



Bibliometric Analysis of Ethical Behavior in Education Using VOSviewer

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Abstract: The research theme of ethical behavior, particularly in educational organizations, is of great importance. There have been many publications on ethical behavior, but there has been no research to identify and summarize publications on it comprehensively. This research aims to clarify the history and predict the hotspots of ethical behavior themes in the future. This research method uses bibliographical analysis using the VOSviewer application. Data was sourced from the Scopus database between 1982 and 2021, downloaded into Excel 2016, and processed by VOSviewer. Bibliometric maps are formed by VOSviewer software automatically. Results of the research, which began with a search on the article title through the keyword "ethic* behav*," obtained 957 documents. After being limited by publication between 1983 and 2021, 590 papers were accepted. Then it was restricted again based on articles, reviews, and English obtained from as many as 399 documents. The United States, United Kingdom, and Canada are the most productive countries writing this theme. Department of Management, Haworth College of Business, Western Michigan University, United States; School of Management, the University of Alaska Fairbanks, Fairbanks, United States; and Department of Basic Psychology and Methodology, University of Murcia, Murcia, Spain; they are the most prolific Institutions with this theme. The Journal of Business Ethics, Ethics and Behavior, and *Science and Engineering Ethics* are the journals that expose ethical behavior the most. Meanwhile, the most prolific authors are Deshpande S.P, Joseph J, Cronan T.P, Leonard N.K., Al Habusi H., and Gino F. Conclusion of the research with the theme of ethical behavior is generally associated with behavior in business, the prerequisite occurrence of ethical behavior in organizations, and variables that can improve and shape ethical behavior. In line with the development of societal progress, ethical behavior research requires more intensive attention, especially in education organizations, because the quality and sustainability of human life, business, and education lie in the quality of ethical behavior.

Keywords: ethical behavior, vosviewer, organizational education, bibliometrics

Recommended citation: Hidayat, R., Patras, Y. E., Usman, H., Gunawan, Y., & Windiyani, T. (2023). Bibliometric Analysis of Ethical Behavior in Education Using VOSviewer. *Journal of Innovation in Educational and Cultural Research*, 4(1), 157-166.

INTRODUCTION

In organizations, ethic is perceived as rules and standards that every member must comply with, while those who violate them are sanctioned (Adekanmbi & Ukpere, 2022). However, in educational organizations, ethics are essential to protect shared values such as fairness and accountability (Guerrero-Dib et al., 2020). Meanwhile, ethical behavior is the behavior of a person who relies on ethical awareness (Iranmanesh et al., 2020). Historically, ethical behavior often referred to a group of people who spoke about environmental issues, recycling, social justice, human rights issues, and the organization's involvement in exploiting its workers (Guidara, 2022). Therefore this behavior involves our empathy (Lee et al., 2021). This is then called moral sensitivity (Lee et al., 2021). When someone has moral sensitivity, it is quite possible that they better recognize ethical issues in their associations (Sánchez et al., 2020).

Today, dishonesty and dishonesty are becoming a problem in many places and organizations (Guerrero-Dib et al., 2020), and Education organizations are no exception. All agree that ethical behavior needs to be improved to address the issue. Understanding and improving ethical behavior benefits society, educational institutions, and any organization (Altman, 2020). Understanding and implementing ethical behavior means everybody and organization, especially educational organizations, can raise ethical awareness. One of these efforts is through research on ethical behavior. Along with the advancement of science and technology that encourages globalization (Andriana et al., 2022), associations between individuals and organizations/companies increasingly require high moral sensitivity (Susilowati et al., 2022). Therefore, every individual/organization /company needs to have moral sensitivity. In addition, ethics education can improve moral sensitivity (Simons et al., 2011) and education need reform in their curriculum (Setiawan & Suwandi, 2022).

