

Research Trends of Career Construction in Vocational Education: A Bibliometric Review

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Abstract. The rapidly changing work environment and work patterns require individuals to actively adapt to the challenges and difficulties that arise in their career development. Over the past 20 years, construction theory has become prominent in career psychology. The concept of career construction is an adaptation model that explains the process of career construction over a person's life span through adaptation. Therefore, the career adaptation model describes the interaction between stable personal characteristics, psychological capacities, career behavior, and career outcomes. Career results will be optimal if achieved with adequate career behavior and facilitated by psychology. The purpose of this research article is to provide an overview of trends in career construction in Vocational Education to understand the evolution in the field of career construction from 2005 to 2022. The research method uses the bibliometric method. The amount of data obtained is 400 articles from publications indexed in the Scopus database. The research describes citation analysis, co-authorship analysis, co-citation analysis, and keyword analysis that produces a pattern of research maps in the field of Education. up-to-date for research on future career construction.

Keywords: Career construction, education, vocational education, bibliometric analysis, VOSviewer

INTRODUCTION

The rapidly changing work environment and work patterns require individuals to actively adapt to the challenges and difficulties that arise in their career development (Zhu, 2019). Career Construction Theory is aimed at assessing the ability of people to adapt and cope with the construction of their career (Merino, 2016). Over the past 20 years, the theory of construction careers has become increasingly prominent in career psychology. The theory proposes a career construction adaptation model that explains the process of career construction over the life span of a person through the relationship between adaptive dimensions, adaptability, adaptation, and adaptation.

Previous studies have been conducted to evaluate the application of the career construction adaptation model to explain the career transition after school in adolescence by examining the relationship between adaptive readiness measures, adaptation resources, adaptation responses, and adaptation outcomes (Šverko & Babarović, 2019). On research 1 trying to address this gap by developing a moderated dual-track mediation model based on the theory of career construction, social exchange, and the theory of the activation of traits. Meanwhile, the study examines the relationship of career adaptation with Bibliometric analysis Method, to find out adaptation measures, adaptation responses, adaptation results, and demographic covariates (Rudolph, 2017). Bibliometric analysis is a research field that is receiving increasing attention by the scientific community, and it is especially motivated by the fast development of computers and the internet. Bibliometric analysis is becoming a fundamental methodology for analysing research, and it originated from the field of library and information science. In the literature, there are several papers providing complete bibliometric overviews in many research areas (Merigó & Yang, 2017). The career preparation process is an ideal example to explore the role of future expectations in the transformation of habitus (Chen & Tian, 2021). to report on the findings of a meta-analysis based on a career construction adaptation model 4. research on antecedents of the dimensions of career adaptation (i.e., attention, control, curiosity, and self-confidence) among students in the context of school-to-work transitions is still rare (Ocampo, et al., 2020). On research 1 to address this gap by developing a moderated dual-track mediation model based

on career construction theory. to test the role of career shocks in the relationship between career competence, career success and employability (Blokker, 2019). Further research focuses on scholars aiming to help people develop their working lives (Savickas & Porfeli, 2012).

Therefore, the adaptation career construction model describes the interaction of stable personal characteristics, psychological capacities, career behaviors, and career outcomes and assumes that optimal career outcomes (adaptation results) will be achieved with adequate career behavior (adapting responses), which is facilitated by psychological capacity (adaptation resources) and personal traits (adaptive readiness) (Šverko & Babarović, 2019). Career adaptability plays an important role in a successful career transition (Šverko & Babarović, 2019).

This study aims to get an overview of Career Construction in Vocational Education. The review will focus on the following research questions:

- What are the publication trends of the topic Career Construction in Vocational Education
- Most cited articles about Career Construction in Vocational Education
- Countries that contribute the most to Career Construction in Vocational Education
- Frequently published journals related to Career Construction in Vocational Education
- Top keywords researchers use about Career Construction in Vocational Education
- Gaps and subsequent research related to the topic of Career Construction in Vocational Education

Taking into account the questions in this study, it consists of: methodology, results and discussion, conclusions and research recommendations based on selected articles about Career Construction in Vocational Education.

