

Application of Social Cognitive Career Theory in various studies

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Abstract

This study conducted a bibliometric analysis of the application of Social Cognitive Career Theory (SCCT) in various studies to understand research trends, research subjects, influential publications, prolific authors, geographical distribution, and keywords that often appear in SCCT literature. The research method used was bibliometric analysis with the use of VosViewer software. Data were collected from the Scopus database using the PRISMA2020 protocol. The results of the analysis show that interest in SCCT continues to increase, with peak publications in 2022. SCCT has been applied in various research fields, including Social Sciences, Psychology, and Business, Management, and Accounting. Influential articles in the SCCT literature have expanded the understanding of SCCT applications in the context of career decision-making. Prolific authors related to SCCT are Lent, R.W, Brown, S.D, and Dos Santos, L.M. Geographically, the United States dominates the number of publications, but global interest in SCCT is evident from the contributions of countries such as China, South Korea, and Australia. Keywords that frequently appear in the SCCT literature include "Social Cognitive Career Theory" and "Self-Efficacy." This research illustrates the positive developments in the understanding and application of SCCT in various research contexts. With strong interest and increasing international cooperation, SCCT remains an important framework in understanding the factors that contribute to career success. With strong interest and increasing international cooperation, the SCCT remains an important framework in understanding the psychological factors that influence individual career decision-making around the world.

Keywords: Social Cognitive Career Theory; SCCT; Career Decision Making; Research Trends; Bibliometric Analysis

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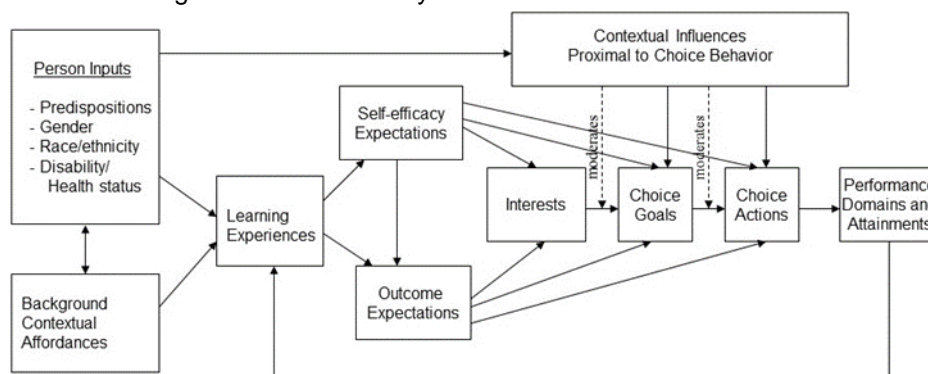


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INTRODUCTION

Social Cognitive Career Theory (SCCT) is understood to be a unifying theoretical framework that can complement, and interrelate, the basic approaches to career development (Lent & Brown, 2019). Social Cognitive Career Theory (SCCT) has its roots in Social Cognitive Theory (Bandura, 1986) developed by (Lent et al., 1994) is a theory that aims to explain three interrelated aspects of career development: (1) how basic academic and career interests develop, (2) how educational and career choices are made, and (3) how academic and career success is obtained. The theory incorporates various concepts (e.g., interests, abilities, values, environmental factors) that have appeared in previous career theories and have been found to influence career development.

Figure 1. Social Cognitive Career Theory Model



Over the past 2 decades or so interest in applying Social Cognitive Career Theory has increased. A search of the Google Scholar database for the keyword "Social Cognitive Career Theory" returned 16,900 documents and the original manuscript of Social Cognitive Career Theory (SCCT (Lent & Brown, 1996) has been cited for 10607 citations.

The Social Cognitive Career Theory model framework has been widely applied in various fields of research and science with different contexts and cultures (Lent et al., 2000; Lent, Lopez, et al., 2008; Udayanan, 2019; Wang, 2013a). Several previous studies have investigated the implementation of SCCY in various perspectives. Research from (Pham et al., 2022) examined the application of SCCT in the field of entrepreneurship by investigating social entrepreneurship intention factors, which found that social entrepreneurship education and previous experience with social organizations have significant direct and indirect effects on social entrepreneurship intention through the mediating role of social entrepreneurship self-efficacy and social entrepreneurship outcome expectancy. A study from (Kwee, 2021) reviewed the application of SCCT in identifying significant factors influencing English teachers' motivation in incorporating the Sustainable Development Goals (SDGs) into their teaching. And research from (Flores et al., 2017), which focuses on empirical studies of social cognitive career theory (SCCT) and recent SCCT-based models with a focus on social class and socioeconomic status (SES). Overall SCCT has been one of the contributing theories in career development and decision-making, but it is now important to see how far the position of SCCT has evolved in order to provide future research directions.

