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Sustainability: Science, Practice and Policy

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/tsus20

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To cite this article: Nadia Olivar Aponte, Jesús Hernández Gómez, Vianey Torres Argüelles & Eric D. Smith (2024) Fast fashion consumption and its environmental impact: a literature review, Sustainability: Science, Practice and Policy, 20:1, 2381871, DOI: 10.1080/15487733.2024.2381871

To link to this article: https://doi.org/10.1080/15487733.2024.2381871

Published online: 03 Aug 2024.

SUSTAINABILITY: SCIENCE, PRACTICE AND POLICY
2024, VOL. 20, NO. 1, 2381871
https://doi.org/10.1080/15487733.2024.2381871

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RESEARCH ARTICLE

Fast fashion consumption and its environmental impact: a literature review

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ABSTRACT

The fast fashion linear business model and its widespread consumption practices have instigated numerous environmental consequences, prompting extensive research into sustainable consumer behavior. This article conducts a thorough and quantitative analysis of the contemporary research landscape of the fashion industry and its ecological impact. Spanning from 2012 to 2023, our review explores 119 articles sourced from journals at the intersection of clean production and the fashion industry. The analysis reveals two central research focal points and identifies 77 keywords embedded in the knowledge base. Three overarching knowledge domains emerge from this exploration. We construct a cohesive narrative by synthesizing critical knowledge junctures, the knowledge base, and identified domains, resulting in a knowledge structure comprising five key concepts. Moreover, keywords are thoughtfully organized under their respective knowledge domains. As a synthesis of these insights, this article presents a robust knowledge roadmap, serving as a compass for a nuanced understanding of the current state of sustainability within the dynamic realm of the fashion industry.

ARTICLE HISTORY
Received 11 July 2023
Accepted 15 July 2024

KEYWORDS
Fashion industry; fast fashion; unsustainable behavior; environmental impact

Introduction

Transitioning toward responsible consumption patterns across various domains, including fashion, is crucial to mitigating the climate crisis (Vladimirova et al. 2023). The significance lies in the forecasted 63% increase in global clothing consumption from 2015 to 2030 (GFA and BCG 2017). Meanwhile, textile production experienced a 120% increase over the 40 years between 1975 and 2018, reflecting a per capita fashion-consumption surge from 5.9 to 13 kilograms (kg) (Niinimäki et al. 2020; Peters et al. 2019). This upswing has contributed to heightened resource consumption and land use dedicated to this industry, increasing greenhouse-gas (GHG) emissions and water pollution (EEA 2019). Presently, consumers are acquiring larger quantities of clothing, and to stimulate sales, these items are offered at reduced prices, a phenomenon defined as fast fashion.

Fast fashion is a successful strategy for the textile and clothing industry (Zhang et al. 2021) and is based on a linear business model involving production-use-disposal (Arrigo 2020; Mehrjoo and Pasek 2014; Yoon et al. 2020; Zhang et al. 2021). One characteristic of this form of fashion is offering various styles at very low prices, changing more frequently (Arrigo 2020; Kim and Oh 2020; Liu et al. 2020; Mehrjoo and Pasek 2014; Niinimäki et al. 2020; Yoon et al. 2020; Zhang et al. 2021). This results in low-quality clothing and, consequently, a short lifecycle, making fast fashion unsustainable (Peters et al. 2021; Zhang et al. 2021). The fast fashion business model has led to increased demand for large quantities of inexpensive clothing resulting in environmental and social degradation throughout the supply chain.

Social problems are related to working conditions, low wages, and respiratory and musculoskeletal risks (Bick et al. 2018). The key environmental impacts of the fashion industry supply chain are found in fiber production and wet processing. The most commonly used fiber for garment manufacturing is cotton, the cultivation of which requires large amounts of water and chemicals that contribute to toxicity and water stress (Moazzem et al. 2021; Rex et al. 2019); meanwhile, the most dominant synthetic fiber in the textile market is polyester at 82%, which comes from fossil resources, and is responsible for the release of microplastics (Mikolajczak 2019; Periyasamy and

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Tehrani-Bagha 2022; Rex et al. 2019). For wet treatment, bleach, peroxide stabilizer, softener, and other chemicals are used, resulting in emissions to water and air, effecting the health of nearby residents and animals (Roos et al. 2019). However, another environmental problem is the waste generated both in production and during consumption, where it is either disposed of locally or exported to low- and middle-income countries (Niinimäki et al. 2020; Sandin et al. 2019).