METHODS

The study of bibliometric analysis is a quantitative cross-disciplinary science that allows researchers to study trends in a particular field of research based on the results of a published literature database (Sweileh, 2017). This bibliometric in-depth analysis paper has a different approach than the review papers (Linnenluecke, Marrone, & Singh, 2020). Which focuses on publication trend analysis, citation analysis, geographic distribution, frequently published journal analsitions, and keyword analysis, In addition, bibliometric analysis allows researchers to share their findings with other researchers working in the same field, which can lead to opportunities to collaborate (Zupic & Cater, 2013). The study design of the research methodology can see in Figure 1.

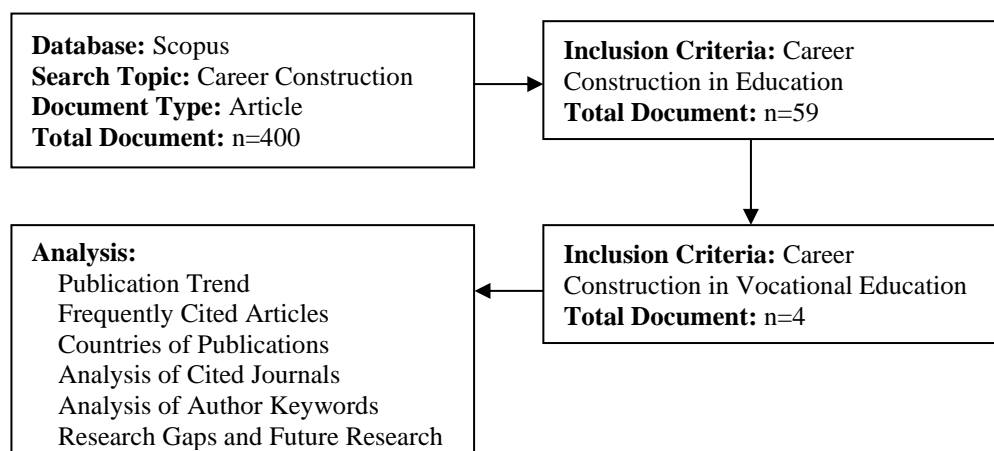


Figure 1. Study Design

Data collection in the form of published articles from the Scopus database. The main topic of this study is a research article that has a title, abstract, and keywords about Career Construction. The initial search used the search string "Career Construction" with the results of as many as 400 articles. The next stage of the article was reviewed against the inclusion criteria with the search string Career Construction in education so that 59 articles were obtained. The final result stage of the article was reviewed against the inclusion criteria with a career construction in vocational education search string so that 4 articles were obtained.

Citations, bibliographic maps, co-citations, or co-authorship networks are used to visualize bibliometric analysis and data retrieval using the VOSviewer program (version 1.6.17). VOSviewer, and software for creating and visualizing bibliometric maps that require all items to be analyzed (Yu, et al., 2020). The author's state and keywords are referred to as items mapped by the software. In engineering visualization, a positive numerical value represents the level of strength in the link between two keywords or between each pair of keywords that occurs at the same time (co-occurrence). It can also be visualized as a comment on certain parameters using network visualization (color, circle size, and line connection thickness). Using keyword co-authorship analysis, the power of collaboration between countries is numerically represented by the number of articles co-written by two affiliated countries. Similarly, in co-occurrence analysis, the number of keywords in which two keywords occur together represents the strength of the relative link between the author keywords.

The Scopus bibliographic database was searched using title and word citations to identify the growth of publications on Career Construction-related research topics over several years: 2005-2022. To run the co-occurrence analysis, 400 published Scopus documents were collected up to the duration of the study.

