



Bibliometric Analysis of Ethical Leadership Research in Social Sciences

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Summary

This study aims to retrieve and analyze the publications on ethical leadership in social sciences. SSCI database of WoS was searched between 1987-2017 for this purpose through bibliometric analysis approach. VOS Viewer software was used to analyze and visualize various features of publications; thereby, co-occurrences of author keywords, bibliographic coupling of the journals, bibliographic coupling of the countries, bibliographic coupling of the authors, bibliographic coupling of the publications, and bibliographic coupling of the institutions were analyzed. The most important country in this field was the USA, the second and the third ones were China and the Netherlands. The most important author in this field was Trevino, L.K. and the most important research team was Trevino, L.K. and Brown, M. The most important publication in this field, Brown & Treviño (2006), was authored by this team. The most important institution was Penn State University in the USA, having been employed the most important research team therein. The strongest journal in this field was Journal of Business Ethics and the second one was Leadership Quarterly. The most studied concepts in their relations with ethical leadership were; transformational leadership, performance, organizational citizenship behavior, perceptions of followers, ethics, decision-making, authentic leadership, leader-member exchange, values, job satisfaction, business ethics, trust, personality, commitment, and charismatic leadership.

Keywords: Ethical leadership, bibliometric analysis, bibliographic coupling.



Introduction

Ethical leadership has attracted the attention of the researchers for a few decades. In the leadership literature, the moral side of leadership was a matter of interest (Brown, 2007). However, ethical leadership has been defined and discriminated as an independent leadership style within the last two decades (Brown & Trevino, 2006).

Ethical leader's source of power depends on these three leadership styles; servant leadership, authentic leadership and principle-based leadership. Servant leadership means prioritizing service instead of directing the followers (Greenleaf, 2002). Authentic leadership means the authenticity, mastery, and trustworthiness of a leader (Evans, 2000). Principle-based leadership means leading others based on specific, eternal, and unchanging principles (Covey, 2003; Starratt, 2003). Servant leadership and authentic leadership were defined as dimensions of ethical leadership in the first theorizations, but some researchers proved that those concepts could be measured and discriminated as separate constructs (Konan, Demir, & Karakus, 2015; Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).

Ethical leadership is positively correlated to various follower outcomes such as positive perceptions of leader interactional fairness and ethical behaviors of the followers (Bedi, Alpaslan, & Green, 2016). Ethical leadership is important to create an ethical climate, develop commitment of the followers, and decrease the probability of turnover intentions (Demirtas & Akdogan, 2015; Demir & Karakus, 2015). Positive perceptions of the followers on ethical leadership behaviors were also proven to cause various positive work outcomes such as; trust in leader (Brown, Trevino, & Harrison, 2005), higher levels of job satisfaction (Avey, Wernsing, & Palanski, 2012), and lower levels of counterproductive work behaviors (Den Hartog & Belschak 2012).

The aim of this study is to retrieve and analyze all the publications on ethical leadership published in various disciplines of social sciences, thereby making contributions on the development of the literature of this leadership style. This study used "bibliometric analysis" to retrieve and analyze the characteristics of those publications.

"Bibliometrics" term means the application of quantitative analysis methods to analyze various features of the publications (Pritchard, 1969). If the researchers want to understand the research trend of a specific area they can apply those quantitative methods to analyze the related publications according to various characteristics of them



such as; journals, countries of origin, citations, authors, institutions, keywords, and titles. In the recent decade, various visualization tools were developed, allowing the researchers to further analyze the bibliometric features of publications, by extracting citations links, co-occurrences of keywords, bibliographic coupling of the journals, bibliographic coupling of the countries, bibliographic coupling of the authors, and bibliographic coupling of the publications. As McBurney & Novak (2002) stated, the traditional ones were more descriptive methods (e.g. examining the number of items published by different authors, institutions, countries, and journals); however, the modern ones are more evaluative methods allowing the researchers to analyze more complex relationships between various characteristics of those publications (e.g. citation analysis, citation links, or bibliographic coupling).

Web of Science (WoS) is the most prestigious institution that has stored the scientific information for nearly half an era. For the disciplines in social sciences, Social Sciences Citation Index (SSCI) is the most important database of WoS. This research used SSCI database to retrieve and analyze the publications on ethical leadership in social sciences.

Methodology

Web of Science was searched at the end of 2017 by the researcher to determine all the publications on “ethical leadership”. The “ethical leadership” keyword was searched in the "topic" field. It means, the “ethical leadership” keyword was searched in the titles, abstracts, author keywords, and keywords plus of all the publications. In Web of Science Core Collection, only the "Social Sciences Citation Index (SSCI)" database was searched among various Citation Indexes. Among the WoS-SSCI research areas, only those areas were selected and the number of publications at each discipline were indicated in the brackets; Business Economics (444), Public Administration (16), Education Educational Research (25), Psychology (198), Behavioral Sciences (2), Psychiatry (1), Social Sciences Other Topics (205), Sociology (4), and Government Law (2). Some publications were categorized within more than one category by WoS. The topics of the publications retrieved were checked if they really mentioned ethical leadership or not. The most relevant ones were included in this study.