Some of the well-known retailers using this business model, for instance, Forever 21, Zara, and H&M, introduce new products weekly (Centobelli et al. 2022; Gawior et al. 2022; Peters et al. 2021) and rely on marketing strategies that manipulate demand to create indispensable items, particularly targeting consumers from Generation Y, born between 1981 and 1996 (Centobelli et al. 2022; Mundel et al. 2021; Valaei and Nikhashemi 2017), and Generation Z, born between 1997 and 2012 (Djafarova and Bowes 2021). The high consumption of fast fashion by these two demographic cohorts has triggered extensive resource use, resulting in significant environmental costs and substantial impacts on the climate.

The European Environmental Agency (EEA) has identified fashion and textiles as the industry with the fourth highest consumption of primary resources, trailing only food, housing, and transportation (EEA 2019). According to reports by the Ellen MacArthur Foundation (2017) and Global Fashion Agenda (GFA) in collaboration with Boston Consulting Group (BCG) (GFA and BCG 2017), the industry consumed a staggering 93 billion cubic meters (m^3) of water in 2015. Projections indicate that by 2030, the water consumption of the fashion industry is expected to escalate to 118 billion m^3 (GFA and BCG 2017). Petroleum plays a crucial role in fashion production, with an annual consumption of 70 million barrels to manufacture synthetic fibers. This figure accounts for 60% of the demand for the most widely used textile fibers (EEA 2019).

The fashion industry contributes substantially to GHG emissions. The EEA classifies it as the industry with the fifth highest emissions throughout the entire supply chain. Recent research, such as that by Bailey et al. (2022), Centobelli et al. (2022), and Wren (2022), indicates that fashion accounts for between 4% and 10% of total global emissions. Data from the Ellen MacArthur Foundation and the Pulse of the Fashion Industry report reveal that in 2015, the industry emitted 1,715 million tons of carbon-dioxide (CO_2), and they project a significant increase to 2,791 million tons by 2030, representing an almost 60% increase in just 15 years (EMF 2017; GFA and BCG 2017).

Textile production not only affects water and air but also involves using approximately 3,500 chemicals that are hazardous to the environment and human health (EEA 2019). The dyeing and finishing process of garments significantly contributes to the issue, accounting for 20% of global wastewater (Adamkiewicz et al. 2022). Moreover, an estimated 35% of plastic-microfiber discharges into water bodies come from synthetic garments during the washing cycle (Mikolajczak 2019; Periyasamy and Tehrani-Bagha 2022). In summary, the fashion industry has a considerable impact on water bodies and, consequently, the surrounding ecosystems.

In tandem with the environmental challenges posed by the generation of solid waste, the textile and clothing industries also grapple with disposing of vast quantities of discarded garments and other materials. In 2015, a staggering 92 million tons of textile waste were dumped globally, and projections suggest that this figure will escalate to 148 million tons in landfills by 2030 (Echeverria et al. 2019; GFA and BCG 2017; Stanescu 2021). The growth in solid waste in landfills is attributed to the per capita generation of 17.5 kg of textile waste annually worldwide (GFA and BCG 2017). A clear example is the United States, where textile-waste disposal increased from 11 to 17 million tons between 2005 and 2018, representing just over a 50% increase. Moreover, only 2.5 million tons were recycled, while 3.2 million tons were incinerated for energy recovery, leaving 11.3 million tons of textile waste lingering in landfills (EPA 2022).

The significant negative impacts of fast fashion production and consumption are evident in reported studies focusing on concepts such as sustainable consumption and the sustainable strategies adopted by the industry to mitigate its environmental impact. Various consumption forms have been proposed, including green consumption (Wang et al. 2021), slow fashion (Sung and Woo 2019), and circular fashion consumption (Vehmas et al. 2018). Other studies report sustainable strategies for transitioning the textile and clothing industry from a linear to a circular and collaborative model (Di Vaio et al. 2022; Niinimäki et al. 2020). Additionally, there have been proposals for implementing a sustainable or green supply chain (Holtström et al. 2019; Lang and Armstrong 2018; Liu and Koivula 2023).

There are several concepts that challenge the fast fashion paradigm, such as eco-fashion, ethical fashion, slow fashion, and sustainable fashion. These concepts have sustainability as a strategy that seeks to achieve a balance of economic development, social

development, and the protection of the environment (United Nations 2021). Sustainable fashion aims to slow down the production process to a more manageable timeframe, reduce environmental destruction, improve working conditions, transition to a circular and/or collaborative business model, and promote the use of organic materials with lower environmental impacts (Adamkiewicz et al. 2022; Gurova 2024; Palm 2023; Adamkiewicz et al. 2022; Gurova 2024; Palm 2023).

