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MAPPING GLOBAL RESEARCH ON GENDER STEREOTYPES: A BIBLIOMETRIC ANALYSIS THROUGH 2024 BASED ON THE SCOPUS DATABASE

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Abstract: This study aims to map and analyze the intellectual structure and emerging trends in global research on gender stereotypes from 2000 to 2024 through a comprehensive bibliometric approach. The objective is to identify key publication patterns, influential contributors, thematic developments, and geographic distributions while assessing the evolution and interdisciplinary nature of the field. A refined search was conducted on the Scopus database using the query TITLE (gender AND stereotypes) with subject area and document type filters, yielding a final dataset of 168 publications. The data were analyzed using VOSviewer for co-authorship, keyword co-occurrence, and citation network visualizations, and Microsoft Excel for publication trends and frequency counts. The analysis proceeded through three phases: data collection and cleaning, network mapping, and interpretive analysis. Findings reveal a significant increase in scholarly output after 2020, with research clusters forming around: (1) Gender Roles and Socialization, (2) Implicit Biases and Stereotype Threat, and (3) Algorithmic and Media-Driven Biases. Psychology remains the dominant discipline, but contributions from AI ethics, cognitive neuroscience, and behavioral economics are emerging, albeit with limited cross-disciplinary integration. The United States, Germany, and Spain lead in publication output, while Vietnam, India, and Bangladesh represent growing contributors from the Global South. This study provides a foundational overview of the intellectual landscape of gender stereotype research. The findings underscore the need for more interdisciplinary collaboration and methodological diversification, particularly in connecting cognitive science, artificial intelligence, and policy research. These insights have implications for designing evidence-based strategies to address gender bias in education, employment, and digital platforms.

Keywords: gender stereotypes, bibliometric analysis, Scopus database, research trends

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LẬP BẢN ĐỒ NGHIÊN CỨU TOÀN CẦU VỀ KHUÔN MẪU GIỚI: PHÂN TÍCH TRẮC LƯỢNG THƯ MỤC ĐẾN NĂM 2024 DỰA TRÊN CƠ SỞ DỮ LIỆU SCOPUS

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Tóm tắt: Nghiên cứu này nhằm lập bản đồ và phân tích cấu trúc tri thức cũng như các xu hướng mới nổi trong nghiên cứu toàn cầu về khuôn mẫu giới giai đoạn 2000-2024 thông qua phương pháp phân tích trắc lượng thư mục toàn diện. Mục tiêu là xác định các đặc điểm công bố chủ yếu, các tác giả có ảnh hưởng, sự phát triển theo chủ đề, phân bố địa lý, đồng thời đánh giá quá trình tiến hóa và tính liên ngành của lĩnh vực này. Tìm kiếm được thực hiện có chọn lọc trên cơ sở dữ liệu Scopus với truy vấn TITLE (gender AND stereotypes), kết hợp bộ lọc lĩnh vực và loại tài liệu, thu được tập dữ liệu cuối cùng gồm 168 công trình. Dữ liệu được phân tích bằng phần mềm VOSviewer (để trực quan hóa mạng lưới đồng tác giả, đồng xuất hiện từ khóa và trích dẫn) và Microsoft Excel (để thống kê xu hướng công bố và tần suất). Quá trình phân tích gồm ba giai đoạn: thu thập và làm sạch dữ liệu; lập bản đồ mạng lưới; và phân tích diễn giải. Kết quả cho thấy sản lượng học thuật gia tăng đáng kể sau năm 2020, với sự hình thành ba cụm nghiên cứu chính: (1) Vai trò giới và quá trình xã hội hóa; (2) Thiên kiến ngầm và mối đe dọa khuôn mẫu; (3) Thiên kiến do thuật toán và truyền thông chi phối. Tâm lý học vẫn là ngành chủ đạo, song những đóng góp mới từ đạo đức AI, thần kinh học nhận thức và kinh tế học hành vi đã xuất hiện, dù mức độ tích hợp liên ngành còn hạn chế. Về phân bố địa lý, Hoa Kỳ, Đức và Tây Ban Nha dẫn đầu về số lượng công bố, trong khi Việt Nam, Ấn Độ và Bangladesh đại diện cho các quốc gia đang nổi lên từ khu vực phía Nam toàn cầu. Nghiên cứu này cung cấp bức tranh tổng quan nền tảng tri thức trong lĩnh vực nghiên cứu khuôn mẫu giới. Các phát hiện nhấn mạnh sự cần thiết của việc tăng cường hợp tác liên ngành và đa dạng hóa phương pháp, đặc biệt trong việc kết nối khoa học nhận thức, trí tuệ nhân tạo và nghiên cứu chính sách. Những kết quả này mang lại hàm ý quan trọng cho việc xây dựng các chiến lược dựa trên bằng chứng nhằm giải quyết thiên kiến giới trong giáo dục, việc làm và các nền tảng số.

*Từ khó*a: khuôn mẫu giới, phân tích thư mục, cơ sở dữ liệu Scopus, xu hướng nghiên cứu

1. Introduction

Gender stereotypes - preconceived notions about the roles and behaviors suitable for different genders - have been a focal point of scholarly inquiry across various disciplines. These stereotypes perpetuate social inequalities and influence individual behaviors and institutional practices. Understanding the research trajectory on gender stereotypes is essential for identifying gaps, trends, and future directions in this field. Besides, gender stereotypes, defined as generalized beliefs or preconceptions regarding characteristics, attributes, and roles appropriate for individuals based on their gender, remain a pervasive issue in contemporary society, influencing several dimensions, including education, employment, politics, and interpersonal relationships (Ellemers, 2018; Heilman, 2012). The persistence of these stereotypes significantly shapes opportunities and outcomes for individuals worldwide, reinforcing inequalities and hindering efforts toward gender equity and social justice (Eagly et

al., 2012; Ridgeway et al., 2004). Over recent decades, extensive interdisciplinary research has explored the origins, implications, and mitigation strategies of gender stereotypes, highlighting their profound impact across diverse cultural and socio-economic contexts (Diekman et al., 2000; Rudman et al., 2001). However, to move this field forward, it is essential to understand the research path - finding gaps, identifying current trends, and exploring new directions. Bibliometric analysis, a quantitative approach to chart and assess scholarly work in a specific area, offers a valuable tool for this purpose.

As research interest in gender stereotypes grows, the scholarly community has seen a notable increase in studies analyzing these stereotypes through various theoretical lenses and methodological approaches (Haines et al., 2016; Koenig, 2018). Nevertheless, despite this expanding academic focus, the systematic analysis and mapping of global research trends in this critical area remain relatively limited. Bibliometric analysis is a robust quantitative method that identifies research patterns, thematic evolutions, key authors, influential publications, and international collaboration networks within a specific scientific domain (Donthu et al., 2021; Zupic et al., 2015). Thus, employing bibliometric techniques presents significant opportunities to provide a comprehensive overview and critical insight into scholarly contributions related to gender stereotypes.

