
Study Crafting Scale: Proprietà psicometriche su studenti universitari

Annamaria Di Fabio¹ e Andrea Svicher²

Sommario

Il costrutto di *study crafting*, derivato dal *job crafting*, sta suscitando sempre più interesse. Tuttavia, al meglio delle nostre conoscenze, nessuno studio lo ha adattato dal modello proposto da Leana, Appelbaum e Shevchuk, che comprende due forme di *crafting*: *individual crafting* e *collaborative crafting*. Il presente studio si propone di testare le proprietà psicometriche della *Study Crafting Scale* in studenti universitari italiani. La *Study Crafting Scale* è un questionario self-report composto da 12 item e due fattori: *individual crafting* (6 item) e *collaborative crafting* (6 item). Abbiamo coinvolto 236 studenti universitari italiani e abbiamo condotto un'analisi fattoriale confermativa. La validità concorrente è stata testata utilizzando la *Satisfaction with Life Scale* e la *Meaningful Life Measure*. I risultati dell'analisi fattoriale confermativa mostrano che la *Study Crafting Scale* ha una struttura fattoriale higher-order bidimensionale, con sei elementi per ciascun fattore (*crafting* individuale e *crafting* collaborativo). È stata confermata la validità concorrente con la *Satisfaction with Life Scale* e la *Meaningful Life Measure*. La *Study Crafting Scale* possiede buone proprietà psicometriche ed è adatta per l'applicazione in contesti di ricerca e di intervento.

Parole chiave

Study crafting, *Study Crafting Scale*, Studenti universitari, Well-being.

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Study Crafting Scale: Psychometric Properties in University Students

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Abstract

The construct of study crafting, derived from job crafting, is increasingly gaining interest. However, to the best of our knowledge, no study has adapted it from the model proposed by Leana, Appelbaum, and Shevchuk, which includes two forms of crafting: individual crafting and collaborative crafting. The present study aims to test the psychometric properties of the *Study Crafting Scale* in Italian university students. The *Study Crafting Scale* is a self-report questionnaire comprising 12 items and two factors: individual crafting (6 items) and collaborative crafting (6 items). We involved 236 Italian university students and we conducted confirmatory factor analysis. The concurrent validity was tested using the *Satisfaction with Life Scale* and *Meaningful Life Measure*. The results of confirmatory factor analysis show that the *Study Crafting Scale* has a higher-order two-dimensional factor structure, with six items for each factor (individual crafting and collaborative crafting) and a total score. The concurrent validity with satisfaction with life and meaning in life was confirmed. The *Study Crafting Scale* possesses good psychometric properties and is suitable for application in research and intervention contexts.

Keywords

Study crafting, *Study Crafting Scale*, University students, Well-being.

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Introduction

The construct of study crafting, an extension of job crafting for higher education, has recently been developed (Clements & Kamau, 2018; Choi & Shin, 2018; Dormann & Guthier, 2019; Ferreira, 2020; Körner et al., 2021, 2023; Lesener et al., 2020). Job crafting is recognized as a bottom-up work design tool where employees alter their jobs to fit their preferences and find meaning. Wrzesniewski and Dutton (2001) suggest that individuals craft their jobs to better align their work with their needs and abilities by altering their task boundaries (task crafting), their relationships at work (relational crafting), and how they think about their work (cognitive crafting). Subsequently, Leana et al. (2009) expanded upon Wrzesniewski and Dutton's (2001) model by examining not just individual crafting behaviours but also collaborative crafting among workers who together customize the way their work is organized and enacted.

Research on job crafting saw rapid growth when Tims and Bakker (2010) conceptualized job crafting from the perspective of job demands-resources (JD-R) theory (Bakker & Demerouti, 2017). Accordingly, job crafting involves changes employees make to balance their job demands and job resources with their personal abilities and needs to create or restore their person-job fit (Tims & Bakker, 2010). Job demands refer to aspects of the job that require effort and are associated with psychophysiological costs, whereas job resources refer to aspects that facilitate dealing with job demands, goal accomplishment, and growth (Demerouti et al., 2001).

