

Why Don't We Study Laziness? A Bibliometric Analysis of Terminological Avoidance of a Folk Concept

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Abstract

The concept of laziness is often avoided in science because it seems to carry negative connotations, despite its frequent use in everyday life. This study aims to present a bibliometric analysis of the topic of laziness. 2,336 articles on laziness published from 1985 to 2025 were analyzed using bibliometric techniques to uncover research trends over 40 years. The analysis procedure began by searching for articles on the topic of laziness using various keywords in the Scopus search database. The search results were then cleaned in OpenRefine to detect ambiguous keywords and processed in VOSviewer, a software tool for conducting bibliometric analysis. The analysis focused on several aspects, such as keyword relevance, author affiliation, the most relevant authors to the topic, and citation analysis. The analysis results were visualized using VOSviewer to provide recommendations for future research on the laziness variable.

Keywords: Bibliometric analysis, Laziness, Research collaboration, VOSviewer, OpenRefine

INTRODUCTION

We hear the concept of laziness frequently in everyday life and it may be very close to our own lives. This concept is often avoided terminologically because it seems to have negative connotations. How do scientists actually understand this concept? How is it operationalized in various research contexts? Our online searches reveal that this concept is highly indefinable. This study aims to provide a simple overview of laziness, based on literature published over the past 40 years.

Laziness is not a scientifically easy concept to study, as it originates from a folk concept that almost everyone understands but is difficult or has not yet been formally and standardized. Some research links laziness to a lack of motivation, failure of self-regulation, avoidance behavior, and even energy conservation, from an evolutionist

perspective. Scientists avoid using the word 'lazy' because it sounds moralistic and has negative connotations (Madsen, 2018), and prefer to associate it with neutral words such as procrastination, apathy, effort avoidance, and some even associate it with learned helplessness (Trouche et al., 2016).

The purpose of this study is to summarize and provide a simple overview of scientific articles on the concept of laziness published over the past 40 years, from 1985 to 2025. By understanding how this concept has been studied and related to other concepts, as well as current research trends, we attempt to provide an overview and, hopefully, enlightenment on how this variable is studied. Based on this rationale, the following research questions are attempted: When conducting research on the topic of laziness, what keywords typically appear?,

Which countries and institutions consistently and actively conduct research on this topic?, What trends can be traced and are relevant to this topic?

RESEARCH METHODS

Bibliometric analysis is a method often used to evaluate citation patterns and measure the performance and influence of publications in a field. The desired outcomes of this analysis include the most cited studies, most cited authors, most cited journals, most studied topics, most collaborating countries, bibliometric links, co-cited authors in a study, and keywords and concepts frequently used when discussing a particular topic (Abdi et al., 2024).

We began this bibliometric analysis by collecting scientific articles published over the past 40 years that relate to the concept of laziness. A diagram of the article selection process is provided in Figure 1. Because the concept of laziness can be interpreted differently, the search string used must include synonyms. We used the following query to search for articles in the Scopus database.

(TITLE-ABS-KEY (lazy OR laziness OR "effort avoidance" OR "task avoidance" OR "work avoidance" OR amotivation OR "amotivation" OR "effort aversion" OR "sloth")) AND NOT TITLE-ABS-KEY ("lazy evaluation" OR "lazy algorithm" OR "lazy propagation" OR "lazy loading" OR "lazy learning" OR "lazy wave")) AND PUBYEAR > 1985 AND PUBYEAR < 2025

This keyword yielded 13,501 documents related to the topic of laziness published over 40 years, from 1985 to 2025. We then

restricted the search to the fields of "social science" and "psychology," and then restricted the search results to include only final articles and journal articles. After filtering the search results, 2,336 article documents containing the topic of laziness were obtained.

We used the AND NOT TITLE-ABS-KEY query ("lazy evaluation" OR "lazy algorithm" OR "lazy propagation" OR "lazy loading" OR "lazy learning" OR "lazy wave") to avoid including articles unrelated to the concept of psychological laziness in search results. We then downloaded these search results and cleaned them using the OpenRefine application. The cleaning process involved author keyword cleaning, where we performed cluster editing on terms in keywords that were considered similar.

Keyword cleaning was carried out using fingerprint techniques, n-Gram fingerprint, Metaphone3, Cologne phonetic, Daitch-Mokotoff, and Beider-Morse. This cleaning was done for author keywords and also affiliations, the goal being to standardize writing to prevent double clustering when using subsequent analysis, or simply so that two semantically different but essentially the same terms are not grouped into two different groups.