Given this context, our study aims to address the following research questions:

1. *How has the research on gender stereotypes evolved in terms of publication trends and scholarly attention up to 2024?*
2. *Who are the key authors, institutions, and countries leading research on gender stereotypes, and what are the most influential publications shaping this interdisciplinary field?*
3. *What primary research themes have characterized the literature on gender stereotypes, and how have these evolved over the study?*
4. *What emerging areas or themes related to gender stereotypes have appeared recently, and what potential directions can be identified for future research?*

To address these questions, this study will provide a comprehensive bibliometric analysis of the global research landscape surrounding gender stereotypes. The findings are expected to provide valuable insights for researchers, policymakers, and practitioners, contributing to a better understanding of gender-based biases and informing future discussions on strategies to promote gender equality.

2. Literature Review

Gender is often viewed as a socially constructed system of roles, behaviors, and attributes deemed appropriate for individuals based on their perceived sex (Butler et al., 1990; West et al., 1987). Unlike sex, which relates to biological differences, gender is flexible, influenced by context, and shaped by culture. Gender stereotypes are widely held but oversimplified and generalized beliefs about traits, roles, or behaviors usually linked with men and women. These stereotypes can appear in areas like education, work, leadership, media, and digital technology, often reinforcing structural inequalities and restricting personal agency (Eagly et al., 2012; Hentschel et al., 2019). Grasping these concepts is vital for understanding the epistemological basis of this study.

Gender stereotypes, deeply embedded in societal structures, continue to shape perceptions, behaviors, and institutional practices across education, workplaces, media, and artificial intelligence (AI) systems (Eagly et al., 2012; Steele et al., 1998). Traditional social

psychology and cognitive science theories explain how stereotypes form and persist, while emerging disciplines such as AI ethics, cognitive neuroscience, behavioral economics, and digital media studies offer new perspectives on how biases evolve in contemporary society (Ellemers, 2018; Greenwald et al., 1995). Recent research (2020–2024) highlights key interdisciplinary insights into gender stereotypes while also revealing critical gaps in intersectionality, computational bias analysis, and real-world intervention strategies (Blodgett et al., 2020; Shrestha et al., 2022).

Bibliometric analysis is a quantitative research method used to assess the structure and evolution of academic knowledge through publication and citation data (Aria & Cuccurullo, 2017). In the context of gender stereotypes, bibliometric approaches remain relatively underdeveloped. Notable examples include González-Alcaide, (2021), who explored gender disparities in medical research authorship; Huang et al. (2020), who analyzed gender imbalances in global science; and Van den Besselaar and Sandström (2016), who examined productivity and impact differences between male and female researchers (González-Alcaide, 2021; Huang et al., 2020; Van den et al., 2016). However, most of these studies focus on gender in science or academia broadly, rather than the conceptual and applied research concerning gender stereotypes. This study, therefore, aims to fill a critical gap by conducting a focused bibliometric analysis specifically on gender stereotypes, providing a more targeted and thematic exploration of this evolving research domain.

Through this literature review, the study establishes the necessity of mapping and synthesizing knowledge on gender stereotypes using bibliometric methods. Doing so will contribute not only to understanding the dominant research trends but also to identifying neglected subfields and fostering interdisciplinary dialogue.

2.1. Theoretical and Empirical Foundations

Social and Psychological Theories: Foundational theories explain how gender stereotypes form and endure. Social role theory posits that stereotypes stem from historical divisions of labor by gender – for example, women long associated with domestic roles are stereotyped as nurturing. In contrast, men in paid labor are seen as agentic (Priyashantha et al., 2023). Such schemas become self-perpetuating social norms, prescribing "appropriate" behavior for each gender (Gurieva et al., 2022). Stereotype content models further show that gender groups are often perceived along dimensions of communion (warmth) and agency (competence), with women traditionally stereotyped as high in warmth and men as incompetent (Hentschel et al., 2019). Moreover, cognitive theories distinguish explicit stereotypes (conscious beliefs) and implicit biases (automatic associations). Decades of research using measures like the Implicit Association Test indicate that people can harbor unconscious gender-science or gender-career biases even when consciously egalitarian (Napp, 2023).

Cognitive Neuroscience of Gender Bias: Neuroimaging studies (e.g., Barnett et al., 2021) show that gender stereotypes activate distinct brain networks (Barnett et al., 2021). Dual-process models suggest that rapid, automatic evaluations (amygdala) can be regulated by slower, deliberate cognition (prefrontal cortex). Experiments using EEG reveal stronger neural conflict signals when participants process counter-stereotypical content (Haines et al., 2016). However, the translational impact of such findings remains limited, and there is a pressing need for real-world applications (Iaccarino et al., 2020).

Behavioral Economics and Workplace Stereotypes: From a behavioral economics perspective, gender stereotypes function as cognitive heuristics, but often lead to suboptimal

decisions (Ceci & Williams, 2010). Empirical research highlights that hiring biases persist even in structured decision-making settings. For example, men are more frequently rated as "natural leaders" in anonymous résumé reviews (Koenig, 2018). Moreover, AI-driven recruitment tools can reproduce these biases unless corrected by design (Bhatia & Bhatia, 2021).

Digital Media Dynamics: Social media algorithms reinforce binary gender narratives through content personalization (Ward & Grower, 2020). Recommendation engines on platforms like YouTube or TikTok may favor gender-stereotypical content and suppress non-conforming perspectives, affecting public discourse. In parallel, gendered harassment online disproportionately targets women, especially in leadership or activist roles (UNESCO, 2024).

2.2. Bibliometric Approaches to Gender Stereotypes

Bibliometric approaches are increasingly applied to examine gender disparities in authorship, citation impact, and topic visibility. A cross-disciplinary bibliometric review highlighted systemic underrepresentation of women in STEM fields (González-Alcaide, 2021). Similarly, Huang et al. (2020) used bibliometrics to track global trends in female scientific authorship, identifying persistent gaps in senior authorship roles (Huang et al., 2020). Van den Besselaar and Sandström (2016) focused on publication productivity and citation impact by gender, suggesting that resource allocation and mentorship access may contribute to observed differences (Van den et al., 2016). These studies establish both thematic relevance and methodological foundations for the current research.

However, few bibliometric studies have comprehensively addressed the interdisciplinary intersections of gender stereotypes, especially at the convergence of AI, economics, neuroscience, and digital media. This bibliometric gap motivates the present study. Finally, and most crucially for a bibliometric analysis, the objective is not to propose policy frameworks or behavioral interventions directly.

