



Identifying the Conceptual Structure of International Studies on Hijab

Saleh Rahimi^{1*} , Musa Nushi² , Faramarz Soheili³ 

1. Corresponding Author, Department of Knowledge and Information Science, Faculty of Social Sciences, Razi University, Kermanshah, Iran. Email: s.rahimi@razi.ac.ir

2. Department of English Language and Literature, Faculty of Letters and Human Sciences, Shahid Beheshti University, Tehran, Iran. E-mail: m_nushi@sbu.ac.ir

3. Department of Knowledge and Information Science, Faculty of Educational Sciences, Payame Noor University, Tehran, Iran. E-mail: f_soheili@pnu.ac.ir

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ABSTRACT

Analyzing studies of the hijab can provide valuable insights into research trends and conceptual developments within this domain. Accordingly, this study examines the conceptual structure of research related to hijab indexed in the Clarivate Analytics citation index, aiming to identify key sub-domains and concepts within this field. This study uses bibliometric techniques, keywords co-occurrence analysis, and social network analysis. A total of 2,480 documents from the Web of Science database were reviewed to identify trends in hijab research over the past 54 years (1970-2023). Cluster analysis and strategic diagrams were used to map the conceptual structure of hijab studies. The findings from the content analysis of research in hijab showed that the related studies are grouped into 10 clusters as follows: Islamophobia (1), Modesty (2), Hijab (3), Feminism (4), Religion and Globalization (5), Islamic Women and Medical Care (6), Gender Difference (7), Personality Traits (8), Fashion (9), and Racism (10). Additionally, through a content analysis of articles published over the past 54 years, emerging topics related to hijab were identified. The results can contribute to a comprehensive understanding of current research areas and provide guidelines for researchers to start new studies. This article will help researchers identify potential fields for future research, including emerging or potentially declining clusters such as Islamophobia (1), Modesty (2), Feminism (4), and Racism (10).

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Introduction

Various cultural and religious backgrounds influence the model, style, color, and the material of hijab. Depending on ethnicity, culture, region, or tribe, the hijab of Muslim women appears in different styles and names: Abaya in Saudi Arabia, Chador in Iran, Burqa in Afghanistan, Niqab in Muslim India or Pardah in Pakistan, Kerudung in Malaysia and Indonesia, Buibui in East Africa, and the large scarf in Western countries, which are often referred to as hijab. The interaction between culture and religion contributes to the evolution of hijab style and fashion dynamics (Nistor, 2017). Today, attire has become a significant and challenging issue in the social arena, with various perspectives and thoughts surrounding it, particularly concerning the hijab (Batooli & Shokeizadeh, 2015). Hijab takes shape within social relations, and issues related to women in this context encompass cultural, social, political, and economic aspects, as well as religious, spiritual, status, personality, and behavioral elements that can be examined from various paradigms and perspectives (Sharepour Taghawi & Mohammadi, 2012). The *Maqasid al-Shariah* (objectives of Islamic law) comprise the goals that Shariah has been ordained to fulfill. Similarly, in Qur'anic verses, prophetic traditions (*hadiths*), and juristic opinions, specific objectives have been articulated regarding Islamic hijab and chastity (Shooshtari et al., 2021). In all religions and cultures, hijab and attire have always been points of interest, whether perceived as a natural-biological phenomenon or regarded as a cultural-value matter (Abyar et al., 2020). Hence, the hijab is emphasized as an Islamic value and a divine duty. The phenomenon of laxity in hijab is also discussed as a social issue, where understanding its social, political, and cultural dimensions can better illuminate its causes and factors (Fani et al., 2020).

In Islam, hijab, signifying modest attire and balanced behavior, is presented as an ethical principle aimed at preserving human dignity and fostering a healthy environment for social interactions. This concept includes outward appearance, speech, conduct, and gaze. The hijab serves both as a symbol of religious and cultural identity in Islamic societies and as a means to protect personal privacy and prevent social harm. From an Islamic perspective, hijab is a religious obligation that enables one to achieve piety and purity. The discourse surrounding hijab has consistently been a contentious topic in cultural, social, and political dialogues, with diverse opinions on the matter. A comprehensive understanding of this concept requires examining its religious, historical, cultural, and social dimensions.

Given the importance of hijab in various societies, diverse studies have been conducted in this field. These studies can play a crucial role in enhancing our understanding of the various dimensions of hijab and modesty. However, a comprehensive and structured analysis of research trends related to hijab has not yet been conducted in the Web of Science database. This issue has complicated the identification and analysis of mature and emerging topics related to hijab, hindering the development of a comprehensive scientific map in this domain. Therefore, considering the thematic diversity of research in this field, it is necessary to analyze the thematic trends of hijab studies using bibliometric methods. Such an analysis can aid in identifying the subfields and significant aspects of the concept of hijab as well as recognizing mature and emerging research areas. The primary research question is how

analyzing the conceptual structure of research related to hijab in the WOS can help identify mature and emerging thematic areas, providing a deeper understanding of the field's transformative trends. This study aims to conduct a comprehensive analysis and map the research areas on hijab, providing a valuable guide for researchers and cultural policymakers. In pursuit of this objective, the following research inquiries were posed:

According to cluster analysis, what is the conceptual structure of research within the Hijab studies domain?

