece.org/fileadmin/DAM/pau/age/country_rpts/2017/POR_report_POR.pdf
- Wang, M., & Shi, J. (2014). Psychological research on retirement. Annual Review of Psychology, 65, 209–233.
- Wang, M., & Shultz, K. S. (2010). Employee retirement: A review and recommendations for future investigation. *Journal of Management*, 36(1),172–206.
- Wang, M., & Wanberg, C. R. (2017). 100 years of applied psychology research on individual careers: From career management to retirement. *Journal of Applied Psychology*, 102(3), 546-563.

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