Through bibliometric analysis, this study aims to understand how the application of Social Cognitive Career Theory (SCCT) in various studies, as for the research questions to be answered in this study are: (1) How is the development of SCCT-related research

publications from year to year, and is there a significant trend in the number of publications? (2) What fields apply SCCT the most in research? (3) What is the most influential research related to SCCT? (4) Who are the most prolific authors in SCCT research, and what are their main works that get many citations? (5) Are there any geographical trends in SCCT research, such as countries or regions that have significant contributions in this literature (6) What are the keywords that appear most frequently in the SCCT literature, and how have they evolved over time? (7) What are the main topics or concepts often associated with SCCT in the literature, and are there any changing trends in research focus? This study is expected to provide comprehensive and in-depth information to assist research in understanding research gaps related to the application of Social Cognitive Career Theory (SCCT).

METHOD

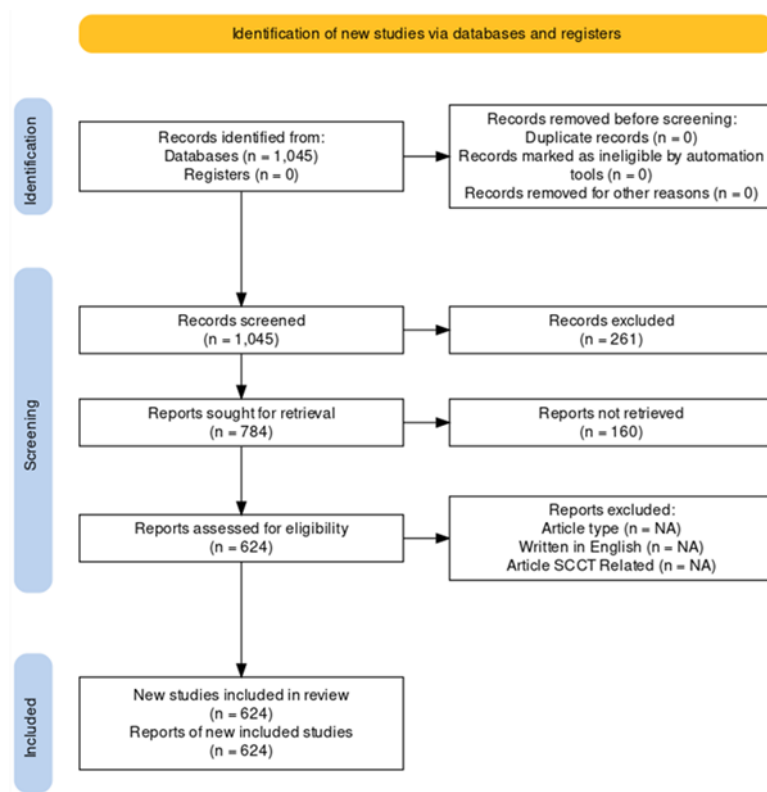
Bibliometric Analysis

Bibliometric analysis is a statistical method used to describe the situation in a particular field of science and find important information for various purposes, such as exploring research opportunities and supporting scientific activities (de Oliveira et al., 2019; Lezama-Nicolás et al., 2018; Mohadab et al., 2020). In this study, bibliometric analysis to analyze and visualize the application of SCCT in research in various fields, it is a very useful tool to identify and analyze the scientific achievements of authors, articles, journals, institutions, and countries through keyword analysis and the number of citations to reveal future research trends (Diodato & Gellatly, 2013). VosViewer and was used to conduct bibliometric analysis in this study.

Data Collection Technique

This research uses the PRISMA2020 protocol from (Haddaway et al., 2022) in collecting documents to be analyzed. The stages carried out are Identification, Screening, and Included (Fig 2). The initial search produced 1045 result documents without language, year of publication, or type of writing on the Scopus data base with the keyword TITLE-ABS-KEY ("Social Cognitive Career Theory"). The results obtained were then filtered to include only journal articles written in English without limitation of publication time and articles that meet the requirements of abstract, title, and keywords that mention things about "Social Cognitive Career Theory" which then resulted in 624 articles that will be analyzed using bibliometric ranking.

