A Bibliometric Analysis on Student Academic Procrastination From 2012-2022

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Abstrak

Banyak mahasiswa yang melakukan prokrastinasi akademik; masalah ini sering terjadi di lingkungan akademik dan harus segera ditemukan solusinya. Banyak peneliti terdahulu yang telah meneliti dan menganalisis faktor-faktor penyebab prokrastinasi akademik, seperti regulasi diri dan kesuksesan akademik. Penelitian ini bertujuan untuk membuat pemetaan ilmu pengetahuan pada topik penelitian prokrastinasi akademik untuk memahami garis besar penelitian tentang topik ini dan tren, perkembangan, dan hot spot pada prokrastinasi akademik. Penelitian ini menggunakan pendekatan kuantitatif dengan teknik analisis menggunakan *VosViewer* dan *R Studio*. Basis data diambil dari *dimensions.ai* dengan menggunakan string pencarian penelitian *Student "AND Academic Procrastination"* sehingga terkumpul 2522 artikel dari tahun 2012-2022. Hasil analisis menunjukkan bahwa topik penelitian prokrastinasi akademik meningkat secara signifikan sejak tahun 2016 dan semakin masif pada tahun 2021. Analisis yang dilakukan dengan menggunakan *VosViewer dan R Studio* telah menemukan *hot spot* penelitian dengan topik prokrastinasi akademik seperti prokrastinasi akademik, efikasi, kecemasan, perfeksionisme, stres, covid, kontrol diri, depresi, harga diri, kesehatan mental.

Kata Kunci: *Siswa, Penundaan Akademik, Analisis Bibliometrik, R Studio.*

Abstract

Many students commit academic procrastination; this problem often occurs in the academic environment and must be found immediately. Many previous researchers have studied and analyzed the factors that cause academic procrastination, such as self-regulation and academic success. This study aims to create a science mapping on the research topic of academic procrastination to understand the outline of studies on this topic and the trends, developments, and hot spots on academic procrastination. This study uses a quantitative approach with analysis techniques using VosViewer and R Studio. The database was taken from dimensions.ai using the research search string Student "AND Academic Procrastination" so that 2522 articles were collected from 2012-2022. The analysis results show that the topic of academic procrastination research has increased significantly since 2016 and has become more massive in 2021. The analysis conducted using VosViewer and R Studio has found research hot spots with academic procrastination topics such as academic procrastination, efficacy, anxiety, perfectionism, stress, covid, self-control, depression, self-esteem, mental health.

Keywords: *Student, Academic Procrastination, Bibliometric Analysis, R Studio.*

INTRODUCTION

Procrastination is the habit of procrastinating on tasks (Li et al., 2022; Schouwenburg, 1995). The characteristic that students need to work on doing assignments is that students start studying much later than they should. The cause of this delay may be that their learning behavior does not match their stated intentions or the intention to learn is delayed (Milgram et al., 1988). The term procrastination can be identified into three forms of behavior: firstly, the lack of punctuality, both in intention and behavior; secondly, the mismatch between intention and behavior; and thirdly, the preference for the opposite activity.

Procrastination is a severe problem for academic success because it affects student learning performance (Hailikari et al., 2021; Zhang et al., 2018). This learning delay impacts the decline in the quality and quantity of student learning In one study, it was stated that around 80-95% of students procrastinated (Rahimi et al., 2016), and an estimated 90% of students procrastinated for more than one hour every day (Klassen et al., 2008; Rahimi et al., 2016). Academic procrastination at all levels of education has negative consequences, such as academic failure.

Academic procrastination is not independent but is negatively associated with other factors, such as self-regulated learning and academic success (Tao et al., 2021). Some other researchers have also found that failure to self-regulate is one of the main reasons that cause academic procrastination (Jin et al., 2019).

Currently, researchers have conducted many studies on academic procrastination. However, almost all of the literature only discusses one perspective or only focuses on the relationship with other aspects, such as the relationship with self-regulated strategies (Ziegler & Opdenakker, 2018), academic achievement (Batool, 2020), and life satisfaction (Çıkrıkçı & Erzen, 2020). In the current literature, little is found about scientific mapping on academic procrastination. Therefore, this study aims to create a scientific mapping of academic procrastination. Academic procrastination is connected to various other areas of study, such as education, psychology, management, computer science, economics, and other social sciences. Bibliometric analysis is necessary to comprehensively understand academic procrastination research topics' progress and hot spots.

