
Career Sustainability Scale: Adattamento e Proprietà Psicometriche della Versione italiana

Gerardo Petruzziello, Elena Lo Piccolo, Silvia Galassi e Marco Giovanni Mariani¹

Sommario

La sostenibilità di carriera rappresenta un tema centrale in ricerca, poiché contribuisce a esistenze sostenibili in un contesto di grandi sfide sociali. La *Career Sustainability Scale* è uno strumento di 12 item che misura la sostenibilità di carriera, articolata in 4 fattori che enfatizzano le possibilità di auto-realizzazione, riuscita, adattamento e benessere durante la propria carriera: *resourcefulness*, *flexibility*, *renewability* e *integration*. L'obiettivo di questo studio è adattare la *Career Sustainability Scale* in italiano e valutarne le caratteristiche psicometriche con 269 lavoratori italiani, impiegati nell'industria alberghiera. Un adattamento col metodo della *back-to-back translation* ha reso possibile valutare la struttura fattoriale della scala a livello confermativo, la consistenza interna, e la validità esterna con le scale di *protean career orientation* e *perceived employability*. Un'analisi fattoriale confermativa ha convalidato la struttura fattoriale, con indici di consistenza interna accettabili. Inoltre, a livello di validità esterna, i risultati indicano correlazioni positive tra la *career sustainability scale* e le scale di *protean career orientation* e *perceived employability*. I risultati forniscono evidenze incoraggianti circa la validità di questa scala, suggerendone l'efficacia nell'utilizzo per la ricerca e l'intervento nel contesto italiano.

Parole chiave

Sostenibilità di Carriera, Psicologia della sostenibilità e dello sviluppo sostenibile, Occupabilità, Strumento di misurazione, Proprietà Psicometriche, Validazione di strumento.

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Career Sustainability Scale: Adaptation and Psychometric Properties of the Italian Version

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Abstract

Career sustainability is a prominent issue for scholars, as it contributes to sustainable livelihoods in the context of major societal challenges. The *Career Sustainability Scale* is a 12-item tool that measures career sustainability; it comprises four factors that emphasise the possibilities of self-realisation, success, adaptation and well-being throughout one's career: resourcefulness, flexibility, renewability and integration. This study aims to adapt the career sustainability scale to Italian and evaluate its psychometric characteristics with 269 Italian employees in the hospitality industry. An adaptation with the back-to-back translation method made it possible to assess the factorial structure of the scale at the confirmatory level, the internal consistency, and the external validity with the *Protean Career Orientation Scale* and the *Perceived Employability Scale*. A confirmatory factor analysis confirmed the factor structure with acceptable internal consistency indices. Moreover, regarding external validity, the results indicate positive correlations between the *Career Sustainability Scale* and the *Protean Career Orientation* and *Perceived Employability scales*. The results provide encouraging evidence about the validity of this scale, suggesting its effectiveness in its use for research and intervention in the Italian context.

Keywords

Career sustainability, Psychology of sustainability and sustainable development, Employability, Measurement tool, Psychometric Properties, Instrument validation.

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Introduction

Career sustainability is currently a watchword for scholars in career studies (Akkermans et al., 2024) and a defining component of sustainable livelihoods (Carr, 2023). These recent years have witnessed fast-paced changes led by social and economic trends, globalisation, and technological innovations (e.g. automation, AI, robotics) that have been expedited by groundbreaking events affecting people's livelihoods (e.g. climate change, the COVID-19 pandemic, the conflicts in Ukraine and the Middle East). These changes have generated a volatile environment where career paths unfold. Indeed, these circumstances have brought labour market distortions to the surface (e.g., increasing need for decent work conditions and reduced job demands, inequalities surging for many) and produced a profound shift in work (i.e. how, where and when it is done) and organisational systems.