Organizations and companies face challenges (Iranmanesh et al., 2020) in fostering ethical behavior. They strive to develop an honorable reputation (Mansouri et al., 2022) by using corporate social responsibility strategies, developing codes of conduct (Simons et al., 2011), and communicating values to consumers, such as the value of honesty and corporate integrity (Guidara, 2022; Mansouri et al., 2022). The company's efforts

were made because it believed its ethical behavior influenced consumers' impressions of a brand, its products, and its services (Roszkowska & Mele, 2020). Research on the perception of ethical organizational and corporate practices and their social responsibility to consumers has been repeatedly carried out (Mansouri et al., 2022). The study generally aims to verify the impact of organizational and corporate ethical behavior on organizational or business performance (Dwi Widayani et al., 2020) and the possible influence of competitive advantage (Siqueira Junior et al., 2022). The six dimensions of ethical behavior are consumers, employees, the environment, the local economic community, the overseas community, and the business community (Mansouri et al., 2022; Siqueira Junior et al., 2022; Trentesaux & Karnouskos, 2022).

Information and the development of ethical behavior are crucial to understand and follow. Information about it can help decision-makers and researchers determine their position according to their individual needs. For organizational leaders, ethical behavior information can be used to strengthen their corporate status. In the context of meeting these needs, no research comprehensively explains ethical behavior. Therefore, the novelty of this study is that it seeks to answer some critical questions about ethical behavior. This study's question (Q) is Q1: What are ethical behavior research publications trends? Q2: Which country/region has the most publications in the field of ethical behavior? Q3: Which research organizations have a significant influence in the area of ethical behavior? Q4: Which author is the most prolific in ethical behavior, and what is the level of cooperation among the authors?

Ethical behavior refers to the actions of a person who is always consistent with moral values and principles by prioritizing the benefit of the people, upholding human rights, excellent service, integrity, and professionalism (Hidayat, 2017). Ethical behavior contains several behaviors, such as honesty, justice, trust, respect, and responsibility (Almutairi, 2022). Ethical behavior is related to compliance with implementing moral standards in society (Weziak-Bialowolska & Bialowolski, 2022). Ethics education can increase moral sensitivity, leading to ethical behavior (Lee et al., 2021). Ethical behavior can occur due to the support of various variables, such as the influence of ethical leadership, motivation to serve, peer relationships, commitment, and fairness (Dinh et al., 2020). Consumer perception of the organization's ethical behavior affects the organization's brand, loyalty, and desire to purchase products or services from the organization (da Silva Tolentino et al., 2021).

Ethical behavior significantly impacts private and public life, such as business. For example, several studies have found that ethical companies can maintain customer commitment (Siqueira Junior et al., 2022). Civil servants who commit ethical conduct are willing to report violations that occur to the organization (Dinh et al., 2020); ethical behavior affects customer loyalty, satisfaction, and trust (Mansouri et al., 2022), and other research shows that ethical behavior affects organizational performance (Dwi Widayani et al., 2020). The position of ethical conduct that significantly impacts the lives of those organizations and organizations is already encouraging various organizations to reinforce ethical behavior. However, there are comprehensive studies of ethical behavior. Therefore, through the VOSviewer application (Chang et al., 2022; Hirawan et al., 2022; Luckyardi et al., 2022) this research delves into and reports on more profound and new ethical behavior. The purpose of this study: describe the publication trends of ethical behavior from the perspective of countries/regions, year of publication, organization, authors, and hotspots of ethical behavior themes in their future development.

METHODS

This study aims to analyze ethical themes using a bibliometric review process (İpek, 2019; Moro & Valgimigli, 2021; Wang et al., 2022). Researchers using VOSviewer visualization software to analyze data sources, author cooperation, institutional cooperation, keyword co-event groupings, and the evolution path of the theme data hot spots under study (Hu et al., 2019; Martins et al., 2022; Wang et al., 2022). The database used is Scopus. At the time of the study, the researcher used the following search strategy: title ("ethic* behavior*") and (exclude (pub year, 2022) or exclude (pub year, 1981) or exclude (pub year, 1980) or exclude (pub year, 1979) or exclude (pub year, 1978) or exclude (pub year, 1977) or exclude (pub year, 1976) or exclude (pub year, 1972) or exclude (pub year, 1971) or exclude (pub year, 1970) or exclude (pub year, 1958) or exclude (pub year, 1957)) and (limit-to (doctype, "ar") or limit-to (doctype, "re")) and (limit-to (language, "English")) and (limit-to (srctype, "j")). The type of document used originated in the period from 1982 to 2021.