Table 1.

Publication Records and Percentages by Publication Years

Publication Years	Publication Records	% of 550
2017	84	15.273
2016	76	13.818
2015	60	10.909
2014	64	11.636
2013	52	9.455
2012	44	8
2011	49	8.909
2010	32	5.818
2009	23	4.182
2008	19	3.455
2007	4	0.727
2006	11	2
2005	3	0.545
2004	8	1.455
2003	3	0.545
2002	3	0.545
2001	6	1.091
2000	3	0.545
1998	2	0.364
1996	2	0.364
1995	1	0.182
1987	1	0.182

"Bibliometric analysis" and "bibliometric visualization methods" were used in this study. Bibliometric analysis uses some descriptive and evaluative methods to



analyze the characteristics of publications quantitatively (McBurney & Novak, 2002). In bibliometric analysis, various bibliometric visualizing methods are used (Garfield, 2009). VOSviewer is among the most prominent tools designed as a computer software and used to visualize the bibliometric data (Eck and Waltman, 2010; Eck and Waltman, 2014a; Eck and Waltman, 2014b; Eck, Waltman, & Glanzel, 2017). In this study, VOS Viewer software was used to analyze and visualize the bibliometric data. Using this software; co-occurrences of author keywords, bibliographic coupling of the journals, bibliographic coupling of the countries, bibliographic coupling of the authors, bibliographic coupling of the publications, and bibliographic coupling of the institutions were analyzed.

A total of 550 publications were retrieved and analyzed in this article. According to the document types, most of those publications were articles (489 items, 89%), and the others were reviews (24 items, 4%), proceeding papers (15 items, 2%), book reviews (14 items, 2%), meeting abstracts (12 items, 2%), editorial materials (9 items, 1%), book chapters (6 items, 1%), retracted publications (3 items, 0.5%), and corrections (2 items, 0.3%).

Publication records and percentages by publication years are presented in Table 1. The results show that the first publication on ethical leadership in SSCI database appeared in 1987, the second one appeared in 1995, and then each year had a different number of publication records. Starting from 2008, the number of publications increased meaningfully. At the end of 2017, the number of publications reached to the highest point with 84 publications.

Results

In this part, the results of the analyses performed by VOS Viewer are presented. Co-occurrences of author keywords, bibliographic coupling of the journals, bibliographic coupling of the countries, bibliographic coupling of the authors, bibliographic coupling of the publications, and bibliographic coupling of the institutions are presented herein.

Co-Occurrences of Author Keywords

Co-occurrences of author keywords are shown in Figure 1. The minimum number of occurrences of a keyword was 36. Of the 2091 keywords, 25 met the



threshold. For each of the 25 keywords, the total strength of the co-occurrence links with other keywords was calculated. The keywords with the greatest total link strength were selected. “Ethical leadership” was the strongest one with 406 occurrences and 1255 total link strength. The second one was “transformational leadership” with 133 occurrences and 509 total link strength. The third one was “performance” with 112 occurrences and 459 total link strength. For the remaining part of the list, the first numbers show the occurrences and the second ones show the total link strength: model (109; 453), perspective (103; 427), behavior (100; 418), leadership (104; 408), organizations (68; 309), organizational citizenship behavior (68; 268), work (68; 268), perceptions (52; 238), ethics (60; 233), management (53; 232), decision-making (58; 224), antecedents (46; 212), authentic leadership (58; 212), member exchange (53; 212), consequences (47; 209), values (47; 192), job satisfaction (45; 188), business ethics (45; 182), trust (40; 176), personality (36; 165), commitment (36; 162), and charismatic leadership (38; 141).

In those publications, “ethical leadership” was the main concept, and those terms are the clichés commonly used in the keywords; model, perspective, behavior, leadership, organizations, work, management, antecedents, and consequences. The remaining of this list shows the most frequently studied concepts in relation with the main concept of ethical leadership.