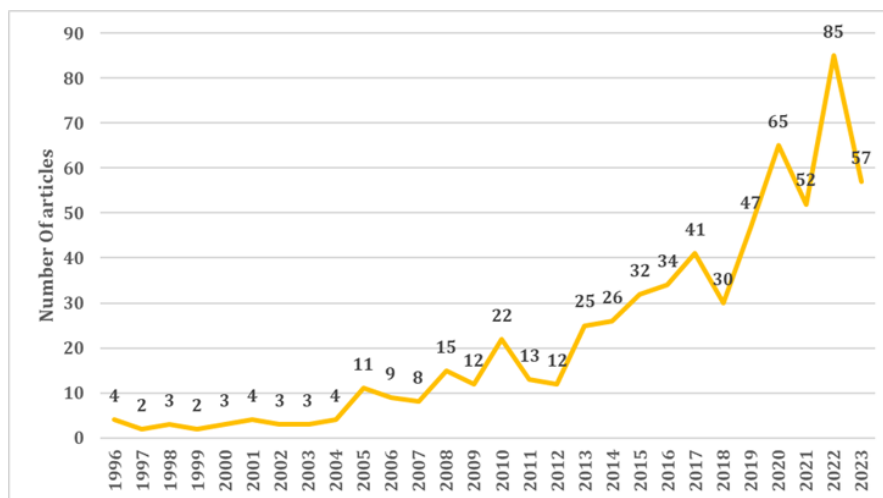
Figure. 2. PRISMA2020 Flow Chart



RESULT AND DISCUSSION

Social Cognitive Career Theory Research Trends

Figure 3. Publication Trends for Social Cognitive Career Theory (SCCT) Publication Trends for Social Cognitive Career Theory (SCCT)



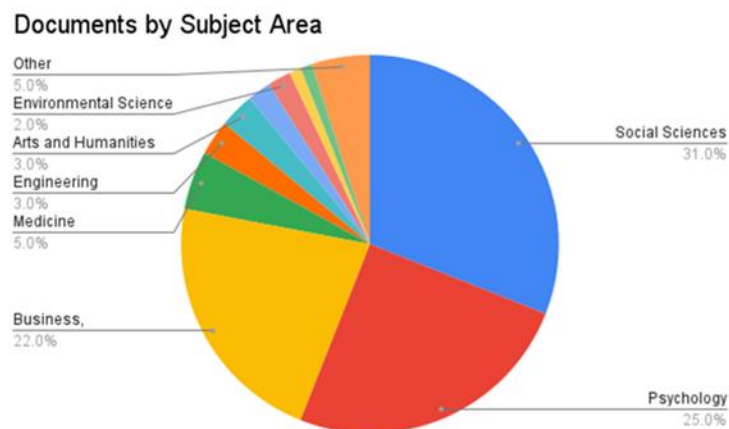
A total of 624 articles were grouped by year of publication, Figure 3 shows the annual publication trend for SCCT in various fields. It can be seen from Figure 3 that the first article applying SCCT appeared in 1996, and the number of publications tended to be unchanged until 2004, and increased significantly since 2013 with 25 articles, and reached its highest peak in 2022 with 85 articles. Figure 3 shows the annual publication trends for Social Cognitive Career Theory (SCCT) in various fields. The number of articles using SCCT as a theoretical framework or analytical method has increased over time.

In this context, Figure 3 shows some important events in the publication history of SCCT. The first article applying SCCT theory in research appeared in 1996. However, from the early to mid-2000s, the number of SCCT publications tended not to grow at all or stagnated. Starting in 2013, there was a major change in publication trends; the number of articles that included SCCT increased rapidly, reaching 25 that year. This increase may be due to the increased interest and recognition of the relevance of SCCT. Figure 3 shows concrete evidence of the progress and relevance of SCCT in research over the past decades. This may indicate several factors, such as increased awareness of the importance of this theory in understanding individual career development, or increased collaboration and communication between researchers within the SCCT community.

Research Subject Area Social Cognitive Career Theory

Figure 4 displays the subject areas of research that used SCCT in various research fields from 624 articles, with the largest proportion of SCCT applications in Social Sciences (31%), Psychology (25%), and Business, Management and Accounting (22%). Although used in smaller proportions in fields such as medicine, engineering, arts, and humanities, the theory still provides valuable insights into individual career decision-making in diverse professional contexts. Overall, the use of Social Cognitive Career Theory reflects the importance of understanding the psychological factors that influence individual career development and choice across a range of disciplines.