Bibliometric analysis is used to create science mapping on a research topic. This analysis is developed using the statistical computing tool R and used to precisely evaluate the subject quantity and development trend (Chen et al., 2018). This research is organized as follows. Firstly, the database of this study was retrieved from dimensions.ai. Second, bibliometric analyses were conducted in five themes: main keywords, author co-citation network, affiliation/institutions, most globally cited document, and author production over time. This study sought to answer the following research questions: (1) what are the main keywords in academic procrastination research? (2) which organizations/institutions are involved in academic procrastination research? (3) Which journals are most cited in academic procrastination research topics? (4) what are the emerging trends in academic procrastination articles?

METHOD

This study uses a quantitative approach with bibliometric and scientometric analysis techniques. The data in this study used the database from dimensions.ai. To select the right database for this study, an article search using the same syntax was conducted in the dimensions.ai database. There are 2522 articles netted from the dimensions.ai database. Data analysis in this study used the R tool (version 2022.07.1) and Vosviewer (version 1.6.18) (Van Eck & Waltman, 2007, 2012; Wang et al., 2023). Figure 1 shows the data selection process.

Search String	"Student" AND "Academic Procrastination"
Timespan	2012-2022
Languages	English
Document Types	Original Article
Indexes	Web of Science and Scopus

Figure 1. Data queries

RESULTS AND DISCUSSION

Analysis of Publication Output

The publication trends in each year help us understand the development of academic procrastination. The average number of articles published each year has experienced significant development. Starting in 2013, the publication rate was insignificant, with less than 200 articles per year. Furthermore, in 2017, there was a significant increase in the number of scientific publications on academic procrastination. Until 2021, the average number of published articles became very large, reaching more than 600 articles yearly. This increase in the number of publications shows that researchers have begun to place the topic of academic procrastination as one of the most important topics to be considered, continuously examining its relationship with other topics.
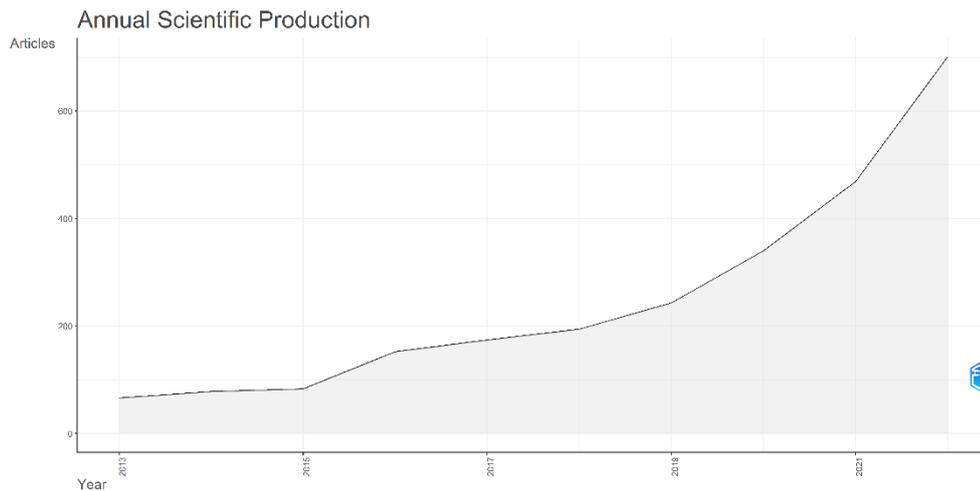
Figure 2. Annual scientific production

