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## Bibliometric analysis of educational opportunities in the university for persons deprived of freedom

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### Abstract

This study conducts a bibliometric analysis of higher education opportunities for incarcerated individuals, emphasizing their role in rehabilitation and reintegration. Using the Scopus database, it identifies key authors, institutions, and regions contributing to this field. The analysis shows a peak in scholarly output in 2018, followed by a decline in publications and citations, suggesting either a shift in research focus or topic saturation. The United States and Portugal lead in research contributions, indicating a need for broader geographic representation. Key findings highlight the benefits of educational programs in reducing recidivism and enhancing social reintegration. Nonetheless, notable obstacles include insufficient technology infrastructure and educational materials in correctional facilities. The study emphasizes how critical it is to enhance these circumstances and offer all-encompassing support services to meet the social and emotional requirements of prisoners. It also emphasizes how international relationships can enhance scholarly discourse and advocates for more diversity in these alliances to encompass a bigger spectrum of viewpoints. According to the study, initiatives that increase jailed people's access to higher education can greatly increase their chances of successfully reintegrating into society.

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**Transparency:** The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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### 1. Introduction

Education has been acknowledged as a key element in the rehabilitation and reintegration of individuals who have been deprived of their freedom in recent decades [1]. Numerous studies have demonstrated that giving prisoners access to education not only increases their chances of finding work and reintegrating into society after their release from jail, but

also dramatically lowers recidivism rates [2]. Higher education, in particular, is essential to this process because it gives people cutting-edge information and abilities that improve their prospects of success outside of the criminal justice system.

The establishment of educational programs in prisons, particularly those that offer university education, continues to face several obstacles despite the growing recognition of these advantages [3]. These include the societal stigmas attached to prisoners, resource limitations, and restricted institutional regulations [4]. Furthermore, the usefulness of these programs may be limited in many jail systems due to inadequate infrastructure and access to the technologies required for distant education [5].

In order to pinpoint research trends, key areas of interest, and knowledge gaps, this bibliometric analysis aims to examine and compile the body of literature on postsecondary educational opportunities for individuals with limited freedom. To do this, a thorough search for publications addressing the relationship between college education and convict rehabilitation was carried out using the Scopus database, which is among the biggest and most extensive in academia [6, 7].

The study's methodology will involve identifying the primary authors and institutes studying this subject, analyzing publication trends over time, and looking into potential cooperation between them. Citation analysis and a study of important literature will also be used to evaluate the effects of these studies on the academic community as well as on educational and correctional policy. This strategy will enable a thorough comprehension of the key contributions and difficulties noted by researchers, as well as the evolution of scholarly interest in this area [8].

The goal of this study is to give a thorough review of the literature and aid in the creation of better laws and procedures that support those who lack freedom in obtaining higher education. It is intended that this bibliometric analysis will help direct future research and assist policymakers in putting in place more inclusive and successful educational programs in jail systems by highlighting knowledge gaps and areas that need more attention.

For those who have been robbed of their freedom, a university education is an essential chance for recovery and social reintegration [2, 9]. The goal of this work is to map the landscape using a thorough bibliometric analysis. The primary trends, partnerships, and areas for development are highlighted in the report. It is anticipated that it will thus make a substantial contribution to the scholarly discussion and development of policies that enable one of the most marginalized segments of society to have easier access to higher education.

## **2. Methodology**

There are six primary steps in the methodology: 1. Database Selection; 2. Search Term and Definition of Search Equation; 3.

### *2.1. Database Selection*

The Scopus database has been utilized in numerous studies for bibliometric analysis and was chosen for its extensive coverage of academic articles in a variety of subjects. Researchers have used Scopus to examine trends, contributors, and research orientations by looking at neurology and non-communicable diseases to investigate the therapeutic potential of plant-based diets with health benefits [10, 11].