How does the developmental trajectory of Hijab-related studies manifest according to strategic diagramming analysis?

Research Background

The study conducted by Ruby (2006) shows that Muslim immigrant women in Canada perceive the hijab in diverse and meaningful ways. They regard attire as a positive experience that affirms their Muslim identity and grants them greater control over their lives. Besides attire, participants also highlighted modesty as an essential aspect of hijab. This study argues that hijab functions not only as a dress but also as a means for negotiation within both the internal Muslim community and the dominant Western culture.

Tarlo (2007) examines the significance of attire, particularly the hijab, as a marker of difference in London, arguing that the adoption of hijab by middle-class Muslim women often results from intercultural interactions in a global urban environment rather than merely their cultural backgrounds. This research highlights the transformative role of the hijab, demonstrating that its adoption not only marks a pivotal moment in the lives of veiled women but also has a substantial impact on the understanding and behavior of others.

According to Droogsma (2007), while dominant discourses attempt to marginalize women, they acquire a deeper understanding of the contradictions between their experiences and the definitions of the dominant group through their cultural positions. In this study, veiled American Muslim women shared their experiences and described the hijab, imbuing it with its unique cultural meanings. For them, hijab serves as a tool for defining Muslim identity, resisting sexual objectification, fostering respect, maintaining close relationships, and providing freedom.

Tarlo (2010) examines Islamic cyber-commerce and the marketing of new forms of hijab, analyzing the connection between Wahid Rahman, a British Muslim entrepreneur, and a Dutch designer who created sportswear headgear, Capsters. This study examines the diverse lifestyles and philosophies of these two individuals, as well as their roles in promoting Islamic fashion for women. It explores how they navigate the complex tensions between various Muslim interpretations of beauty, hijab, fashion, and faith.

Furseth (2011), in studying Muslim immigrant women in Los Angeles, compares the hijab discourse among veiled and unveiled women, demonstrating that hijab is not only a religious symbol but also a tool for establishing social and gender boundaries within the Muslim community, which can lead to the inclusion or exclusion of women.

Hopkins and Greenwood (2013) examined the narratives of British Muslim women regarding their experiences with wearing hijab and its connection to the expression of their religious, national, and gender identities. This study expands social-psychological thinking on

identity in three ways: first, by deepening our understanding of the motives behind disclosing an identity to others; second, by clarifying the complex relationship between various identity performances (religious, gender, and national); and third, by illustrating that revealing an identity can reinforce and facilitate its subsequent performance.

The study by Rahman et al. (2016) examines public opinion and cultural interactions within the online space regarding hijab, demonstrating that discussions surrounding ethnic attire, such as hijab, increase public awareness of cultural diversity and highlight the relationship between hijab and public perception.

Nestour (2017) examines hijab as a modern phenomenon and analyzes the role of social media in promoting it as part of contemporary fashion. He presents the hijab both as a religious symbol and as a statement for women's empowerment, demonstrating that its adaptation to modern fashion has contributed to the creation of new subcultures among young Muslims.

In a study by Ash et al. (2019), three main themes were identified: reasons for wearing hijab, interpersonal experiences, and reactions to these experiences. The results reveal the complex interplay of individual and sociocultural factors that influence the daily lives of veiled women.

Fani et al. (2020) argue, in a study aimed at understanding how students engage with hijab, that sociocultural paradoxes and value transformations influence the acceptance or rejection of hijab. Their beliefs and spirituality shape an individual's strategy for accepting or leaving hijab; strong spiritual beliefs reinforce hijab adherence, while doubts about their beliefs weaken it. To promote the hijab, it is essential to strengthen personal beliefs and values.

Findings by Hassan and Ara (2022) reveal that the hijab is not only a means of covering but also reflects the influence of fashion and modernity, portraying the image, contemporary style, and personality of the ideal Muslim woman. These findings are based on the perspectives of retailers directly involved in the Malaysian Islamic fashion business and help retailers, artisans, and policymakers understand the importance of providing suitable products and services for Muslim consumers and their spending behavior.

Mustafa (2023) conducted a study on influential figures in hijab research, reputable journals, collaboration networks, and emerging trends. Using the co-occurrence of keywords techniques, the study showed that hijab research has grown significantly over the last decade. The results reveal a global North-South divide between developed and developing countries. Multiple correspondence analyses revealed considerable depth and breadth in this research, highlighting the hot topics in this field.

The research by Yoldaş and Uysal (2023) addresses the global aspect of hijab and examines the meaning of hijab among women who choose it as part of their lifestyle. This study shows that consumer culture factors, including fashion and social media, play an essential role in shaping the attitudes and lifestyles of veiled women, which sometimes distances women from religious sensitivities.