Analysis of Institutions

VosViewer is used to create a map analyzing the distribution of institutions that establish co-author relationships between authors from other institutions. Furthermore, larger circles indicate that the institution has more documents and citations than other institutions. Figure 3 shows the distribution map of institutions that research academic procrastination. Furthermore, Table 1 summarizes the ten largest institutions with academic procrastination research studies based on the highest citation rate.
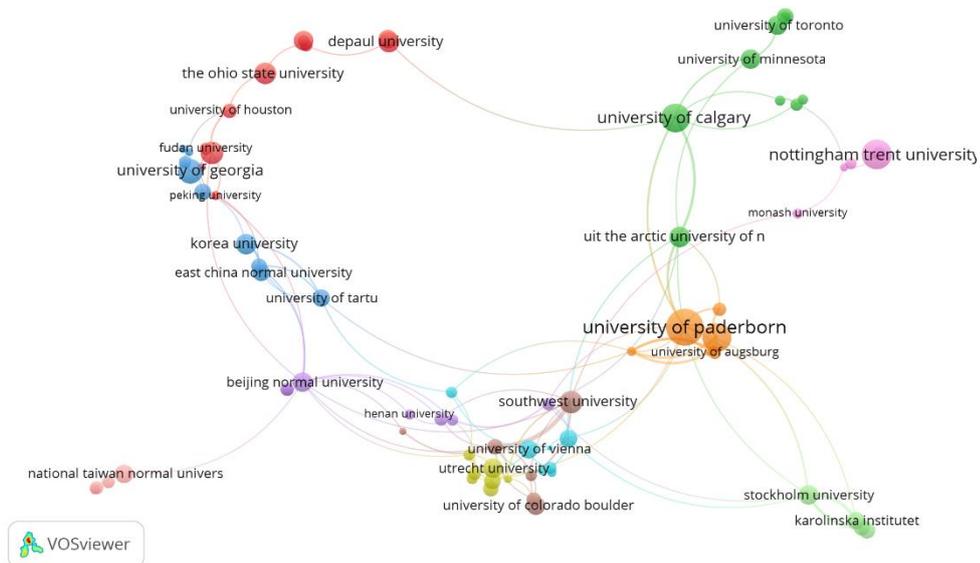

Figure 3. The Visualized map of organization

Table 1 shows that the University of Paderborn has the highest citations among other institutions. However, the University of Paderborn is in a different cluster position; this can be due to the University of Paderborn having researched academic procrastination earlier than other institutions. For example, the University of Macao is in the first cluster, but its satiation is lower than institutions that have been publishing on the topic for a long time. Therefore, the citation metric shows a positive impact for an institution that manages to find discoveries through research on the topic of academic procrastination.

Table 1. top 10 institution of publication academic procrastination

No	Item	Cluster	Links	Total Link Strength	Citation
1	University of Paderborn	7	13	25	974
2	Nottingham Trent University	9	2	2	646
3	University of Calgary	2	6	13	605
4	Bielefeld University	7	6	27	528
5	University of Georgia	3	3	3	456
6	University of Macao	1	5	6	363
7	The Ohio State University	1	2	2	327
8	DePaul University	1	3	3	318
9	Korea University	3	4	7	316
10	Beijing Normal University	5	14	17	271

Analysis of Author Co-Citation

Authors in research on academic procrastination have an essential role in making valuable discoveries and developments. Figure 4 and Table 2 show several active authors in scientific publications. In addition, the authors conduct collaborative research together, which is an advantage because there will be a wealth of information from various experts who write from more than one point of view. The author with several research documents on academic procrastination is Klingsieck, Katrin B., with 15 scientific articles.
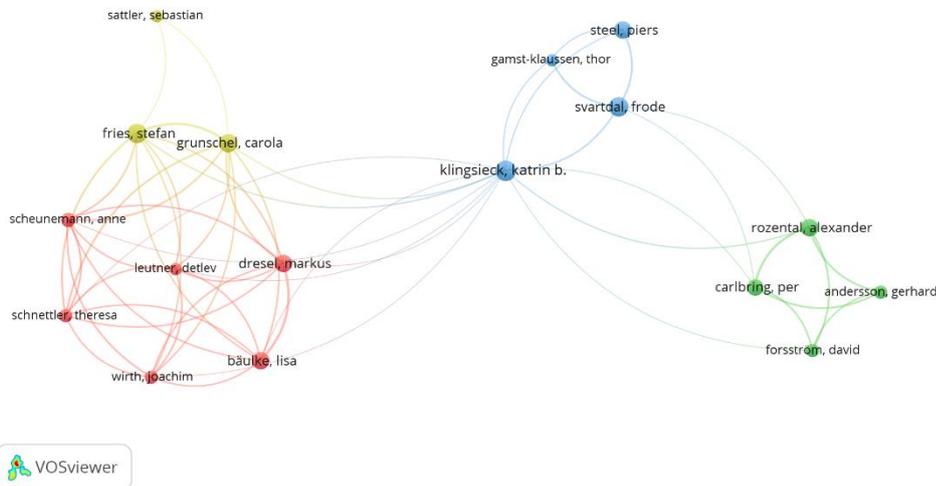