The database has also proved helpful in identifying nations, cities, universities, and writers, evaluating publication activities, and visualizing datasets for a thorough analysis [12]. Furthermore, Scopus has made it easier to do studies on how climate change affects microbial interactions and the recycling of soil organic matter, emphasizing the value of organic farming in reducing agricultural losses and the consequences of climate change [13]. Furthermore, research gaps and emerging issues in the field have been identified by descriptive and bibliometric analyses of Scopus data in freight transport trends studies [14].

### *2.2. Search Equation Terms and Definition*

In this study, a specific search equation was formulated that incorporated key terms related to the research topic. This equation was designed to identify publications that address the intersection of university education and the rehabilitation of persons deprived of liberty. The terms used in the search equation are as follows: TITLE-ABS- KEY("inmates" OR "prisoners" OR "incarcerated individuals" OR "persons deprived of liberty" AND "higher education" OR "university education" OR "college education" OR "educational opportunities" AND "rehabilitation" OR "reintegration" OR "social reintegration" OR "education programs").

### *2.3. Inclusion and Exclusion Criteria*

The following inclusion and exclusion criteria were applied for document selection. The first was the selection of scientific journal articles. The second criterion was to exclude articles from 2024 because it was the current year. The third criterion was to select articles published only in English or Spanish.

### *2.4. Data Extraction and Download*

The data were downloaded as comma-separated files, and the following data were collected for each article: title, authors, year of publication, journal, number of citations, institutional affiliations, and country of origin.

### *2.5. Analysis of Publication, Impact and Collaboration Patterns*

Temporal publication trends were analyzed to identify periods of increased research activity, and the impact of the studies was analyzed based on the number of citations received. The most influential articles and most-cited journals on the subject were identified.

Key authors and institutions contributing to the field were identified and cross-country collaborations were assessed to understand the research networks in the area. Visualization tools, such as VOSviewer, were used to map collaborations and co-authorship networks.

## 2.6. Limitations of the Study

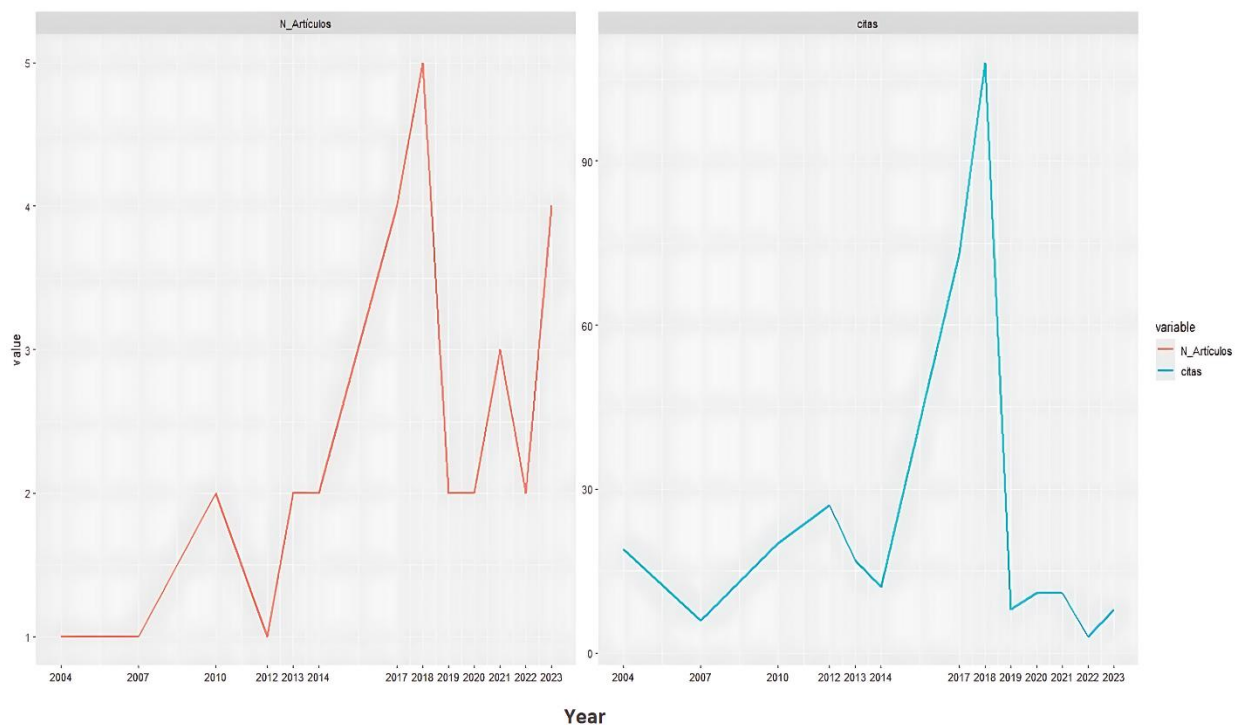
It is important to take into account the limitations of this study when evaluating the findings. First, despite its broad coverage, the Scopus database might not contain all pertinent research on this topic. The results may have been skewed by the exclusion of important research from other scholarly databases and information sources. Important research published in other languages may be underrepresented in Scopus because the majority of the papers it indexes are in English. This is particularly important in situations where local jail education research may not be extensively shared in the global literature.

