

# A Bibliometric Review of Ethical Leadership Research: Shifting Focuses and Theoretical Insights

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*This study used bibliographic data from Web of Science and employed various bibliometric analysis tools to present a systematic review of ethical leadership research from a board perspective. Theoretical evolutions underpinning how ethical leaders influence their followers are also detailed. Results identify the key documents, frequent keywords, and the most used theories in the field of ethical leadership. Results show that not only are there few newcomers to the field, the knowledge on ethical leadership, dominated by a minority few, has not diffused to a broader community. Results also show that although the focus of ethical leadership research in recent years shifted to employee creativity and knowledge sharing, the theories applied in the investigations remain the dominant social exchange theory and social learning theory. The results provide useful references for future studies, avoiding repetitive research while identifying possible knowledge gaps.*

**Keywords:** *administration, bibliometric map, big data analytics, ethical leadership, leadership, literature, meta-analysis, principals, statistics, theoretical insight*

## Introduction

Ethics scandals and accusations against organizations perpetuating unethical behavior have spurred interest in understanding the sources of influence within organizations. As to organizational research and social science studies on ethical leadership, not only are there sound theoretical frameworks but also effective assessment tools for in-depth exploration of the related variables and the mechanisms involved. The growing emphasis and considerable publications on ethical leadership have also triggered reviews of related studies (Brown & Treviño, 2006; Den Hartog, 2015; Monahan, 2012). Despite transforming changes in the organizational environment and human interaction modes brought by rapid advances in digital technologies, especially artificial intelligence (AI) and robotics (Müller, 2020), scholarly and practitioners' interest in ethical leadership remains keen, with the recent trend of research focusing on retrospective analysis and critical reviews of existing literature.

Challenges such as the coronavirus pandemic, racism, waves of immigration, and climate change bring to the fore

ethical dilemmas in all social systems, including that of education (Arar & Saiti, 2022). Fostering a culture of trust through ethical leadership should be a starting point for critical leaders, given the dire picture of a racialized world and the wide-ranging vacuum of moral and ethical leadership. Not only leaders in business but also educational leaders are often faced with ethical dilemmas as they endeavor to make complex decisions in the best interests of both staff and students (Cranston et al., 2006). Previous work has been undertaken in relation to moral dimensions of leadership (Davidson & Hughes, 2020), principals' ethical decision-making (Arar et al., 2016; Dempster et al., 2004; Eyal et al., 2011; Shapiro & Stefkovich, 2016), ethical training (Langlois & Lapointe, 2010), and practice of building ethical school (Starratt, 1991; 1994). Gümüş et al. (2021) reviewed research on school leadership for social justice, equity, and diversity.

As pointed out by Kunisch et al. (2018), review articles play a crucial role in the development of an accumulated body of knowledge and in guiding future research efforts. The current literature contains a plethora of ethical leadership studies; hence, a thorough examination of the related



research development requires a systematic literature review. Applying bibliometric analysis, this study conducted a subjective qualitative and an objective quantitative investigation on the past development and present state, current themes, and future trends of ethical leadership research. In particular, graphical representation of bibliometric maps enables visualization of findings and facilitates better understanding. This study contributes to knowledge of theoretical evolutions of ethical leadership and its influence on followers over time.

With regard to qualitative analysis of ethical leadership, Brown and Treviño (2006), besides proposing antecedents and outcomes of ethical leadership and comparing related concepts on leadership in the light of social learning theory, identified issues for future investigation and discussed their implications for research and practice. Randall and Gibson (1990) critically reviewed the methodology of 94 empirical studies on ethical beliefs and behavior of organizational members and pointed out the need and way to improve the reliability or validity of measures in ethics research. Monahan (2012) explored the literature on ethical leadership in organizations and reinforced the need for establishing trust and gaining ethical knowledge by way of study and application. Taking an organizational behavior/psychology perspective, Den Hartog (2015) reviewed this rapidly developing field of ethical leadership, summarizing existing challenges and outlining future research directions. On the basis of empirical findings in 62 studies published between 2005 and mid-2015, Ko et al. (2018) synthesized antecedents, mediators, moderators, and outcomes of ethical leadership. Results of the meta-analytic review conducted by Bedi et al. (2016) revealed a positive relationship between ethical leadership and follower outcomes, such as perceptions of leader interactional fairness and follower ethical behavior. These qualitative studies contribute to understanding ethical leadership and its applications. What is lacking in ethical leadership research is a systematic literature review combined with visual analytic approaches, which offer opportunities to improve the suitability, accessibility, and reproducibility of the literature.

As the foundation and inspiration for substantial, useful research (Boote & Beile, 2005), a thorough and sophisticated literature review surveys existing publications relevant to a particular issue or topic, provides an overview of current knowledge, and then identifies gaps for future investigation or examines areas of controversy. In short, a literature review analyzes, synthesizes, and critically evaluates to give a concise, clear, and organized picture of the existing studies to illustrate how the present research fits into or adds to the larger field of study. For a quick overall understanding of a research topic, the traditional literature review involves compiling related studies and providing a narrative of these publications. However, Tranfield et al. (2003) pointed out the limitations of such narrative review,

including lack of rigor, biased judgment, and restricted perspective. Not only are these reviews insufficient to be considered genuine investigatory science results, but they are also prone to arouse controversy.