RESULTS AND DISCUSSIONS

Analysis of Publication Output in Career Construction Topic

Research articles for the last 17 years on the topic of career construction indexed by Scopus as many as 400 articles. The initial publication was found in 2005 and most recently in 2022 it was seen in figure 2 showing significant growth from 2005 to 2020 but decreased in 2020 to early 2022. 4 articles on the topic of career construction in vocational education began to be published in 2014 under the title Students Perceptions about Teachers' Feedback in a Career Construction: A Study in Vocational Education; 1 article published in 2019; and 1 article published in 2020.

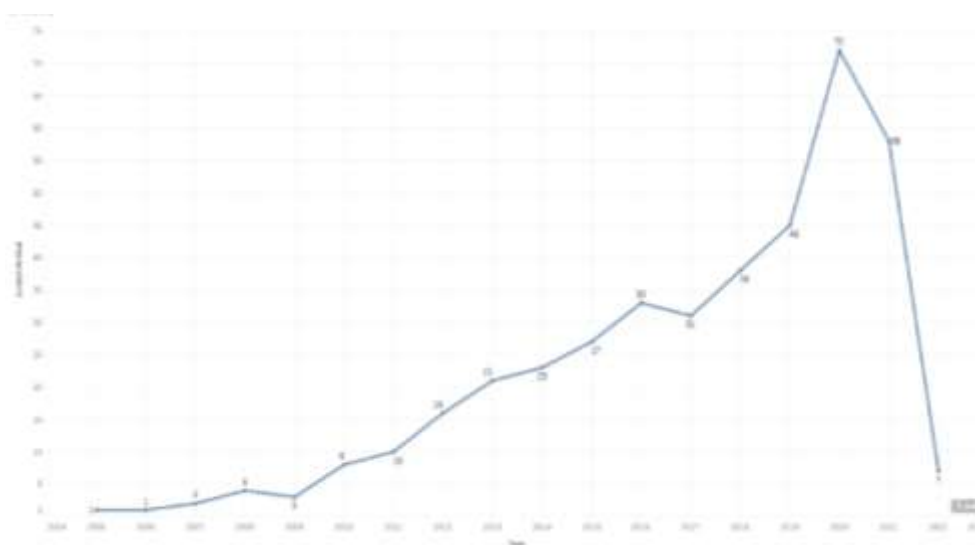


Figure 2. Articles Published Per Year

Frequently Cited Documents

The most cited articles are essential to help identify and influentially provide an overview of the topic of Career Construction. Indicators are identified based on the number of most cited articles. Researchers tend to refer to the most cited articles because they are considered significant sources. The article on Career Construction (n=400 articles) presents 1,777 citations. Figure 3 shows the 10 most cited articles on Career Construction. The article with the highest number of citations was written by Mark L. Savickas. in 2009 under the title "Life designing: A Paradigm for career construction in the 21st century" (807 citations) (Savickas & Porfeli, 2012). Furthermore, the article is titled "Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results." (237 citations) (Rudolph, et al., 2017). Next article titled "Career adaptability, job search self-efficacy and outcomes; A three-wave investigation among Chinese university graduates" (140 citations) (Guan, et al., 2013). Next article titled "Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity" (135 citations) (Savickas & Porfeli, 2012). Next article titled "Self-esteem and proactive personality as predictors of future work self and career adaptability: An examination of mediating and moderating processes" (110 citations) (Cai, et al., 2015). Next article titled "Perceived organizational career management and career adaptability as predictors of success and turnover intention among Chinese employees" (104 citations) (Guan, et al., 2015). Next article titled "Future work self and career adaptability in the prediction of proactive career behaviors" (97 citations) (Taber & Blankemeyer, 2015). Next article titled "The contributions of Emotional Intelligence and social support for Adaptive Career Progress among Italian Youth" (89 citations) (Di Fabio & Kenny, 2015). Next article titled "Career adaptability in childhood" (85 citations) (Hartung, Porfeli, & Vondracek, 2008). And the last is an article with a title "Counselling for Career Construction. Connecting Life Themes to Construct Life Portraits: Turning pain into hope" (83 citations) (Fouché & Maree, 2013).