Data bibliometric information includes publication year, publication number, publication country/region, publication organization, journal title, author, number of times cited, and H-index (Martins et al., 2022; Nurdin et al., 2021; Putri et al., 2021). All analyses use Microsoft Excel 2016, both quantitatively and qualitatively. The data in Microsoft Excel 2016 comes from Scopus. To perform bibliometric analysis, the software needed can provide excellent visualization (Lazzari et al., 2022; Soegoto et al., 2022; Wang et al., 2022). VOSviewer, a Java software, can be freely downloaded and used, which is used to create maps from bibliographic data and to visualize and unearth the intrinsic meaning of maps. This study used VOSviewer to visualize and analyze

reference co-citations, author co-citations, and keyword co-occurrence (Chang et al., 2022). The VOSviewer app was chosen because it has three types of mapping visualizations. The mapping visualizes the network, overlay, and density (Soegoto et al., 2022).

RESULT AND DISCUSSION

General Information Publications Regarding Ethical Behavior. Using the keywords "ethic* behavior*" on Scopus obtained 957 documents. After being limited by publication year between 1983 and 2021, 590 papers were obtained. Then it is limited again based on records derived from scientific articles, reviews, English, and journals obtained as many as 399 documents. Year of Publication and Relative Research Interest. The year of publication of ethical behavior research is between 1982 to 2021. The year 2020 ranked first as the most productive, with 37 published articles on ethical behavior. The year 2021, with 34 pieces, ranked second, and the year 2017, with 26 articles, ranked third. The year 2019, with 24 articles, ranked fourth, and 2018 ranked 5th with 21 pieces (Figure 1). Publications about ethical behavior in the form of journal articles have received less attention from researchers. This situation is indicated by the data on the number of publications of ethical behavior articles that are relatively small from year to year.