Bibliometric analysis is a quantitative approach that analyzes published research and assists researchers in evaluating academic publications in a particular field (Ding & Yang, 2022). The computer-assisted review methodology can identify core research or authors, as well as their relationship, by covering all the publications related to a given topic or field (Han et al., 2020). The advent of software for bibliometric analysis and information visualization enables researchers to outline the current knowledge and related literature in a more comprehensive manner, combining both subjective assessment and objective measurement. Frequently applied to the field of library and information science, bibliometrics (Pritchard, 1969) analyzes books, articles, and publications using mathematics and statistical methods to examine the nature and development trend of a certain subject. Bibliometric leadership-related studies have been conducted on leadership development (Vogel et al., 2021), ethical behavior in leadership (Gamarra & Giroto, 2022), and authentic leadership (Margiadi & Wibowo, 2020). To our knowledge, there is no review study yet applying bibliometric analysis and information visualization approaches to research on ethical leadership. This study aims to fill the gap in knowledge.

In view of abundant research findings on ethical leadership, the present work aims to conduct a systematic analysis of the rich academic database for a more comprehensive understanding of this topic. In the present work, citation data on ethical leadership research were collected from Web of Science (WoS) and then analyzed using Pajek and VOSviewer. The trend of development in ethical leadership studies, key research domains, core publications, and future directions were examined with diverse methods and instruments, including main path analysis, document co-citation analysis, and keyword co-occurrence analysis. Unique in its approach, this study reviewed ethical leadership studies at both individual and group levels.

Despite researchers and policymakers paying increasing attention to the topic of ethical leadership, no comprehensive reviews of ethical leadership research seem to have been conducted. The present work presents a systematic review of ethical leadership research, using bibliographic data to trace its development and characteristics within a broad perspective. The specific research questions that guided this review are:

- RQ1: What are the influential research traditions and their relations to the knowledge base on ethical leadership?
- RQ2: What is the key research for cross-disciplinary ideas of the knowledge base on ethical leadership?

RQ3: What are the topical foci of the knowledge base on ethical leadership?

RQ4: What is the main theory applied to ethical leadership research?

This systematic literature review not only elucidated knowledge development in ethical leadership but also examined individual research and a cluster of studies on ethical leadership to understand its deep structure and relationships between different research communities. Significant studies on ethical leadership and the relationships identified in this research using big data analytics shed light not only on the path of knowledge diffusion and future research directions but also on the theory for establishing the mechanisms behind the impact of ethical leadership on various outcomes. These findings would be useful references for subsequent research, avoiding repetitive studies and identifying possible research gaps, thus contributing to new insights in ethical leadership theory and research.

### **Literature Review**

Ethical leadership, as defined by Brown et al. (2005), refers to “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making” (p. 120). Of note is that what is deemed “normatively appropriate” instead of being clear and distinct is often ambiguous and context dependent. However, as implied in this definition, ethical leadership comprises two dimensions—that is, the leader as a moral person and a moral manager (Treviño et al., 2000). As a moral person, an ethical leader possesses traits including integrity, honesty, and trustworthiness and exhibits behaviors such as openness and fairness and concern for people and society. As a moral manager, an ethical leader role-models ethics and values through words and deeds as well as rewards and disciplines followers for their conduct according to ethical standards.

The social learning theory (Bandura, 1986) makes up the foundation for ethical leadership. A social learning perspective on ethical leadership proposes that leaders influence the ethical conduct of followers via modeling, which covers a broad range of psychological matching processes, including observational learning, imitation, and identification. To measure the ethical leadership construct, diverse instruments have been developed and validated. Using social learning theory as the theoretical basis, Brown et al. (2005) put forward a unidimensional, 10-item instrument called the Ethical Leadership Scale (ELS). Besides being the earliest, ELS is the most commonly used instrument either directly or with adaptations for evaluating ethical leader behavior. The most recent multidimensional measurement tool is the Ethical Leadership at Work (ELW) constructed by Kalshoven et al. (2011) on the

basis of theory, interviews, and a student sample. ELW comprises seven dimensions and 38 items that probe into the antecedents and consequences of ethical leadership. Other instruments include the Perceived Leader Integrity Scale (PLIS) (Craig & Gustafson, 1998) and the Ethical Leadership Work Questionnaire (De Hoogh & Den Hartog, 2008).

The impact of ethical leadership can be observed from different aspects. Ethical leadership enhances positive attitudes and behaviors of followers, including performance, job involvement, and affective commitment (Khuntia & Suar, 2004); organizational commitment; and trust in leaders (Zhu et al., 2004) and organizational citizenship behavior (OCB) (Mayer et al., 2009). Moreover, organizational climate regarding ethics is also influenced by leader values and practices. Ethical values internalized by subordinates lead to beneficial outcomes at both individual and organizational levels manifested as stronger cohesion and higher morale (Dickson et al., 2001). Furthermore, ethical leadership can extend beyond promoting an ethical climate and exert influence on organizational members’ attitudes toward everyday work (i.e., job satisfaction), attachments to the organization (i.e., affective organizational commitment) (Brown & Treviño, 2006), and subordinates’ green work behavior (Ahmad et al., 2021).

