
La Study Satisfaction Scale (SSS): Uno studio delle sue proprietà psicometriche

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Sommario

La *Study Satisfaction Scale (SSS)* è uno strumento di recente sviluppo per misurare la soddisfazione nello studio in contesti accademici, basato sul modello di soddisfazione lavorativa di Judge et al. (1998). Questo studio ha valutato le proprietà psicometriche della SSS in 379 studenti universitari italiani. I partecipanti hanno completato la *Study Satisfaction Scale* insieme alla *Satisfaction with Life Scale* e alla *Flourishing Scale*. L'Analisi Fattoriale Confermativa (CFA) ha supportato una struttura unifattoriale della scala, mostrando buoni indici di adattamento ($\chi^2(df) = 13,21(6)$; $p = .04$; CFI = .97; TLI = .97; RMSEA = .06; SRMR = .05). La consistenza interna è risultata elevata ($\alpha = .86$), indicando una buona affidabilità. La validità concorrente è stata analizzata attraverso correlazioni positive e statisticamente significative sia con la *Satisfaction with Life Scale* sia con la *Flourishing Scale*. Questi risultati suggeriscono che la *Study Satisfaction Scale* è uno strumento affidabile e valido per valutare la soddisfazione nello studio degli studenti nei contesti universitari.

Parole chiave

Soddisfazione nello studio, *Study Satisfaction Scale*, Studenti universitari, Benessere, Proprietà psicometriche.

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The Study Satisfaction Scale (SSS): A Study of its Psychometric Properties

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Abstract

The *Study Satisfaction Scale (SSS)* is a newly developed tool designed to measure study satisfaction in academic settings, based on Judge et al.'s (1998) job satisfaction model. This study evaluated the psychometric properties of the SSS in 379 Italian university students. Participants completed the *Study Satisfaction Scale* along with the *Satisfaction with Life Scale* and the *Flourishing Scale*. Confirmatory factor analysis (CFA) supported a one-factor structure for the scale, yielding good fit indices ($\chi^2(df) = 13.21(6)$; $p = .04$; CFI = .97; TLI = .97; RMSEA = .06; SRMR = .05). The internal consistency was high ($\alpha = .86$), indicating good reliability. Concurrent validity was analysed through positive and statistically significant correlations with both the *Satisfaction with Life Scale* and the *Flourishing Scale*. These findings suggest that the *Study Satisfaction Scale* is a reliable and valid instrument for assessing study satisfaction of students in university contexts.

Keywords

Study satisfaction, *Study Satisfaction Scale*, University students, Well-being, Psychometric properties.

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Introduction

Well-being and mental health at study is currently a crucial topic to pay attention to, also looking for resources at different levels (Blustein et al., 2024a, 2024b; Kenny et al., 2024). Instability and uncertainty in contemporary global environments reduce individuals' ability to navigate their careers (Blustein et al., 2019) and the associated loss of resources and work disruptions have increased the risk of mental health issues, family conflicts, and social isolation for students (Blustein et al., 2024a). In particular, Lipson et al. (2022) highlighted a concerning trend of increasing mental health problems among university students, which was also predictive of lower academic success and risk of dropping out (Eisenberg et al., 2009). As noted by Duffy et al. (2019), the prevalence of mental health symptoms has nearly doubled in university student populations over the past decade, further emphasizing the timeliness and relevance of research in this area. Therefore, in this context, studying psychological resources that can potentially enhance well-being (Duffy et al., 2022) as well as facets of well-being among university students has become crucial.

In recent years, there has been a growing focus on measuring and assessing study satisfaction in higher education due to its impact on academic performance and well-being (Bebermeier et al., 2022; Bowling & Zelazny, 2022; Merino-Soto et al., 2017; Mostert et al., 2024; Rodrigues et al., 2024; Różycka-Tran et al., 2021). Researchers agree that study satisfaction is a relevant construct for academic achievement and are starting to explore this concept by incorporating the well-established construct of job satisfaction (Elliott, 2003; Elliott & Healy, 2001; Greenhaus et al., 1990; Judge et al., 1998; Lent et al., 2007).

Różycka-Tran et al. (2021) modified the construct of career satisfaction by Greenhaus et al. (1990) and conceptualized study satisfaction as a subjective measure of students' self-perceptions of study-related success, encompassing overall satisfaction with progress toward study goals, satisfaction with the choice of field of study, and satisfaction with academic performance. They adapted Greenhaus et al.'s (1990) five-item *Career Satisfaction Scale* to measure study satisfaction and applied it to both Polish and Vietnamese participants.