Figure. 4 Field of Study Social Cognitive Career Theory (SCCT)



Influential Research and Journals

Table 1 shows the ten most cited studies that apply Social Cognitive Career Theory (SCCT) in various research areas. The list covers a wide range of topics, from choosing an

education major to finding out about your career and how satisfied you are with your job at your workplace. The high number of citations to these articles indicates that their contributions have provided significant understanding of career development and individual decision-making.

Table 1. Top 10–Most Cited Papers Applying the SCCT

Title	Author	Source Title	Cited by
Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span	(Lent & Brown, 2013)	<i>Journal of Counseling Psychology</i>	583
Why Students Choose STEM Majors: Motivation, High School Learning, and Postsecondary Context of Support	(Wang, 2013b)	<i>American Educational Research Journal,</i>	523
Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically black universities	(Lent et al., 2005)	<i>Journal of Counseling Psychology</i>	424
Relation of contextual supports and barriers to choice behavior in engineering majors: Test of alternative social cognitive models	(Lent et al., 2003)	<i>Journal of Counseling Psychology</i>	394
On conceptualizing and assessing social cognitive constructs in career research: A measurement guide	(Lent & Brown, 2006b).	<i>Journal of Career Assessment</i>	343
Integrating person and situation perspectives on work satisfaction: A social-cognitive view	(Lent & Brown, 2006a)	<i>Journal of Vocational Behavior,</i>	298
Longitudinal relations of self-efficacy to outcome expectations, interests, and major choice goals in engineering students	(Lent, Sheu, et al., 2008)	<i>Journal of Vocational Behavior</i>	271
The role of contextual supports and barriers in the choice of Math/Science educational options: A test of social cognitive hypotheses	(Lent et al., 2001)	<i>Journal of Counseling Psychology,</i>	255
Efficacy and Outcome Expectations Influence Career Exploration and Decidedness	(Betz & Vuyten, 1997)	<i>Career Development Quarterly</i>	255
Entrepreneurship education: a need for reflection, real-world experience and action	(Kassean et al., 2015)	<i>International journal of Entrepreneurial Behavior & research</i>	237

One striking article is "Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span" by Lent & Brown (2013), which has been cited 583 times. This article brings SCCT into the context of understanding career behavior across the life span, making it a major contribution in integrating key concepts in the theory.

Another article that stands out is "Why Students Choose STEM Majors: Motivation, High School Learning, and Postsecondary Context of Support" by Wang (2013b) which has been cited 523 times. This is relevant in an educational context, discussing the factors that influence students' choice of STEM majors, which has major implications in addressing the labor shortage in science and technology.

These articles not only provide an in-depth look at how SCCT can be applied in various contexts, but also provide a framework and guidance for other researchers

interested in understanding career development and decision-making. With a significant number of citations, they remain an important reference for the research community involved in career studies and personal development.

Table 2. Top 5–Most Frequent Journals

Rank	Journal Name	Number Of Articles
1	Journal of Career Assessment	56
2	Journal of Vocational Behavior	52
3	Journal of Career Development	52
4	Frontiers in Psychology	23
5	Career Development Quarterly	21

Table 2 shows the five journals most frequently used to publish research applying Social Cognitive Career Theory (SCCT). The "Journal of Career Assessment", with 56 articles, comes in first, indicating that this journal has become a major hub for researchers who want to share their research on SCCT concepts, especially on measurement followed by 52 articles from the "Journal of Vocational Behavior" and the "Journal of Career Development", indicating the important role of SCCT in understanding career behavior, motivation, and skill development.

In addition, two important journals where SCCT research is represented are Frontiers in Psychology (with 23 articles) and Career Development Quarterly (with 21 articles). Frontiers in Psychology is a multidisciplinary journal that covers a wide range of topics in psychology and demonstrates that SCCT is relevant in a variety of psychological contexts. Career Development Quarterly also contains many upright SCCT articles. These journals play an important role in encouraging the development and advancement of SCCT concepts in various disciplines. In addition, these journals are an important resource for researchers and practitioners who want to learn more about the use of SCCT in career studies and self-development.

A prolific writer

Table 3 displays the top 10 authors in publications related to SCCT (Social Cognitive Career Theory), ranked by their productivity in publishing articles. The most productive author is Lent, R.W, with a total of 60 articles. Lent, R.W is one of the developers of SCCT alongside Brown, S.D. Lent, R.W's most cited article is titled "Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span"(Lent & Brown, 2013) with 583 citations.