### **Methodology**

Bibliometrics is the field of science that deals with the development and application of quantitative measures and indicators on the basis of bibliographic information. Pritchard (1969) coined the term “bibliometrics” to denote quantitative analysis and statistics on scholarly outputs, such as journal articles, citation counts, and journal impact. Counting and analyzing various facets of written communication can shed light on the nature and course of development of a discipline (Pritchard, 1969). Zupic and Čater (2015) introduced various bibliometric methods including citation analysis, co-citation analysis, bibliographical coupling, co-author analysis, and co-word analysis for the description, evaluation, and monitoring of published research. In this study, main path analysis (Hummon & Doreian, 1989), co-citation analysis (Small, 1973), and co-occurrence analysis were performed to examine the past, present, and future of ethical leadership research.

#### *Main Path Analysis*

Proposed by Hummon and Doreian (1989), main path analysis identifies from multiple search paths in a citation network the most significant one, defined as the “main path.” A search path is a link or conduit of knowledge among nodes in the network and its significance is measured by traversal counts. The main path is thus the most important sequence of conduits that spreads the knowledge out from the node

(Liu & Lu, 2012), and a citation network can be seen as a sequence diagram that reflects the knowledge diffusion of a scientific or technology field (Xiao et al., 2014). In this study, the knowledge diffusion of ethical leadership is explored using the search path link count (SPLC), a preferred choice for traversal weight as it fits better the knowledge diffusion model (Liu et al., 2019).

#### *Document Co-citation Analysis*

Co-citation, as defined by Small (1973), is the frequency with which two documents are cited together, which can be determined by comparing lists of cited documents in the Science Citation Index and counting identical entries. Clusters of co-cited papers can then be generated to explore the specialty structure of science. Visual representation of co-citation networks can be drawn using analytic software developed from social network analysis, illustrating the influence of each document and the strength of co-citation relationships between documents.

#### *Word Co-occurrence Analysis*

Word co-occurrence analysis, also called co-word analysis, examines the co-occurrences of keywords/phases, considered as indicators for the content of a research topic (Van den Besselaar & Heimeriks, 2006), to identify relationships between subjects in a research field and emerging research trends. This technique has been applied to bibliometric analysis of information retrieval research (Ding et al., 2001) and combined with conceptual clustering to provide relevant intelligence for more effective document retrieval (Hui & Fong, 2004).

### **Data and Software**

#### *Identification of Sources*

Data for this study was gathered mainly from Web of Science (WoS), currently maintained by Clarivate Analytics. WoS is a commonly used database for bibliometric research on leadership (Gamarra & Giroto, 2022; Vogel et al., 2021). However, it is noteworthy that most international databases, including WoS, tend to privilege scientific documents written in English, which mostly come from Western countries. Second, despite its broad coverage, WoS misses some of the important sources in the field—for example, *Journal of School Leadership*, which has published several articles relevant to ethical leadership in education. These limitations should be considered when interpreting the results of the analysis.

Our research relied on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009) to guide the identification of reviewed documents, as shown in Figure 1. The initial searches in WoS

indicated a diverse body of potentially relevant literature. We hereby aimed to create a dataset of peer-reviewed journal articles on ethical leadership. The inclusion of only peer-reviewed journal articles might result in the exclusion of other relevant work, including seminal research published as conference proceedings, books, or book chapters, while the decision is retained to ensure the overall quality of reviewed documents. A search on WoS was conducted in March 2021 with “article” as the document type on the topic “moral leadership” or “ethical leadership.”

The initial search yielded 1,526 documents. Since only peer-reviewed research is included in the dataset, 229 documents (including proceeding papers, review articles, book reviews, and editorial material) were excluded with the help of exclusion tools. The remaining 1,297 were scanned based on the inclusion criteria as having ethical leadership as the central focus. After the exclusion of non-eligible articles, 1,201 records remain in the bibliometric analysis.

#### *Analytic Software*

Two tools, namely Pajek and VOSviewer, were applied in this study for bibliometric analysis and information visualization. Pajek is a computer program designed with efficient analytical algorithms and powerful visualization tools for large networks (Batagelj and Mrvar, 2004). VOSviewer is a software tool for analyzing and visualizing bibliometric networks generated on the basis of citation, bibliographic coupling, co-citation, or co-authorship relations. It also offers text-mining functionality for constructing and visualizing co-occurrence networks of important terms extracted from a body of scientific literature.

#### *Data Processing*

First, all 1,201 documents collected from the WoS database were converted into Pajek’s network diagram for main path analysis. Second, VOSviewer processed all documents on the basis of occurrence of the items (documents and keywords) to be analyzed. Network maps including document co-citation maps and keyword co-occurrence maps were drawn using the VOSviewer software.