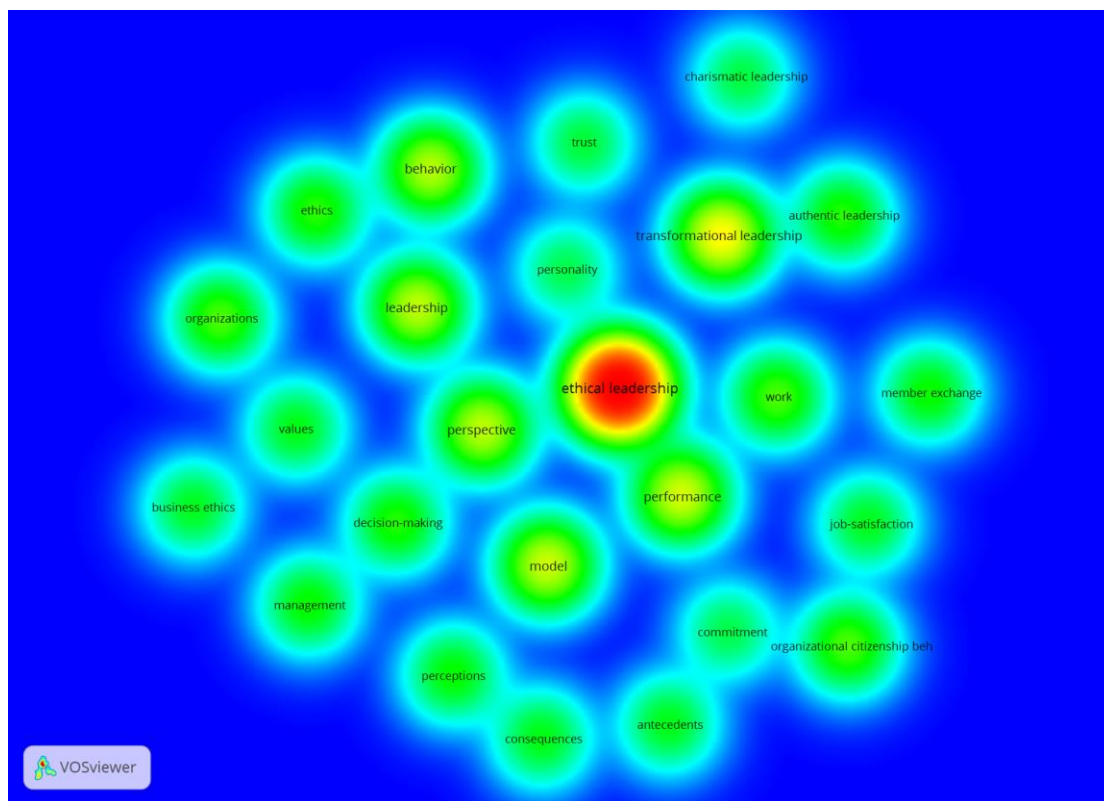


Figure 1. Co-occurrences of author keywords (density visualization)

Bibliographic Coupling of the Journals

Figure 2. shows the bibliographic coupling of the journals with network visualization. The minimum number of publications of a journal was 5. Of the 125 sources, 12 met the thresholds. For each of the 12 journals, the total strength of the bibliographic coupling links with other journals was calculated. The journals with the greatest total strength link were selected. Journal of Business Ethics had the greatest number of publications (166), 3263 citations and 57612 total link strength. The second one was Leadership Quarterly with 51 publications, 2763 citation, and 35058 total link strength. For each journal, the first number shows the number of publications, the second one shows the number of citations, and the third one shows the total link strength. The other journals in this list were as follows; Business Ethics Quarterly (11; 244; 10907), Journal of Applied Psychology (11; 1010; 8133), Journal of Management (10; 847; 7802), Journal of Leadership & Organizational Studies (10; 123; 7612), Organizational Behavior and Human Decision Processes (8; 1570; 7177), Academy of Management Journal (9; 463; 7022), Journal of Organizational Behavior (7; 292; 6212), Human Relations (6; 412; 5036), European Journal of Work and Organizational



Psychology (5; 172; 4671), and Canadian Journal of Administrative Sciences (8; 251; 3602).