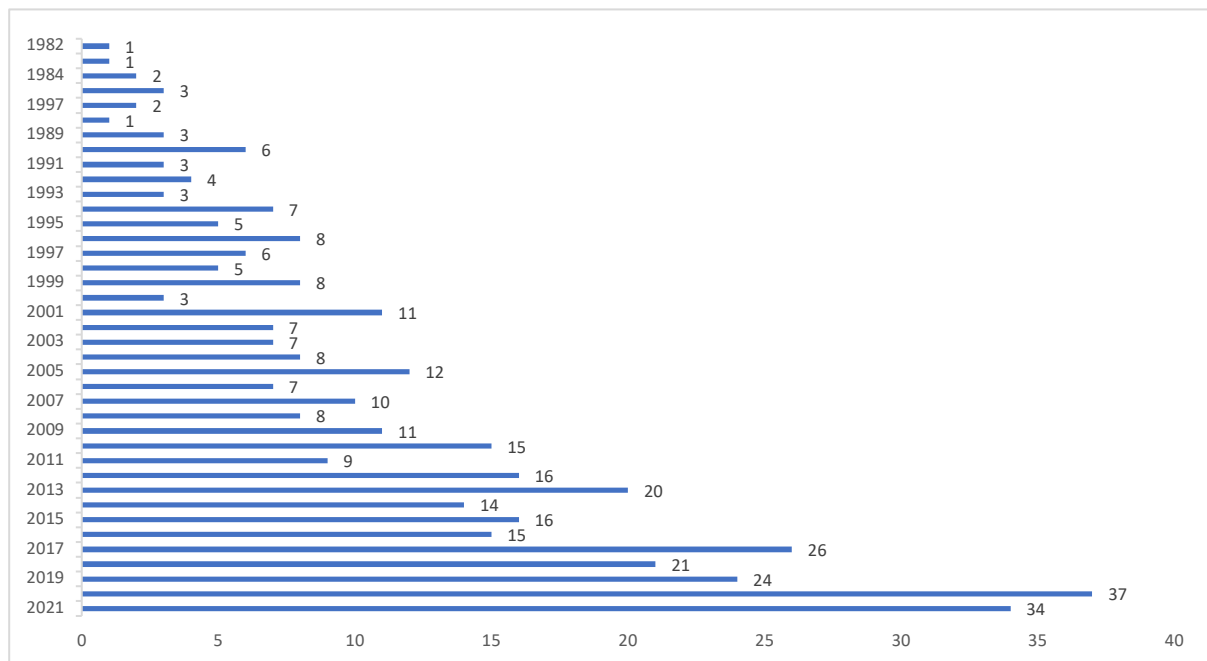


Figure 1. Publication of Ethical Behavior Per Year

Country/Region of Publication. The United States (US) published most of the articles on ethical behavior with 147 pieces, followed by the United Kingdom (28 articles) and Canada (17 articles). These three countries are the most significant contributors to reports in the field of ethical behavior. For the southeast Asia region, Malaysia is the most critical contributor to the publication of ethical behavior. Research from the US was cited 5766 times, ranking first from all countries/regions, followed by the United Kingdom (987 times) and Canada (389 times). The top five H- indices are the United States (26), United Kingdom (14), Australia (9), Malaysia (9), and Canada (7).

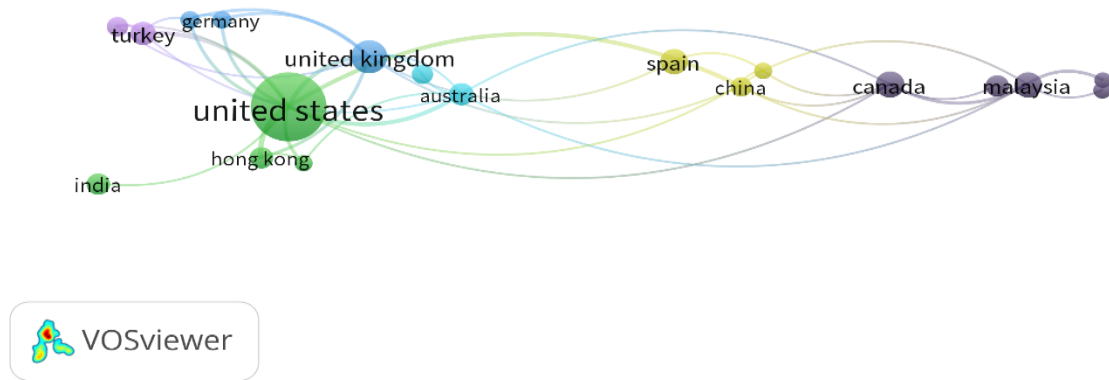


Figure 2. Distribution of Ethical Behavior research in Different Countries

Publication Institute. Two productive institutions publishing ethical behavior are the Department of Management, Haworth College of Business, Western Michigan University, United States (4 publications, 250 citations, and H-Index 5). School of Management, University of Alaska Fairbanks, Fairbanks, United States (4 journals, 178 citations, and H-Index 5). Other institutions include the Department of Basic Psychology and Methodology, University of Murcia, Murcia, Spain; Department of Business and Public Policy, University of Alaska. As for beyond that, it only publishes two articles.