Subsequently, workers nowadays are expected to develop their careers in a scenario that challenges them to re-think their priorities and create a career project to maintain a meaningful work experience and coherence with their authentic self and their career anchors (Akkermans et al., 2021; Di Fabio, 2017a). However, they must do this in an increasingly unstable environment, which determines higher job and career insecurity and requires them to constantly reflect upon and adapt their employability (e.g., updating their skillsets to comply with the AI and green revolutions). Such circumstances make career sustainability relevant and desirable. In line with the psychology of sustainability and sustainable development (Di Fabio, 2017a, 2017b; Di Fabio & Peirò, 2018; Di Fabio & Rosen, 2018), career sustainability pertains to individual achievement in interacting with the career ecosystem, creating meaningful work experience and continuity through the constant renewal of psycho-social resources (De Vos et al., 2020; De Vos & Van der Heijden, 2017; Di Fabio, 2017b). From a positive psychology point of view, striving for sustainability should reach good adaptation to one's career and functioning, protect health and well-being, and experience satisfaction (De Vos et al., 2020; Di Fabio, 2017a).

Even though empirical attention towards career sustainability has firmly increased during these years, the conceptual development of this construct is in its early stages. Indeed, there is still room for exploration of the indicators of career sustainability in terms of identifying, conceptually defining and measuring them. For instance, De Vos et al. (2020), while describing three indicators of sustainable careers in terms of outcomes of the sustainability process, do not provide indications about how to define what they identify as the indicators of a sustainable career (i.e. Health, Productivity and Happiness), useful for empirical research to explore the processes underpinning career sustainability from a multifactor perspective, which is crucial to capture the interplay of personal

and contextual factors involved in such processes (Chin et al., 2022). A relevant exception is represented by the *Career Sustainability Scale* developed by Chin et al. (2019, 2022). This scale builds upon Newman's (2011) conceptualisation of career sustainability that emphasises the capacity of both career paths and individuals to allow/reach optimal functioning and fulfil self-actualisation needs (Ryan & Deci, 2001). Based on these foundations, career sustainability is reflected in four main dimensions: 1. Flexibility, which represents an adaptation-oriented attitude predisposing people to be open to new opportunities and keeping them eager to learn in sight of changes; 2. Renewability, representing the capability to appraise one's skillset and update it in coherence with the demands from the labour market; 3. Integration, namely the capacity to assimilate new information and knowledge and use it to improve one's professional profile and employment potential; 4. Resourcefulness, which relates to the investment of one's psychological, social and material resources for augmenting one's employment potential and guaranteeing a good standard of living.

The authors originally developed a 16-item scale, articulated in four sub-scales, which comprised four items for each, consisting of statements reflecting the four theoretical dimensions presented above. Moreover, the authors conducted three studies with four samples of employees from China and the United States to confirm the scale's factorial structure through exploratory factor analyses (EFA) and confirmatory factor analysis (CFA), providing evidence for its construct validity. The results obtained from the EFA led to a reduction in the number of items from 16 to 12 (three items for each subdimension).

Moreover, the CFA confirmed a four-factor structure of the scale. Regarding internal consistency, the authors obtained good Cronbach's α values for each subscale level (.87; .85; .87; .86) and the overall scale (.91). Attempting to validate the nomological network of the scale, the authors supported the hypothesis that career sustainability relates negatively to both structural and content-related career plateaus and positively to career satisfaction. More than this, they provided evidence that career sustainability influences psychological well-being and that a gig work type reinforces this relationship compared to traditional work.

Despite this encouraging evidence on the psychometric qualities of this scale, to date, no adaptation and psychometric evaluation of this scale has been conducted among Italian employees. The need to explore career sustainability-related processes in specific career ecosystems led us to perform an initial adaptation of Chin et al. (2022) to Italian. Moreover, we present an initial validation of the scale's psychometric properties conducted among Italian hospitality industry employees. We sought to test the factorial structure of the scale at a confirmatory level and tested its internal consistency and convergent validity. Moreover, as required by Chin et al. (2022), we explored the relationship of career sustainability with variables that are expected to relate to it in terms of external validity

(Grimm & Widaman, 2012), such as protean career orientation and perceived employability.