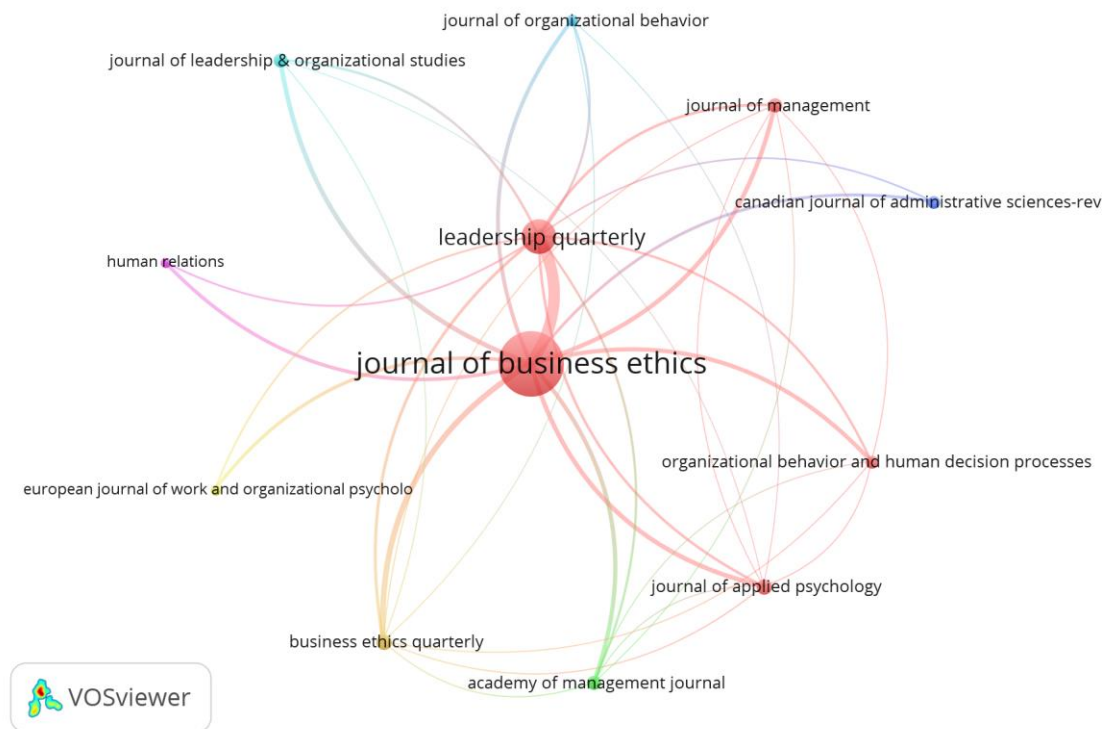


Figure 2. Bibliographic coupling of the sources (network visualization)

Bibliographic Coupling of the Countries

Figure 3 shows the bibliographic coupling of the countries with overlay visualization. The minimum number of publications of a country was 10. Of the 44 countries, 11 met the thresholds. For each of the 11 countries, the total strength of the bibliographic coupling links with other countries was calculated. The countries with the greatest total link strengths were selected. Number one was the USA with 239 publications, 10115 citations, and 202080 total link strength. For the other countries, the first number is the number of publications, the second one is the number of citation, and the third one is total link strength. Peoples Republic of China was the second (77; 997; 110072) and Netherlands was the third one (40; 1152; 65530). The other countries were; Germany (33; 251; 53176), Canada (48; 1203; 50704), England (43; 775; 46605), Australia (37; 433; 45560), Taiwan (22; 137; 32595), Spain (16; 242; 24423), Turkey (19; 95; 23612), and South Korea (12; 123; 18519).

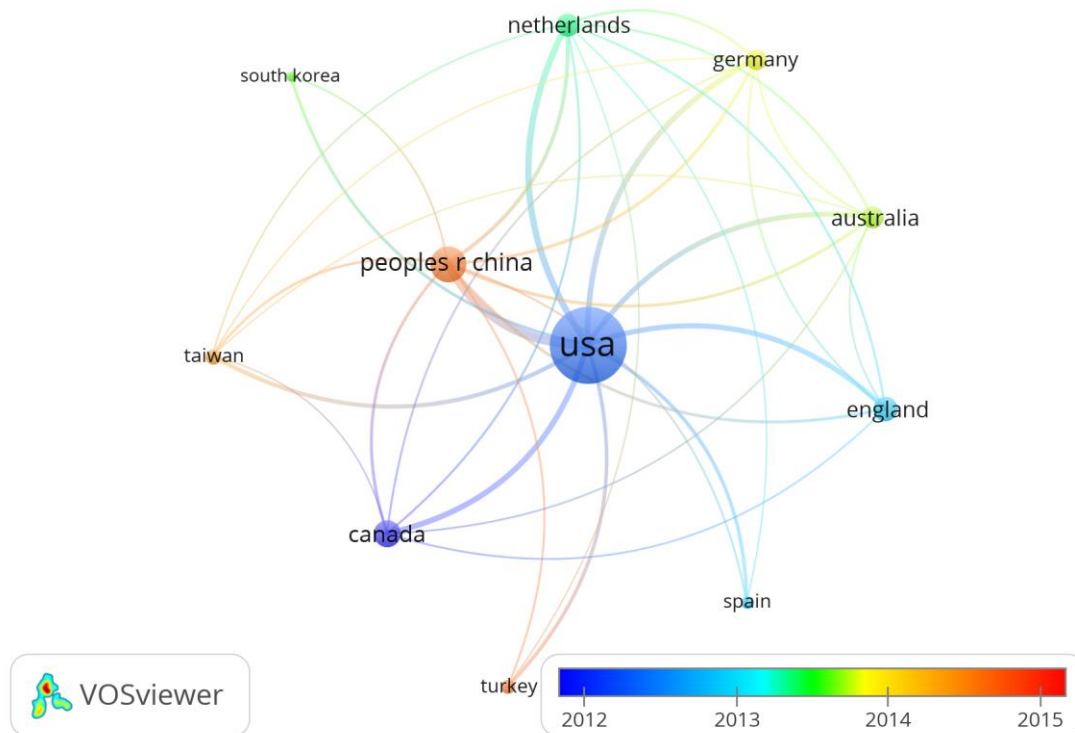


Figure 3. Bibliographic coupling of the countries (overlay visualization)