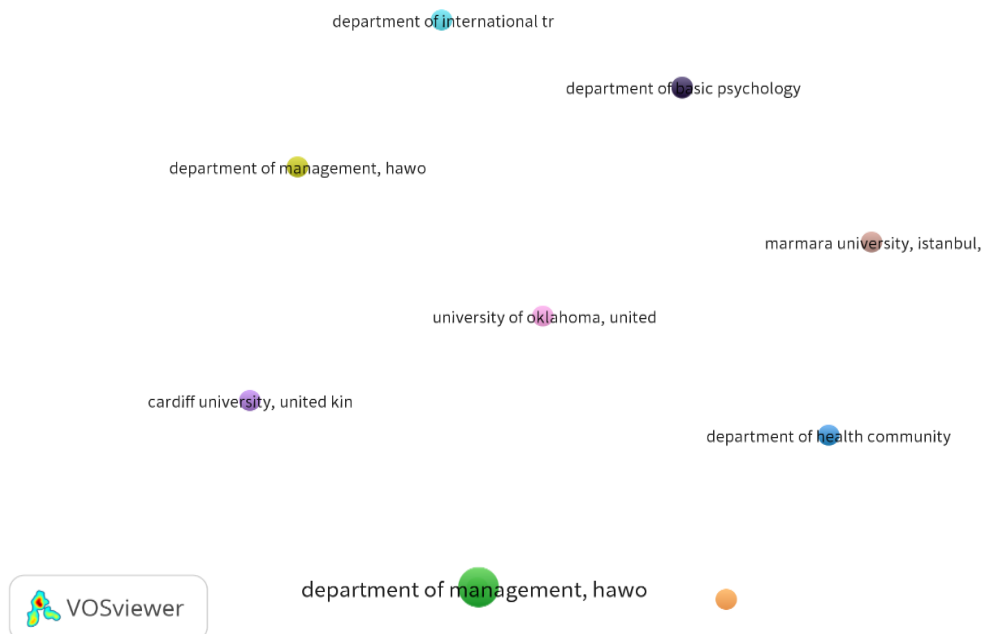


Figure 3. Publication Institute of Ethical Conduct

There are three journals that most prolifically publish ethical behavior research topics. The Journal of Business Ethics is the most numerous (78 publications, citations 4224, and H-Index 7). The second most published publisher on ethical behavior is the Journal Ethics and Behavior (8 publications, 35 sources, and H-Index 5). They were followed by the Journal of *Science and Engineering Ethics* (6 publications, 78 citations, and H-Index 2).

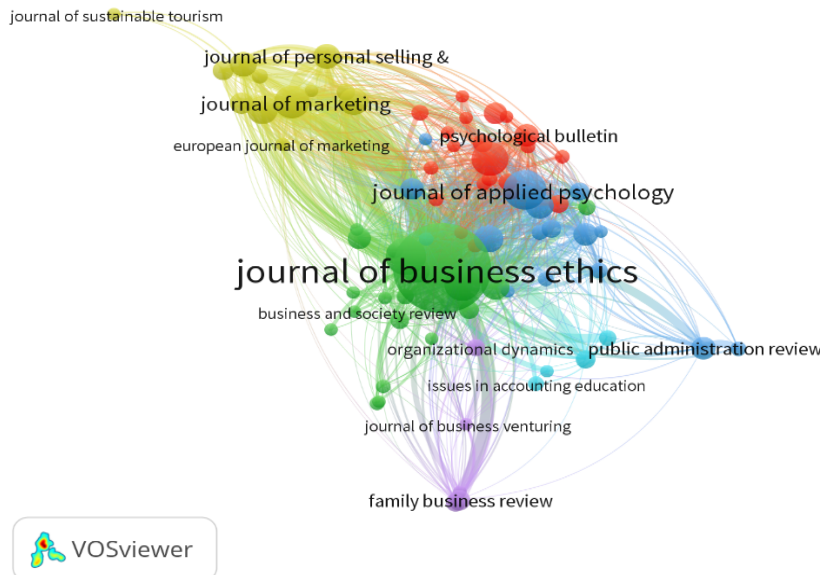


Figure 4. Publisher's Journal of Ethical Behavior

Article Author. The author's cooperation network can reflect the density of cooperation and cooperative relations between authors. In light of this, the study analyzed the authors' cooperation in research on ethical behavior. It used VOSviewer software to generate a mapping of the visual knowledge of the author's network. In the network of authors on the ethical behavior theme, only one author writes with eight publications, and the rest write less than five. Deshpande S.P. was the most prolific writer (8 publications, 458 citations), followed by Joseph J. (5 publications, 286 citations). The authors who published four publications were: Cronan T.P., Leonard N.K., al Habusi h., and Gino F. (Figure 5).