The role of this study is to map and evaluate how existing disciplines contribute to knowledge on gender stereotypes. While the findings may suggest gaps with practical implications, it is beyond the scope of bibliometric work to prescribe solutions or build holistic intervention frameworks. Future empirical and policy research may draw from this bibliometric synthesis to design, test, and implement such strategies.

3. Methodology

3.1. Source for Data Analysis

In conducting this bibliometric study, Scopus was selected as the principal database for collecting and analyzing global research publications on gender stereotypes. Scopus is recognized as one of the largest multidisciplinary databases globally, offering comprehensive coverage of peer-reviewed journal articles, book chapters, and conference proceedings across diverse academic disciplines, including psychology, sociology, education, and gender studies. Its extensive international coverage and robust indexing capabilities make Scopus particularly suitable for bibliometric analyses that aim to capture a broad and nuanced representation of research activities worldwide (Donthu et al., 2021; Falagas et al., 2008).

While other databases, such as Clarivate's Web of Science (WoS), are frequently employed in bibliometric studies due to their rigorous selection criteria and citation indexing quality (Merigó et al., 2015; Mongeon et al., 2016), Scopus is regarded as more advantageous for this research because of its extensive and inclusive journal coverage, superior representation of international publications, and greater visibility it offers to interdisciplinary studies related

to gender stereotypes. Consequently, utilizing Scopus ensures that the bibliometric mapping presented in this paper effectively captures global scholarly trends and accurately reflects the diverse contributions within this interdisciplinary domain.

3.2. Data Collection

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009) to ensure a transparent, replicable, and structured bibliometric review process**.** While initially developed for medical research (Levay & Craven, 2019), the PRISMA framework has gained widespread acceptance across various disciplines, including tourism and hospitality research (Salouw et al., 2024). Its structured methodology for identifying, screening, and selecting relevant literature has also been widely utilized in hospitality and education research (Hallinger, 2011; Ledford et al., 2018).

To construct a robust and thematically relevant dataset, a multi-phase search strategy was adopted using the Scopus database. In the initial exploratory phase, the query "Gender AND Stereotypes" was searched with "Article titles, Abstract and Keywords," and 16,863 documents were found. After changing the search to "Article titles," 2,143 papers were found. A final, targeted query was conducted on January 10, 2025, applying the following refined Boolean search string:

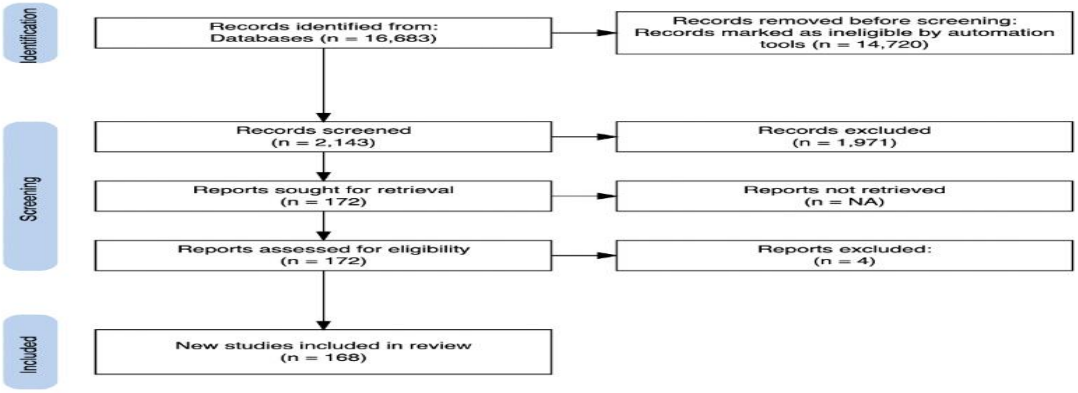
TITLE (gender AND stereotypes) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "PSYC") OR LIMIT-TO (SUBJAREA , "ARTS") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "MEDI")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "ch") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (EXACTKEYWORD , "Gender Stereotypes")) AND (LIMIT-TO (SRCTYPE , "j") OR LIMIT-TO (SRCTYPE , "b")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (OA , "all"))

Scopus filters were applied to ensure both thematic relevance and academic rigor. Subject areas in social sciences, psychology, arts, and behavioral studies were chosen to reflect the interdisciplinary scope of gender stereotype research. Only peer-reviewed documents (articles, book chapters, conference papers) were included, while non-scholarly content was excluded. The keyword "gender stereotypes" was used to maintain thematic consistency, and English-language publications were selected for interpretive accuracy. Open access and journal/book sources further enhanced data reliability. After applying these filters, 168 documents remained. Titles and abstracts were then screened to confirm that gender stereotypes constituted the central research focus. No records were excluded at this stage, yielding the final dataset for bibliometric analysis.

This meticulous and systematic screening ensures that the resulting dataset accurately represents high-quality, relevant scholarly work on gender stereotypes, providing a robust foundation for mapping global research trends up to 2024.

Figure 1

PRISMA Diagram Describing the Collection of Research on Gender Stereotypes From the Scopus Database



3.3. Data Analysis

The final dataset of 168 documents was analyzed using a dual-software approach. VOSviewer (version 1.6.20) was applied to map co-authorship, keyword co-occurrences, and citation networks (Van Eck & Waltman, 2010), while Microsoft Excel supported quantitative analyses and descriptive summaries by year, authorship, journals, countries, and institutions. This combined method provided a comprehensive overview of publication trends, key contributors, collaboration patterns, and thematic developments in gender stereotype research up to 2024.

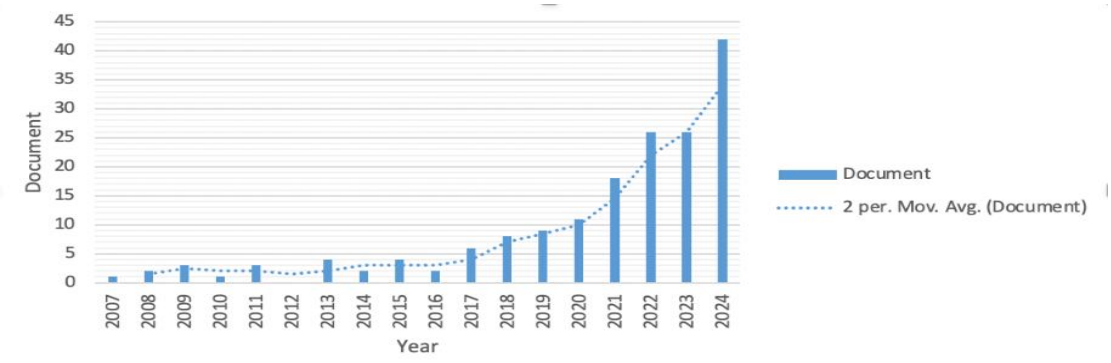
4. Results

4.1. Research on Gender Stereotypes has Shifted in Publication Trends and Scholarly Focus up to 2024

Figure 2 shows annual publication trends on gender stereotypes (2007–2024) based on Scopus data filtered as described in the Methods section. The visualization, created in Microsoft Excel with a two-period moving average, reveals three phases: a low and stable output until 2017 (fewer than five papers per year), a marked rise from 2018 onward, and a sharp acceleration after 2020. By 2024, output peaked at about 40 publications, confirming a sustained and growing academic interest in gender stereotypes across disciplines.