Access to publications is another difficulty. The capacity to perform a thorough review of all pertinent articles may be limited by the availability of certain journals due to access or subscription constraints. This access barrier could lead to a lack of knowledge about the state of the field's research at the moment.

Lastly, bibliometric analyses are inherently limited by publication bias. A bias toward research from more academically developed places or with more impact may be introduced by the visibility and scope of journals indexed in Scopus. This can cause certain findings to be overestimated and others to be underestimated, which would impact how the results are interpreted overall.

## 3. Results

The initial search was conducted on July 29, 2024. This search resulted in 39 documents; after applying the inclusion and exclusion criteria, 31 documents remained to be analyzed.



**Figure 1.**  
Productivity and Citation Analysis.

Figure 1 shows the productivity in terms of the number of articles published and number of citations received annually from 2004 to 2023 on the topic "Bibliometric Analysis of Educational Opportunities in the University for Persons Deprived of Liberty."

In terms of productivity, there was a gradual increase in the number of articles published between 2004 and 2017, with some ups and downs. There was a significant peak in 2018, when the number of articles reached its maximum value of five. After 2018, productivity showed high variability, with a decrease in 2019 and fluctuations in the following years until 2023.

On the other hand, the citations received showed a general upward trend with some fluctuations from 2004 to 2017. In 2018, the number of appointments peaked, reaching a maximum of 90 appointments. After 2018, the number of appointments decreased considerably in 2019 and remained at lower levels, with some minor fluctuations, until 2023.

The year 2018 is important both in terms of productivity and impact. This year marks the highest point in the number of articles published and citations received. There is a visible correlation between the increase in the

number of articles and the increase in citations in 2018, suggesting that the output of that year had a high impact. The drop in citations after 2018 could indicate a decrease in the visibility or impact of articles published after that year, or a shift in the attention of the academic community.

The analysis in Table 1 reveals information on the authors, the number of papers they have published, their institutions of affiliation and the countries in which these institutions are located.

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The authors, the number of papers they have written, their affiliated institutions, and the nations in which these institutions are situated are all detailed in the study in Table 1. Machado Ana is associated with the University of Porto in Portugal and has authored three papers. This university is among the best in the nation and is highly successful in many different fields of study. In a similar vein, José Antonio Moreira, who is connected to the Center for Interdisciplinary Studies at the University of Porto in Coimbra, Portugal, has authored three studies. This productivity and affiliation country coincidence points to a significant concentration of research activity in Portugal in the topic under study.

On the other hand, Pelletier Emily K has published 2 papers and is affiliated with the City University of New York in the United States. This represents the participation of a US institution in this research, although with a lower representation than Portuguese institutions.