Similarly, Mostert et al. (2024) modified the construct of job satisfaction developed by Sjöberg and Sverke (2000) to create a construct of study satisfaction. They define study satisfaction as «the student's level of satisfaction, general experience, or attitude towards their academic studies or the university» (Mostert et al., 2024, p. 678). They adapted the *Job Satisfaction Scale* by Sjöberg and Sverke (2000), a scale composed of four items, focusing on four key aspects: enjoyment of studies, contentment with studies, satisfaction with studies, and happiness in studies. Moreover, they situated study satisfaction within the job demands-resources (JD-R) theory framework (Bakker & Demerouti, 2017; Bakker et al.,

2023), positioning it as an outcome of the motivational process, and highlighting its importance as a measure of student well-being and academic success.

Other researchers have developed scales to measure study satisfaction. Wach et al. (2016) applied two study satisfaction constructs of Westermann et al. (1996) (e.g., overall satisfaction with different aspects of the university experience: course content, quality of teaching, academic performance, recognition, interaction with instructors, peer support, and administrative processes) and Schiefele and Jacob-Ebbinghaus (2006) (satisfaction in terms of taught contents, conditions of studying, and coping with study-related stress). On these bases, Wach et al. (2016) conceptualized a construct of study satisfaction as comprising three dimensions: satisfaction with study content (students' feelings of joy regarding their chosen major), satisfaction with the conditions of the academic programme (how students experience their university environment), and satisfaction with the ability to cope with academic stress (the impact of academic stress on personal lives) and a related scale comprising 11 items, namely the Study-Satisfaction Questionnaire.

Merino-Soto et al. (2017) advanced a new construct of study satisfaction expanding previous research on study satisfaction (Lent et al., 2007), highlighting that previous research did not consider the students' self-evaluation regarding their own studies. To measure this construct of study satisfaction they developed a three-item brief scale for assessing study satisfaction in Peruvian medical students, investigating: (1) the set of behaviours that allow the acquisition of learning in the academic context (way of studying), (2) the evaluation of the outcomes of these behaviours (performance), and (3) the global perception of personal aspects during the act of studying (studies in general) (Merino-Soto et al., 2017).

Subsequently, Westermann et al. (2018) produced a construct of study satisfaction, grounded in the person-environment fit theory (Kristof-Brown et al., 2005), Maslow's (1954) hierarchy of needs, and Hackman and Lawler's (1971) job characteristics theory and the related nine-item measurement tool, namely the *Short Questionnaire for the Assessment of Study Satisfaction*. It is distributed across three scales: (1) Satisfaction with the study contents, (2) Satisfaction with the study conditions, (3) Satisfaction with coping with the study loads, each containing three items.

Bebermeier et al. (2022) conducted a longitudinal study examining the determinants of university students' study satisfaction. Drawing on the work of Westermann et al. (1996), they measured study satisfaction as encompassing: (a) Satisfaction with the study content; (b) Dissatisfaction with the study conditions; and (c) Dissatisfaction with coping with study burdens. Moreover, they considered study satisfaction as a subjective criterion of academic success, alongside persistence with the choice of study subject (Bebermeier et al., 2022). Their findings suggest that study-relevant characteristics, such as self-efficacy

and level of information, are among the most significant predictors of students' study satisfaction, overreaching their initial academic abilities (Bebermeier et al., 2022).

Rodrigues et al. (2024) offered another multidimensional approach that combined the use of previously developed constructs and scales: study satisfaction (Westermann et al., 2018) and job satisfaction (Neuberger & Allerbeck, 2014). Thus, Rodrigues et al. (2024) used the nine-items of the *Short Questionnaire for the Assessment of Study Satisfaction* (Westermann et al., 2018) plus three items derived from adapting the *Job Satisfaction Questionnaire* (Neuberger & Allerbeck, 2014) to measure specific aspects of home study. The *Job Satisfaction Questionnaire's* (Neuberger & Allerbeck, 2014) scales «my job», «my working conditions» and «organization and management» were adapted to the satisfaction with home study, satisfaction with home office conditions, and satisfaction with the university's handling of the pandemic and online semesters (Rodrigues et al., 2024).