### **Results and Discussion**

#### *Main Path Analysis*

Figure 2 is the main path analysis diagram obtained using Pajek with the LCS of the 10 top-cited papers. Tracing this path revealed the evolution in ethical leadership research. The 10 papers illustrated in Figure 1 were published between 2000 and 2015. Treviño et al. had two pioneering studies published in 2000 and 2003, respectively. Treviño et al. (2000) delineated that ethical leaders should be perceived as both a moral person and a moral manager. Exploring further



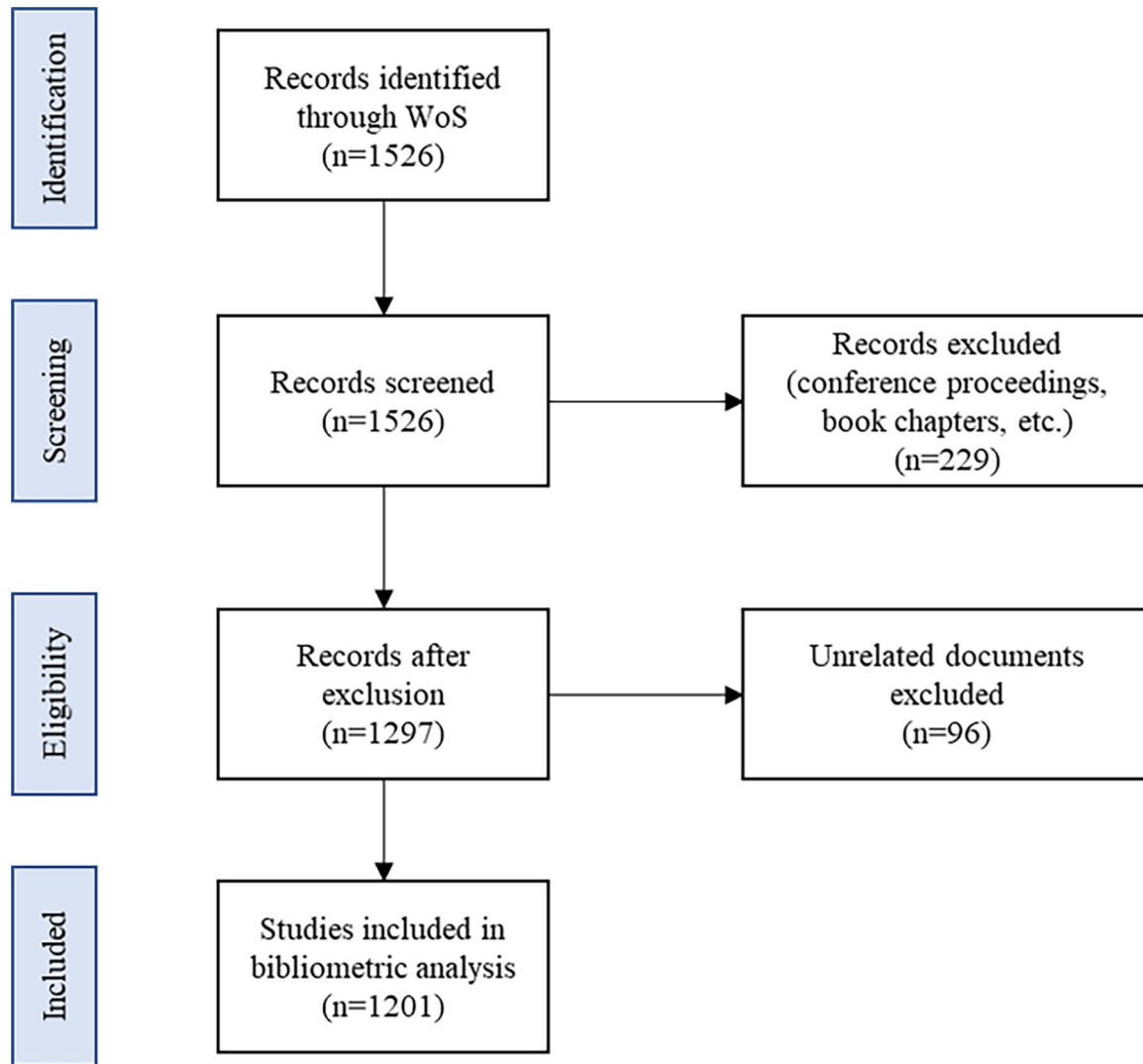


FIGURE 1. PRISMA flow diagram detailing steps in the identification and screening of sources.

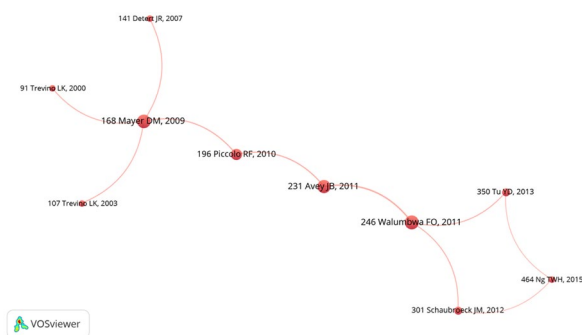


FIGURE 2. Main path analysis diagram.

the perspective of a moral manager, Treviño et al. (2003) examined how executives/leaders influence the thoughts and behaviors of employees/followers. Both works have inspired subsequent research. Detert et al. (2007) examined the effect

of managerial influence on counterproductivity while Mayer et al. (2009) conducted a quantitative empirical study on multiple dimensions of ethical leadership and how it flows from one organizational level to the next. From Mayer et al. (2009), the path goes straight through Piccolo et al. (2010) and Avey et al. (2011) till Walumbwa et al. (2011), from which it branches out. This series of papers reported empirical organizational research results on how ethical leadership influences organizational behaviors. The research followed by Walumbwa et al. (2011) proceeded in two different directions. On one hand, Schaubroeck et al. (2012) developed and tested a model linking ethical leadership with unit ethical culture, both across and within organizational levels; on the other hand, Tu and Lu (2013) proposed a homologous multi-level model developed from the cognitive evaluation theory (CET) (Deci & Ryan, 1985) to explore how ethical leadership influenced employees' innovative work behavior through the mediation of individual- and group-level

intrinsic motivation. Though diverse in focus, the two studies were both cited by Ng and Feldman (2015).