RESULT AND DISCUSSION

The results of this analysis are divided into several sections, all of which were conducted in an effort to answer the research questions. Specifically, this includes (1) identifying publications by year and country to identify the most influential authors, (2)

examining collaborative patterns across country and institutions, and (3) the association of frequently occurring keywords

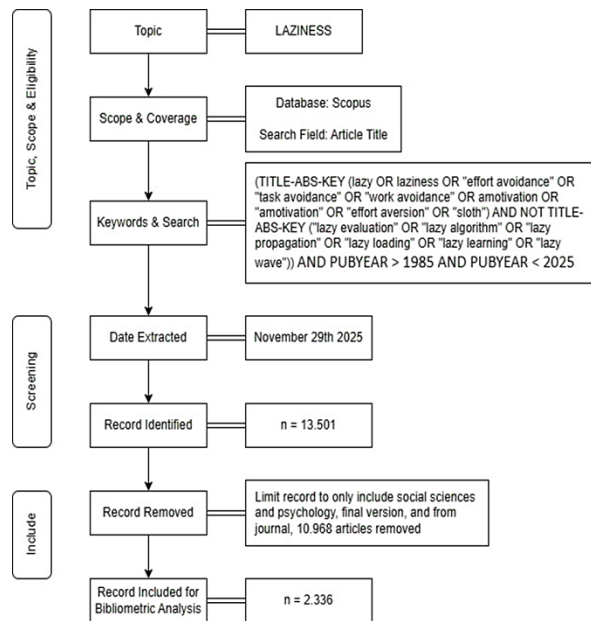


Figure 1. Article selection process

Publication by year, language, and country

Scientific publications on the concept of laziness have increased over time, with the highest number of publications occurring in 2022. Details of publications by language and country are presented in the table. We can see that the number of articles published on the topic of laziness has increased, particularly between 2021 and 2025. Several factors may have contributed to this increase, including the COVID-19 pandemic, which has increased the number of articles published, particularly as many of us are experiencing laziness.

Table 1. Publication distribution by year

Years	Frequency (n)	Percentage (%)
1986–1990	23	0.98
1991–1995	45	1.93
1996–2000	77	3.30
2001–2005	93	3.98
2006–2010	213	9.12
2011–2015	405	17.34
2016–2020	676	28.94
2021–2025	804	34.42
Total	2336	100

Table 2. Distribution of publications based on the original language of the document

Language	Frequency (n)	Percentage (%)
English	2049	87.71
Spanish	88	3.77
Russian	55	2.35
French	30	1.28
German	24	1.03
Portuguese	18	0.77
Italian	12	0.51
Croatian	9	0.39
Turkish	8	0.34
Chinese	6	0.26
Lithuanian	6	0.26
Polish	5	0.21
Other Languages	26	1.11
Total	2336	100

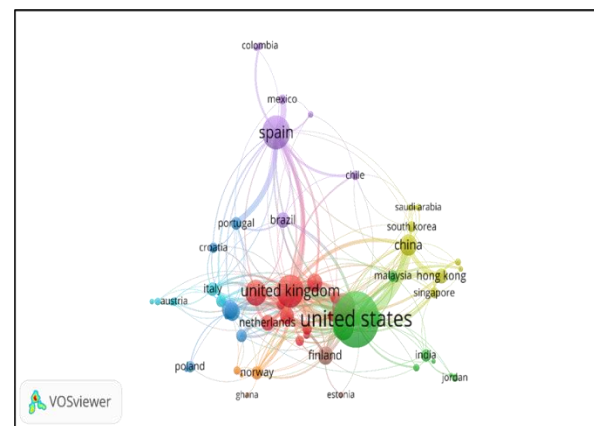


Figure 2. Country Collaboration

Next, we examined collaboration patterns across countries and authors to see which countries published the most articles on the topic of laziness. We also examined relationships between authors to understand the extent of collaboration between authors. We present these details in Figures 2 and 3.

The United States remains the country with the most articles published on the topic of laziness, with a total of 530 published papers over 40 years and 21,413 citations. Spain is the second-highest-publishing country, followed by the United Kingdom, Canada, and Germany. This data shows that globally, research on laziness is predominantly conducted in European

countries. Only China, an Asian country, has conducted significant research on laziness, with 85 papers published over 40 years. This illustrates that collaboration patterns are still minimal.