While the literature extensively covers topics related to sustainable consumption and strategies in the fashion industry, there is no report displaying the consumption behavior of fast fashion. Therefore, this study explores key research trends and maps their thematic evolution by analyzing publications between 2012 and 2023. The goal is to provide a comprehensive and insightful picture of fast fashion and its environmental impact. The study employs a scientometric analysis based on a systematic literature review to construct maps of existing knowledge.

This article pursues three primary objectives. First, it aims to integrate reported research on fast fashion and its environmental impacts within the fashion industry from 2012 to 2023. Second, the focus is on conducting a comprehensive analysis of the overall research landscape on fast fashion and its environmental impact. This involves thoroughly examining co-authorship networks, document co-citation, keyword co-occurrence, and clustering to gain a holistic understanding. Finally, the study presents a robust knowledge map that accurately reflects the intricate realities of the fast fashion industry's environmental impact.

The structure of this study unfolds as follows: The next section details the research methodology, providing insights into the intricacies of data collection and processing. Moving forward to the third section, we present the research results, offering a comprehensive analysis that explores journals actively contributing to the subject, the interplay between countries and institutions, document co-citation dynamics, keyword co-occurrence patterns, and the discernible clusters within the dataset. The fourth section lays out the knowledge map resulting from our study, accompanied by an in-depth discussion rooted in scientometric analysis. As we navigate through the final section, we draw conclusions from our study and extend an invitation to contemplate future research directions.

Materials and methods

This study is founded on a systematic literature review (SLR) conducted using the PRISMA 2020 methodology (Page et al. 2021). This approach encompasses Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), presenting a set of evidence-based guidelines. Furthermore, we applied a scientometric approach in this study to facilitate a comprehensive review. Scientometrics enables knowledge domain visualization, offering a quantitative analysis of scientific production to investigate the development, structure, dynamics, trends, and relationships within scientific practice. Employing these methods, this study followed a rigorous process comprising four key steps: (1) defining keywords and conducting database searches, (2) establishing criteria of interest for document selection, (3) excluding articles that did not meet the defined criteria for inclusion and exclusion, and (4) selecting articles for in-depth review and scientometric analysis.

In the initial step, a three-phase search was executed. The first phase spanned from August to November 2022, succeeded by the second phase from January to March 2023, and a subsequent update in October 2023. The search encompassed databases such as Emerald, Springer, Elsevier, Taylor & Francis, Sage, and Google Scholar, employing carefully selected keywords outlined in Table 1. The chosen keywords were the product of brainstorming among four researchers, classified in Section A and B and combined to optimize their impact on the search results. The brainstorming started with the words fast fashion and unsustainable consumption, which form the basis of the study topic. From there, and based on a quick search of related studies reported in the literature that show the trend of research on this topic, the rest of the keywords were identified. Finally, the following search string was used: A ("consumer behavior fast fashion" OR "fashion" OR "apparel" OR "garment" OR "clothing") AND B ("environmental impact" OR "pollution" OR "unsustainable").

Additionally, articles published in English with full document access were considered, specifically concentrating on journal articles from 2012 to 2023. The commencement of the search was determined according to the results of Thorisdottir and

Table 1. Keywords for keyword search.

Section	Keywords
A	Consumer behavior; fashion; fast fashion; apparel; garment; and clothing.
B	Environmental impact; pollution; and unsustainable.

Johannsdottir (2019) and Yang et al. (2017), who indicated that there was a notable upturn in research publications focused on the fashion industry and sustainability industry from 2012 onward. Meanwhile, Thorisdottir and Johannsdottir (2019) addressed the search period between 2000 and 2018, highlighting that from 2011 the first articles on how the fashion industry integrates sustainability-related practices to counteract environmental problems in their business models began to emerge. Furthermore, Yang et al. (2017) investigated during the period between 2000 and 2016, reporting that in 2012, nine articles were published that refer to sustainable retailers in the fashion industry. Following the retrieval criteria, the search yielded 175 articles, with five duplicates that were subsequently eliminated.

In the second step of the research, we defined criteria of interest for the selection of documents. The requirements were as follows: the document had to be a research article published in a peer-reviewed scientific journal, the research topic had to be related to the keywords in Sections A and B, and finally, the article had to be fully downloadable.