Dinhof et al., (2024) stated that religious symbols, such as the hijab, are deemed undesirable or forbidden in public professions. However, no evidence was found to suggest that wearing a hijab negatively affects clients' perceptions or the performance of public

employees during service delivery. Positive client perceptions regarding employee empathy or professionalism were associated with effective task performance, regardless of whether the employee wore a hijab.

Azimiyan and Beheshti (2009) identified two fundamental philosophies of hijab: preventing male provocation and ensuring women's safety. The effects of hijab include immunity, tranquility, individual security, family stability, and societal moral health. Methods for internalizing the hijab include strengthening one's faith, raising awareness, explaining the philosophy behind the hijab, and presenting suitable role models.

Shafiei Mazandarani (2011) stated that adherence to hijab is a long-standing principle among humans, promoted by Islam to reinforce modesty and human virtue, and prevent many moral and behavioral deviations.

Ghairatmand (2015) discusses the necessity of women's modesty and hijab in front of non-mahram men, a fundamental Islamic ruling, and asserts that modesty and hijab have a direct relationship with women's social security.

Rahnama et al. (2015) stated in their research that hijab has educational effects in both individual and social domains. The most significant impacts of hijab on the individual level include personality, physical health, family stability, tranquility, and security. In the social domain, hijab contributes to social responsibility, women's freedom, societal moral health, preservation of economic labor, and cultural independence.

Asgari et al. (2020) asserted that, despite the questions and doubts raised by opponents, the media, and anti-Islamic currents, many of these issues are oversimplified and primarily instilled in society through repeated media fallacies.

Batooli and Shokeizadeh (2015) mapped the scientific research on hijab studies in the PubMed database. The co-occurrence of keywords map for scientific productions on hijab in the health field was categorized into five clusters: hijab and body image, hijab and vitamin D, hijab and hijab syndrome, hijab and women's rights, and hijab and hair loss. The results offer readers insight into the countries and journals that have made significant contributions to the writing of articles on hijab in the health field.

A review of the research background reveals the diversity and complexity of hijab dimensions across various societies. On one hand, hijab is recognized as a religious and cultural symbol, and on the other, with the influence of modernity, social media, and consumer culture, it has acquired a new meaning. The research on hijab reveals that this phenomenon has been examined from cultural, social, and religious perspectives in various societies, adapting to the discourse of modernity and globalization. Hijab has evolved from a purely religious symbol to a multi-dimensional concept encompassing social, cultural, and modernity aspects. Media and consumer culture have played a crucial role in redefining the concept of hijab, making discussions about it subject to cultural differences.

Methodology

Co-word analysis is a method used in fields such as information retrieval (Ding et al., 2001), knowledge discovery (Wang et al., 2014), gender differences in higher education and science (Dehdarirad et al., 2014), information literacy (Hicks et al., 2023; Li et al., 2021; Onyancha,

2020), and knowledge organization (Khasseh et al., 2022), as well as in scientometrics (Khasseh et al., 2017). The body of research concerning hijab primarily examines its social, cultural, and religious dimensions.

The closer the co-occurrence between two keywords, the closer their relationship. To determine the structure and development of research fields, some co-word analysis methods are applied, based on the co-occurrence matrix, including strategic diagramming, factor analysis, cluster analysis, multivariate analysis, and social network analysis. These methods facilitate researchers' scholarly inquiry into specific fields of investigation. Hence, they perform a crucial role in assessing the importance and academic value of scientific domains (Musgrove et al., 2003). The co-word analysis technique was first proposed by French bibliometric scientists (Young et al., 2012) and has since been used for conceptual studies in various fields, demonstrating the trends of a particular discipline by measuring the association strength of terms representing publications in that area (Ding et al., 2001).

This research was conducted using bibliometric analysis. Data were processed using VOSviewer, UCINET, and BibExcel software. Data were sourced from the Web of Science database. The search, conducted on July 30, 2024, used keywords such as Hijab, Chador, Burqa, Niqab, Veiled women, Women in Purdah, Headscarf, modesty, woman's modesty, Chastity, women's Chastity, covered women, Hijab, and Modesty. Data extracted over the past 54 years (1970–2023) included 2,480 documents, with 8,984 keywords used by authors. After keywords extraction, concepts were standardized and normalized. For example, singular and plural terms were unified, acronyms were converted to whole phrases, and so on. Following this standardization, 5,405 unique words remained. For co-occurrence mapping, the VOSviewer software was used. A symmetric matrix was initially created in BibExcel, and then the raw matrix was converted into a correlation matrix. A minimum threshold of 5 was specified for matrix generation. This cutoff produced a resulting matrix of dimensions 201 × 201. The diagonal cell values of the matrix were set to zero. For mapping, cluster analysis with the k-means method in VOSviewer was used. The search strategy for this study is as follows:

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((((((((((((((TI=(Hijab)) OR TI=(Chador)) OR TI=(Burqa)) OR TI=(Niqab)) OR TI=(Veiled
women)) OR TI=(Women in Purdah)) OR TI=(headscarf)) OR TI=(modesty )) OR
TI=(women modesty)) OR TI=(Chastity)) OR TI=(women Chastity)) OR TI=(covered
women)) OR TI=(Hijab and Modesty))
```

Findings

According to cluster analysis, what is the conceptual structure of research within the Hijab studies domain?

The results from the analysis of hijab-related data show that 2,480 documents were published with titles containing terms such as Hijab, Chador, Burqa, Niqab, Veiled women, Women in Purdah, Headscarf, modesty, women's modesty, chastity, women's Chastity, covered women, and modesty. The first article was published in 1970.

Trends in Hijab Publications Over Time

The analysis of data related to hijab shows that a total of 2,480 articles on hijab were published within the reviewed period. The first article, titled Britain, Europe—And Some Malta: Britain’s Political Chastity, was published in 1970. The highest number of documents, 218, was published in 2021. Figure 1 illustrates the publication trends, showing an average growth rate of 27.8% in hijab publications.

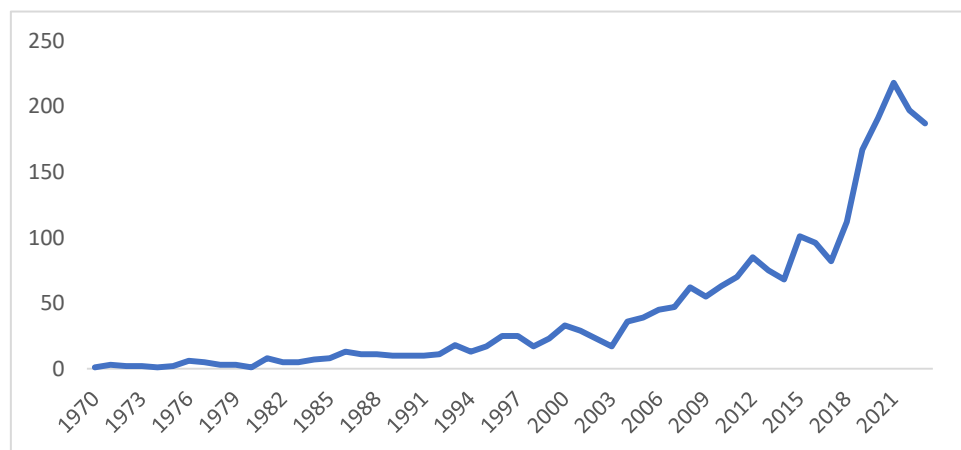


Figure 1. Publication Trends in hijab Studies, 1970-2023

Frequency Distribution of Concepts in the Field of Hijab in the Web of Science

The frequency distribution of commonly used concepts during the review period is presented in Table 1.

Table 1. Commonly Used Concepts in the Field of Hijab by Frequency

No	Frequency	Concept	No	Frequency	Concept
1	183	Hijab	14	32	Feminism
2	159	Modesty	15	30	Humility
3	118	Islam	16	29	Virtue
4	97	Gender	17	25	Personality
5	79	Muslim women	18	23	France
6	71	Veil	19	21	Religiosity
7	67	Women	20	21	Agency
8	66	Muslim	21	21	Intersectionality
9	53	Culture	22	21	Niqab
10	45	Islamophobia	23	20	Chastity
11	44	Religion	24	20	Burqa
12	43	Headscarf	25	20	Sexuality
13	42	Identity	26	18	Self-esteem

From the 2,480 documents examined, 8,984 keywords were identified. After analyzing and standardizing the concepts, 5,405 unique keywords remained. Concepts with a frequency of 18 or more are displayed in Table 1. The terms Hijab, Chastity, and Islam ranked first to third, respectively. The keyword Hijab, with a frequency of 183, held the highest occurrence, showing it as a central concept within hijab-related literature. Other keywords, including Modesty (159 occurrences) and Islam (118 occurrences), also had notable frequencies.

In addition to the frequently occurring concepts mentioned above, Table 2 presents frequently co-occurring keyword pairs during the period under review. Table 2 highlights terms with the highest co-occurrence, which appeared together in two documents.

Table 3. Names of Clusters and Subcategories in the Field of Hijab

Cluster No	Cluster Name	Important concepts	Weight	Cluster No	Cluster Name	Important concepts	Weight
1	Islamophobia	Muslim women Islamophobia Immigrant Clothing Attitude Youth Media Modernity Dress Veiled Muslim woman Islamic fashion Religious discrimination Policy Purdah Belief Epistemology Islamic feminism Journalism	378 204 56 54 52 52 50 50 44 30 24 22 20 20 18 16 14 6	2	Modesty	Modesty Culture Self-esteem Self-presentation Morality Emotion Ethics Self-enhancement Self-promotion Honesty Instagram Lying Politeness Social cognition Value Facebook Social norms Self-praise Social behavior Virtue ethics	418 168 60 56 54 42 40 40 28 26 26 26 24 24 22 18 12 10 10
3	Hijab	Hijab Veil Headscarf Secularism France Burqa Niqab Multiculturalism Discrimination Gender Equality Human Rights Islamic Veil Religious Freedom Turban Women's Rights Racialization Shame Gender Inequality	794 376 228 200 138 122 122 96 70 54 50 44 26 26 24 20 18 6	4	Feminism	Feminism Virtue Body Humility Sexuality Embodiment Chastity Character strength Politics Oppression Pride Meaning Humor Rhetoric	184 96 88 82 70 48 40 36 34 26 22 22 14 14
5	Religion and globalization	Identity Religion Education Immigration Freedom Solidarity Citizenship Democracy Orientalism Pluralism Globalization Public space Dialogue Epistemic modality	226 224 62 56 50 40 32 32 28 28 26 26 14 8	6	Islamic women and medical care	Islam Muslim Women Religiosity Body image Breast cancer Ethnicity Acculturation Well-being Mental Health Quality of life Healthcare Mammography Cultural competence	678 366 330 96 66 40 36 30 26 18 18 16 16 8
7	Gender difference	Gender Discourse Patriarchy Integration Femininity Sex Sport Sharia Masculini	410 54 52 36 26 26 26 20 18	8	Personality traits	Personality Big Five personality traits Depression HEXACO personality inventory Narcissism NEO-PI-R Dark triad Intelligence Personality traits	58 40 30 22 16 16 10 8 8
9	Fashion	Fashion Indonesia Piety Social media Hijab Fashion Modest Fashion Influencer Subculture	82 82 64 62 22 22 20 18	10	Racism	Agency Racism Resistance Stigma Subjectivity Muslim veil Pakistan	118 60 36 32 32 26 20