Specifically, individuals craft their jobs by: (a) increasing challenging job demands to maintain motivation and avoid boredom, (b) reducing hindering demands to protect their health and energy, (c) increasing structural job resources, and (d) increasing social job resources to optimize demands and enhance working methods (Demerouti & Peeters, 2018; Petrou et al., 2012). Several studies have shown that job crafting positively affects need satisfaction (Slemp & Vella-Brodrick, 2014), and is associated with higher person-job and demands-abilities fit (Lu et al., 2014; Shenavar, 2017), job performance (Bakker et al., 2012; Tims et al., 2014), work engagement (Rudolph et al., 2017), job satisfaction (Dierdorff & Jensen, 2017), and better health and well-being (e.g., Lichtenthaler & Fischbach, 2016).

Building on these premises, the JD-R model (Clements & Kamau, 2018; Lesener et al., 2020) and the concept of job crafting (Körner et al., 2021) were recently adapted to the university context. This adaptation starts from the idea that students face similar demands, such as time and performance pressure, and access comparable resources, such as support and autonomy, as employees do (Mülder et al., 2022). Körner et al. (2021) define study crafting as the proactive modification of the study environment (i.e., study demands and study resources) by students to improve the fit between the study environment and their preferences, needs, and abilities. Accordingly, study crafting involves: (a) increasing challenging study

demands (engaging in new and interesting projects), (b) reducing hindering study demands (postponing or avoiding overly mentally or emotionally demanding tasks), (c) increasing structural study resources (asking lecturers for more latitude), and (d) increasing social study resources (proactively asking lecturers for feedback) (Mülder et al., 2022).

From this perspective, study crafting has been found to be associated with meaning in life (Choi & Shin, 2018), life satisfaction (Choi & Shin, 2018), academic satisfaction (Choi & Shin, 2018), meaning in academic work (Choi & Shin, 2018), study engagement (Ferreira, 2020; Körner et al., 2022), and study-course fit (Ferreira, 2020). Despite these advancements in the field of study crafting, no study, to the best of our knowledge, has produced an adaptation of the study crafting construct considering Leana and colleagues' model (2009), which highlights the dimensions of individual crafting and collaborative crafting. While collaborative behaviours among peers and in teacher-student dynamics have been extensively studied through collaborative instruction models (Vembye et al., 2024) and collaborative learning models (Muñoz Miguel et al., 2023), practices of collaborative crafting have not been studied yet. Therefore, to promote research in this area, the present study aims to investigate the psychometric properties of the Study Crafting Scale, a self-report instrument consisting of 12 items derived from Leana and colleagues' Job Crafting Scale (2009), which assesses the two dimensions of individual crafting and collaborative crafting among Italian university students.

Methods

Participants and Procedure

This study involved 236 university students from Central Italy, with 134 females (57%) and 102 males (43%), with a mean age of 20.87 years ($SD = 1.76$). Participation was voluntary, and informed consent was obtained following Italian privacy regulations (DL-196/2003; EU 2016/679). To mitigate any potential presentation order effects, the questionnaire administration sequence was counterbalanced.

Measures

The *Study Crafting Scale* by Di Fabio and Svicher, adapted from the Italian version (Di Fabio, 2020) of the *Job Crafting Scale* (Leana et al., 2009), is composed of twelve items with a response format on a 6-point Likert scale (from 1 = «Never» to 6 = «Every day»). It measures two dimensions: Individual Crafting and Collaborative Crafting.

The *Satisfaction with Life Scale* (SWLS; Diner et al., 1985; Italian version: Di Fabio & Gori, 2016) is a five-item self-report measure designed to assess cognitive aspects related to the overall subjective perception of well-being, emphasizing individual autonomous judgment. Participants rated each item using a seven-point Likert scale ranging from «Strongly agree» to «Strongly disagree». In this study, the SWLS demonstrated a Cronbach's alpha of .81.