In terms of productivity, Moreira, et al. [15] are the most prolific authors with 3 papers each, while Pelletier Emily K has published 2 papers. This variation in productivity is slight but highlights the significant contribution of Portuguese researchers.

In terms of geographic distribution, most authors (two of three) were affiliated with institutions in Portugal. Only one of the authors was affiliated with an institution in the United States, indicating a lower representation of US institutions in this dataset.

**Table 1.**  
Authors with the greatest contribution in the field.

Authors	Documents	Institution	Country
Machado Ana	3	University of Porto	Portugal
Moreira José Antonio	3	Center for Interdisciplinary Studies of Coimbra	Portugal
Pelletier Emily K	2	City University of New York	United States

Ten countries contributed articles on the topic of studies: the country with the most contributions was the United States with 18 papers, followed by Portugal, the United Kingdom, and Spain with three papers each, Germany with two papers, and the remaining six countries (Australia, Ecuador, Italy, Mexico, Nigeria) have contributed only 1 paper. On the other hand, 45 institutions contributed to the field of studies, six institutions stood out with more than one document, the University of Porto and the University of Aberta contributed three documents each, Kutztown University, the City University of New York, the Open University, and the University of Maryland contributed two documents each.

Figure 2 shows a visualization of the networks between three countries: the United States, Germany, and the United Kingdom. The countries are connected by arcs representing relationships or collaborations between them.

The node representing the United States is significantly larger than the other nodes, indicating that the United States is the most central or important country in the network. The United States has direct connections with Germany and the United Kingdom (UK). This country appears to be the center of most interactions within the network.

On the other hand, the node representing Germany is of an intermediate size, suggesting that it is of moderate importance in the network. Germany is connected to both the United States and United Kingdom. This intermediate position suggests that Germany plays a role in linking the United States and the United Kingdom.

The node representing the United Kingdom is the smallest of the three, indicating lower centrality or importance compared to the United States and Germany. However, the United Kingdom continues to have connections with both countries, highlighting its role within the network, albeit with lower centrality.

In terms of connections, the arc between the United States and Germany is green, which generally suggests a positive relationship or strong collaboration between these two countries. The arc between Germany and the United Kingdom shows a color transition between green and red, which could indicate a moderate or fluctuating relationship between these countries. Finally, the arc between the United States and the United Kingdom is red, which suggests a weaker or less collaborative relationship between these two countries compared with the relationship between the United States and Germany.

Figure 2 shows that the United States is the most central country with the highest number of connections in the network, highlighting its importance in the relationships represented. Germany occupies an intermediate position, whereas the United Kingdom has the lowest centrality. The quality of the relationships between these countries varies, being strongest between the United States and Germany and weakest between the United States and the United Kingdom. This figure represents scientific collaborations, trade relations, and any other type of interaction

between these countries, highlighting the relative importance of each country and the nature of their bilateral relations.



**Figure 2.**  
Collaborations between countries.

The first paper appeared in 2004, and it achieved a significant impact by ranking it as the seventh most cited paper. Ubah [16] critically and rigorously examined the history and policy that led to the abolition of college Pell Grants as an effective approach to reduce the government's recidivism rate of offenders, the results of abolishing Pell Grants were negative and significant.

The year in which most articles were published was 2018, with five published articles. In this year, the study by Bozick, et al. [17] stands out, this study was the one that achieved the most significant impact (citations = 69), the authors examined 57 studies on recidivism and 21 on employment, applying meta-analysis techniques. The results showed that inmates who participated in educational programs were 28% less likely to recidivate than those who did not participate. However, no significant improvement in post-release employment was found for participants in such programs.

The second article with a significant impact (n=29 citations) is the study by Evans, et al. [4] which examined how college education in prison can moderate self-stigmatization among formerly incarcerated individuals. Self-stigmatization, which manifests as low self-esteem and personal barriers to reintegration, is a common negative effect in this population. Through qualitative interviews with 18 individuals who participated in higher education programs during their incarceration, it was found that, although incarceration contributes to self-stigmatization, education increases the sense of empowerment and motivation to resist these negative effects. Participants indicated that education helped them change their perceptions of themselves in a positive way, thus facilitating their reintegration and improving their life prospects. Other studies indicate that college education in prisons fosters inclusion rehabilitation and social transformation [18].