Table 3 represents Cluster Names and Their Key Subcategories with the Weight of Each Subcategory. Using the k-means clustering algorithm in VOSviewer software, clusters were identified as shown in Figure 1 and Table 3. The first cluster is dedicated to the concept of Islamophobia, as it has the highest weight within the cluster. Additionally, terms such as Muslim women, Islamophobia, immigrant, and religious discrimination are part of this cluster and carry more weight compared to other terms.

The second cluster is dedicated to the concept of Modesty, including terms such as Modesty, Self-presentation, Morality, Ethics, and Honesty, which hold greater weight within the cluster than other terms.

The third cluster is centered on hijab, comprising terms such as hijab, veil, headscarf, burqa, and niqab, which have higher weights within the cluster compared to other terms.

The fourth cluster is associated with feminism, including terms such as feminism, body, sexuality, and character strength, which carry more weight within this cluster.

The fifth cluster focuses on Religion and Globalization, with terms such as Identity, Religion, Immigration, and Globalization carrying more weight within the cluster.

The sixth cluster pertains to Islamic Women and Medical Care, containing terms like Islam, Women, Breast cancer, Healthcare, and Mammography, which are more prominent within this cluster.

The seventh cluster is dedicated to Gender Difference, containing terms such as Gender, Patriarchy, Femininity, Sex, and Masculinity, which weigh more heavily than other terms in this cluster.

The eighth cluster is linked to personality traits, including terms like personality, Big Five personality traits, HEXACO Personality Inventory, and NEO-PI-R, with greater weight than other terms.

The ninth cluster centers on fashion, containing terms like fashion, hijab fashion, modest fashion, and influencer, which are more prominent within this cluster.

The tenth cluster is focused on racism, including terms like Racism, Resistance, Stigma, and Muslim Veil, which weigh more heavily within this cluster.

How does the developmental trajectory of Hijab-related studies manifest according to strategic diagramming analysis?

Strategic Mapping of the Hijab Concept Structure

After constructing a matrix for each cluster and importing it into UCINET software, the centrality and density scores for the clusters were determined, and a strategic map was drawn. It is essential to note that the origin of the map was determined based on the average centrality and density of the clusters, which were 11.24 and 0.577, respectively. The scores for the clusters' density and centrality are displayed in Table 4.

Cluster 5, with a centrality score of 31.985, has the highest centrality, and Cluster 6, with a density score of 1.132, has the highest density. This illustrates a significant co-occurrence network connection between the concepts in these two clusters, with Cluster 5 exhibiting the highest centrality in terms of influence and connections to other topics, and Cluster 6 having the strongest linkage compared to the other clusters.

Table 4. Density and Centrality of Clusters Resulting from Co-occurrence Analysis in the Field of Hijab

Cluster No.	Cluster name	Density	Centrality
1	Islamophobia	0.14	6.735
2	Modesty	0.265	10.585
3	Hijab	0.766	19.154
4	Feminism	0.452	9.048
5	Religion and Globalization	0.162	31.985
6	Islamic Women and Medical care	1.132	14.714
7	Gender Difference	0.639	5.111
8	Personality Traits	0.889	7.111
9	Fashion	0.81	4.857
10	Racism	0.524	3.143

The strategic map describes the internal relationships and correlations between different thematic clusters. On this map, the horizontal axis represents centrality (the degree of cluster interconnectivity), while the vertical axis shows density (the degree of internal cohesion within each cluster) (Wu et al., 2013). Melcer et al. (2016) describe the strategic map as an effort to enhance visualization, showing the maturity and cohesion of thematic clusters within a research domain.

As shown in Figure 3, the strategic map is divided into four quadrants, each forming a segment of the map. Clusters in the first quadrant are cohesive and central to the field of study, focusing on a substantial part of the network. Clusters in the second quadrant remain cohesive but lack centrality, each representing smaller specialized areas within the research field. In the third quadrant, clusters are emerging or potentially declining; these represent new or possibly diminishing parts of the network. Finally, the fourth quadrant contains clusters that have not yet matured but hold potential to become primary areas (Khaseh et al., 2017; Melcer et al., 2016).

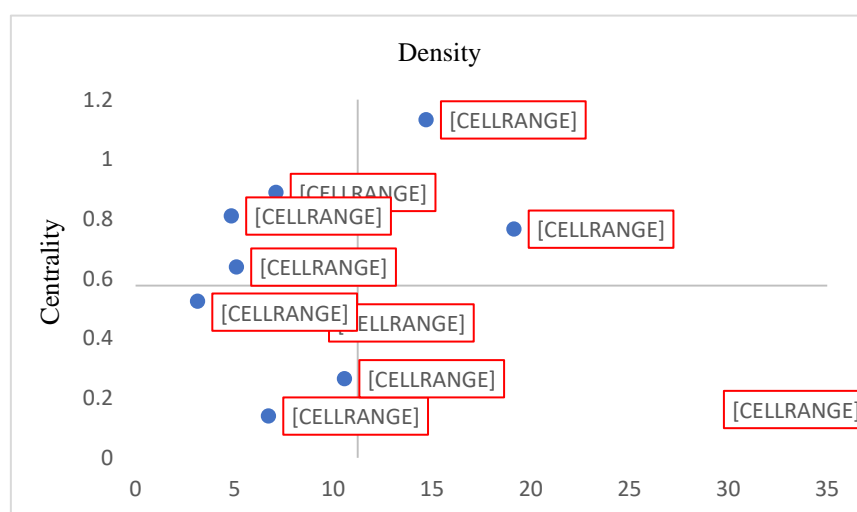


Figure 3. Strategic Diagram of the Field of Hijab for the Period 1970-2023

Based on the strategic map, the first quadrant, including the clusters Hijab (3) and Islamic Women and Medical Care (6), represents the core topics of this period. These clusters are cohesive and central to the research domain, focusing on a significant portion of the network. Clusters Gender Difference (7), Personality Traits (8), and Fashion (9), although still