Empirical research indicates that high levels of study satisfaction can hinder or reduce the likelihood of university students developing intentions to drop out (Bardach et al., 2020). Additionally, greater study satisfaction is positively correlated with an enhanced ability to manage stress and improved academic performance (Wach et al., 2016). Despite these promising findings, to the best of our knowledge, efforts to develop a study satisfaction inventory by adapting the traditional job satisfaction framework proposed by Judge et al. (1998) in the work and organizational literature have not yet been undertaken.

Judge et al. (1998) conceptualized job satisfaction as a unidimensional multifaceted construct influenced by both dispositional and situational factors (e.g., workers' feel fairly well satisfied with their present job; most days workers are enthusiastic about their work; workers' find real enjoyment in their work). Job satisfaction appeared to be correlated with core self-evaluations (Judge et al., 1998). Those with positive core self-evaluations are more likely to view their work as challenging and meaningful. While related to life satisfaction, job satisfaction is a distinct construct (Judge et al., 1998). Judge et al. (1998) measured job satisfaction using a five-item scale, assessing overall satisfaction with one's own job.

Despite studies in the literature having developed instruments to measure study satisfaction starting from the construct of job satisfaction (e.g., Mostert et al., 2024; Wach et al., 2016), none of these has applied the traditional model of Judge et al.'s (1998) on the job satisfaction construct to the study satisfaction in a university context. According to this line, having a reliable and valid tool to assess study satisfaction closely following Judge et al.'s (1998) Job Satisfaction Scale, could be a promising advance in detecting study satisfaction. Therefore, the objective of the present study is to examine the psychometric properties of the instrument labelled the Study Satisfaction Scale, adapted from the five items of Judge et al.'s (1998) Job Satisfaction Scale.

Methods

Participants and Procedures

Three hundred and seventy-nine ($N = 379$) university students from Italy participated in the study, including 199 women (47.50%) and 180 men (52.50%), with an average age of 21.78 years ($SD = 2.31$). Participation was voluntary, and informed consent was obtained in accordance with Italian privacy laws (DL-196/2003; EU 2016/679). The sequence in which the questionnaires were administered was counterbalanced to reduce any potential biases due to the order of presentation. All the study self-report questionnaires were administered in English, and all participants had a B2 certification in English.

Measures

The *Study Satisfaction Scale* has been developed by Di Fabio and Svicher closely following the Job Satisfaction Scale by Judge et al. (1998) and adapting it to the study context. It consists of five items rated on a seven-point Likert scale ranging from «Strongly agree» to «Strongly disagree», conceived as a one-dimensional self-report scale. Examples of items are: «Most days I am enthusiastic about my studies» and «I find real enjoyment in my studies» (Appendix).

The *Satisfaction with Life Scale* (SWLS), developed by Diener et al. (1985) is a five-item, one-dimensional self-report instrument designed to assess cognitive processes related to individuals' overall satisfaction with their lives. Participants responded to items on a seven-point Likert scale ranging from «Strongly agree» to «Strongly disagree». Cronbach's alpha is .87 for the original version and .83 in the present study. Examples of items are: «I am satisfied with my life», and «The conditions of my life are excellent».

The *Flourishing Scale* (FS), developed by Diener et al. (2010) is an eight-item self-report instrument that evaluates socio-psychological flourishing, reflecting perceived success in important life domains such as self-esteem, relationships, and optimism. Responses were given on a seven-point Likert scale from «Completely disagree» to «Strongly agree». Cronbach's alpha is .87 for the original version and .88 in the present study. Examples of items are «My social relationships are supportive and rewarding»; and «I lead a purposeful and meaningful life».

Statistical Analysis

We conducted confirmatory factor analysis (CFA) utilizing the *Lavaan* 0.6-13 package within the R Studio 2024.04.2+764 software for Macintosh. CFA was run to test the unidimensional model according to Judge et al. (1998) (i.e., all the five