Bibliographic Coupling of the Authors

Figure 4. shows the bibliographic coupling of the authors. The minimum number of publications for an author was 6 and the minimum number of citation for an author was 50. Of the 1064 authors, 23 met the thresholds. For each of the 11 authors, the total strength of the bibliographic coupling links with other authors was calculated. 13 authors with the greatest total link strength were selected. The first author was Trevino, L.K. with 14 publications, 3057 citations, and 7264 total link strength. For each author, the first number is the number of publications, the second one is the number of citations, and the third one is total link strength. The other authors are shown consecutively; Den Hartog, D.N. (10; 783; 6969), Brown, M.E. (11; 2247; 6560), Walumbwa, F.O. (12; 1573; 6155), Mayer, D.M. (10; 1155; 6012), De Hoog, A.H.B. (6; 498; 4914), De Cremer, D. (11; 124; 4689), Kalshoven, K. (6; 261; 4687), Van



Dijke, M. (10; 116; 4343), Greenbaum, R.L. (7; 354; 3714), Hannah, S.T. (6; 214; 3317), Palanski, M.E. (6; 295; 3159), and Resick, C.J. (6; 289; 2981).

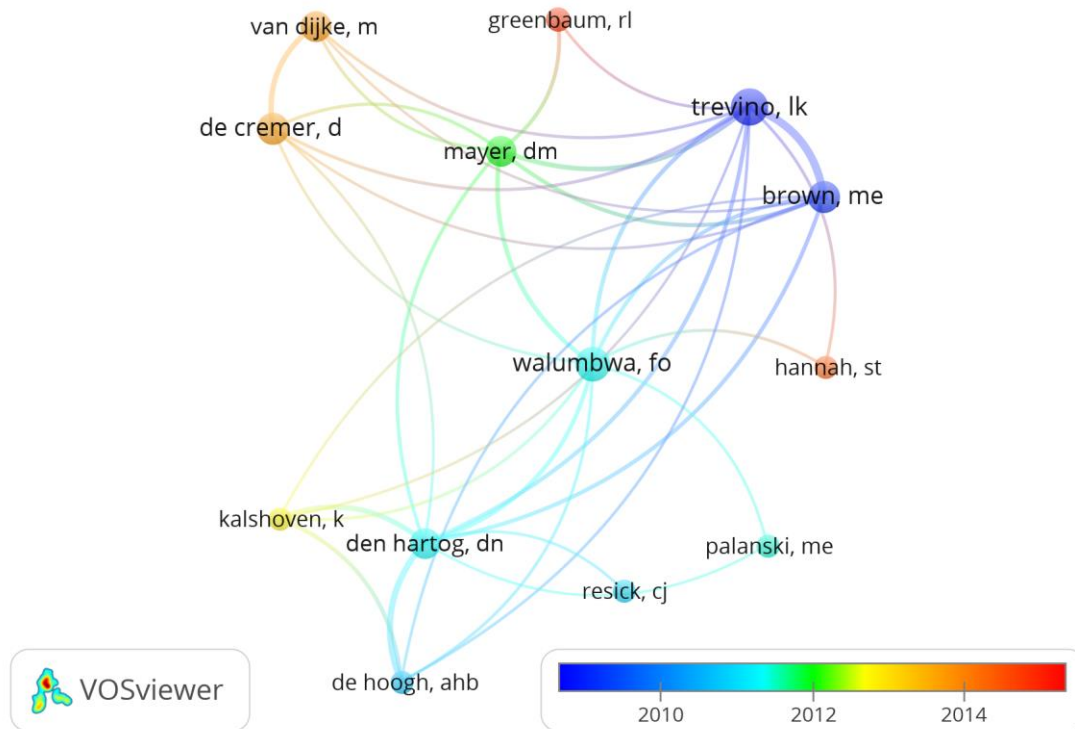


Figure 4. Bibliographic coupling of the authors (overlay visualization)

Bibliographic Coupling of the Publications

Figure 5 shows the bibliographic coupling of the publications with overlay visualization. The minimum number of citations for each publication was 200. Of the 550 documents, 10 met the threshold. For each of the 10 publications, the total strength of the bibliographic coupling links with other publications was calculated. The documents with the greatest total link strength were selected. The number one was Brown (2006) with 716 citations and 133 total link strength. Although Brown (2005) was the most cited article in this field with 919 citations, it was the second strongest article in this field with 116 total link strength. The third one was Walumbwa (2008) with 577 citations and 106 total link strength. For each publication, the first number shows the number of citations and the second one shows total link strength. The other publications are listed consecutively; Mayer [2009; (417; 87)], Gardner [2011; (218; 82)], De Hoogh [2008; (224; 75)], Trevino [2003; (309; 67)], Walumbwa [2009; (265; 58)], Mayer [2012; (232; 51)], and Walumbwa [2010; (200; 47)].