Galán and Cantero [19] found that respect modules as part of the education of persons deprived of liberty improve coexistence, reduce stress and promote positive habits, favoring social reintegration.

Ana Machado registered three published articles, among which the article with the most significant impact reached 20 citations. The research by Moreira, et al. [20] analyzes perceptions about distance higher education and e-Learning in a Portuguese prison context. Interviews were conducted with students, course candidates, and rehabilitation technicians in Porto Prison, revealing significant weaknesses and limitations in the educational process due to the lack of adequate facilities, pedagogical and technological resources, and teaching support.

According to the participants, e-learning and distance education are technology-assisted methods that enable instruction and learning even when students and teachers are physically separated. However, they pointed out that e-learning in prison is very different from e-learning outside of it, mostly due to the absence of Internet and learning management system access.

Notwithstanding these drawbacks, inmates appreciate the advantages of online education, emphasizing its adaptability, the potential for post-release education, and its role in promoting social justice and knowledge access. The findings suggest that digital tools are critical for learning acquisition and retention, but a major obstacle is the absence of these tools in correctional facilities.

The study's primary finding emphasizes how urgently Portuguese prisons' information systems need to be redesigned through the use of digital platforms that provide efficient access to e-learning and distant learning. Enhancing these circumstances can give inmates the chance to grow personally and professionally, improving their chances of success in the future.

In another research by Moreira, et al. [15] indicates that distance higher education in a Portuguese prison motivates inmates by offering them the prospect of a better future, although their expectations are limited due to the stigma of being ex- prisoners. In addition, the author indicates that distance education in Portuguese prison reveals weaknesses in the organization and limited educational resources. It is recommended that these conditions be improved to enhance the personal and professional development of inmates [21]. It is important to note that three articles by Ana Machado collaborated with Moreira José Antonio, the second author with the most published papers (Table 1).

On the other hand, Pelletier, the third author with the most contributions, indicated that although incarceration contributes to self-stigmatization, education increases the sense of empowerment and motivation to resist these negative effects. In her study She found that participants indicated that education helped them change their perception of themselves in a positive way, thus facilitating their reintegration and improving their life prospects [4].

In another study, Pelletier indicated that 18 formerly incarcerated participants who were enrolled in higher education programs while in prison developed self-efficacy, hard and soft skills, and connections to positive social networks by

participating in a post-secondary correctional education program. Participants noted an expansion of their self-awareness and improved communication skills, which facilitated their largely successful efforts to gain employment after their release [22].

The U.S. studies reviewed provide significant evidence of the impact of prison education on reducing recidivism and improving post-release employment opportunities. Bozick, et al. [17] conducted a meta-analysis that revealed that inmates who participated in correctional education programs were less likely to recidivate than those who did not participate. However, no significant difference was found between the two groups in obtaining post-release employment.

Runell [23] identified that higher education programs can serve as hooks for changes " in the desistance process, highlighting the importance of personal agency in post-incarceration education. This study underscores that participation in educational programs can be conducive to positive changes in the life trajectories of ex-inmates.

Finally, Stickle and Schuster [24] conducted a meta-analysis showing that prison education not only reduces recidivism, but also increases employment rates and post-release wages, with vocational education showing the highest economic return per dollar invested.

These studies highlight the importance of prison education programs as effective tools for the rehabilitation and reintegration of incarcerated individuals, suggesting that investment in education can have significant benefits for both individuals and society.

Studies from Spain have indicated that prior education acts as a protective factor, helping reduce substance dependence and criminal recidivism. Inmates with a stronger educational background not only have a better self-image but also value their participation in educational programs and courses that improve their employment prospects upon release from prison. These elements are fundamental for rehabilitation and re-education initiatives, as they address vulnerability factors and promote pro-social aspects based on the subjective realities of inmates [25].