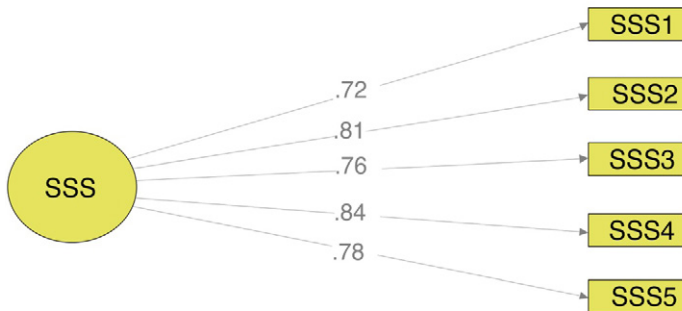
items loading on a single study satisfaction factor). The robust maximum likelihood estimator (MLR) was used. Model fit was evaluated with the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Good fit was indicated by CFI and TLI values over .97, and acceptable fit by values between .95 and .97. RMSEA values were classified as good ($\leq .05$), acceptable (.05-.08), mediocre (.08-.10), and unacceptable ($> .10$) (Schermelleh-Engel et al., 2003). The reliability of the scale was assessed using Cronbach’s alpha via the *Psych 2.3.3* R package, with alpha (α) values above .70 considered adequate. The concurrent validity of the *Study Satisfaction Scale* was measured using Pearson’s correlation coefficients with the *Satisfaction with Life Scale* and the *Flourishing Scale*.

Results

Concerning results of confirmatory factor analysis (CFA), the one-factor solution showed good fit to the data: $\chi^2(df) = 13.21(6)$; $p = .04$; CFI = .97; TLI = .97; RMSEA = .06 (90% CI = .03-.09); SRMR = .05. The path diagram and factor loadings of the unidimensional tested model are shown in Figure 1. Factor loadings were found to be good ranging from .72 to .84 (Figure 1). Moreover, the Study Satisfaction Scale showed good internal reliability, indicated by a Cronbach’s alpha of .86. Regarding results of Pearson’s correlations, positive and statistically significant relationships were found between the Study Satisfaction Scale and SWLS as well as between the Study Satisfaction Scale and FS, supporting concurrent validity (Table 1).

Figure 1

Study Satisfaction Scale (SSS): Confirmatory Factor Analysis — Path Diagram of the Tested Unidimensional Models (N = 379).



SSS = *Study Satisfaction Scale*.

Table 1

Correlations between *Study Satisfaction Scale (SSS)* and *Satisfaction with Life Scale (SWLS)* and between *Study Satisfaction Scale (SSS)* and *Flourishing Scale (FS)* ($N = 379$).

| | Satisfaction with Life Scale | Flourishing Scale |
|--------------------------|------------------------------|-------------------|
| Study Satisfaction Scale | .63** | .44** |

** $p < .01$.

Discussion

The present study examined the psychometric properties of the Study Satisfaction Scale in university students. To the best of our knowledge, the present study represents the first attempt to adapt Judge et al.'s (1998) model to measure study satisfaction and to investigate its psychometric properties. This research contributes to the existing literature by extending a well-established job satisfaction framework to the academic domain, potentially offering new insights into students' educational experiences associated with well-being.

Results from the confirmatory factor analysis confirmed a single-factor structure for the scale with adequate reliability, in accordance with previous results on the scale developed for workers (Di Fabio, 2018; Judge et al., 1998, 2010, 2020). Positive and strong statistically significant correlations of the *Study Satisfaction Scale* with the *Satisfaction with Life Scale* and the *Flourishing Scale* provide concurrent validity for the scale, confirming study satisfaction as a variable related to the well-being of university students (Bebermeier et al., 2022; Bowling & Zelazny, 2022; Merino-Soto et al., 2017; Mostert et al., 2024; Rodrigues et al., 2024; Różycka-Tran et al., 2021). The present results underscore a positive association with both hedonic well-being, in terms of satisfaction with life, and eudaimonic well-being, in terms of flourishing. The good psychometric qualities shown by the Study Satisfaction Scale make it suitable for use in research and intervention with university students. The availability of this new instrument for measuring and examining study satisfaction opens promising opportunities for future research, in relation to the well-being of university students. Future research could also study the psychometric properties of the *Study Satisfaction Scale* with high school students.

In conclusion, this research extended a well-established job satisfaction model for workers to students in the academic context, offering new perspectives on enacting the measurement of study satisfaction. The *Study Satisfaction Scale* proves a valuable instrument for future investigations into university students' educational experiences and student well-being, potentially informing targeted and tailored interventions.

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APPENDIX

Items in English of the *Study Satisfaction Scale (SSS)*

1. I feel fairly well satisfied with my present studies
2. Most days I am enthusiastic about my studies
3. Each day of study seems like it will never end
4. I find real enjoyment in my studies
5. I consider my studies rather unpleasant