Figure 4. Author co-citation

Some of the studies conducted by the authors in Table 2 include those conducted by Alexander Rozental, who examined the severity of study procrastination in university students In addition, the following study examines tools to make valid measurements of procrastination (Svartdal et al., 2016).

Furthermore, there is a study on motivation towards procrastination (Bäulke et al., 2021). Researchers continue to try to develop and conduct multidisciplinary studies in solving problems in the section on student learning. However, it seems that procrastination is closely related to the development of information technology,

which has no filter between positive and negative content. However, it is unfortunate that some people use this technological development unwisely, especially now that there is access to OpenAI, which makes it easier to do any activity.

Table 2. Top 6 authors of publication academic procrastination

No	Item	Cluster	Links	Total Link Strength	Documents
1	Rozental. Alexander	2	5	24	10
2	Svartdal, Frode	3	5	16	13
3	Klingsieck, Katrin B.	3	14	23	15
4	Steel, Piers	3	3	9	10
5	Dresel, Markus	1	8	36	11
6	Baulke, Lisa	1	8	36	10

In Figure 5, scientometric analysis was conducted using the R tool; the results show that ten primary authors have productivity in making scientific publications on academic procrastination. The first author with the highest productivity is Zhang Y, who has consistently published since 2016 until now.
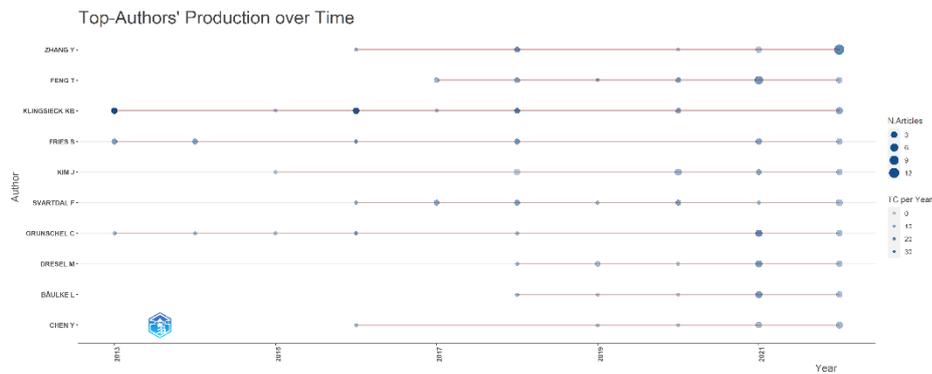

Figure 5. Top-authors production over time

Most Global Cited Documents

Using the scientometric R tool, analyzing most globally cited documents aims to find articles that other authors or researchers often cite. In Figure 6, 10 authors are categorized as heavily cited in their publication documents.
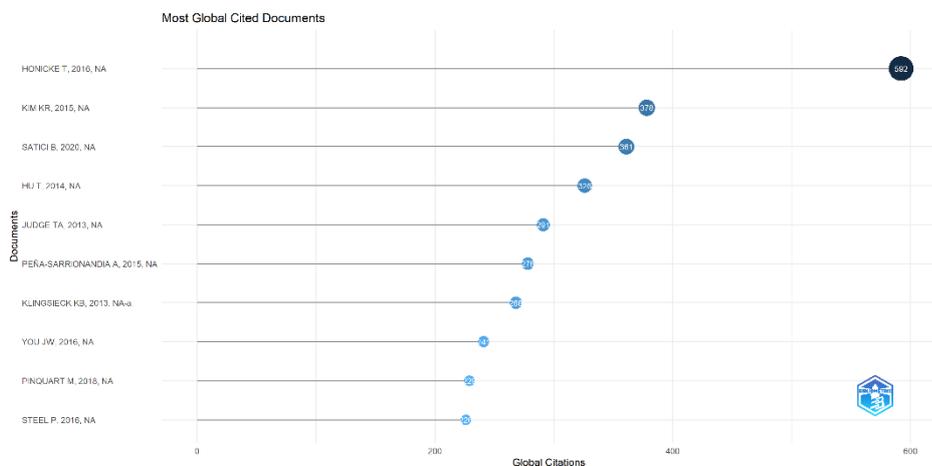