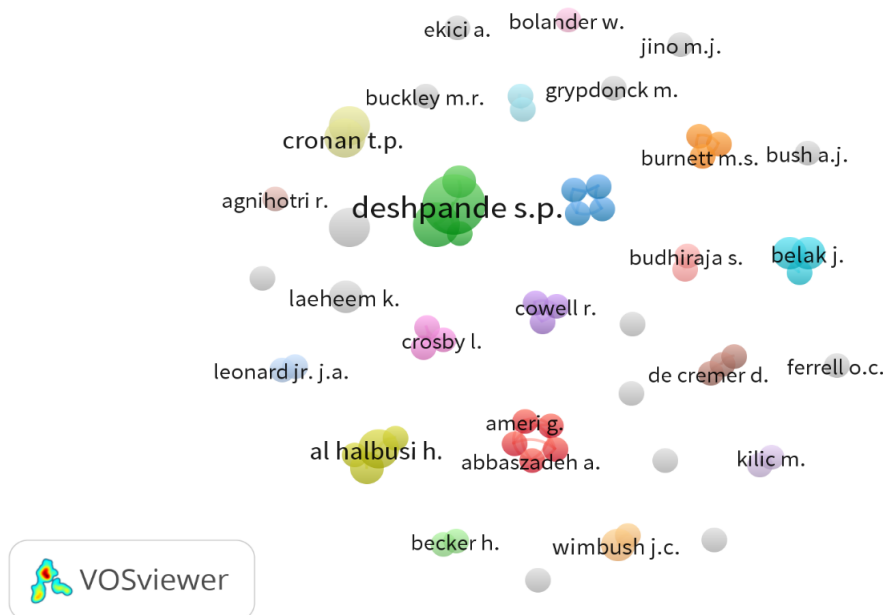


Figure 5. Author of ethical behavior

Bibliometric Map of Shared Citations. One of the most critical methods of bibliometric analysis is the co-citation of reference analysis. For example, based on the construction results on VOSviewer, the joint quotation on the theme of ethical behavior in the organization is based on the article's title; there are seven words/phrases with two clusters. The first cluster by text type focuses on the influence of ethical behavior on business behavior. The second cluster by text type contains the impact of ethical behavior on the relations of life in general (Figure 6).



Figure 6. Joint Quotes Based on References

If the reference refers based on the text in the article's abstract of the paper, then 140 items are divided into 6 clusters (Figure 7). The first cluster has 41 words/phrases focused on ethical behavior reasons. The items that appear in the first cluster include academic integrity, auditor, cheating, consumer, degree, difference, effectiveness, empirically, ethical decision, ethical perception, ethical reasoning, ethically, experiment, gender, group, high level, honesty, judgment, knowledge, likelihood, moral identity, professional, scale, validity.

The second cluster has 32 words/phrases that focus on the prerequisites for ethical behavior. The text items in this cluster include account, dimension, empathy, employee, ethical climate, ethical leadership, ethical conduct, ethical standard, job satisfaction, follower, peer, organizational commitment, dan organizational justice, religiosity, sales manager, salespeople, significant impact, significant relationship, supervisor, subordinate, unethical behavior.

The third cluster has 25 words/phrases focused on organizational attitudes and behaviors. The text items in this cluster include activity, application, attention, attitude, case, concept, corporate governance, corporate social responsibility, decision-making, family firm, hospital, implementation, life, morality, principle, religion, and quality.

The fourth cluster has 14 words/phrases that focus on the usefulness of ethical behavior in the organization. The text items in this cluster include bank, benefit, business ethic, challenge, change, cost, culture, firm, framework, governance, improvement, law, organization, period, reputation, and risk.

The fifth cluster has 19 words/phrases that focus on things that can improve if the organization has ethical behavior. The text items in this cluster include code, condition, conduct, country, ethical dilemma, guideline, part, problem, recommendation, response, university, and worker. Finally, the sixth cluster has nine words/phrases that focus on the variables that shape organizational ethical behavior. The text items in this cluster include commitment, consumer, customer, form, influence, loyalty, question, service, and trust.