In the third step, the articles of interest were downloaded into an Excel spreadsheet and organized by the year of publication, article title, author name, publisher name, journal name, and digital object identifier (DOI). Following this, a thorough application of inclusion and exclusion criteria was conducted on the initial set of 170 articles. The first criterion necessitated the exclusive use of research articles, leading to the removal of 14 literature-review articles. The second criterion excluded articles not published in key peer-reviewed journals, resulting in the removal of a further three articles. The third criterion involved meticulously examining the title, abstract, and keywords, ensuring the presence of keywords from Sections A and B for valuable insights into fast fashion and its environmental impact. Subsequently, 29 articles were eliminated for not meeting this criterion. The final criterion mandated that articles be fully downloadable. Despite being restricted to full-access articles, we could not obtain some items in full text, resulting in the removal of an additional five articles. After the rigorous application of inclusion and exclusion criteria, a total of 119 articles remained. Figure 1 illustrates the steps taken during the article search and the implementation of inclusion and exclusion criteria.

In the fourth step, data analysis encompassed co-authorship, document co-citation analysis, keyword co-occurrence analysis, and content analysis (knowledge domain). First, the author's collaboration network illuminated the number of published documents and the collaborative connections among scholars, countries, institutions, and journals to which they predominantly contribute. Second, the analysis of documents repeatedly cited in a particular field provided insights into higher influence and revealed more interconnected concepts compared to less frequently cited ones. Finally, we extracted keywords from the co-occurrence analysis of title and abstract reviews of various documents. High-frequency keywords and their appearances were instrumental in identifying critical research focuses or directions at specific times. The keyword-extraction method employed in this article utilized the original literature keywords, establishing these high-frequency keywords as the knowledge base in a specific research domain.

Results

The exploration of literature across diverse databases reveals a notable surge in publications concerning fast fashion, particularly evident from 2021 onward. Figure 2 provides a visual representation of the evolving landscape, depicting the increasing number of studies published per year and categorized by publishers. Notably, the major publishers for these topics are Elsevier, Emerald, Taylor & Francis, and Springer.

In Figure 3, the visualization of the collaboration network reveals that 355 authors have contributed to at least one publication related to fast fashion. Among them, thirteen authors have made notable contributions, each publishing at least two articles. The most extensive connected academic group comprises 21 individuals. Notably, the yellow group within this network highlights key authors, including Sonali Diddi (with 4 publications) and Brittany Bloodhart (with 2 publications), both from the United States. These authors exhibit a closely-knit collaboration network, particularly with colleagues such as Vickie Bajtelsmit, Katie Mcshane, Linda Niehm, and Nan-Ruoh Yan from Colorado State University. Following closely are authors who have published two documents each, namely Kirsi Niinimäki (from Finland) and Claudia Henninger (from the UK), both actively engaged in collaborative efforts with other authors, forming their distinct collaboration networks.

Although authors specializing in consumer behavior in fashion and environmental impacts have successfully formed a collaborative network of a considerable size, there remains a pressing need to enhance collaborations across researchers from diverse countries and institutions. Notably, the most prominent collaborations exist among scholars within the same country and institution, particularly at Colorado State University.