Figure 6. Most global cited documents

Analysis of Journal Citations

Furthermore, using the scientometric R tool, journal citations were analyzed. Journals that have published a lot about the results of academic procrastination research are led into the top 10 rankings. Among the journals with the highest number of citations in the first rank is the journal Personality and Individual Differences, a journal managed by Elsevier with a total of 3898 citations. This is followed by journals such as the Journal of Personality and Social Psychology, Frontiers in Psychology, Psychological Bulletin, computers in Human Behaviour, Journal of Educational Psychology, learning and Individual Differences, Journal of Counseling Psychology, Journal of Research in Personality, and Psychological Reports.
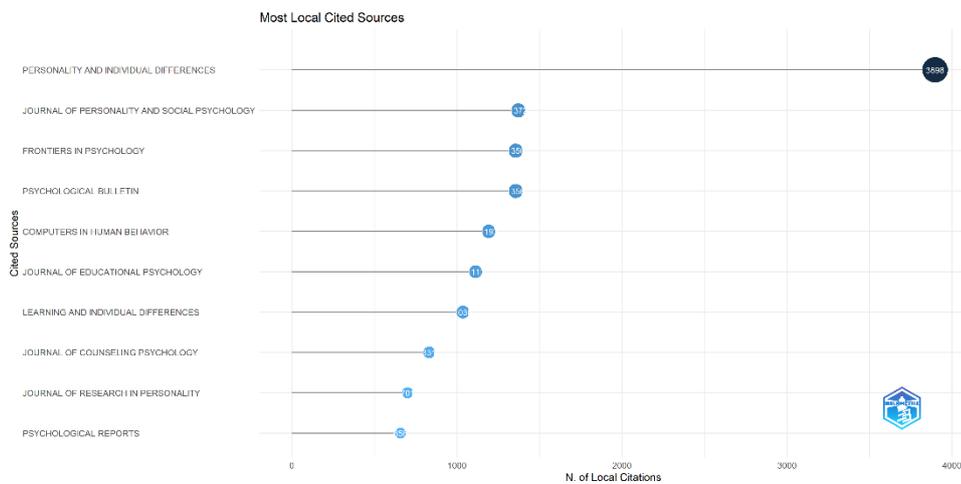

Figure 7. Most local cited sources

Hot Research Topic

Analyzing the frequency of keywords in research fields and disciplines can give a rough idea of the development of academic procrastination. In Table 3, there are ten main keywords in procrastination research.
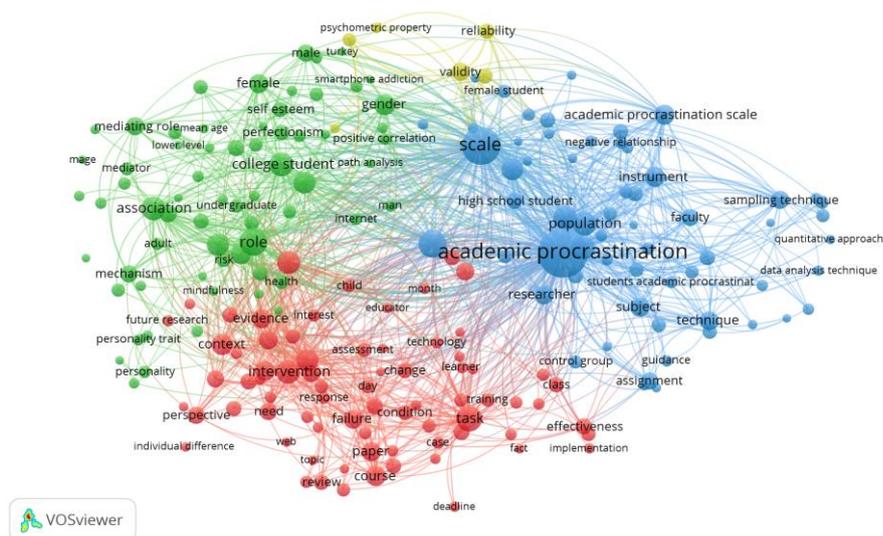