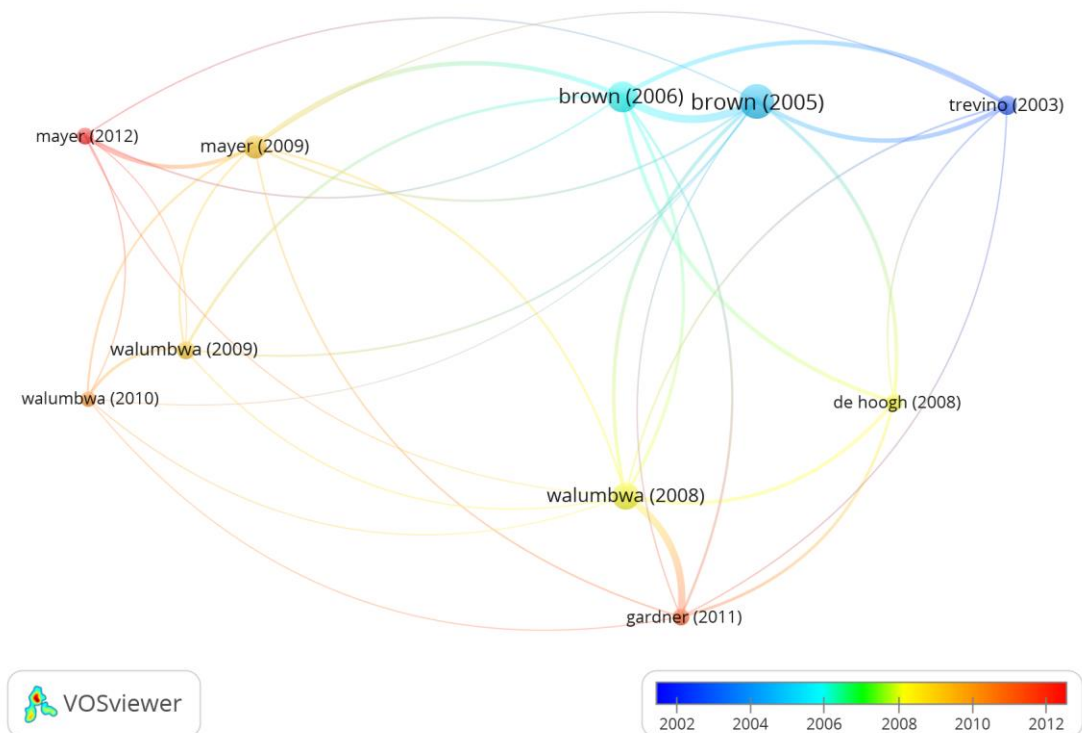


Figure 5. Bibliographic coupling of the publications (overlay visualization)

- Notes: Brown (2006): Brown & Treviño (2006);
 Brown (2005): Brown, Treviño, & Harrison (2005);
 Walumbwa (2008): Walumbwa, Avolio, Gardner, Wernsing, & Peterson (2008);
 Mayer (2009): Mayer, Kuenzi, Greenbaum, Bardes, & Salvador (2009);
 Gardner (2011): Gardner, Cogliser, Davis, & Dickens (2011);
 De Hoogh (2008): De Hoogh & Den Hartog (2008);
 Trevino (2003): Treviño, Brown, & Hartman (2003);
 Walumbwa (2009): Walumbwa & Schaubroeck (2009);
 Mayer (2012): Mayer, Aquino, Greenbaum, & Kuenzi (2012);
 Walumbwa (2010): Walumbwa, Hartnell, & Oke (2010).

The strongest publication in the field of ethical leadership was authored by Brown & Treviño (2006), titled “Ethical leadership: A review and future directions”. In this literature review, they focused on the emerging construct of ethical leadership and they compared this concept with some other related concepts that also share a common moral dimension of leadership (e.g., spiritual, authentic, and transformational leadership). After a thorough review of the related literature, they offered propositions about the antecedents and consequences of ethical leadership. They also identified some questions to be answered in the future and discussed their implications. They indicated that ethical leadership was a largely unexplored area that offered researchers opportunities for new discoveries.