Figure 2

Publication Figures in Gender Stereotypes From the Scopus Database



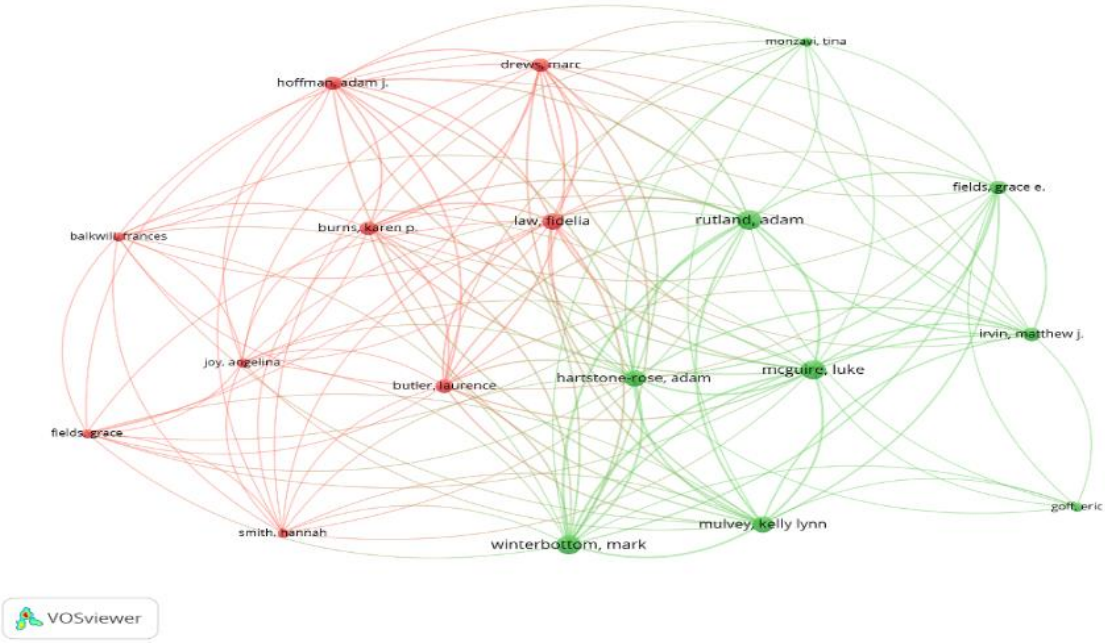
4.2. Key Authors, Institutions, and Countries in Gender Stereotypes Research

Figures 3 and 4 were generated using VOSviewer software. Author co-authorship data was extracted from Scopus using CSV export, and the visualizations were based on complete counting with a minimum threshold of 1 document per author. To enhance clarity and interpretability, only the largest connected cluster is shown, with color-coded groupings representing thematic collaboration.

From the analysis, 502 authors were identified in the field; however, the visualization specifically illustrates the largest connected cluster comprising 18 authors who have formed significant collaborative relationships, as indicated by co-authorship links. The map identifies two distinct research clusters, differentiated by different colors, representing closely collaborating groups of researchers.

Figure 3

Co-authorship Network Visualization of Influential Researchers in Global Gender Stereotypes Research up to 2024



The first cluster (marked in red) is characterized by authors such as Marc Drews, Laurence Butler, Karen P. Burns, and Adam J. Hoffman. These researchers demonstrate strong mutual collaboration, suggesting they share common research interests, methodologies, or publication projects related to gender stereotypes. The second cluster (marked in green) includes authors like Adam Rutland, Luke McGuire, Mark Winterbottom, Kelly Lynn Mulvey, and Matthew J. Irvin. This group similarly indicates a closely-knit collaborative structure, highlighting their joint scholarly contributions to understanding gender stereotypes.

Authors positioned centrally in the visualization, such as Fidelia Law and Marc Drews, display numerous co-authorship links across clusters, indicating influential roles and centrality within the academic network. This central position generally signifies substantial contributions and a bridging role, fostering scholarly dialogue and collaboration among distinct research groups or thematic areas.

Figure 4

Temporal Evolution of Co-authorship Networks Among Researchers in Gender Stereotypes

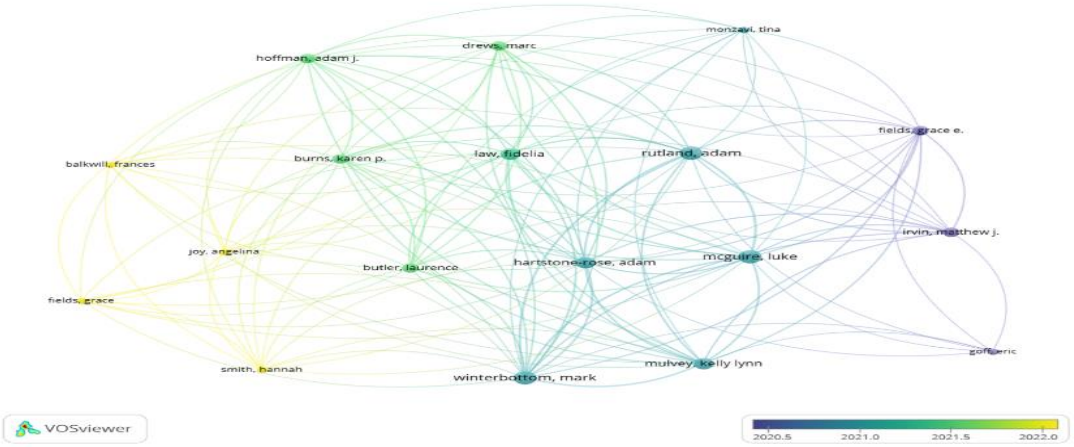


Figure 4 shows how co-authorship networks in gender stereotype research have grown over time, with nodes representing authors and links indicating collaborations. The color gradient indicates when collaborations occurred, with blue for earlier work (2020–2021) and yellow for more recent efforts (2022). Key authors like Fidelia Law, Adam Rutland, and Luke McGuire serve as necessary connectors linking different groups, while new collaborations (e.g., Grace Fields, Angelina Joy) highlight emerging research directions. Overall, the network reflects increasing connectivity and the growth of interdisciplinary and international partnerships in this field.