We also examined the ranking of articles and citations from each author's institution. Detailed data is presented in Table 3 below. Vallerand, Robert J., and Ntoumanis, Nikos, are two of the most prolific and influential authors

Table 3. Author co-citation analysis

Author	Institution	Country	Number of articles	Number of citations	Link strength
vallerand, robert j.	Université du Québec à Montréal	Canada	17	5880	10
ntoumanis, nikos	University of Southern Denmark	Denmark	14	4316	8
pelletier, luc g.	University of Ottawa	Canada	14	3399	10
senécal, caroline b.	Laval University	Canada	5	3124	8
guay, frédéric	Laval University	Canada	5	2386	6
duda, joan l.	The University of Birmingham	UK	10	2086	10
ryan, richard m.	Australian Catholic University	Australia	7	2031	3
haerens, leen liesbeth	Universiteit Gent	Belgium	19	1575	40
aelterman, nathalie	Universiteit Gent	Belgium	12	1544	27
vansteenkiste, maarten	Universiteit Gent	Belgium	15	1459	31

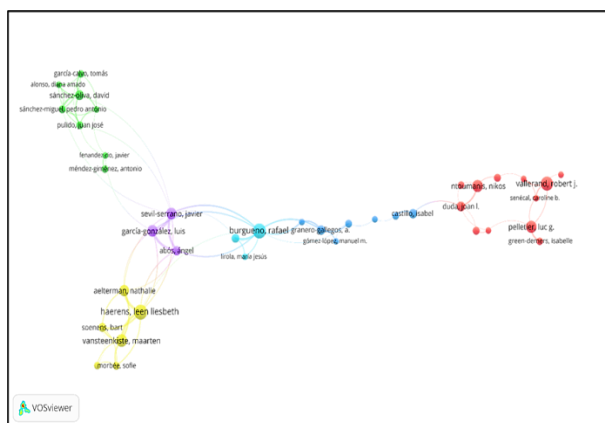


Figure 3. Author collaboration

Institutionally, the University of Gent in Belgium is the most productive institution in

terms of research on laziness, although its citations are still lower than those of other institutions in Canada. There are also other institutions in the UK and Australia

Table 4. Most frequently cited articles

Title	Authors	Year	Source title	Cited by
The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education	Vallerand, R.J.; Pelletier, L.G.; Blais, M.R.; Brière, N.M.; Senécal, C.; Vallières, E.F.	1992	Educational and Psychological Measurement	1761
Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning	Pennycook, G.; Rand, D.G.	2019	Cognition	1341
On the assessment of situational intrinsic and extrinsic motivation: The Situational Motivation Scale (SIMS)	Guay, F.; Vallerand, R.J.; Blanchard, C.	2000	Motivation and Emotion	1185
A test of self-determination theory in school physical education	Standage, M.; Duda, J.L.; Ntoumanis, N.	2005	British Journal of Educational Psychology	722
Intrinsic, Extrinsic, and Amotivational Styles as Predictors of Behavior: A Prospective Study	Vallerand, R.J.; Blssonnette, R.	1992	Journal of Personality	708
Development and preliminary validation of an athlete burnout measure	Raedeke, T.D.; Smith, A.L.	2001	Journal of Sport and Exercise Psychology	702
A self-determination approach to the understanding of motivation in physical education	Ntoumanis, N.	2001	British Journal of Educational Psychology	676
A 3 × 2 achievement goal model	Elliot, A.J.; Murayama, K.; Pekrun, R.	2011	Journal of Educational Psychology	674
A meta-analysis of self-determination theory-informed intervention studies in the health domain: effects on motivation, health behavior, physical, and psychological health	Ntoumanis, N.; Ng, J.Y.Y.; Prestwich, A.; Quested, E.; Hancox, J.E.; Thøgersen-Ntoumani, C.; Deci, E.L.; Ryan, R.M.; Lonsdale, C.; Williams, G.C.	2021	Health Psychology Review	653
A model of contextual motivation in physical education: Using constructs from self-determination and achievement goal theories to predict physical activity intentions	Standage, M.; Duda, J.L.; Ntoumanis, N.	2003	Journal of Educational Psychology	630

In terms of the most frequently cited articles, we present the following: The most

frequently cited articles over the past 40 years on the topic of research on the concept of laziness. Table 4 clearly shows, based on the article title, author, year of publication, and publishing institution, that the most frequently cited article, with 1761 citations, is "Vallerand, et al. (1992)." This is followed by "Pennycook & Rand (2019)" and "Guay, et al. (2000)."