The second strongest article in this field was authored by Brown, Treviño, & Harrison (2005), titled “Ethical leadership: A social learning perspective for construct development and testing”. In this research article, they proposed that social learning theory was a theoretical basis to understand ethical leadership and they offered a constitutive definition of this concept. In seven interlocking studies, they investigated various aspects of this concept. They developed and tested a new scale to measure ethical leadership, studied its correlations with other concepts in a nomological network, and showed ethical leadership’s predictive validity for important employee outcomes. Ethical leadership was correlated with consideration behavior, honesty, trust in the leader, interactional fairness, socialized charismatic leadership (as measured by the idealized influence dimension of transformational leadership), and abusive supervision. As a result, ethical leadership predicted the consequences of perceived effectiveness of leaders, followers’ job satisfaction and dedication, and their willingness to report problems to management.

The third strongest publication in this field was authored by Walumbwa, Avolio, Gardner, Wernsing, & Peterson (2008), titled “Authentic leadership: Development and validation of a theory-based measure”. In this article, they developed and tested a measure of authentic leadership using five different samples obtained from China, Kenya, and the United States. Confirmatory factor analyses supported a higher order, multidimensional model of the authentic leadership construct (the Authentic Leadership Questionnaire [ALQ]) comprising of four dimensions such as; leader self-awareness, relational transparency, internalized moral perspective, and balanced processing. This article has been included in this bibliometric analysis, because, “authentic leadership” concept was once considered as a sub-dimension of ethical leadership. However, the result of this study showed this concept can be taken up as an independent structure and they demonstrated the predictive validity for the ALQ measure for important work-related attitudes and behaviors, beyond what ethical and transformational leadership offered. Also, the results showed a positive relationship between authentic leadership and performance evaluated by the supervisors.

Bibliographic Coupling of the Institutions

Figure 6 shows the bibliographic coupling of the institutions with overlay visualization. The minimum number of publications for an organization was 9. Of the



532 organizations, 18 met the thresholds. For each of the 18 organizations, the total strength of the bibliographic coupling links with other organizations was calculated. 11 organizations with the greatest total link strength were selected. Penn State University (USA) was the number one with 24 publications, 3240 citations, and 10472 total link strength. Arizona State University (USA) was the second with 18 publications, 1646 citations, and 8779 total link strength. The other universities are listed consecutively as follows (first number shows the number of publications, second one shows the number of citations, and the third one shows the total link strength): University of Amsterdam (Netherlands) (13; 830; 7653), Erasmus University Rotterdam (Netherlands) (17; 215; 7513), University of Michigan (USA) (11; 731; 6209), Drexel University (USA) (10; 305; 5551), Wuhan University (China) (9; 70; 5460), Michigan State University (USA) (10; 730; 5330), University of Central Florida (USA) (9; 759; 5143), Zhejiang University (China) (10; 55; 5063), and University of Washington (USA) (9; 955; 4367).

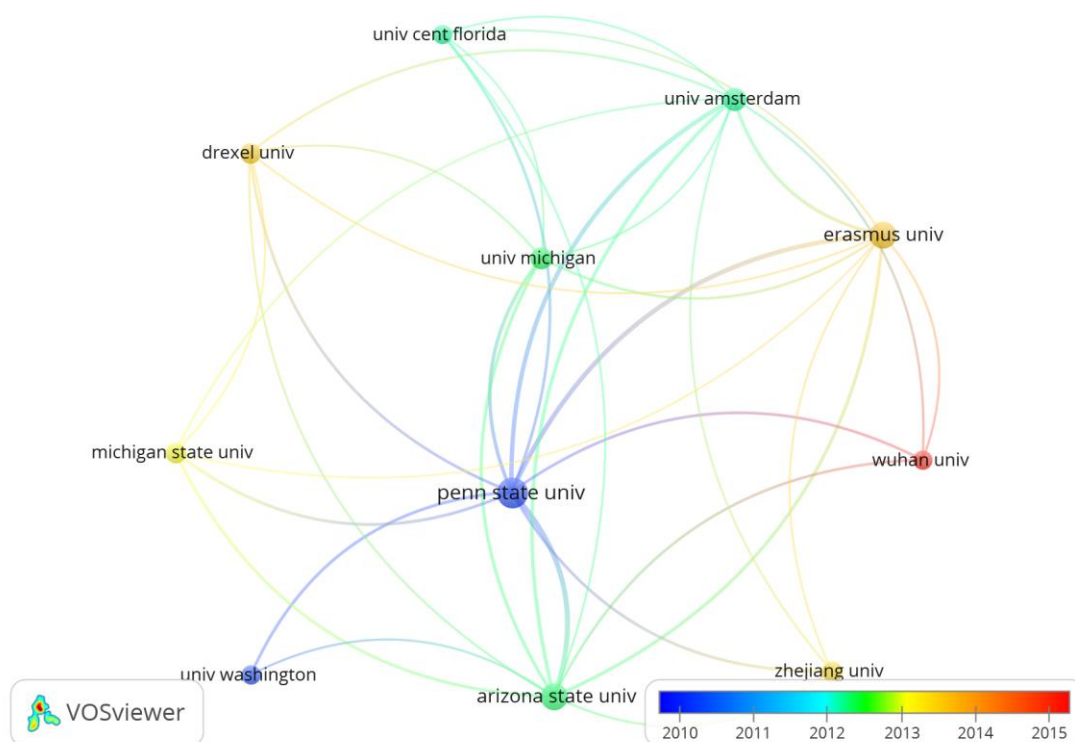


Figure 6. Bibliographic coupling of institutions (overlay visualization)