This rigorous selection process lays the groundwork for further analysis, presented in Table 1, detailing the most prolific and impactful authors in this interdisciplinary area.

Table 1

The Top 10 Authors Have the Most Documents and the Most Citations

ID	Author	Documents	ID	Author	Citations
1	De Gioannis, Elena	4	1	Heilman, Madeline E.	346
2	Mcguire, Luke	4	2	Hentschel, Tanja	346
3	Rutland, Adam	4	3	Peus, Claudia V.	346
4	Winterbottom, Mark	4	4	Kurtz-Costes, Beth	147
5	Cacciari, Cristina	3	5	Rowley, Stephanie J.	147
6	Forn, Cristina	3	6	Mcguire, Luke	119
7	Hartstone-Rose, Adam	3	7	Rutland, Adam	119
8	Law, Fidelia	3	8	Winterbottom, Mark	119
9	Moya, Miguel	3	9	Miller, Cindy Faith	116
10	Mulvey, Kelly Lynn	3	10	Lurye, Leah E.	113

The results show that a small group of authors plays a central role in advancing research on gender stereotypes. Prolific contributors such as Luke McGuire, Adam Rutland, and Mark Winterbottom combined both high productivity (four publications each) and substantial citation impact (119 citations each). Similarly, Kelly Lynn Mulvey and Adam Hartstone-Rose demonstrated notable influence with three publications and nearly 100 citations.

In contrast, authors with the highest citations, Madeline E. Heilman, Tanja Hentschel, and Claudia V. Peus (346 each), produced fewer publications, indicating that their work achieved high visibility despite limited output. Meanwhile, other authors like Elena De Gioannis and Cristina Cacciari are productive but less cited, suggesting consistent contributions without equivalent impact. This contrast underscores that both productivity and citation influence shape the recognition of scholarly contributions in this field.

The most influential publications*:* Table 2 presents the top 10 most influential publications in gender stereotypes research, ranked by citation count, offering insights into their impact, quality, and thematic trends. The leading publication by Hentschel et al. (2019) has garnered 346 citations, significantly outpacing the second-ranked work (113 citations), likely due to its comprehensive multidimensional framework. Older publications, such as Miller et al. (2009) and Rowley et al. (2007), with 113 and 110 citations, respectively, continue to exert influence, while the rapid citation accumulation of the 2019 study highlights its immediate relevance.

Academic Quality: The publications reflect high scholarly standards, with 60% appearing in Q1 journals, including *Sex Roles*, *Organizational Behavior, and Human Decision Processes*. Q2 journals like *Frontiers in Psychology* are also well-represented. Notably, a Q3 journal (*IIM Kozhikode Society and Management Review*) has achieved 94 citations, suggesting significant interest in its content despite the journal's lower tier.

Thematic Diversity: The research topics are diverse, including five publications focus on developmental aspects, exploring the formation of stereotypes in children and adolescents; two studies examine the impact in the workplace, such as career advancement and negotiation; one study analyzes the historical-cultural stereotypes in Spain; another study addresses the manifestation on social media; and the leading publication provides a multidimensional analysis. This richness shows that the research field has a solid theoretical foundation and broad practical applications.

Temporal Trends: A temporal analysis reveals that 70% of these influential works were published in the 2010s, with recent studies from 2019–2021 quickly gaining traction. This suggests a dynamic field responsive to current societal issues. Meanwhile, foundational studies from 2007 and 2009 retain their significance, complemented by a mix of universal and culturally specific research (e.g., Spain, Italy), enhancing the field's global scope.

The top 10 publications in gender stereotypes research up to 2024 demonstrate exceptional quality, broad thematic coverage, and substantial impact. The prevalence of Q1 journals, varied research foci, and a balance of historical and contemporary works illustrate a vibrant and influential field that advances academic understanding and practical interventions.

Table 2

Top 10 Most Influential Publications in Gender Stereotypes Research up to 2024 Based on Scopus Database

ID	Authors	Title	Year	Source Title	Quartiles	Cited by
1	Hentschel T.; Heilman M.E.; Peus C.V.	The multiple dimensions of gender stereotypes: A current look at men's and women's characterizations of others and themselves	2019	Frontiers in Psychology	Q2	346

2	Miller C.F.; Lurye L.E.; Zosuls K.M.; Ruble D.N.	Accessibility of gender stereotype domains: Developmental and gender differences in children	2009	Sex Roles	Q1	113
3	Rowley S.J.; Kurtz-Costes B.; Mistry R.; Feagans L.	Social status as a predictor of race and gender stereotypes in late childhood and early adolescence	2007	Social Development	Q1	110
4	Tabassum N.; Nayak B.S.	Gender Stereotypes and Their Impact on Women's Career Progressions from a Managerial Perspective	2021	IIM Kozhikode Society and Management Review	Q3	94
5	Casad B.J.; Hale P.; Wachs F.L.	Parent-child math anxiety and math-gender stereotypes predict adolescents' math education outcomes	2015	Frontiers in Psychology	Q2	82
6	Kray L.J.; Kennedy J.A.; Van Zant A.B.	Not competent enough to know the difference? Gender stereotypes about women's ease of being misled predict negotiator deception	2014	Organizational Behavior and Human Decision Processes	Q1	77
7	López-Sáez M.; Morales J.F.; Lisbona A.	Evolution of gender stereotypes in Spain: Traits and roles	2008	Spanish Journal of Psychology	Q1	73
8	McGuire L.; Mulvey K.L.; Goff E.; Irvin M.J.; Winterbottom M.; Fields G.E.; Hartstone-Rose A.; Rutland A.	STEM gender stereotypes from early childhood through adolescence at informal science centers	2020	Journal of Applied Developmental Psychology	Q1	68
9	Tortajada I.; Araüna N.; Martínez I.J.	Advertising stereotypes and gender representation in social networking sites	2013	Comunicar	Q1	56
10	Ramaci T.; Pellerone M.; Ledda C.; Presti G.; Squatrito V.; Rapisarda V.	Gender stereotypes in occupational choice: a cross-sectional study on a group of Italian adolescents	2017	Psychology Research and Behavior Management	Q2	56

Citation Impact and Institutional Contributions: Figure 5 provides a citation network visualization of the 138 most-cited documents in gender stereotypes research from 2014 to 2024, based on Scopus data. The visualization was created with articles selected based on a minimum citation threshold of 40. Nodes represent individual documents, while edges indicate citation relationships. Node size reflects citation volume, and cluster colors group them

thematically. This network highlights the most influential publications and their interlinkages in shaping academic discourse.