The Pajek-generated main path analysis diagram lists only the first author. Hence, Figure 1 gives the impression of 10 distinct and independent papers from different authors. Though the first author differs, these publications are collaborative efforts of the same academics. For example, Treviño is the coauthor of Treviño et al. (2000), Detert et al. (2007), and Schaubroeck et al. (2012), while Mayer is also the coauthor of Mayer et al. (2009) and Walumbwa et al. (2011). Such phenomenon indicates that the evolution of ethical leadership research has been dictated by the same group of scholars being coauthors of different papers and citing each other's work. Not only are there few newcomers to the field, the knowledge on ethical leadership, dominated by a minority few, has not diffused to a broader community.

Reviewing the linkages between papers published over time showed that despite different research topics examined, social learning theory and social exchange theory constituted the predominant foundation for the mechanisms behind the impact of supervisors' leadership on employee performance and behavior. For instance, a decrease in employee counterproductivity under ethical leadership can be accounted for by social learning theory (Detert et al., 2007) or social exchange theory (Ng & Feldman, 2015). Other studies elucidated the relationship between ethical leadership and follower behavior using both theories. In Mayer et al. (2009), the two theories provided the basis for understanding how ethical leadership influenced group deviance and OCB. On the same two outcome variables, Avey et al. (2011) examined the moderating role of follower self-esteem using the behavioral plasticity hypothesis (Brockner, 1988). Their findings contributed to identifying the conditions under which ethical leadership is more or less effective. Ng and Feldman (2015) also used both theories to explain the relationship of ethical leadership with job attitude and job performance. In their study, trust in a leader is an important mediator. Also using both theories, Walumbwa et al. (2011) explored the mediating role of leader-member exchange, self-efficacy, and organizational identification in the relationship between ethical leadership and employee performance. The abovementioned studies on the role and influence of mediators all have solid theoretical bases and are supported by empirical results.

Taking a different perspective, Schein (1985) provided an explanation of how ethical leadership influences ethical cognitions and behaviors of lower-level followers via ethical culture (Schaubroeck et al., 2012); Piccolo et al. (2010) argued that ethical leadership could enhance the followers' intrinsic motivation through structuring the objective and subjective job characteristics; and Tu and Lu (2013) relied on CET to explain the psychological mechanism between ethical leadership and innovative work behavior via the mediation of intrinsic motivation.

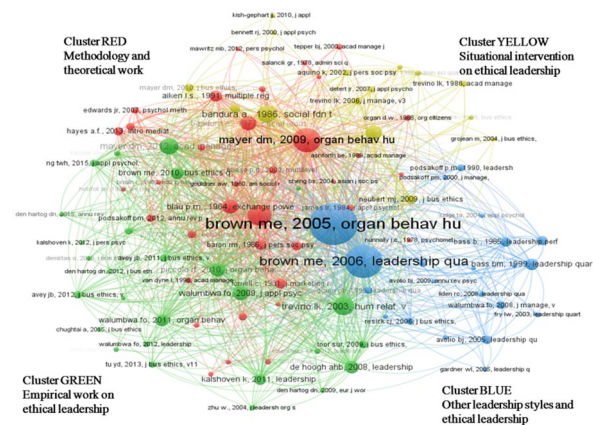


FIGURE 3. Knowledge map of 100 most important articles.

### Document Co-citation Analysis

Figure 3 is the knowledge map generated by VOSviewer using a total of 47,184 works cited in the 1,201 papers collected from WoS. The 100 important papers are analyzed and visually represented in the co-citation network in which only papers that are cited more than 47 times are included for analysis. As seen in Figure 3, the largest node is the work of Brown et al. (2005) with the highest link strength of 7,876. With social learning theory as its theoretical basis, the 10-item Ethical Leadership Scale developed and validated by Brown et al. (2005) was the first instrument for assessing ethical leadership. Its high internal consistency and test-retest reliability also make it the most widely used psychometric scale. Hence, this paper of Brown et al. (2005) is most frequently cited in subsequent related research. The second largest node is the paper of Brown and Trevino (2006) with link strength of 6,323. In their work, the impact of ethical leadership on followers' attitudes and behaviors is explained by the social exchange theory, which was explored in many succeeding studies. Mayer et al. (2009), with link strength of 5,133, is the third largest node. As mentioned previously, their empirical study prompted further investigation on ethical leadership at multidimensions and multilevels.