cohesive, rank lower in significance and impact within the research domain compared to the clusters in the first quadrant. These clusters focus on smaller, specialized areas within the research field. The clusters Islamophobia (1), Modesty (2), Feminism (4), and Racism (10) represent emerging or potentially declining segments. The fourth quadrant highlights clusters that have yet to mature but have the potential to become primary areas, with Religion and Globalization (5) occupying this position in this research.

Discussion

Based on the findings of this research, spanning the period from 1970 to 2023, two significant clusters, Cluster No. 3, titled Hijab, and Cluster No. 6, Islamic Women and Medical Care, are in the first quadrant of the strategic diagram. The positioning of these two clusters in this sector indicates that these concepts constitute the core of the global literature on the Hijab and possess the highest level of maturity and cohesion among the ten identified clusters. A look at the data table shows that both clusters have surpassed the diagram's origin average (Centrality: 11.24; Density: 0.577). The Islamic Women and Medical Care cluster, with a density score of 1.132, holds the highest density in the entire network, indicating internal consistency and a rich, coherent body of literature regarding the health, hygiene, and medical care of muslim women. The Hijab cluster, with a centrality of 19.154 and a density of 0.766, serves as the fundamental concept of this network, exerting the greatest influence and forming the most connections with other research clusters. This quadrant represents areas that have reached scientific maturity; therefore, entering these fields requires a deeper, more detailed perspective and the identification of specific research gaps, as the generalities and foundations of these topics, have been examined and structured by many researchers.

The second quadrant of the strategic diagram represents clusters that possess high density but low centrality. This status indicates that the concepts within these clusters exhibit strong cohesion, internal correlation, and scientific development, but their connections to other network topics are weak. The clusters in this quadrant have moved out of the central position and are coherent but isolated and marginal areas representing more specialized and smaller segments of the overall research on the Hijab. According to the strategic diagram, three clusters, cluster No. 7, titled Gender Difference, cluster No. 8, titled Personality Traits, and cluster No. 9, titled Fashion, are in the second quadrant. Although these three areas rank lower in terms of overall impact, influence, and centrality in the network compared to first-quadrant clusters, such as the concept of Hijab itself, they have developed independent, structured, and focused scientific literature and are recognized as specialized fields of hijab studies. The density scores for all three clusters, Gender Difference (0.639), Personality Traits (0.889), and Fashion (0.81), are above the average, indicating their maturity and internal consistency. However, their centrality scores, 5.111, 7.111, and 4.857, respectively, are significantly lower than the average. Topics such as the personality psychology of veiled women or the islamic fashion industry have been researched deeply and essentially, yet they have not connected to the mainstream and central flow of hijab studies. The placement of topics such as Gender differences, Personality psychology, and Fashion in the second quadrant indicates specialized sub-branches within hijab studies. For researchers, this quadrant represents areas where

concepts and theories are well-defined and coherent. Future research could focus on linking specialized areas, such as Islamic Fashion, to core network concepts, such as Globalization, to expand the frontiers of knowledge in interdisciplinary hijab studies.

The third quadrant is dedicated to clusters that have both low density and low centrality. This status indicates that the clusters in this quadrant neither have extensive connections and influence on other network topics nor possess sufficient internal cohesion and development. In scientometric literature, clusters in this quadrant are known as marginal sectors or emerging topics in the network that have not yet developed a powerful conceptual structure. Four clusters, cluster No. 1, titled Islamophobia, cluster No. 2, titled Modesty, cluster No. 4, titled Feminism, and cluster No. 10, titled Racism, are placed in the third quadrant. These clusters have been identified as emerging topics in hijab studies. This means that the mentioned concepts have recently entered the research literature of this field and are shaping a new current. The centrality scores for these four clusters, 6.735, 10.585, 9.048, and 3.143, respectively, are all below the average, indicating that these topics do not connect to the core of hijab studies.