Figure 5

Citation Network of Highly Cited Documents in Gender Stereotypes Research (2014-2024)

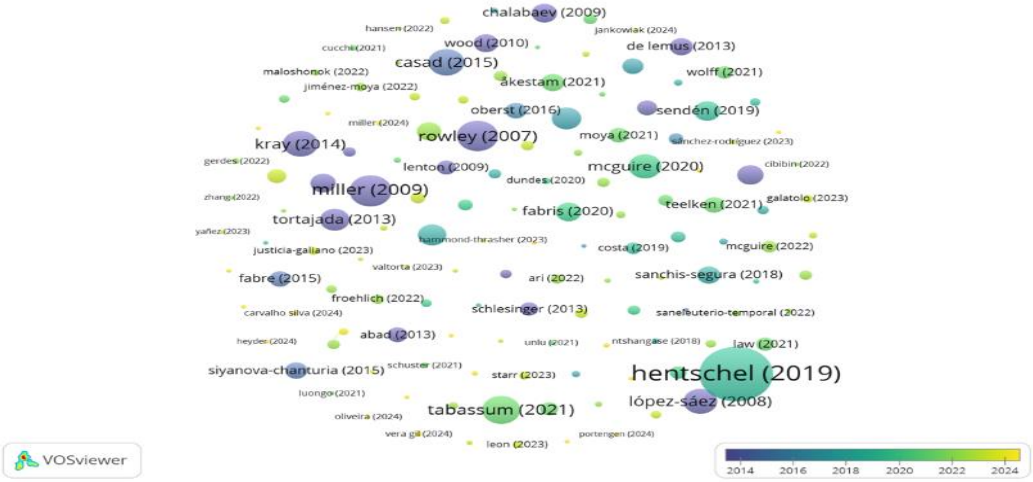
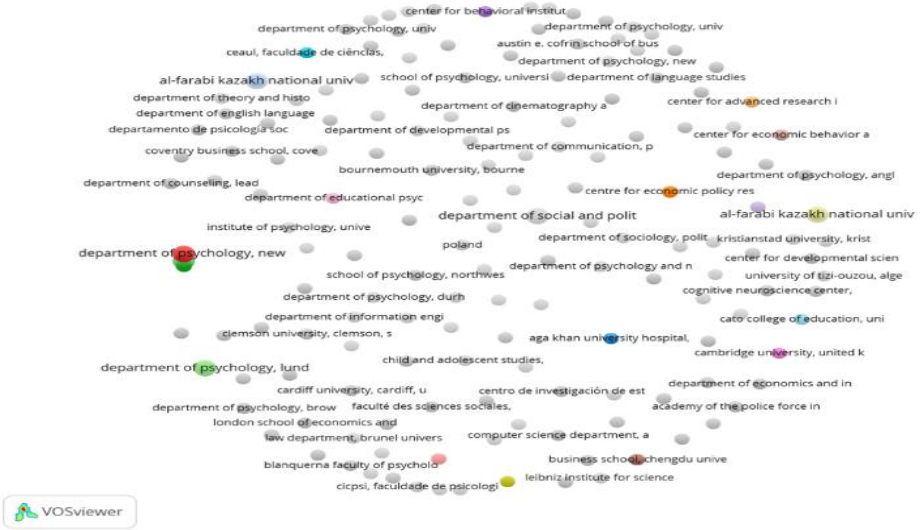


Figure 6 presents an institutional co-authorship network. This analysis was conducted using VOSviewer with a minimum threshold of one publication per institution. The size of nodes corresponds to publication volume, while edge thickness reflects co-authorship strength. Color-coded clusters represent collaborative institutional groups. A total of 357 institutions were included, ensuring a broad global scope.

Prominent psychology departments serve as central hubs in the network, such as those from New York University, Lund University, Cardiff University, and the University of Cambridge, demonstrating their pivotal roles in shaping research on gender stereotypes. Other highly connected institutions include Al-Farabi Kazakh National University and Aga Khan University Hospital, which signal increasing research engagement from non-Western countries.

Figure 6

Institutional Co-authorship Network in Gender Stereotypes Research (2007–2024)



The visualization reveals substantial interdisciplinary expansion, with institutional participation spanning psychology, social sciences, cognitive neuroscience, business, and media studies. Departments like the Centre for Economic Policy Research and the Faculty of Education illustrate efforts to integrate sociocultural and economic analyses into the field. However, despite growing disciplinary diversity, collaborative density remains uneven, suggesting that interdisciplinary cooperation is developing but still limited.

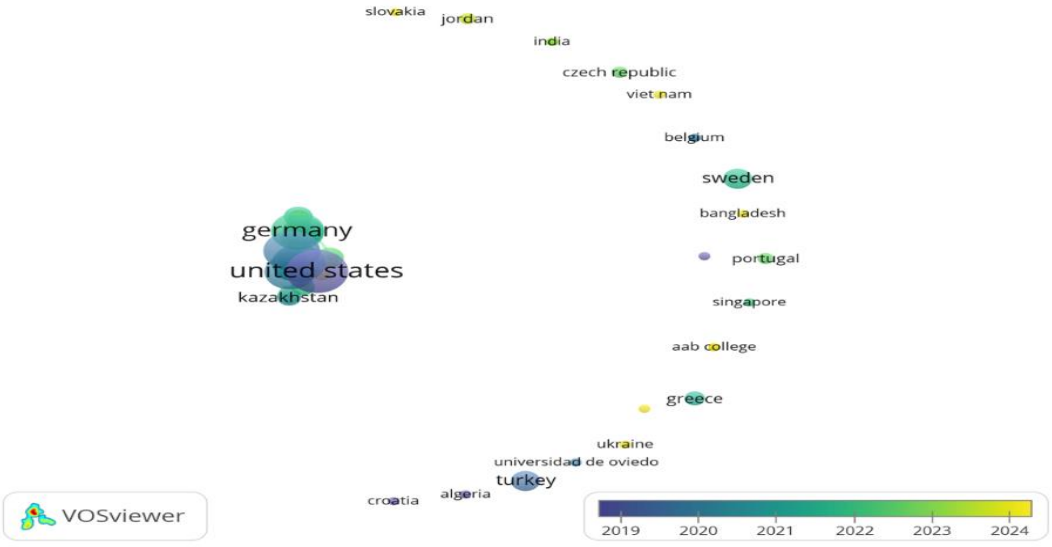
Geographic Distribution and Global Collaboration Patterns: Figure 7 displays the country-level co-authorship network from 2007 to 2024, visualized using VOSviewer. Countries are mapped based on publication output and international collaboration frequency. Node size indicates the number of documents; color gradient, from purple (older) to yellow (recent), denotes temporal evolution. Edges show collaboration strength between countries.

The United States, Germany, and Spain lead the field in terms of both publication volume and collaboration, forming the structural core of global gender stereotypes research. These countries demonstrate well-established networks and broad thematic contributions.