The study by Ananos-Bedrinana [25] proposes that any educational intervention plan within prisons should consider not only the previous educational level of female inmates but also the intersections of gender and social conditions that influence their quality of life and future reintegration into society. Vazquez Cano [3] mentions that among the measures proposed to address the challenges of persons deprived of liberty and their environment in education, it is important to have a greater openness to information and communication technologies in university distance education in prison environments.

In a German study, Ross [26] revealed that previously incarcerated students faced multiple obstacles to enrolling and thriving in college education, such as the need for remedial classes, lack of information about educational institutions, financial difficulties, housing issues, stigmatization, unfamiliarity with technology, and additional requirements such as Selective Service registration. Notwithstanding these obstacles, their maturity, discipline, and life experiences can make a substantial contribution to college life, enhancing their educational experience and enabling them to take on leadership responsibilities. By creating support groups, designating mentors, offering on-campus support services, and enacting inclusive admissions rules, universities may assist these students. Additionally, through their real-world experiences, students who have served time in prison can contribute significantly to the fields of criminal justice and criminal science. By recognizing the trauma of incarceration and offering structure in their classes, faculty members might modify their teaching methods to better assist these students. Last but not least, by offering study groups and academic skill support to their friends who have served time in prison, traditional students can foster a welcoming and encouraging learning

#### **4. Discussion**

The bibliometric analysis offered a thorough summary of the academic environment around higher education options for those who are deprived of their freedom. In order to better understand the current situation and areas that need more attention, the results highlight a number of important trends and issues that are worth discussing. First, there has been a noticeable increase in the amount of scholarly research on this subject throughout time, with a notable peak in 2018. This rise indicates an increasing interest among academics in university education in prison settings, maybe as a result of the realization of its significance for the rehabilitation and social reintegration of prisoners [4, 17]. However, the drop in output and citations after 2018 suggests that the issue may have become saturated with current work or that interest may have veered off course.

The need for more studies in various contexts is highlighted by the geographic concentration of research, which is mostly in Portugal and the United States. It is crucial to increase research in underrepresented regions because the preponderance of writers and institutions from these nations may skew the global understanding of the topic [20].

The research under consideration offer convincing proof of the advantages of educational initiatives in correctional facilities, emphasizing notable decreases in recidivism and enhancements in social reintegration [17, 22]. The success of educational programs is, however, constrained by issues that have also been recognized, such as limited access to appropriate technologies and pedagogical resources [20]. This research emphasizes the necessity of laws that enhance prisons' educational facilities and make it easier for inmates to access online materials and tools.

Significant obstacles that must be addressed include inmate self-stigmatization and a dearth of post-release assistance. A college degree can help alleviate these issues by equipping people with the knowledge and self-assurance they need to handle the difficulties of reintegration. Comprehensive support services that attend to the convicts' emotional and social needs must be provided in conjunction with educational programs [22].



Lastly, the worldwide co-authorship networks and international collaborations found in this analysis point to an increasing level of international cooperation in this area. To improve the comprehension and efficacy of educational interventions in prisons, it is crucial to promote more diversity in these partnerships in order to include a wider range of viewpoints and experiences [23, 24].

## 5. Conclusion

This bibliometric analysis offers a thorough summary of the literature on university education opportunities for individuals with limited freedom, highlighting trends, obstacles, and potential areas for development. The results demonstrate the value of a university degree in lowering recidivism and enhancing social reintegration, but they also point to serious resource and support constraints.

In order to enable fair access to high-quality education, it is imperative that jail and education policies concentrate on enhancing the pedagogical and technological infrastructure inside of prisons. Post-release support services should also be put in place to assist inmates in overcoming the difficulties of reintegration and self-stigmatization.

In order to provide a more thorough and equitable knowledge of the effects of university education in prisons, future research should broaden to include more varied geographic and cultural situations. To promote more diversity and depth in intellectual production, international cooperation and research networks ought to be reinforced.