Furthermore, their density scores, 0.14, 0.265, 0.452, and 0.524, respectively, are below the average, indicating the nascent nature and lack of cohesion in the published texts on these subjects. The placement of topics such as Islamophobia, Feminism, and Racism in the third quadrant carries an important message for guiding future research. For researchers, this quadrant represents virgin research gaps and areas with high potential for scientific work. Since these concepts are tied to current global social, political, and cultural issues, scientific investment and new research in these areas can enrich the literature and strengthen their connections to other concepts, potentially elevating these emerging clusters to the mainstream of hijab studies in the future.

Based on the principles of the strategic diagram, the fourth quadrant represents clusters that have high centrality but low density. The clusters in this quadrant are topics that, due to their high centrality, have extensive connections with other sections and concepts of the research network; however, because of their low density, they have not yet developed sufficient internal cohesion. These clusters have not yet reached full maturity, but have high potential to become main sections and the central core of research in the future. One cluster, cluster No. 5, titled Religion and Globalization, is located in the fourth quadrant. The presence of this topic in this quadrant indicates discussions related to the intersection of religion, migration, and phenomena resulting from globalization have established a vast connection with other concepts in the hijab field, but have not yet been stabilized in the scientific literature as a completely independent sub-branch with a strong and coherent intra-subject structure. This cluster, with a score of 31.985, has the highest centrality in the entire network, standing significantly above the average; this shows the unique influence and connections of this cluster with other topics. However, the density score of this cluster is only 0.162, which is lower than the average and indicates a lack of internal cohesion in the specialized literature of this subfield. The placement of the Religion and Globalization cluster in the fourth quadrant

outlines an opportunity for researchers. Since this topic currently has the strongest link with the main body of hijab studies, it indicates a fundamental need in this field. Researchers can fill the existing void namely, low density by focusing on this cluster, and conducting deeper studies. Scientific investment in this sector can bring this promising cluster to maturity and elevate it to one of the main pillars in the first quadrant of hijab studies.

In summary, the strategic diagram, by evaluating the two indicators of centrality and density, provides a comprehensive map and the conceptual structure of global hijab studies across four distinct states.

Conclusion

The present research, using co-word analysis and a strategic diagram, demonstrates that global studies of Hijab over the past half-century have moved beyond a one-dimensional concept to become an interdisciplinary, dynamic, and multifaceted research field. The placement of the Hijab and Islamic Women and Medical Care clusters in the first quadrant suggests that the fundamental focus and mainstream of science have so far been on establishing the concept of Hijab itself and on the biological and health challenges faced by veiled women. In the second quadrant, specialized and coherent fields such as Fashion, Gender Differences, and Personality Traits have formed, indicating the entry of commercial, psychological, and sociological approaches into this arena. Simultaneously, the emergence of political and social tensions worldwide has given rise to clusters such as Islamophobia, Feminism, Racism, and the redefinition of Modesty in the third quadrant, which define the new frontiers of research. Finally, the Religion and Globalization cluster in the fourth quadrant shows that the Hijab is no longer a local subject. However, a phenomenon in relation to global interactions, migration, and modern identity formation requires the production of more coherent literature in the future.

A review of the background indicates that the findings of this research are consistent with previous studies. The strategic diagram has successfully depicted the same trends that various researchers have examined over the years within a comprehensive structural framework. In this research, the Islamic Women and Medical Care cluster has the highest density and is located in the first quadrant. This finding aligns with the research of Batooli and Shokeizadeh (2015), who, in a PubMed database search, found that hijab studies in the health sector—such as connections to Vitamin D, body image, and hair loss—show coherent clustering and high scientific output. Additionally, Mustafa (2023) confirms the significant growth and breadth of macro-hijab research, which aligns with the Hijab cluster's high centrality in the first quadrant. Research by Dinhof et al. (2024), regarding the performance of veiled women in public services, also indicates the maturity of applied studies in the mainstream. Studies by Tarlo (2010) on Islamic cyber-commerce, Nestour (2017) on adapting Hijab to Fashion, Hassan and Ara (2022) regarding fashion imagery in Malaysia, and Yoldaş and Uysal (2023), concerning the impact of consumer culture and social networks, all show that the Islamic fashion industry is a rich, popular, and specialized sub-branch that has built its own independent literature. Research by Hopkins and Greenwood (2013), Ash et al. (2019), and