Table 3. Top 10–Most Productive Authors

Authors	Number of Articles
Lent RW	60
Brown SD	24
Dos santos LM	23
Flores LY	20
Navarro RI	14
Sheu H-B	14
Creed PA	12

Ali SR	10
Miller MJ	10
Fouad NA	9

The second author in terms of publications on SCCT is Brown, S.D, with 24 articles. The most cited article authored by Brown, S.D is "Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span." The third position is held by Dos Santos, L.M, with a total of 23 articles. Dos Santos, L.M's most cited article is "How does the COVID-19 pandemic influence the sense of belonging and decision-making process of nursing students: The study of nursing students' experiences," with 41 citations.

Geographic trends of productive countries and regions

Figure 5. Distribution of Country Publications on SCCT

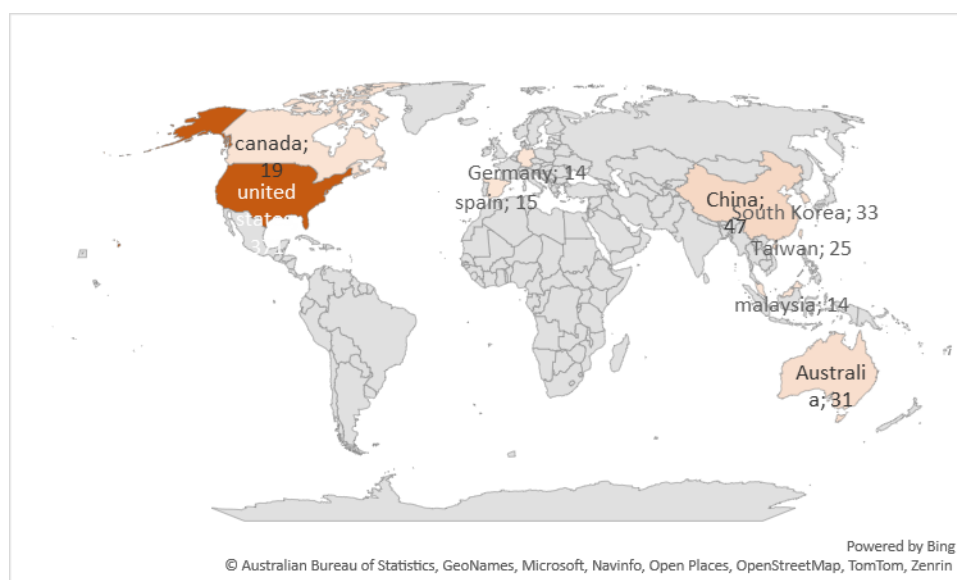


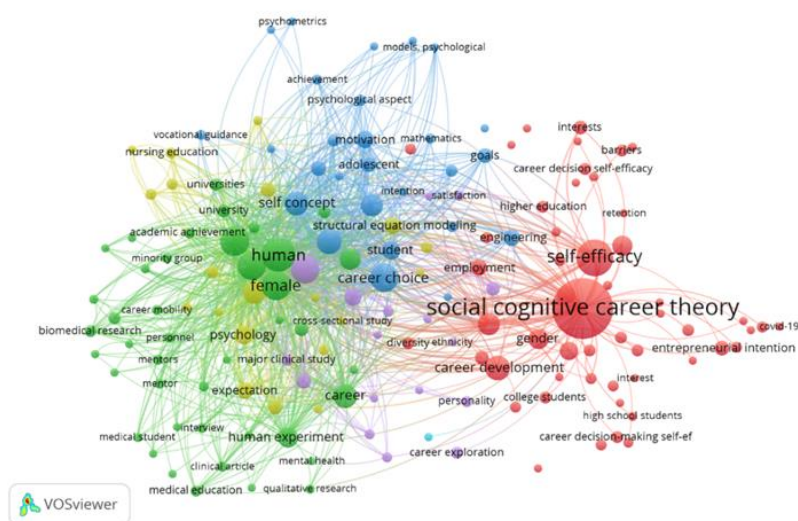
Figure 1 depicts the distribution of publications related to the Social Cognitive Career Theory from various countries. The total data of SCCT publications from different countries shows that this theory has a global appeal in career research and career development. The United States takes the lead with a significant number of publications, totaling 371, followed by China with 47 publications, South Korea, and Australia with 33 and 31 publications, respectively.