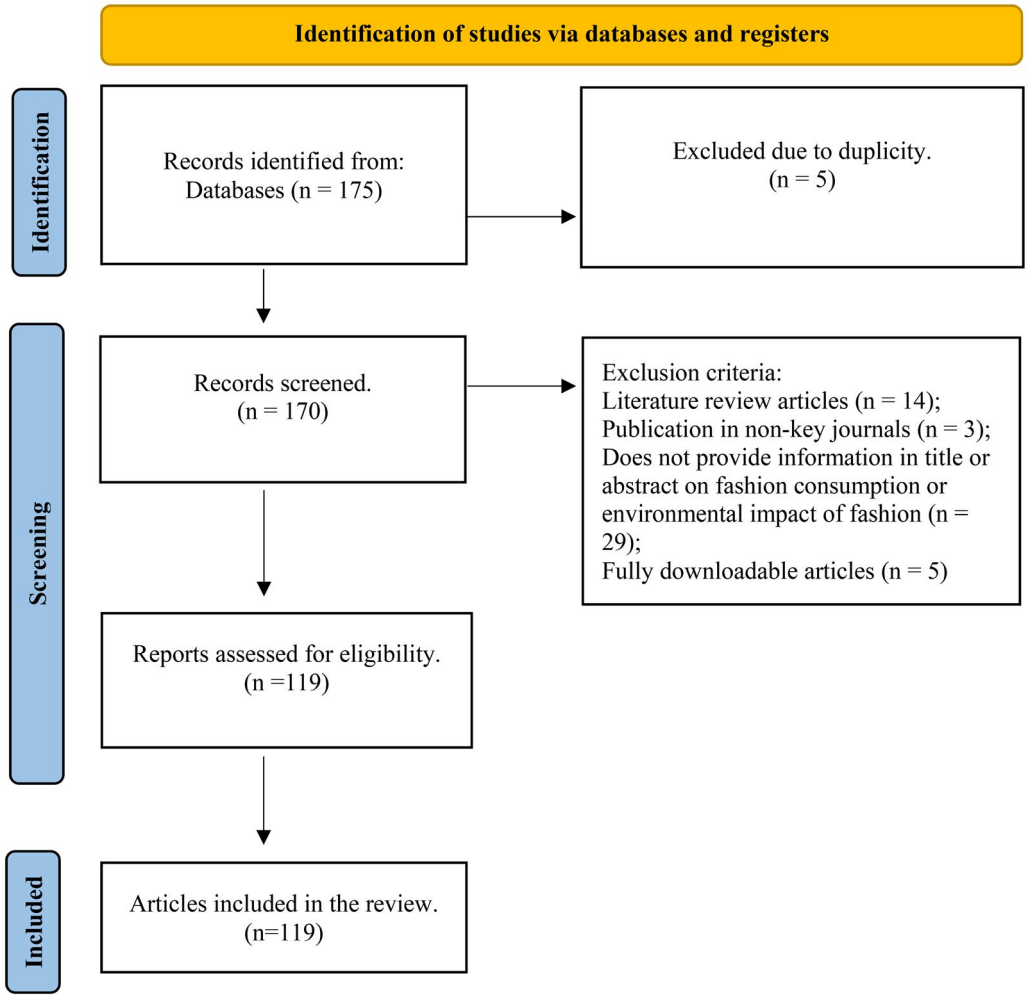

Figure 1. PRISMA methodology used for the systematic review of literature.

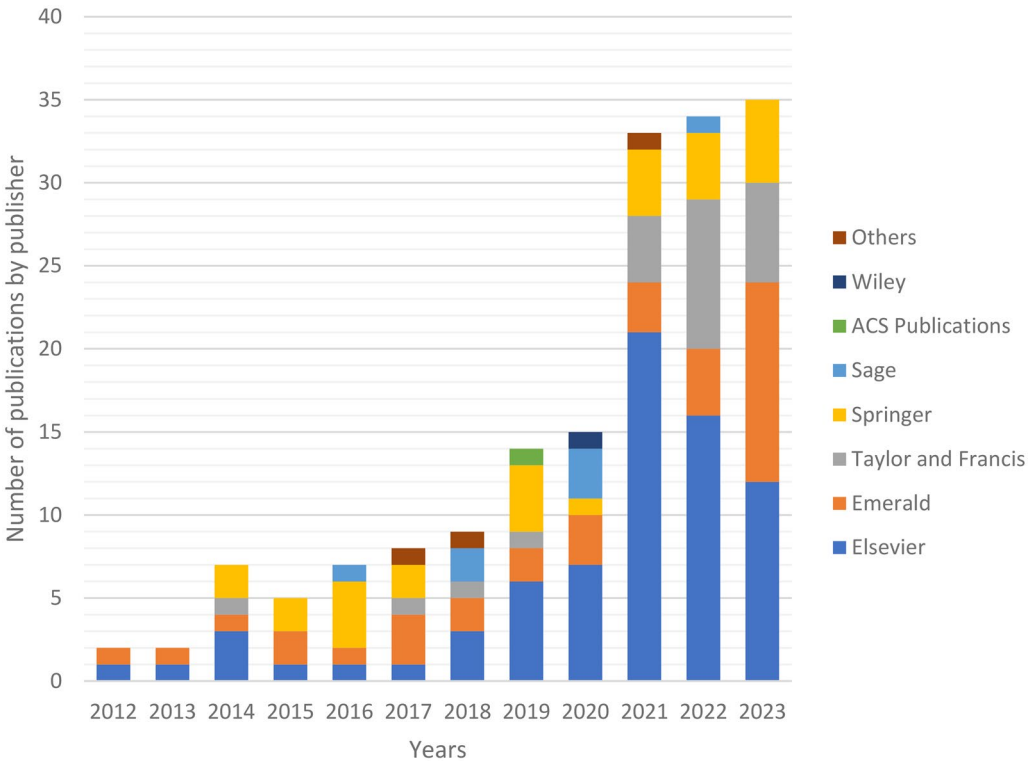

Figure 2. Dynamic trends in publications (2012–2023) and key publishing platforms.