For those who have been deprived of their freedom, a university degree is a potent instrument for social reintegration and rehabilitation. Its significance is emphasized by this bibliometric analysis, which also points out areas that need improvement to be as effective as possible. It is feasible to greatly enhance the opportunities and quality of life for prisoners with more funding and an inclusive strategy, which will benefit both the convicts and society at large.

## References

- [1] A. Petre and M. Tomita, "Education in prisons-an essential factor in preventing recidivism. The role of detention officers in the educational process," *Journal of Community Positive Practices*, no. 2, pp. 99-106, 2022. <https://doi.org/10.35782/JCPP.2022.2.07>
- [2] J. G. R. Amorim and D. A. Leal, "The importance of schooling for minors deprived of liberty in the Juiz de Melo Matos Socioeducational House," *Concilium*, vol. 23, no. 9, p. 9, 2023. <https://doi.org/10.53660/CLM-1207-23E24F>
- [3] E. Vazquez Cano, "Expectations, obstacles and study habits of inmates enrolled at the National Distance Education University. A case study: Madrid VII prison," *Revista de Educación*, no. 360, pp. 162-188, 2013. <https://doi.org/10.4438/1988-592X-RE-2013-360-225>
- [4] D. N. Evans, E. Pelletier, and J. Szkola, "Education in prison and the self-stigma: Empowerment continuum," *Crime & Delinquency*, vol. 64, no. 2, pp. 255-280, 2018. <https://doi.org/10.1177/001128717714973>
- [5] D. Atuase and C. K. Filson, "Availability and accessibility of academic library resources and services for prison inmates in the distance education programme," *The Journal of Academic Librarianship*, vol. 50, no. 1, p. 102816, 2024. <https://doi.org/10.1016/j.acalib.2023.102816>
- [6] N. A. Vila, J. A. Fraiz-Brea, L. A. Cardoso, and A. M. Pereira, "Scopus analysis of the academic research performed by public Universities in Galicia and North of Portugal," *Information Resources Management Journal*, vol. 33, no. 1, pp. 16-38, 2020. <https://doi.org/10.4018/IRMJ.2020010102>
- [7] J. Baas, M. Schotten, A. Plume, G. Côté, and R. Karimi, "Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies," *Quantitative Science Studies*, vol. 1, no. 1, pp. 377-386, 2020. [https://doi.org/10.1162/qss\\_a\\_00019](https://doi.org/10.1162/qss_a_00019)
- [8] R. M. Barros, A. Monteiro, and C. Leite, "An overall picture about academic literature focused on online learning in prison," *Conhecimento Journal Online*, vol. 1, pp. 127-152, 2021. <https://doi.org/10.25112/rco.v1i0.2392>
- [9] M. A. C. Archila, "On the road to reintegration, incarcerated university student," *Revista Científica Internacional*, vol. 4, no. 1, pp. 1-7, 2021. <https://doi.org/10.46734/revcientifica.v1i1.41>
- [10] A. P. Espiritu-Martinez et al., "Bibliometric analysis of publications on neuroscience and noncommunicable diseases in the Scopus database," *EAI Endorsed Transactions on Pervasive Health and Technology*, vol. 10, 2024. <https://doi.org/10.4108/eetpht.10.5699>
- [11] O. Osemwegie et al., "Preliminary bibliometrics of plant-derived health foods over the last decade in the Scopus database," *African Journal of Food, Agriculture, Nutrition and Development*, vol. 23, no. 8, pp. 24363-24382, 2023. <https://doi.org/10.18697/ajfand.123.22765>
- [12] A. Shestakova, D. Korolev, A. Afanasyev, I. Nikiforov, and O. Yusupova, "Scopus publications database analysis using its API," in *2nd International Conference on Computer Applications for Management and Sustainable Development of Production and Industry (CMSD-II-2022)*, 2023, vol. 12564: SPIE, pp. 136-141.
- [13] I. Vagelas and S. Leontopoulos, "A bibliometric analysis and a citation mapping process for the role of soil recycled organic matter and microbe interaction due to climate change using scopus database," *AgriEngineering*, vol. 5, no. 1, pp. 581-610, 2023. <https://doi.org/10.3390/agriengineering5010037>
- [14] S. Vengadesh, P. R. Chinna, and K. Aravindaraj, "A bibliometric analysis of research trends in goods transportation using the scopus database," *Business Perspectives and Research*, p. 22785337221148807, 2023. <https://doi.org/10.1177/22785337221148807>
- [15] J. A. Moreira, A. Monteiro, and A. Machado, "Adult higher education in a portuguese prison," *European journal for Research on the Education and Learning of Adults*, vol. 8, no. 1, pp. 37-53, 2017.
- [16] C. B. Ubah, "Abolition of Pell Grants for higher education of prisoners: Examining antecedents and consequences," *Journal of Offender Rehabilitation*, vol. 39, no. 2, pp. 73-85, 2004. [https://doi.org/10.1300/J076v39n02\\_05](https://doi.org/10.1300/J076v39n02_05)
- [17] R. Bozick, J. Steele, L. Davis, and S. Turner, "Does providing inmates with education improve postrelease outcomes? A meta-analysis of correctional education programs in the United States," *Journal of Experimental Criminology*, vol. 14, pp. 389-428, 2018. <https://doi.org/10.1007/s11292-018-9334-6>