It is evident that interest in this theory is widespread, even in non-English-speaking countries such as Spain and Germany. This indicates that the Social Cognitive Career Theory has a broad and relevant impact in various career contexts worldwide

Keyword Co-Occurrence Analysis

The analysis and visualization of keyword network maps in publications on the Social Cognitive Career Theory involve analyzing keywords that co-occur, assuming that frequently co-occurring words have thematic relationships with each other (Donthu et al., 2021).

Figure 6. Co-occurrence Network Visualization



In this study, 624 articles were analyzed, resulting in 2,131 keywords. A total of 159 keywords were generated with a minimum occurrence of five times for co-occurrence analysis. Vosviewer generated six keyword clusters, as shown in Figure 1, represented by various colors. The most frequently occurring keyword is "Social Cognitive Career Theory," mentioned 276 times, which serves as the primary focus of the research. This is followed by "Self-Efficacy," which appeared 103 times and is one of the key variables in SCCT.

Empirical research on the implementation of Social Cognitive Career Theory involves various aspects, methods, theory integration, expanded factors, variables, and groups. Therefore, many related terms appear in the keywords of the articles. The first cluster (in red) consists of 52 items that focus on the main keyword "Social Cognitive Career Theory." The second cluster (in green) comprises 42 items with the main keyword "Human." The third cluster (in blue) contains 20 keyword items focusing on "Adults." The fourth cluster (in yellow) consists of 20 items with the main keyword "Articles." The fifth cluster (in purple) comprises 15 items with the main keyword "Self-Concept." Finally, the sixth cluster (in light blue) contains 9 items with the main keyword "Students."

What is the most influential research related to SCCT?

Influential Articles Table 1 identifies the top 10 most cited articles in SCCT research. The most cited article "Social cognitive model of career self-management" by Lent and Brown" highlights the importance of adaptive career self-management. These articles have significantly contributed to broadening the understanding of the application of SCCT in the context of career decision-making.

Who are the most prolific authors in SCCT research, and what are their main highly-cited works?

Top Journals Table 2 reveals the top journals that frequently publish research on SCCT. The Journal of Career Assessment, Journal of Vocational Behavior, and Journal of Career Development are the main sources of SCCT publications. This shows the high interest in this topic among researchers.

Productive Authors Table 3 identifies the top 10 most productive authors in SCCT publications. Lent, R.W is the most prolific author with 60 articles. This author was instrumental in the development of SCCT. Brown, SD and Dos Santos, LM are also prolific authors in this field.

Are there any geographical trends in SCCT research, such as countries or regions that have made significant contributions to the literature?

Geographic Trends Figure 5 shows the distribution of publications on SCCT by country. The United States dominates the number of publications, highlighting its significant contribution to the development of SCCT. However, there is strong global interest in the theory, evident from publications in countries such as China, South Korea, and Australia, as well as in non-English speaking countries such as Spain and Germany.

What are the most frequently occurring keywords in the SCCT literature, and how have they evolved over time?

Keyword Co-Occurrence Analysis, Keyword co-occurrence analysis (Figure 6) and overlay (Figure 7) illustrate the relationship between keywords in SCCT publications. Major keywords such as "Social Cognitive Career Theory" and "Self-Efficacy" dominate, reflecting the main focus in this study. Keyword clusters illustrate various aspects and concepts related to SCCT.

CONCLUSION

Social cognitive career theory (SCCT) has experienced significant development in career research and individual career development. Annual publication trends show a consistent increase in interest in SCCT, with the highest peak in 2022, reflecting the relevance of this theory in understanding career decision-making. SCCT has been applied in a variety of fields, illustrating its cross-disciplinary applicability, while influential articles and prolific authors have enriched our understanding of the theory. With strong global interest and growing research, SCCT remains an important framework in understanding the psychological factors that influence individual career development around the world. Research using SCCT as a theoretical basis can explore interesting and under-researched themes, such as "Entrepreneurial Intention," "Vocational Interest," "Career Exploration," "Female Goals," and "Entrepreneurship Education." Overall, the results of this study illustrate positive developments in the understanding and application of SCCT in various

fields. The increasing publication trend demonstrates the growing relevance of the theory in examining individual career decision-making. In addition, international cooperation and global interest in SCCT research highlight the far-reaching impact of the theory in understanding career development worldwide.

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