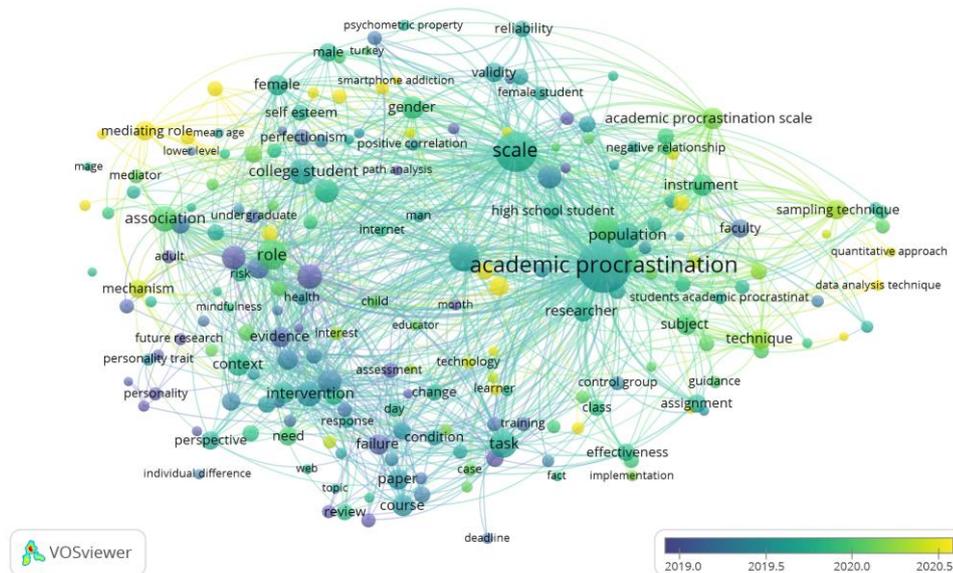Figure 8. Main keyword academic procrastination

Figure 9. Main keywords overlay visualization

Table 3. Main Keywords

No	Item	Cluster	Links	Total Link Strength	Occurrences
1	Academic Procrastination	3	206	7645	989
2	Efficacy	1	164	7413	777
3	Anxiety	7	156	6601	571
4	Perfectionism	3	129	3565	424
5	Stress	3	150	4675	401
6	Covid	8	141	4942	417
7	Depression	3	126	3795	259
8	Self-Esteem	3	135	3265	274
9	Mental Health	3	130	1751	140
10	Self-Control	2	126	3297	318

Table 3 shows the ten main keywords in academic procrastination research. In the existing ten keywords, the first highest occurrences value is academic procrastination (989), efficacy (777), anxiety (571), perfectionism (424), stress (401), covid (417), self-control (318), depression (259), self-esteem (274), mental health (140).

CONCLUSION

The current bibliometric analysis presents a visual analysis of academic procrastination that developed between 2012-2022. This study analyses 2522 valid articles obtained through the dimensions.ai database and articles indexed in Web of Science (WoS) and Scopus journals. Since 2016, the topic of research on academic procrastination has increased significantly. The research area on academic procrastination covers several broad topics such as educational research, multidiscipline psychology, educational psychology, and other social science topics. In the institutional analysis, the University of Paderborn is the most productive and impactful institution in academic procrastination research.

Furthermore, through the author's analysis, it is clear that some authors do little research collaboration. However, despite the lack of collaboration, the number of studies on academic procrastination has consistently increased in quantification. Analyses conducted using VosViewer and R tools have shown hot spots in academic procrastination research that are recapitulated into ten main keywords, such as academic procrastination (989), efficacy (777), anxiety (571), perfectionism (424), stress (401), covid (417), self-control (318), depression (259), self-esteem (274), mental health (140). It should be noted that these bibliometric analyses have possible limitations and weaknesses in terms of either analyses or datasets. Therefore, comparing with other studies or re-analyzing using more recent datasets is necessary.

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