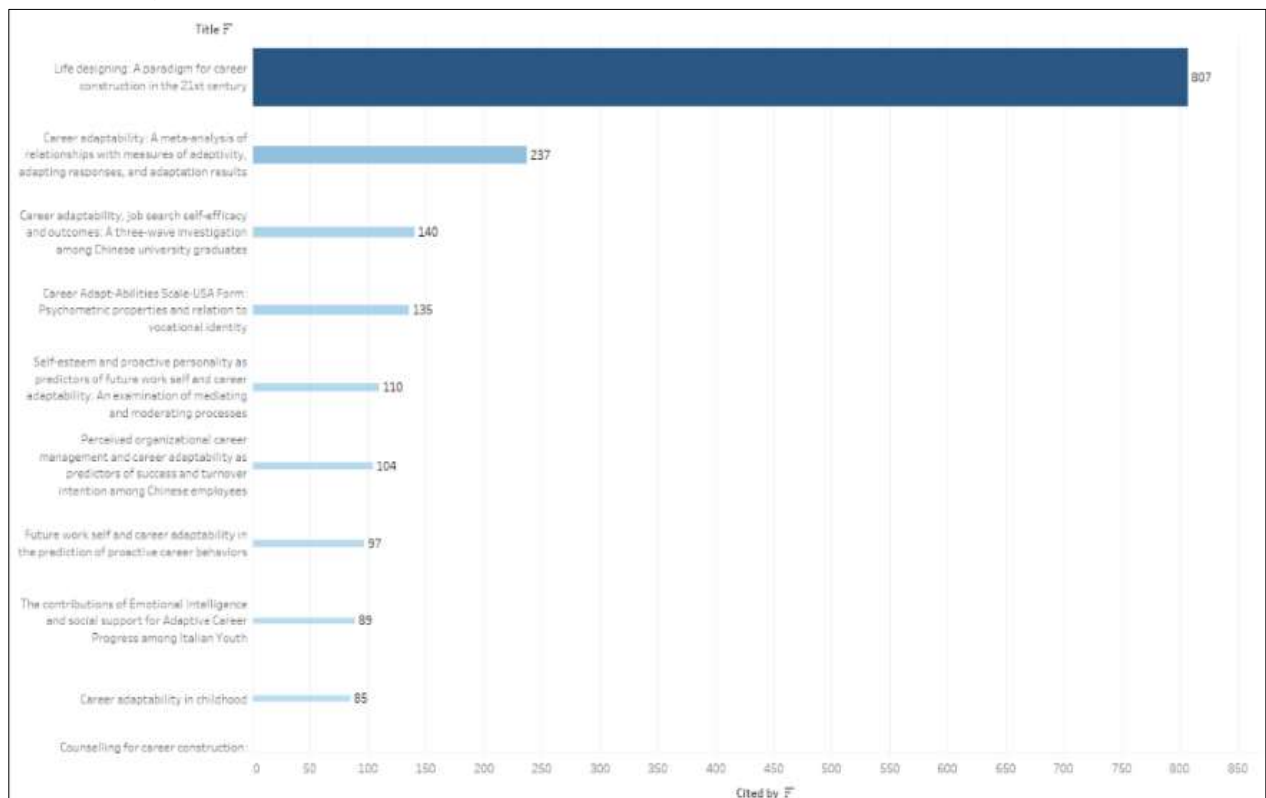


Figure 3. Top 10 Most Cited Articles

Contributions by Countries

Figure 4 shows that the top 10 countries that are most productive contributors to research on career construction topics such as the United States, China, South Africa, Australia, United Kingdom, Italy, Portugal, Germany, Turkey, and Brazil. Furthermore, the United States was ranked highest in research publications (n=121), followed by China (n=59), South Africa (n=48), Australia (n=45), the United Kingdom (n=41), Italy (n=31), Portugal (n=23), Germany (n=16), Turkey (n=13), and Brazil (n=13).