The *Meaningful Life Measure* (MLM; Morgan & Farsides, 2009; Italian version: Di Fabio, 2014) is a 23-item self-report instrument designed to assess five dimensions of life meaning as well as a total score. Respondents rate each item on a seven-point Likert scale ranging from «Strongly disagree» to «Strongly agree». The five dimensions include Accomplished Life (sense of achieving personal goals), Principled Life (having a guiding philosophy or life framework), Purposeful Life (possessing specific aims and ambitions), Exciting Life (experiencing life as engaging and exciting), and Valued Life (recognizing the intrinsic worth of life). For this study, the total score was used, and the MLM showed a Cronbach's alpha of .87.

Statistical Analysis

The confirmatory factor analysis (CFA) evaluated four models: unidimensional (all items loading onto a single Study Crafting factor), correlational (two correlated factors: Individual Crafting and Collaborative Crafting), higher order (two factors regressed onto a general Study Crafting factor), and bi-factor (items regressed on their respective factors). Model fit was assessed using the comparative fit index (CFI), Tucker-Lewis fit index (TLI), and root mean square error of approximation (RMSEA). Good fit was indicated by CFI and TLI values greater than .97, acceptable fit by values between .95 and .97. RMSEA values were categorized as good ($\leq .05$), acceptable (.05-.08), mediocre (.08-.10), and unacceptable ($> .10$) (Schermelleh-Engel et al., 2003). The reliability of the Study Crafting Scale was assessed using Cronbach's alphas with the Psych 2.3.3 R package. Alpha (α) values greater than .70 were considered adequate. Pearson's correlation coefficients were used to evaluate concurrent validity between the *Study Crafting Scale*, *Satisfaction with Life Scale*, and *Meaningful Life Measure*. All analyses were conducted using R studio 2022.12.0 for Macintosh, Posit Software, Boston, MA, USA.

Results

Confirmatory factor analysis results are shown in Table 1. Among the four tested models, the bi-factor model best fit the data. The path diagram of the

tested model is shown in Figure 1. Cronbach's alphas for the two factors and total scores of the *Study Crafting Scale* are reported in Table 2. Pearson's correlations between the *Study Crafting Scale* and SWLS, as well as between the *Study Crafting Scale* and MLM, are presented in Table 3. All factors and total scores of the *Study Crafting Scale* showed positive and statistically significant correlations with both the MLM and SWLS.

Table 1

Study Crafting Scale: Confirmatory Factor Analysis - Fit Indices Comparison (N = 236)

Model	$\chi^2(df)$	CFI	TLI	RMSEA (90%CI)	SRMR
One-factor	815.077(54)	.61	.52	.17 (.15-.18)	.13
Two-factor	304.567(52)	.87	.85	.10 (.09-.11)	.07
Higher-order	304.567(51)	.87	.86	.10 (.08-.11)	.07
Bifactor	101.556(42)	.96	.93	.06 (.43-.71)	.05

Note: CFI = Comparative Fit Index; TLI = Tucker-Lewis index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Squared Residual; Bold characters displayed the model with the best fit.

Table 2

Cronbach's Alphas for the Two-Factor Higher Order Model (N = 236)

Factors	Cronbach's Alpha
IC	.91
CC	.87
SC total	.89

Note: IC = Individual Crafting; CC = Collaborative Crafting; SC = Study Crafting total score.