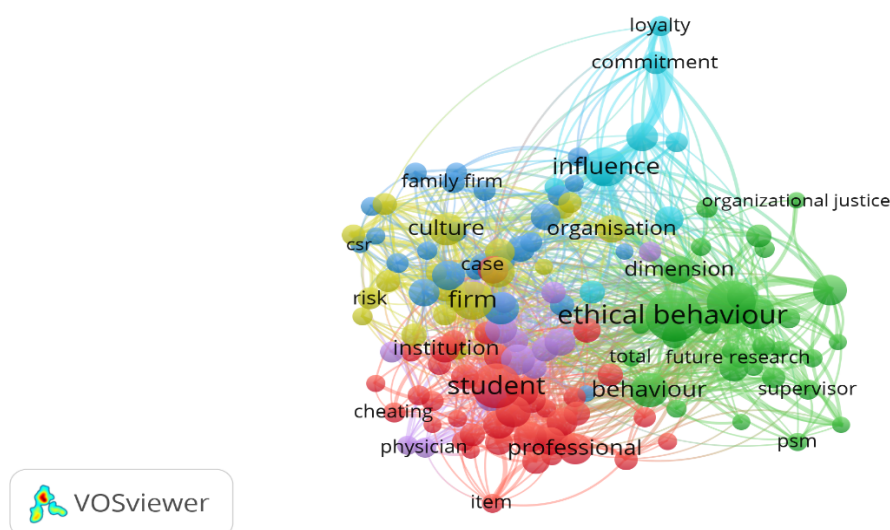


Figure 7. Joint Quotes Based on Reference

Figure 8 shows the keywords in a publication's abstract regarding ethical behavior by VOSviewer. Based

on this analysis, research on ethical behavior is part of organizational behavior classified into four groups. The first group has 37 keywords/phrases that indicate that the publication of ethical behavior is connected to various studies on behavior in organizations, including decision-making, ethical conduct, ethical climate, ethical leadership, ethical behavior, job satisfaction, and management.

The second group has 23 keywords/phrases that indicate that ethical behavior is connected to places and research methods, including analysis of variance, comparative study, empirical approach, questionnaire, article, and unethical behavior. The third group has 19 keywords/phrases that indicate that ethical behavior is connected to regulations and codes of ethics in organizations, including clinical practice, code of ethics, confidentially and informed consent. Finally, the fourth group has four keywords/phrases that show that ethical behavior is connected to ethical behavior research fields, including psychology, professional standard, ethics professional, and behavior.

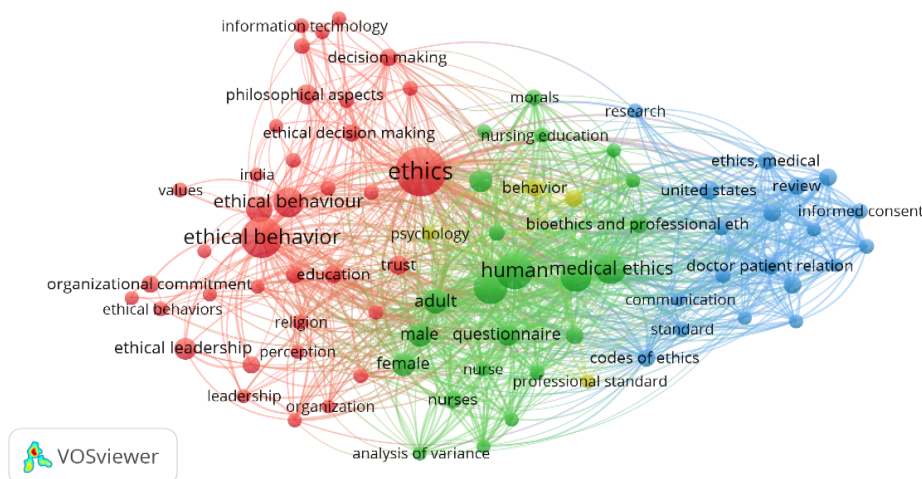


Figure 8. Ethical Behavior Publication Hotspot

Trends of Publications on Ethical Behavior. In 30 years, the theme of ethical behavior in Scopus has been limited by articles, reviews, English, and journals obtained as many as 399 documents. 2020 was the year of publication of ethical behavior research, ranked first or the most productive year with 37 articles. The year 20 21 is ranked second with 34 articles, and t2017 ranks third with 2 6 articles. Based on this data, although the theme of ethical behavior is published every year, it receives less attention from researchers. On the other hand, global instability due to various advances is in dire need of ethical behavior (Iranmanesh et al., 2020; Lee et al., 2021; Roszkowska & Mele, 2020).