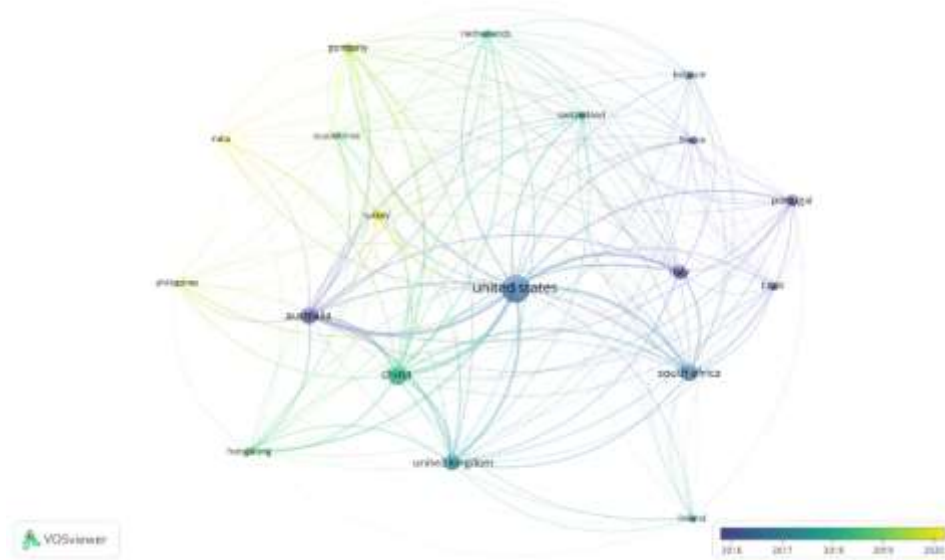


Figure 4. Bibliographic Coupling of Countries

Most Cited Journals

Articles on the topic of Career Construction have been published in 149 journals. Figure 5 features the top 10 journals based on the criteria of at least 10 articles. Journal of Vocational Behavior (82 articles); Career Development Quarterly (19 articles); Journal of Career Assessment (17 articles); Frontiers in Psychology (15 articles); British Journal of Guidance and Counselling (12 articles); Psychology of Career Counseling: New Challenges for a New Era (11 Articles); Journal of Career Development (11 Articles); International Journal for Education and Vocational Guidance (10 Articles); Journal of Psychology in Africa (8 articles); and Early Child Development and Care (8 articles).

Meanwhile, articles on the topic of Career Construction in Vocational Education have been published in 4 journals, namely the Unit for Research Development (1 Article); Department of Business (1 article); Department of Work and Organization (1 article); and Education Psychology (1 article).

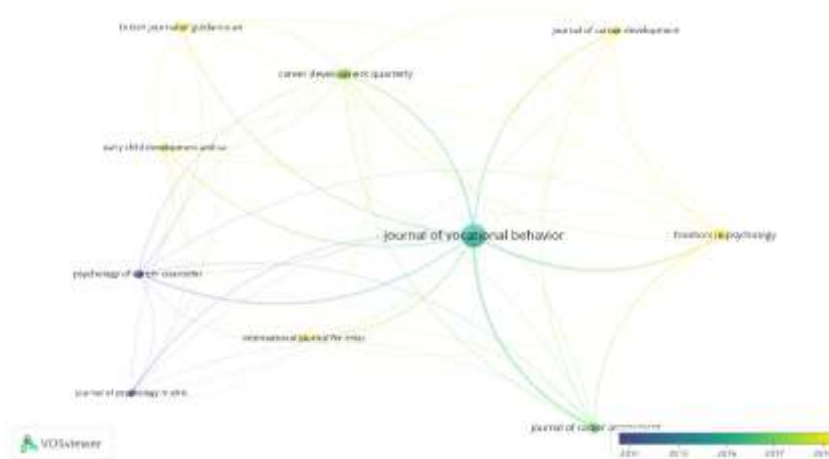


Figure 5. Bibliographic Coupling of Sources

Analysis of Author Keywords

A total of 965 author keywords were obtained from the Scopus database from publications on Career Construction. Co-occurrence analysis in the VOSviewer application program was selected to check the appearance of researcher keywords. So as to understand the research trends that apply in the field of career construction. To produce a better network of shared emergence of frequently used author keywords, the minimum number of author keyword occurrences is limited to 9 keywords resulting in 15 frequently used author keywords. The co-occurrence network of author keywords can be seen in figure 6.