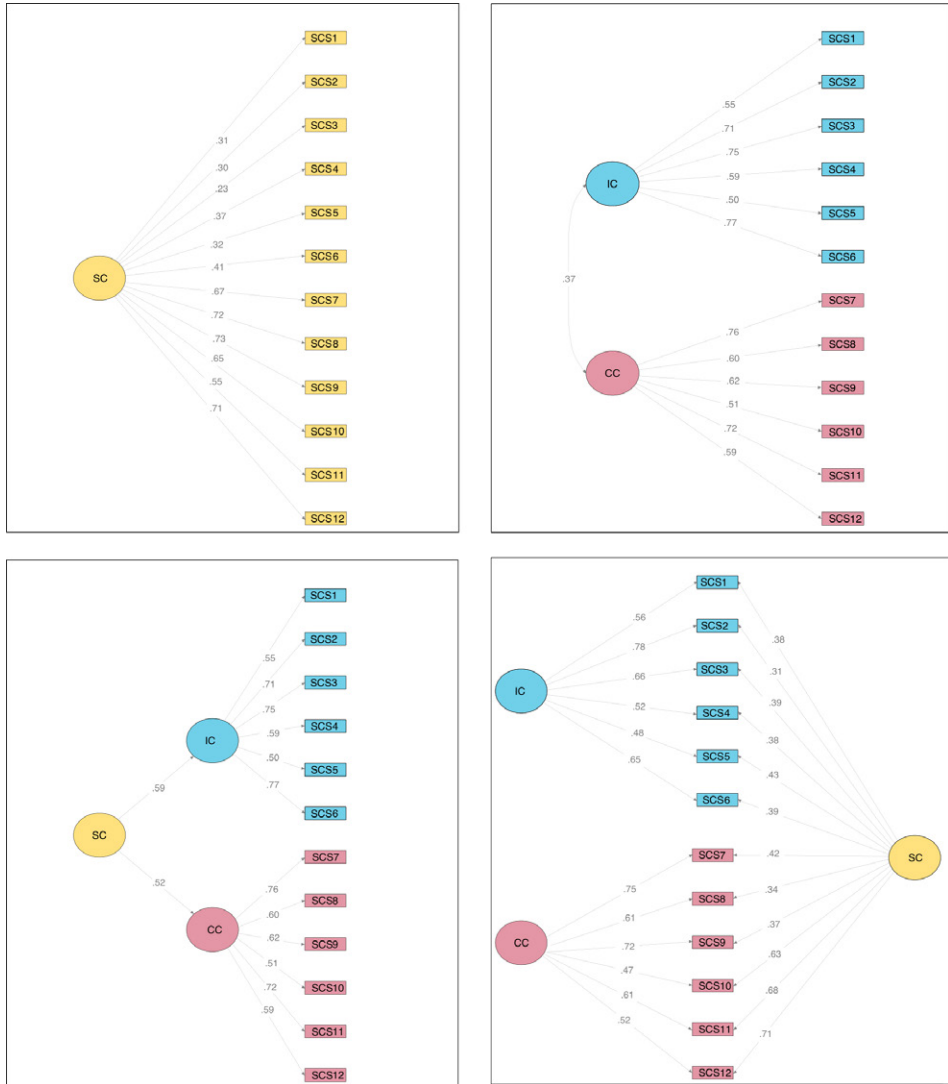
Table 3

Correlations Between *Study Crafting Scale* and *Satisfaction with Life Scale* and Between *Study Crafting Scale* and *Meaningful Life Measure* (N = 236)

	Satisfaction with Life Scale	Meaningful Life Measure
Individual Crafting	.29**	.36**
Collaborative Crafting	.34**	.43**
Study Crafting total	.31**	.41**

** $p \leq .01$.

Figure 1



Note: SC = Study Crafting total factor; IC = Individual Crafting; CC = Collaborative Crafting.
 Study Crafting Scale: Confirmatory Factor Analysis — Path Diagram of the Tested Models (n = 236)

Discussion

Despite the recent and growing interest in the literature for the construct of study crafting (Clements & Kamau, 2018; Choi & Shin, 2018; Dormann & Guthier, 2019; Ferreira, 2020; Körner et al., 2021, 2023; Lesener et al., 2020), no research

has, to the best of our knowledge, explored the study crafting model based on the research of Leana and colleagues (2009), who developed two dimensions of crafting: individual crafting and collaborative crafting. The present study aimed to explore the psychometric properties of the Italian version of the *Study Crafting Scale*, developed from the *Job Crafting Scale* by Leana et al. (2009). The results of the confirmatory factor analysis showed that the *Study Crafting Scale* has the best fit to the data for a bi-factor model composed of two factors, individual crafting and collaborative crafting, and a general study crafting factor that allows for the calculation of a total score. These factors, individual crafting, collaborative crafting, and the total score, showed good reliability. The results are in line with the Italian version of the *Job Crafting Scale*, which showed the presence of two factors plus a total score for the scale (Di Fabio, 2020). The concurrent validity with the *Satisfaction with Life Scale* and the *Meaningful Life Measure* was confirmed by positive and statistically significant correlations. In general, the Italian version of the *Study Crafting Scale* has shown good psychometric properties, making it suitable for use in research and intervention among Italian university students.

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