In addition, Kazakhstan, Vietnam, Bangladesh, and Jordan, emerging contributors represented in lighter color tones, have recently increased their participation. However, their international co-authorship remains sparse compared to Western counterparts. This signals potential for expansion in global collaboration and a more inclusive knowledge production process.

Figure 7

Country-Level Co-authorship Network in Gender Stereotypes Research (2007–2024)



The spread-out placement of emerging countries such as Jordan, Vietnam, and Algeria suggests that while increasing research activity, their international collaborations remain relatively limited compared to established research hubs.

The United States, Germany, and Spain emerged as the leading contributors to research on gender stereotypes, forming the backbone of international collaborations. However, new players from Asia, Africa, and Eastern Europe are becoming more involved, suggesting broadening the research landscape. This trend indicates an increasing global recognition of gender stereotypes as a critical academic and social issue across diverse cultural and socio-political contexts.

4.3. Prominent Research Themes in Gender Stereotypes Research

A keyword co-occurrence analysis using VOSviewer (Scopus data) was conducted to map thematic structures (Figures 8–9). From 622 keywords, applying a minimum threshold of three reduced the set to 25 key terms, with total link strength calculated to reveal dominant topics and their interconnections.

The analysis reveals four main thematic clusters. At the center, *gender stereotypes* is the dominant keyword linking all themes:

Core Research Themes in Gender Stereotypes: At the center of the network, the dominant keyword "gender stereotypes" is the most frequently occurring term, serving as the focal point of scholarly discourse. Surrounding this core concept, several interrelated research themes emerge, categorized into distinct clusters based on their conceptual and methodological alignments:

Gender Roles and Socialization (Red Cluster): This theme focuses on the social construction of gender roles and their reinforcement through societal norms and institutions. Keywords such as "gender roles", "social roles", "femininity", and "gender identity" highlight research on how cultural expectations shape behaviors and identities. Additionally, concepts such as "advertising" suggest studies exploring the portrayal of gender in media and its role in perpetuating stereotypes.

Gender Differences and Cognitive Frameworks (Purple and Green Clusters): This cluster explores the psychological and cognitive aspects of gender stereotypes, focusing on biases such as stereotype threat and implicit associations. Research emphasizes their impact on academic and professional performance, particularly highlighting gender disparities in STEM fields.

Social and Structural Inequalities (Blue and Yellow Clusters): The presence of keywords such as "gender equality", "feminism", "social perception", and "sexism" indicates a focus on broader societal inequalities and discrimination based on gender. These studies often explore feminist perspectives and structural barriers that maintain gender biases.

Theoretical Approaches and Methodologies: Core frameworks such as social role theory (Eagly & Wood, 2012) link stereotypes to labor division and historical roles. Content analysis frequently appears as a method for examining media representations and gendered discourse.

Figure 8

Keyword Co-occurrence Network of Gender Stereotypes Research up to 2024

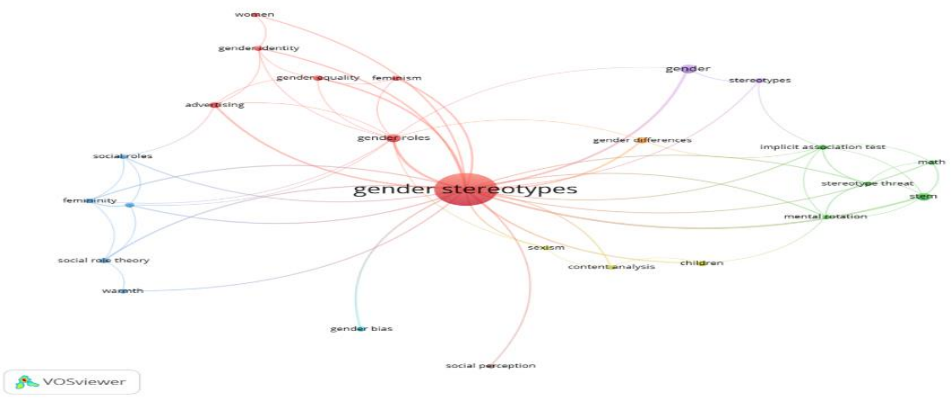


Figure 9

Heatmap of Keyword Co-occurrence in Gender Stereotypes Research up to 2024

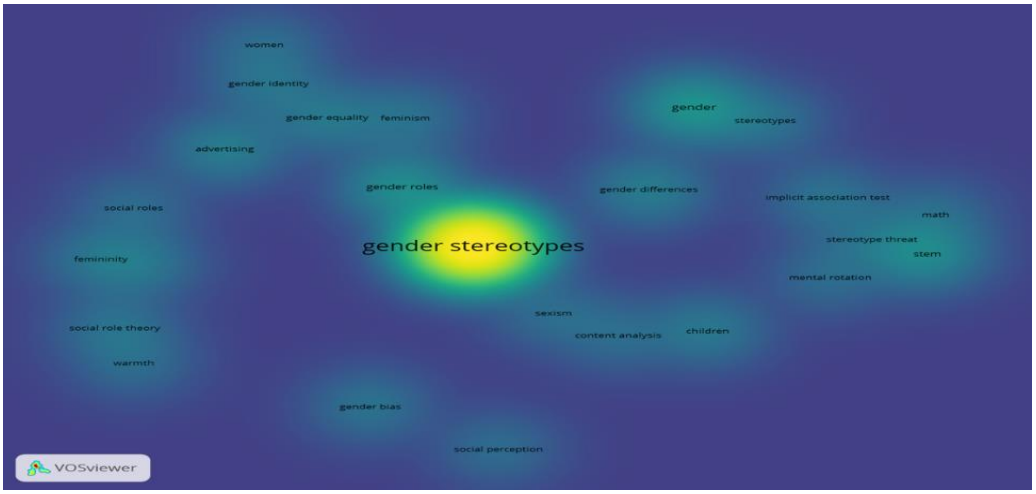
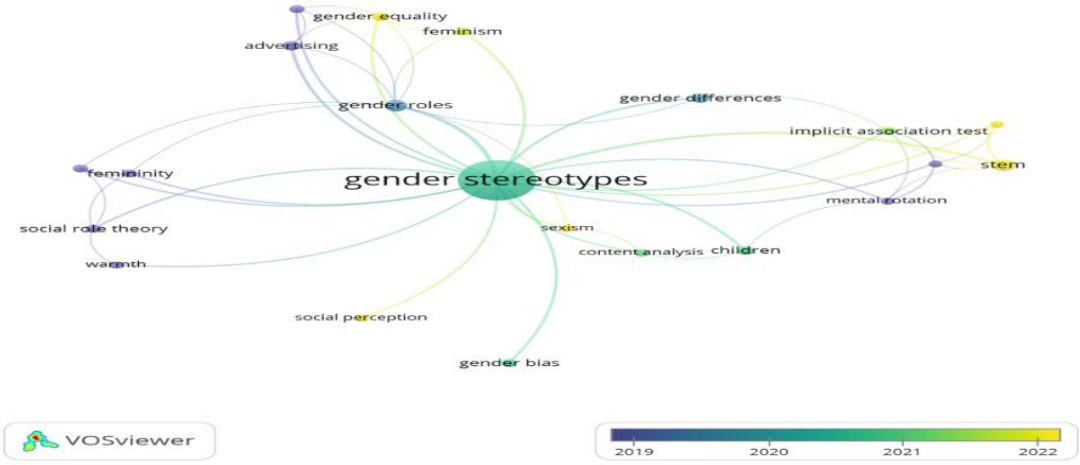


Figure 9 shows that "gender stereotypes" dominate the network, while the surrounding clusters (e.g., gender identity, STEM, social roles, sexism) display similar color intensity. This indicates that these subtopics occur at comparable frequencies, suggesting a relatively balanced distribution of themes beyond the central focus.