Methods

Participants

The final sample consisted of 269 participants, the majority of whom were composed of women (N = 206, 76.6%; men = 26, 9.7%; non-binary = 1, .4%; 36 people decided not to disclose, 13.4%). Most participants were aged 35-44 (N = 93, 34.6%; 18-24 = 14, 5.2; 25-34 = 67, 24.9%; 45-54 = 52, 19.3%; 55 years or more = 18, 6.7%; 25 people = 9.3% did not disclose their age).

Procedures

The data collection lasted from August to September 2022. We recruited middle- and top-level employees working in the hospitality industry in Italy through an invitation through social media to complete an online questionnaire on the Qualtrics platform. Before the survey's completion, participants were granted confidentiality, and informed consent was provided to participate voluntarily, per EU Regulation 679/2016.

Measures

Using the back-to-back translation procedure, we adapted the *Career Sustainability Scale* (Chin et al., 2022) to Italian. The 12 items — which reflected the four dimensions of the original scale (e.g. «My career allows me to continuously learn new things») — presented a Likert response scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. See Table A1 in Appendix 1 for the complete set of items with means and standard deviation.

Protean career orientation was measured with the Italian version of the Protean Career Orientation Scale developed by Lo Presti et al. (2011). The 14 items of the scale (e.g. «I am responsible for my success or failure in my career») had a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Internal consistency was good (Cronbach's $\alpha = .76$).

We measured perceived employability with the five-item *Perceived Employability Scale* by Berntson and Marklund (2007), adapted to Italian by Caricati et al. (2016). The items (e.g. «I know organisations/companies where I could get work») presented a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Internal consistency was good (Cronbach's $\alpha = .82$).

Data Analyses

We used CFA with the AMOS software to investigate the factor structure of the *Italian Career Sustainability Scale*. We tested four alternative measurement models in line with the original validation study. Model 1 presented the four dimensions of career sustainability according to Chin and colleagues (2019, 2022): Resourcefulness, Flexibility, Renewability, and Integration. Model 2 was a three-factor model which collapsed Resourcefulness and Flexibility. Model 3 was a two-factor model collapsing Resourcefulness, Flexibility and Renewability onto the same dimension. We also tested a single-factor (Model 4) model with all items loading onto the same latent dimension. We used the following goodness-of-fit indices to compare the models: comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA) and standardised root mean squared residual (SRMR). Values $> .90$ for the CFI and TLI and $< .08$ for RMSEA and SRMR are considered adequate to mark an acceptable fit (Hu & Bentler, 1999). We also used Akaike's information criterion (AIC) and the Bayesian information criterion (BIC) to evaluate the best-fitting model.

Results

Table 1 compares the four competing measurement models, and Model 1 (four-factor model) is the best fit. Figure 1 shows the model with the four factors and the standardised factor loadings of each item onto their respective dimension (ranging from .41 to .88).