The most prolific countries producing ethical behavior-themed publications are held United States (US) with 147 articles, the United Kingdom with 28 articles, and Canada with 17 articles. For the Southeast Asian Region, Malaysia is the most significant contributor to the publication of ethical behavior. Comparable to its productivity, the publications from the US showed the most cited 5766 times, the United Kingdom 987 times, and Canada 389 times. The most productive institutions that publish ethical behavior are the Department of Management, Haworth College of Business, Western Michigan University, United States, and the School of Management, University of Alaska Fairbanks, Fairbanks, United States. United State's achievements in this and other fields of research still dominate (Anderson, 2018; Zhang et al., 2022).

The three most productive journals publish ethical behavior topics, namely the Journal of Business Ethics, Ethics and Behavior, and *Science and Engineering Ethics*. Based on the study of the author's cooperation in the theme of ethical behavior, there is one of the most prolific authors, namely Deshpande S.P, followed by Joseph J., Cronan T.P., Leonard N.K., Al Habusi H., and Gino F. Based on research documents, Deshpande's name is widely quoted by researchers on the theme of ethical behavior in Indonesia and Indonesia (Dushyant et al., 2020; Gloor et al., 2022; Hidayat, 2017).

Studies Focused on Ethical Behavior. The study of ethical behavior based on the article's title found 7 points of words/phrases. The seven words/phrases lead to two clusters. First, it focuses on the influence of ethical behavior on business behavior. Second, it focuses on the impact of ethical behavior on life. Based on these data, the theme of ethical behavior is widely used in business contexts (da Silva Tolentino et al., 2021; Dwi Widayani et al., 2020; Guidara, 2022). Moreover, as already explained, an organization's ethical behavior can influence its consumers' perception (Dwi Widayani et al., 2020).

Referring to the text in the article's abstract on ethical behavior, 140 items of text/phrases are divided into 6 clusters. These clusters focus on why ethical behavior is essential, the prerequisites for the occurrence of

ethical behavior, attitudes and behaviors in an organization, and the usefulness of ethical behavior in organizations. These variables can improve and shape ethical behavior in organizations. Based on this data, ethical behavior is formed from a process requiring planned effort and control (Gloor et al., 2022; Marinova et al., 2021).

Referring to keywords linked to ethical behavior research, the study found 4 clusters. First, ethical behavior research is connected to other organizational behaviors, including decision-making, ethical climate, ethical leadership, job satisfaction, and management. Second, ethical behavior research is related to research places and methods, including analysis of variance, comparative study, empirical approach, and questionnaire. Third, ethical behavior research is connected to organizations' regulations and codes of ethics, including clinical practice, code of ethics, confidentiality, and informed consent. Fourth, ethical behavior research is connected to ethical behavior research fields, including psychology, professional standards, and professional ethics. Finally, based on this data, the theme of ethical behavior is related to various scientific fields that continue to develop (Almutairi, 2022; Guidara, 2022; Susilowati et al., 2022).

Strengths and Limitations. The advantages of this research are to map more closely using VOSviewer, including the productivity of institutions, authors, author networks, countries, and research focus on ethical behavior sourced from the Scopus database. These advantages make it easier for other researchers to position themselves if they want to contribute to the theme of ethical behavior. However, in addition to these advantages, this research also has some limitations: bibliometric analysis may not always reflect the actual situation. At the same time, newly published publications are not cited due to the short publication time. Furthermore, some non-English publications are not included in the study, which may lead to inaccurate conclusions.

CONCLUSION

A bibliometric analysis shows that the trends that have developed roughly in the last three decades suggest that the theme of ethical behavior is part of organizational behavior. Moreover, every year this theme has its publications, which indicates that the theme of ethical behavior is exciting and continues to evolve even though it is less massive, especially in educational organizations. Research on ethical behavior, in general, focuses on the influence of ethical behavior on business behavior, the prerequisites for the occurrence of ethical behavior in organizations, and variables that can improve and shape ethical behavior in organizations. In line with the progress of society caused by the development of communication science and technology, the theme of ethical behavior requires more in-depth research to contribute to the life of the general public, education, and business behavior in particular so that life is maintained sustainability.

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