Co-author analysis

Authorship analysis is obtained by looking at collaboration patterns between authors. It can be seen that in terms of density, author collaboration occurs frequently, both separately and together. Figure 4 shows the collaboration pattern between authors, while Figure 5 shows the collaboration pattern between countries. We can see that the names that appear in Figure 4 are also the names that appear frequently in Table 4, such as "vallerand, robert j.", "ntoumanis, nikos", and "duda, joan l." Meanwhile, in Figure 5, we can see that the closer the position of one country to another, the stronger the collaboration carried out by that country. When the pattern is analyzed, it is seen that the US is the country that collaborates the most with authors from other countries, with a total of 33 links, followed by the UK, with a total of 32 links, and then Australia with a total of 28 links.

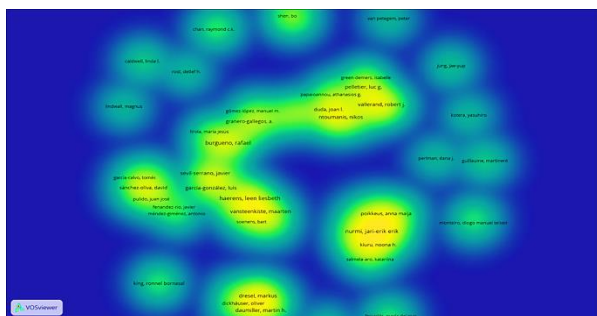


Figure 4. Co-authorship network

After understanding the collaboration patterns between countries, we conducted an inter-institutional analysis, meaning we wanted to find out which institutions collaborated most frequently. The results are presented in Figure 6. The figure shows that the institutions that most frequently collaborated with other institutions included "Department of Movement and Sports Sciences, University of Gent, Ghent, Vov, Belgium", "Department of Developmental, University of Gent, Ghent, Vov, Belgium", "Faculty of Health and Sport Sciences, University of Zaragoza, Zaragoza, Zaragoza, Spain", "Department of Physical Education and Sport Science, University of Thessaly, Volos, Thessaly, Greece", "Department of Education, University of Almería, Almeria, Almeria, Spain", and "Department of Physical Education and Sport, University of Granada, Granada, Granada, Spain"

Co-occurrences analysis

The final analysis we conducted was keyword analysis. We wanted to see which keywords typically appear when an article is published on the topic of laziness. The following image shows the results; the yellow circles indicate keywords that frequently appear when an article is published on the topic of laziness.

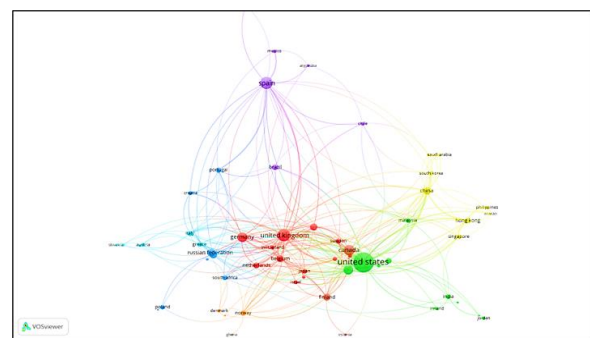


Figure 5. Cross country co-authorship network

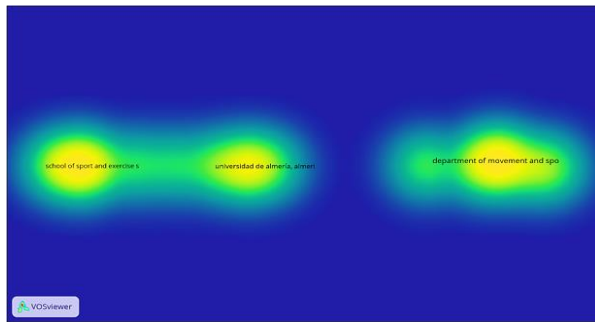


Figure 6. Institutional collaboration network

The analysis results show that the most frequently appearing keywords in research on laziness are "motivation," "self-determination theory," "amotivation," "achievement goals," and "academic motivation." Surprisingly, as can be seen from the overlay visualization presented in Figure 7, increasingly, research on the concept of laziness is sometimes also associated with concepts such as "basic psychological needs," "depression," "anhedonia," and "psychosis." The frequent appearance of these keywords may not be mere coincidence; further analysis is needed to determine why these keywords frequently appear in publications researching laziness.