As can be seen, cluster RED contains 36 papers, most of which are related to the methodology and theory of ethical leadership. Podsakoff et al. (2012) evaluated the procedural and statistical remedies that have been used to control method biases and provide recommendations for minimizing method bias. Their study has been frequently cited by behavior research.

Cluster GREEN comprises 27 papers, most of which were published in the *Journal of Applied Psychology*. These cited references evidenced that scholars conducting empirical work on ethical leadership probed into the psychology behind the impact of ethical leadership on the cognition, motivation, and behavior of organizational members.

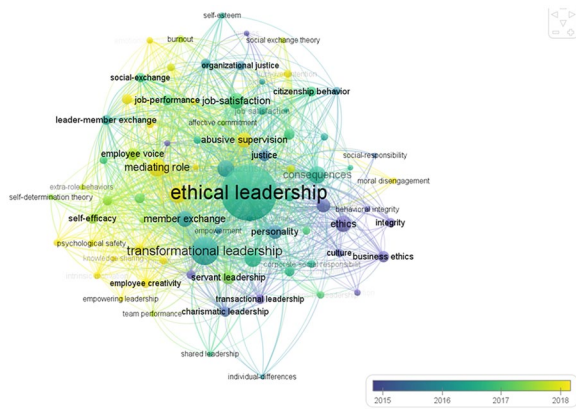


FIGURE 4. *Overlay visualization of most frequent keywords.*

Research focus has shifted in the 15 papers of cluster YELLOW to situational factors affecting leadership effectiveness. These factors include organizational structure and climate as well as characteristics of different roles and followers that may necessitate situational intervention for leadership to be effective. Although social exchange theory and social learning theory have been widely used by scholars to establish the general theory of how ethical leadership influences subordinate behaviors and attitudes, Bandura (1986) combined social learning theory with behaviorism and put forward the social cognitive theory. Distinct from social learning theory, social cognitive theory, with much broader application beyond learning behavior, focuses on the cognitive process, wherein people understand and react to the social environment, and underscores the self-regulation and self-reflection people employ to align their behaviors with internal standards.

Cluster BLUE includes 22 papers, most of which were published in *The Leadership Quarterly* and show different leadership theories including spiritual leadership (Fry, 2003) and transformational leadership (Bass, 1999). These references are important when authors in the ethical leadership field try to compare the effectiveness of ethical leadership with other leadership styles. Note that Brown's publications have the highest total link strength attributes, indicating Brown's work is highly relevant and applicable to the domains of ethical leadership. Other references in the cluster seem less influential in the field.

#### *Keyword Co-occurrence Analysis*

The 1,201 records contain 4,032 keywords. First, the top 100 keywords that appeared more than 21 times were captured, and then keywords that were too general or too common, such as work, model, impact, value, and management, were excluded. Figure 4 shows the overlay visualization of the most frequent keywords, with the size of the node indicative of its importance. The distance between two nodes tells

their relationship; hence, the closer the node, the more related their contents. Keywords clustered according to the year of publication are marked with nodes of different colors. As illustrated by the time scale from 2015 to 2018, the time period during which the most frequent keywords appear, the color of the node denotes when the keyword first appeared; thus, the darker the color, the longer the keyword-related content has been studied. Keyword co-occurrence analysis revealed the evolution of ethical leadership research from integrity; ethics to other leadership styles, such as transformational leadership and servant leadership; and expanding further to abusive supervision, organizational justice, and job satisfaction. Keywords marked with yellow nodes refer to new topics, including psychological safety, employee creativity, and knowledge sharing, which are important to the survival of a company in a highly competitive business environment. Among studies on these new topics, Ma et al. (2013) deduced the relationship between ethical leadership and employee creativity using both social exchange theory and social learning theory with knowledge sharing as a mediator while Men et al. (2020) examined the mediating role of psychological safety in the relationship between ethical leadership and knowledge hiding in the light of social learning theory.

A significant contribution of the abovementioned studies is theoretical advancement through their theory elaboration (Fisher & Aguinis, 2017). Advances can be achieved by adding new elements such as mediators and moderators, by incorporating perspectives from other theories to make existing theories on ethical leadership more complete and comprehensive, or by obtaining more empirical evidence to make them more exact and precise in prediction. From the 1,201 documents collected from the WoS database in this study, 483 were screened using big data analytics from the "theory" topic category. Keyword co-occurrence analysis was then applied to these theory-related documents, and then, according to their total link strength, 10 theories applicable to ethical leadership research were mined and ranked as listed in Table 1.