While Figure 9 highlights the balanced distribution of subtopics within "gender stereotypes," Figure 10 illustrates their evolution into emerging research trends. Recent studies increasingly connect gender stereotypes with STEM, implicit bias, stereotype threat, and mental rotation, reflecting a stronger focus on cognitive and educational aspects. Simultaneously, clusters on gender identity, feminism, and gender equality emphasize continued interest in sociocultural and political issues. Temporal color coding shows that while core themes like social role theory remain central, newer topics - particularly STEM education and implicit association tests - have gained momentum since 2020, signaling both methodological diversification and broader applied contexts for future interdisciplinary research.

Figure 10

Emerging Research Trends and Future Directions in Gender Stereotypes Research up to 2024 (622 Keywords, 25 Meet the Threshold)



Evolution of Research Themes Over Time: The bibliometric analysis suggests an evolution in research on gender stereotypes from broader social role and identity studies to more specialized examinations of implicit biases and stereotype threats. Early research primarily focused on gender roles and media portrayals. In contrast, recent studies have increasingly explored cognitive mechanisms (e.g., implicit biases, stereotype threat), gender disparities in STEM, and broader social justice frameworks.

This analysis highlights that research on gender stereotypes has evolved into a multidisciplinary field, integrating social psychology, sociology, media studies, and cognitive sciences perspectives. While traditional themes such as gender roles and media representation remain central, there is growing scholarly attention to stereotype threat, implicit biases, and structural gender inequalities. These findings provide valuable insights for researchers seeking to explore emerging gaps in the field, further address issues related to gender disparities, and develop more inclusive social policies.

5. Discussion

This bibliometric study provides a systematic mapping of global scholarship on gender stereotypes from 2007 to 2024, focusing on publication patterns, leading contributors, dominant themes, and international collaboration. The findings indicate a marked increase in research activity over the past decade, especially after 2020, reflecting heightened academic interest in gender-related issues. While the study captures a broad disciplinary engagement, it also reveals that many contributions operate in parallel rather than through integrated frameworks. Importantly, given the descriptive nature of bibliometric analysis, the study does not draw normative conclusions or causal inferences, but instead offers empirical insights that may inform future research agendas.

The evolution of gender stereotype research shows a notable shift from its origins in psychology to a more interdisciplinary domain. While psychology remains foundational, focusing on constructs such as stereotype formation, implicit bias, and social role theory (Eagly et al., 2012; Hentschel et al., 2019), adjacent fields have introduced new dimensions. Cognitive neuroscience, for instance, explores neural correlates of gender bias (Barnett et al., 2021), while behavioral economics investigates its influence on labor market behavior and leadership assessment (Bhatia & Bhatia, 2021). Media and AI studies have expanded the discourse by analyzing how gendered patterns are embedded in algorithmic systems and digital platforms (Blodgett et al., 2020; Buolamwini & Gebru, 2018). Despite these advancements, the bibliometric data do not reveal significant interdisciplinary convergence, suggesting that these research trajectories remain relatively siloed.

Thematic clusters reveal three main areas: gender roles and socialization, implicit bias and stereotype threat, and algorithmic or media-driven representations. Classical theories like social role theory continue to shape the field, alongside newer computational and neurocognitive approaches.

Geographically, the U.S., Germany, and Spain dominate output, while countries such as Vietnam, India, and Kazakhstan are emerging contributors, though global collaboration remains weak. Future directions include expanding beyond Scopus, integrating intersectionality, and fostering interdisciplinary work across psychology, AI, economics, and policy. Methodological innovation - such as big data, machine learning, and mixed methods - may enrich both theoretical development and practical applications, particularly in STEM and digital media contexts.

These observations are offered as tentative reflections, grounded in patterns observed through bibliometric visualization rather than inferential claims. Future research may test, refine, or challenge these trajectories through complementary methodologies. By fostering interdisciplinary dialogue and methodological pluralism, the field may advance toward a more comprehensive and context-sensitive understanding of gender stereotypes.

6. Conclusions

This study provides an empirical foundation for understanding the evolution of gender stereotype research. It highlights key scholarly contributors, thematic trends, and changes in research intensity post-2020. The field has expanded beyond traditional psychology to include AI, neuroscience, and behavioral economics. Nevertheless, the data also reveal a lack of convergence among disciplines, which may limit integrative frameworks.

While themes such as implicit bias and algorithmic fairness are gaining traction, this bibliometric analysis does not evaluate the effectiveness of policy or educational interventions. Thus, conclusions about applied outcomes are beyond the study's scope. Future work may build on these patterns to design research that bridges theory, data, and practice.

7. Limitations and Suggestions for Future Studies

While this study provides a structured bibliometric overview of global research on gender stereotypes, several limitations must be acknowledged to contextualize its findings and scope.

First, the analysis is limited to documents indexed in the Scopus database. Although Scopus is a comprehensive academic resource, this choice may exclude relevant studies published in other repositories such as Web of Science, Dimensions, Google Scholar, or regional databases. As a result, the findings may not fully reflect the global diversity and local nuances of research on gender stereotypes.

This study provides a bibliometric overview of global research on gender stereotypes, but it has several limitations. First, it relies solely on Scopus, which may exclude relevant work from other databases and regional sources, restricting global coverage. Second, the bibliometric approach focuses on quantitative patterns (such as publication counts, co-authorship, and keywords) without exploring deeper theoretical or qualitative insights. Third, although disciplinary diversity is apparent, effective interdisciplinary integration remains limited.

Future research should broaden data sources beyond Scopus, incorporate non-English works, and integrate bibliometric and qualitative methods for deeper insights. Increased focus on intersectionality, regional views, and interdisciplinary collaboration across fields such as neuroscience, AI, feminist theory, and policy will enhance understanding of gender stereotypes.

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