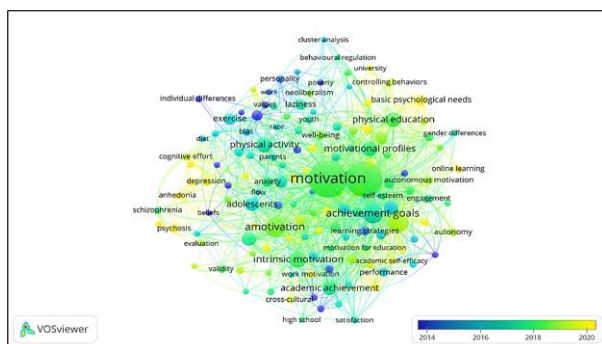


Figure 7. Co-occurrences analysis

This study aims to provide a comprehensive analysis of scientific articles frequently appearing in research on the concept of laziness. We collected approximately 2,336 articles from the Scopus database published over the past 40 years, from 1985 to 2025. Using VOSviewer

software, we examined publication trends, collaboration patterns between countries, highly cited articles, collaborations between institutions, and keyword analysis. This study provides a brief insight into how laziness has been operationalized in the scientific landscape over the past 40 years.

The analysis shows that research on laziness is increasingly being published, with 34% of all studies found being published during the five years from 2021 to 2025. The original language of the documents found remains predominantly English, with 87% published in English. However, there are also articles published in languages other than English.

The most cited article is Robert J. Vallerand of the University of Montreal, Quebec, Canada, with 5,880 citations, followed by Nikos Ntoumanis of the University of Southern Denmark with 4,316 citations. This indicates that while the US and UK collaborate most frequently, individually, researchers from Canada and Denmark are the most cited.

The most frequently cited article is the 1992 article "The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education," suggesting that laziness is synonymous with academic motivation. This article was followed by the 2019 article "Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning," with 1,341 citations. This article by Pennycook & Rand explains that a person's susceptibility to believing fake news is more influenced by 'lazy thinking', or

laziness, rather than a lack of thinking capacity.

Another noteworthy finding is that, nationally, the US and the UK are the two largest countries most frequently involved in collaborations on the topic of laziness. However, institutionally, institutions from Belgium, Spain, and Greece are the ones most frequently collaborating on research on laziness. This indicates that the phenomenon of laziness attracts a wide range of international researchers as a topic for research.

Keyword analysis results indicate that the most frequently appearing keywords in research on laziness are "motivation," "self-determination theory," "amotivation," "achievement goals," and "academic motivation." However, increasingly, research on the concept of laziness is also sometimes associated with concepts such as "basic psychological needs," "depression," "anhedonia," and "psychosis." These results demonstrate growing interest in the topic of laziness. The keywords identified could be an indication of how laziness may actually be pathological.

A limitation of this study is the use of Scopus as the sole database source, thus excluding other studies that may have been published in other languages and not indexed in Scopus. Future research could consider incorporating other database sources to more fully capture how this phenomenon of laziness is studied.

Furthermore, although this bibliometric method is touted as capable of analyzing numerous articles simultaneously, it may

overlook one crucial aspect: the practicality or qualitative impact of intervening on this topic within the community. In the future, it could also consider examining case studies to see how those harmed by this laziness respond to or address this phenomenon.

CONCLUSION

The bibliometric analysis we conducted in this study provides a comprehensive overview of how the topic of laziness is actually researched. The results provide an overview of the most frequently cited figures, the most influential institutions, patterns of collaboration between countries, the most frequently cited articles, and the most frequently appearing keywords related to the topic of laziness.

The results of this study can provide stakeholders, including researchers, students, teachers, and perhaps even the government, with an overview of the current state of research on laziness. The results of this study can illustrate to these stakeholders that scientific articles are now shifting from viewing laziness as merely an academic condition to viewing it as something more pathological.

Finally, the bibliometric analysis techniques we employed in this study are useful, especially within the scientific community. This method can be replicated and applied in other contexts, providing insights into scholarly activity across various disciplines.

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