Table 1

Fit Indices of the Italian Version of the *Career Sustainability Scale*

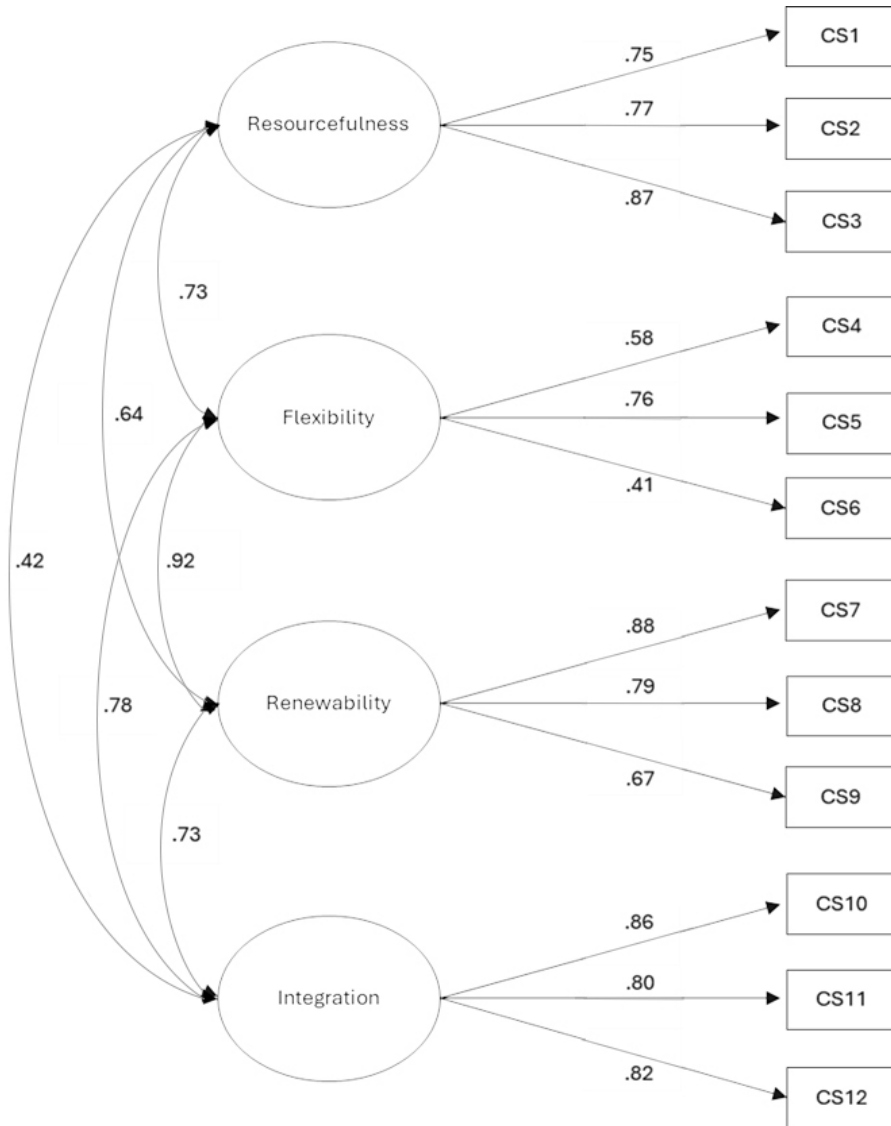
Model	Chi-square (df)	CFI	TLI	RMSEA	SRMR	AIC	BIC
1 (four-factor)	128.48 (48)	.95	.93	.07	.05	188.48	296.33
2 (three-factor)	227.34 (51)	.89	.86	.11	.09	281.34	378.39
3 (two-factor)	297.13 (53)	.85	.81	.13	.08	347.13	436.99
4 (single factor)	446.70 (54)	.76	.70	.17	.09	494.70	580.98

Note. $N = 269$.

Regarding internal consistency, we found that Resourcefulness, Renewability, and Integration showed good Cronbach's α coefficients (respectively: .84, .82, .86), while Flexibility reported a coefficient of .58, which warns about the internal

coherence of the subscale. At a general level, the scale showed excellent internal consistency ($\alpha = .89$). Moreover, the correlational analysis showed that career sustainability dimensions (both single dimensions and overall score) are positively associated with protean career orientation and perceived employability (Table 2).

Figure 1



Note. $N = 269$. All the factor loadings were significant at p -level $< .001$. CFA standardised loadings (Four-factor model).

Table 2

Correlation coefficients

Variable	Protean Career Orientation	Perceived Employability
Resourcefulness	.29**	.34**
Flexibility	.29**	.36**
Renewability	.33**	.36**
Integration	.26**	.27**
Career Sustainability (overall)	.37**	.41**

Note. $N = 269$. ** $p < .01$.