Meanwhile, publications related to the topic of career construction in vocational education obtained as many as 14 author keywords with the minimum number of keyword occurrences limited to 2 keywords obtained by 5 author keywords that are often used such as vocational education; teachers feedback; vocational identity; career; and students.

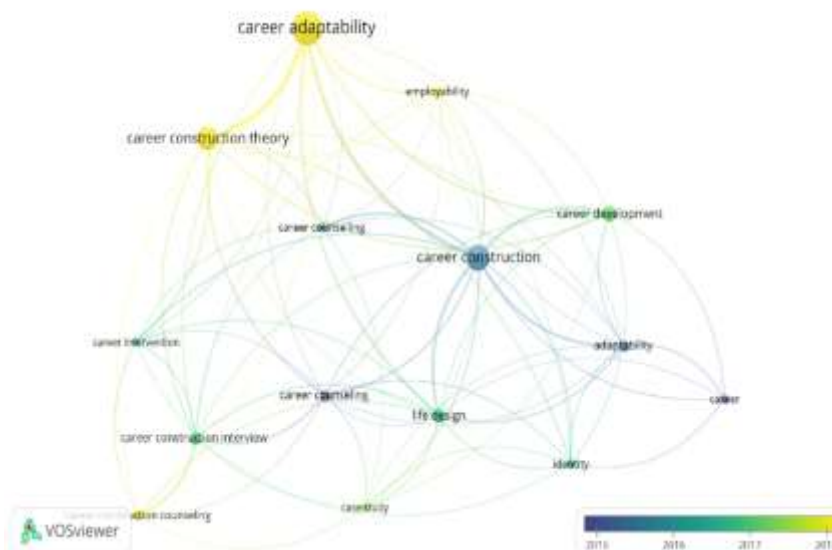


Figure 6 Co-Occurrence Network of Author Keywords

Research Gaps and Future Research Directions

This research applies bibliometric analysis research methods to help reveal research progress and propose several research paths and propose several upcoming research paths in the field of Career

Construction in Vocational Education. This research features publication trends, citation articles, publications of some countries, journal citations, and author keywords in the field of career construction in vocational education. Research in the field of career construction in vocational education has been carried out in several countries such as Switzerland, United States, Germany and Portugal.

There is still little literature on the topic of career construction in vocational education that applies quality studies to help generate new scales in expanding existing models. Future research can address this problem by applying qualitative studies in the field of career construction in vocational education. Keywords most often used by researchers to explore the topic of career construction in vocational education in figure 6 such as vocational education; teachers' feedback; vocational identity; career; and students. Keywords such as the Career Construction Factor of vocational teachers which affect the adaptability of vocational teachers' careers are still not applied in research. Future research can consider the Career Construction Factor of vocational teachers against the Career Adaptability of vocational teachers.

CONCLUSION

This bibliometric study analyzes worldwide trends in career construction research from 2005 to 2022. Research on career construction from 2005 to 2020 has increased and from 2020 to 2022 there has decreased or few researchers have examined the topic of career construction. The most cited article on career construction in vocational education was written by Mark L. Savickas. in 2009 under the title "Life designing: A Paradigm for career construction in the 21st century". The majority of publications come from the United States, China, and South Africa. Articles on career construction in vocational education have been published in 4 journals. The author's keywords are often used in the topic of career construction in vocational education such as vocational education; vocational identity; career; students; teacher's feedback. This research is limited to the Scopus database. Researchers can then conduct more research using the WOS or Google Scholar databases to get a more comprehensive view of career construction in vocational education or Future research can apply qualitative studies in the field of career construction in vocational education by considering social support in developing career construction of teachers in vocational education.

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