Discussion



In this research, the publications on ethical leadership in social sciences were analyzed using SSCI database of WoS through bibliometric analysis approach. VOS Viewer software was employed to analyze and visualize various features of those publications; thereby, co-occurrences of author keywords, bibliographic coupling of the journals, bibliographic coupling of the countries, bibliographic coupling of the authors, bibliographic coupling of the publications, and bibliographic coupling of the institutions were analyzed.

The results of the co-occurrences of author keywords analysis showed that the researchers studied those concepts most frequently in relation with the main concept of ethical leadership; transformational leadership, performance, organizational citizenship behavior, perceptions of followers, ethics, decision-making, authentic leadership, leader-member exchange, values, job satisfaction, business ethics, trust, personality, commitment, and charismatic leadership.

The analysis on the bibliographic coupling of the journals showed that the strongest journal in this field was Journal of Business Ethics and the second one was Leadership Quarterly. The other important journals were; Business Ethics Quarterly, Journal of Applied Psychology, Journal of Management, Journal of Leadership & Organizational Studies, Organizational Behavior and Human Decision Processes, Academy of Management Journal, Journal of Organizational Behavior, Human Relations, European Journal of Work and Organizational Psychology, and Canadian Journal of Administrative Sciences.

The analysis on the bibliographic coupling of the countries showed that the strongest country of origin in the field of ethical leadership was the USA with a great difference. The second one was China and the third one was Netherlands. The other important countries were; Germany, Canada, England, Australia, Taiwan, Spain, Turkey, and South Korea.

The analysis on the bibliographic coupling of the authors showed that the strongest author in this field was Trevino, L.K. with a great difference. He had the highest number of publications, the highest number of citations, and had the greatest total link strength. The second strongest author was Den Hartog, D.N. and the third one was Brown, M.E. The other important authors were; Walumbwa, F.O., Mayer, D.M.,



De Hoog, A.H.B., De Cremer, D., Kalshoven, K., Van Dijke, M., Greenbaum, R.L., Hannah, S.T., Palanski, M.E., and Resick, C.J.

The analysis on the bibliographic coupling of the publications showed that the most important publication in the literature of ethical leadership was Brown & Treviño (2006), the second one was Brown, Treviño, & Harrison (2005), and the third one was Walumbwa, Avolio, Gardner, Wernsing, & Peterson (2008). The other important publications were; Mayer, Kuenzi, Greenbaum, Bardes, & Salvador (2009), Gardner, Cogliser, Davis, & Dickens (2011), De Hoogh & Den Hartog (2008), Treviño, Brown, & Hartman (2003), Walumbwa & Schaubroeck (2009), Mayer, Aquino, Greenbaum, & Kuenzi (2012), and Walumbwa, Hartnell, & Oke (2010). The first (Trevino), the third (Brown), and the fourth (Walumbwa) most important authors had three publications they co-authored in this list.

The analysis on the bibliographic coupling of the institutions showed that the strongest institution in this field was Penn State University (USA) with a significant difference. It employed the first (Trevino) and the third (Brown) important authors in this field. The second one was Arizona State University (USA) that employed the fourth important author in this field (Walumbwa). The third one was University of Amsterdam (Netherlands) that employed the second important author in this field (Den Hartog). The other important institutions were; Erasmus University Rotterdam (Netherlands), University of Michigan (USA), Drexel University (USA), Wuhan University (China), Michigan State University (USA), University of Central Florida (USA), Zhejiang University (China), and University of Washington (USA).

The results showed that USA has been the most important country in the field of ethical leadership. USA had the most important institutions in this field that employed the most important authors. The second and the third important countries have been China and the Netherlands. Of the top 11 universities, there were seven universities from USA, two universities from Netherlands, and two universities from China. This finding corroborates the findings of the bibliometric analysis of the countries. The strongest country was USA, the second one was China, and the third one was the Netherlands. Trevino (the strongest author) and Brown (the thirs strongest author) from the USA co-authored three publications of the most important ten



publications and have been the strongest research team in the field of ethical leadership. However, there are many authors and strong research teams from all around the world who work on various aspects of ethical leadership. Ethical leadership is still an area in progress and there are many sides of this concept that can be studied by the other researchers.

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