Fani et al. (2020), which address social psychology, interpersonal experiences, identity performance, and the internal values of veiled women, as well as the study by Furseth (2011) on gender boundaries, align with the position of clusters 7 and 8 in the strategic diagram. Research by Droogsma (2007) on resistance to marginalization and sexual objectification (feminism and racism), Rahman et al. (2016) on cultural diversity and confrontation with public opinion, and the study by Asgari et al. (2020) on anti-Islamic currents and media, indicate new scientific reactions to Western socio-political pressures that are still developing. In studies by Iranian researchers, such as Azimiyan and Beheshti (2009), Shafiei Mazandarani (2011), Ghairatmand (2015), and Rahnama et al. (2015), the focus is on chastity, Modesty, moral security, and immunity. Ruby (2006) also considers chastity an important dimension. The dispersion of this concept across jurisprudential approaches in Iran and international sociological approaches has prevented this cluster from yet reaching full centrality and density globally, placing it in the third quadrant. The placement of Religion and Globalization in the fourth quadrant aligns with previous studies. Tarlo (2007) clearly states that the Hijab in London results from intercultural encounters in a global urban environment. Yoldaş and Uysal (2023) also directly refer to the global dimension of the Hijab. These backgrounds confirm that the phenomenon of globalization is a context housing concepts such as identity, migration, Fashion, and media; however, since each researcher has approached it from a specific angle—for example, one from the angle of Fashion, another from migration—it has not yet emerged as a cohesive and dense theory. The findings of this research provide a comprehensive picture that is consistent with the research background.

In a comprehensive view of the results, it can be stated that the conceptual structure of global hijab studies over the past five decades has developed from a purely jurisprudential, religious category or simple attire into a complex, multidimensional, and interdisciplinary phenomenon. Analysis of the strategic diagram showed that the central core and mainstream of these studies are based on the concept of Hijab itself and issues related to the health and medical care of Muslim women. On the margins of this powerful core, specialized and coherent fields such as the fashion industry, personality psychology, and gender differences in the second quadrant have developed independent scientific literatures. Contemporary turbulent social and political conditions have given rise to emerging, challenging concepts that require attention, such as Islamophobia, feminism, racism, and the rereading of Modesty in the third quadrant. Finally, the dominance of the concepts of Religion and Globalization in the fourth quadrant across the entire research communication network demonstrates that the Hijab today is the inevitable intersection of identity, migration, media, and intercultural interactions in the global village. This conceptual evolution aligns with the lived experiences of Muslim women and with the sociological transformations reported in previous research.

Since concepts such as Islamophobia, Racism, and Feminism have been identified as emerging and growing clusters, it is suggested that researchers in the humanities and social sciences turn to conducting studies in these areas.

The Religion and Globalization cluster has the greatest influence across the entire network but has not yet achieved sufficient cohesion. Future studies should focus on the impact of

macro-global phenomena on the identity of veiled women. Topics such as the role of transnational social networks like Meta and TikTok, life in diaspora communities, and the confrontation between tradition and global modernity in redefining the meaning of Hijab are essential priorities for bringing this cluster to full maturity.

Clusters such as the Fashion Industry, Personality Traits, and Gender Differences have become highly specialized and detached from the network's core. Future research should focus on establishing links between these independent fields.

Given that the Islamic Women and Medical Care cluster has reached full maturity and centrality, the time has come for research in this area to move beyond the Descriptive phase and enter the Prescriptive and policy-making phases. It is suggested that health researchers focus on developing international health and treatment protocols and guidelines for veiled women, such as the ergonomic design of veiled medical clothing in the operating room, policies to support the mental health of veiled women in western workplaces, and the promotion of health literacy, so that theoretical findings are transformed into tangible social services.

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