Ethical leadership is the independent variable explored in the studies using the first seven theories and the social rules system theory shown in Table 1. For example, from the perspective of conservation of resources theory, ethical leaders provide job resources by successfully defending employees, protecting them from unfairness, or mobilizing job resources, which positively affect employee well-being, thereby reinvesting excess resources back into the organization by helping colleagues (Kalshoven & Boon, 2012). Then, according to social cognitive theory, ethical leaders offer clear ethical guidance to employees in which they have a clear view of the appropriateness and inappropriateness of their conduct, which in turn helps foster job satisfaction (Tu et al., 2017). Cognitive evaluation theory proposes that ethical leaders give meaning to work, embed moral standards in the job, and

TABLE 1  
*Top 10 Theories Applied to Ethical Leadership Research*

Rank	Theory	Example study
1	Social exchange theory (Blau, 1964)	Ng and Feldman (2015)
2	Social learning theory (Bandura, 1977)	Walumbwa et al. (2011)
3	Self-determination theory (Deci & Ryan, 2012)	Ouakouak et al. (2020)
4	Social identity theory (Tajfel, 1974)	Lee (2016)
5	Conservation of resources theory (Hobfoll, 1989)	Kalshoven and Boon (2012)
6	Social cognitive theory (Bandura, 1986)	Tu et al. (2017)
7	Cognitive evaluation theory (Deci & Ryan, 1985)	Tu and Lu (2013)
8	Power dependence theory (Emerson, 1962)	Zhang et al. (2020)
9	Trait activation theory (Tett & Guterman, 2000)	Xu and Yu (2019)
10	Social rules system theory (Burns & Flam, 1987)	Mostafa et al. (2021)

highlight the impact of tasks on the accomplishment of the organizational goals, and their employees tend to consider their work meaningful, which in turn increases their intrinsic motivation (Tu & Lu, 2013). Contrary to prior research, a recent work by Mostafa et al. (2021) adopted the social rules system as the theoretical basis and disengagement of the mediator to study its impact on the relationship of ethical leadership with job satisfaction, organizational commitment, and turnover intentions.

As for studies using the remaining two theories in Table 1, ethical leadership was taken as the moderator and outcome variable, respectively. In the light of trait activation theory, Xu and Yu (2019) examined the moderating role in the relationship of ethical leadership with core self-evaluation and career adaptability. Zhang et al. (2020) applied the power dependence theory to examine whether, how, and when leaders engage in ethical leadership in response to status threats. It was hypothesized that leaders facing status threats are likely to develop ethical leadership behaviors toward subordinates.

Figure 5 shows the keyword co-occurrence network maps under four top-ranked underlying theories of ethical leadership. Distinct in their connections depicted, Figure 5(a)(b) appears much more complicated than Figure 5(c)(d). Such results reveal that not only are social exchange theory and social learning theory predominantly used in the majority of studies examining the impact of ethical leadership on subordinate behavior and attitude, but they also have a broad range of interpretations. These two principal theories, whether applied alone or together, have confirmed the relationships of ethical leadership with many common organizational behavior outcome variables, including OCB, job satisfaction, psychological empowerment, voice behavior, and psychological empowerment. Among them, the impact of ethical leadership on OCB has also been examined in the light of self-determination theory and social identity theory (Figure 5[c][d]). Moreover, relationships unaccounted for by social exchange theory and social learning theory, including

those with organizational commitment, organizational support, and turnover intention, have been studied using self-determination theory (Figure 5[c]), while those with organizational identification and organizational commitment have been investigated using social identity theory (Figure 5[d]).

### Conclusion

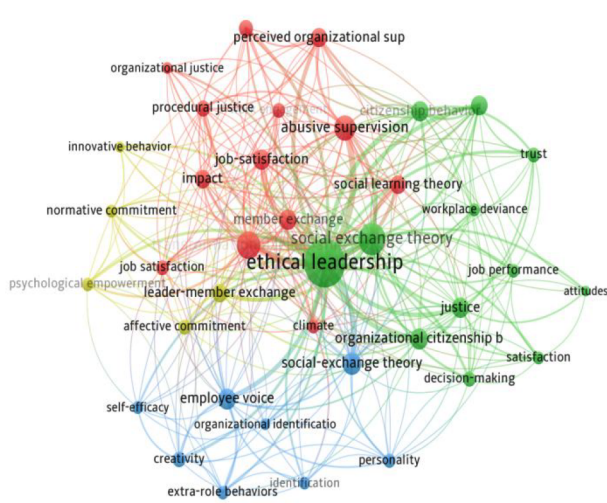
This article describes a systematic review of ethical leadership research, analyzing bibliographic data to map the body of research and its characteristics, including the evolution in ethical leadership research, core works, topical foci, and theoretical evolutions. Several insights are worth highlighting.

First, the impressive 10 distinct publications are collaborated efforts of the same academics. The findings imply that the evolution of ethical leadership research has been dictated by the same group of scholars being coauthors of different papers. Not only are there few newcomers to the field, but the knowledge of ethical leadership, dominated by a minority few, has not diffused to a broader community.

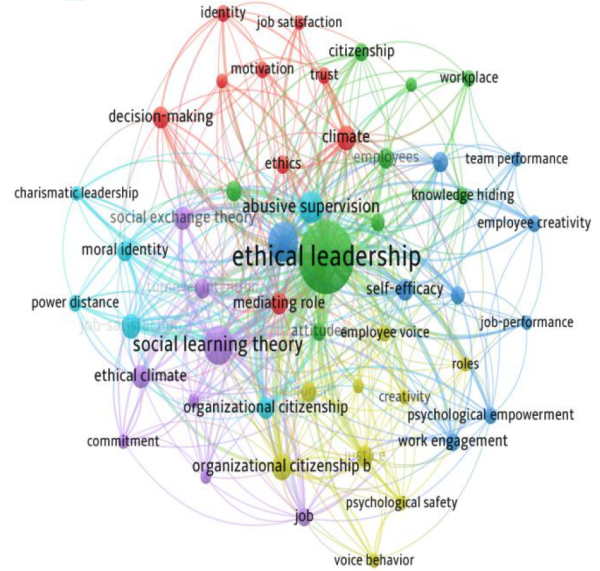
Second, the results show that scholars conducting empirical work on ethical leadership probed into the psychology behind the impact of ethical leadership on the cognition, motivation, and behavior of organizational members. The results revealed the evolution of ethical leadership research from integrity and ethics and further expanding to abusive supervision, organizational justice, and job satisfaction. Our analysis also shows that psychological safety, employee creativity, and knowledge sharing are clearly highlighted in recent research. The results imply that ethical leadership is of importance to the survival of a company in a highly competitive business environment nowadays.