- [18] G. Pastore, "Inclusion and social exclusion issues in university education in prison: considerations based on the Italian and Spanish experiences," *International Journal of Inclusive Education*, vol. 22, no. 12, pp. 1272-1287, 2018. <https://doi.org/10.1080/13603116.2018.1426050>
- [19] C. D. Galán and G. F. Cantero, "Educational possibilities in respect modules: Analysis of a case," *Revista Complutense de Educacion*, vol. 2S, no. 2, pp. 475-489, 2018. <https://doi.org/10.5209/RCED.53425>
- [20] J.-A. Moreira, A. Reis-Monteiro, and A. C. Machado, "Higher education distance learning and e-Learning in prisons in Portugal," *Comunicar*, vol. 25, no. 51, pp. 39-49, 2017. <https://doi.org/10.3916/C51-2017-04>
- [21] J. A. Moreira, A. Machado, and S. C. Dias-Trindade, "Distance education in higher education in the context of reclusion as a human education policy in Portugal," *Education Policy Analysis Archives*, vol. 26, 2018. <https://doi.org/10.14507/epaa.26.3689>
- [22] C. A. Curtis, D. Evans, and E. Pelletier, "Developing social capital through postsecondary correctional education," *Journal of Offender Rehabilitation*, vol. 60, no. 4, pp. 270-290, 2021. <https://doi.org/10.1080/10509674.2021.1909200>
- [23] L. L. Runell, "Identifying desistance pathways in a higher education program for formerly incarcerated individuals," *International Journal of Offender Therapy and Comparative Criminology*, vol. 61, no. 8, pp. 894-918, 2017. <https://doi.org/10.1177/0306624X15608374>
- [24] B. Stickle and S. S. Schuster, "Are schools in prison worth it? The effects and economic returns of prison education," *American Journal of Criminal Justice*, vol. 48, no. 6, pp. 1263-1294, 2023. <https://doi.org/10.1007/s12103-023-09747-3>
- [25] F. T. Ananos-Bedrinana, "Prior education and discrimination: Women in Spanish prisons," *Revista de Educacion*, no. 360, pp. 91-118, 2013. <https://doi.org/10.4438/1988-592X-RE-2013-360-222>
- [26] J. I. Ross, "Getting a second chance with a university education: Barriers & opportunities," *Interchange*, vol. 50, no. 2, pp. 175-186, 2019. <https://doi.org/10.1007/s10780-019-09354-4>