Discussion

This study proposed an Italian adaptation and initial validation of the *Career Sustainability Scale* (Chin et al., 2022), which, to date, is missing. Our exploration pertained to the factorial structure of the scale, its internal consistency and external validity (Grimm & Widaman, 2012). Our results aligned with the structure found by the original validation study, confirming the existence of a four-factor structure for the concept (Chin et al., 2019, 2022). Internal consistencies were found to be acceptable for the overall score, and three of the four factors were examined, despite a lower level for the flexibility sub-scale, which warns caution for future utilisations of the scale. More than this, our results also provide evidence for the external validity of the scale, evidencing positive correlations with variables included in its nomological network, such as protean career orientation and perceived employability. In testing the role of protean career orientation, we respond to the call for exploring the scale validity, also examining its relationships with the potential antecedents of career sustainability beyond its outcomes (Chin et al., 2022).

While we tested the adapted measure with hotel industry employees, namely a population for which sustainability is essential given its involvement in precarious job experiences (Retkowsky et al., 2022), we encourage further investigation to test the psychometric properties in different workers' groups and with students and graduates dealing with the transition to work, for whom sustainability during early career stages is regarded as predisposing sustainability in later stages (Blokker et al., 2023). For instance, it may be used to explore further the influence

that players in higher education (e.g. faculty and academic staff; Petruzzello et al., 2023) have on students' employability and, subsequently, on career sustainability during the transition-to-work stage.

In brief, this scale has shown encouraging psychometric properties, thus allowing its use within the Italian context. This is a valued contribution as it opens new venues for research. Researchers may use the scale's reliable tool to understand the processes underpinning career sustainability. In this regard, from the psychology of sustainability and sustainable development standpoint (Di Fabio, 2017a, 2017b; Di Fabio, 2021), using this scale may support scholars in the intricate interplay between individual, organisational and environmental factors favouring adaptive responses to global challenges, thus contributing to sustainability (Di Fabio & Peiró, 2018; Kenny & Di Fabio, 2023; Peiró et al., 2023).

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APPENDIX 1

Table A1

Items of the *Career Sustainability Scale* with mean values and standard deviations

Factor	Item	Mean	SD
Resourcefulness	<i>En. My career enables me to have a good standard of living</i> It. La mia carriera mi consente di avere un buon tenore di vita	3.00	1.09
	<i>En. My career makes me feel happy because I use my resources well</i> It. La mia carriera mi fa sentire felice perché uso bene le mie risorse	3.25	1.05
	<i>En. My career makes me feel like I have a bright future</i> It. La mia carriera mi fa sentire di avere un futuro radioso	2.66	1.03
Flexibility	<i>En. My career allows me to seek new opportunities</i> It. La mia carriera mi permette di cercare nuove opportunità	3.36	1.06
	<i>En. My career allows me to continuously learn new things</i> It. La mia carriera mi permette di imparare costantemente cose nuove	3.71	.99
	<i>En. My career gives me a lot of flexibility</i> It. La mia carriera mi concede molta flessibilità	2.70	1.21
Renewability	<i>En. My career provides me opportunities to update my skills</i> It. La mia carriera mi offre opportunità per aggiornare le mie capacità	3.47	1.06
	<i>En. My career gives me the chance to reassess my capabilities</i> It. La mia carriera mi offre la possibilità di rivalutare le mie capacità	3.59	.99
	<i>En. My career enables me to rebrand or reposition myself</i> It. La mia carriera mi consente di reinventarmi o riposizionarmi professionalmente.	3.17	1.09
Integration	<i>En. My career enables me to integrate information obtained from different sources</i> It. La mia carriera mi permette di integrare informazioni provenienti da diverse fonti	3.80	.91
	<i>En. My career enables me to critically evaluate information obtained from different sources</i> It. La mia carriera mi permette di esaminare criticamente informazioni provenienti da diverse fonti.	3.72	.93
	<i>En. My career builds my ability to absorb information and knowledge</i> It. La mia carriera sviluppa la mia capacità di assorbire informazioni e conoscenze.	3.91	.86

Note. N = 269; En. = English Original Version; It. = Italian Translation; SD = Standard Deviation.