Third, the results show that the predominant social learning theory and social exchange theory in ethical leadership provide theoretical mechanisms between supervisors' leadership and employee performance and behavior.





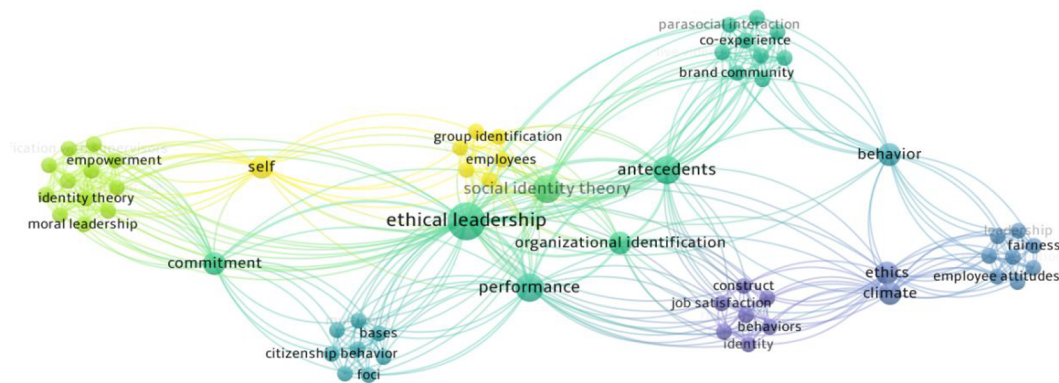
(a) Social exchange theory



(b) Social learning theory



(c) Self-determination theory



(d) Social identity theory

FIGURE 5. Keyword co-occurrence network map of top four underlying theories of ethical leadership.

For further incremental theoretical contribution, studies have explored the mediating role of trust, leader-member exchange, self-efficacy, and organizational identification in the relationships of ethical leadership with job attitude

and job performance. There may be room for further breakthroughs with different theories applied in a single study to explore the relationship between ethical leadership and employee performance.

Finally, the results show that, over time, the focus of ethical leadership research has shifted to employee creativity and knowledge sharing, but the theories applied in the investigations remain the dominant social exchange theory and social learning theory. The use of self-determination theory and social identity theory to account for the relationships of ethical leadership with OCB, organizational commitment, turnover intention, and psychological empowerment has been reported. Hence, the application of self-determination theory and social identity theory to examine aspects unaccountable by social exchange theory and social learning theory merits further efforts. In particular, there may be new perspectives brought in by taking ethical leadership as the moderator and outcome variable and using trait activation theory and power dependence theory to account for the mechanisms involved.

Research in the field of education was not absent from exploring the ethical issues of leaders. However, we found that the knowledge in ethical leadership was developed from the organizational point of view rather than from developing educational distinctive models and empirical approaches. Research is suggested to advocate examining the robustness and validity of ethical leadership theory and the mechanism linking ethical leadership and its outcomes in the context of education.

The current study explored the specialty structure of ethical leadership using co-citation-based science mapping. The visuals are a reflection of the layout and partitioning of bibliographic units that are the primary output of the mathematics behind the mapping (Boyack and Klavans, 2010). Future studies should conduct similar approaches—namely, bibliography coupling and citation analysis—to obtain more accurate results in a quantitative fashion. In addition, ethical leadership literature downloaded from the WoS database contains many studies unrelated to ethical leadership, which need to be removed through human inspection. Future studies can consider using text mining to reduce possible errors so as to enhance research accuracy. Due to space and time limitations, some focuses are neglected in the current study—that is, the balance between empirical and conceptual studies and the diversification of approaches to research. Future studies should consider the emphasis and follow the analysis framework as in Heffeman et al. (2022) and McGinity et al. (2022). The results enable better understanding of the areas that are potentially under-researched and the ways ethical leadership might be creating and reproducing power dynamics in research.

There are limitations to the bibliometric study. First, while bibliometrics provides significant information regarding the structure of ethical leadership knowledge base, it does not provide substantive findings from the reviewed documents since the science-mapping approach is built on the metadata of selected documents. Diving deeply into the content of the documents contributes to capturing the distinct nuances and

explains theoretical and practical implications. Second, documents included in the study do not fully represent the literature on ethical leadership since it was not possible to combine documents from different databases. Nevertheless, we hope and believe the study results can inspire further research to contribute new insights into ethical leadership theory and research.

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