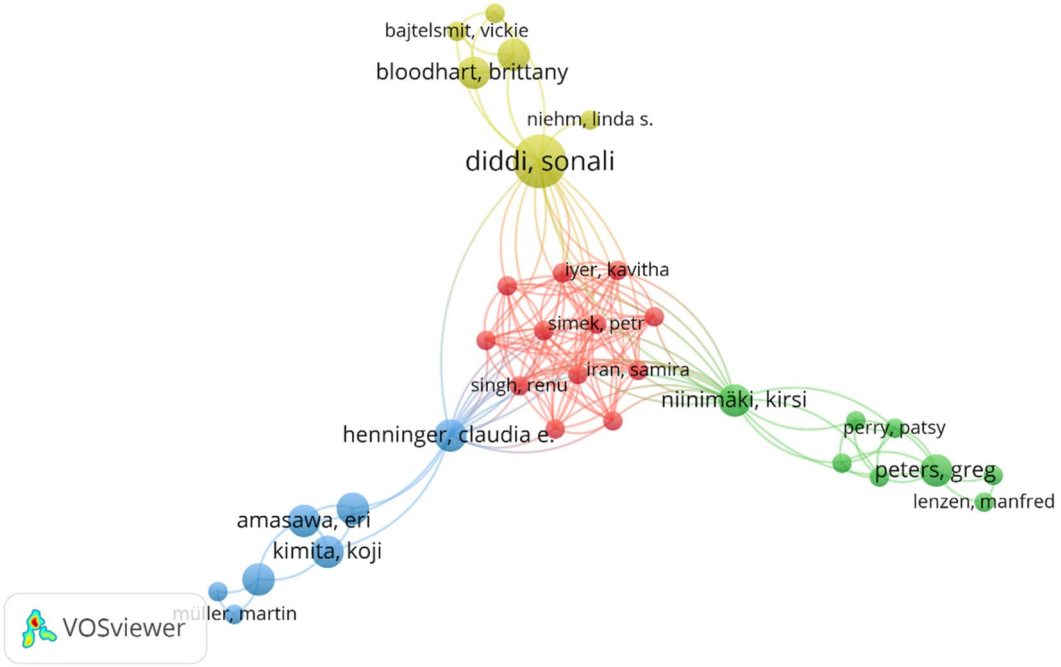

Figure 3. Cluster visualization of authors in the fast fashion and environmental impact field.

Table 2. Compilation of the top 10 authors, ranked by the number of publications.

Rank	Author	Document	Citation	Institutions	Country
1	Sonali Diddi	4	136	Colorado State University	United States
2	Greg Peters	3	521	Chalmers University of Technology	Sweden
3	Kirsi Niinimäki	2	430	Aalto University	Finland
4	Chunmin Lang	2	140	Louisiana State University	United States
5	Brittany Bloodhart	2	100	Colorado State University	United States
6	Ruoh-Nan Yan	2	100	Colorado State University	United States
7	Taylor Brydges	2	93	University of Technology Sydney	Australia
8	Felix Piontek	2	18	Ulm University	Germany
9	Eri Amasawa	2	12	University of Tokyo	Japan
10	Koji Kimita	2	12	Tokyo Metropolitan University	Japan

Table 2 provides a detailed compilation of the top ten authors, showcasing their publication counts and pertinent information on their respective institutions, countries, and citation counts.

In contrast, Table 3 outlines the journals that have made substantial contributions to the discourse on consumer behavior in fast fashion and the environmental impacts of the fashion industry. Leading the list are the *Journal of Cleaner Production* and *Fashion and Textiles*, each boasting 12 and 10 articles, respectively.

Table 3. Most active journals in the field between 2012 and 2023.

Journals	Number of articles published
Journal of Cleaner Production	12
Fashion and Textiles	10
Journal of Fashion Marketing and Management	7
Sustainable Production and Consumption	6
Cleaner and Responsible Consumption	5
Journal of Retailing and Consumer Services	5
Cleaner Environmental Systems	3
Ecological Economics	3
International Journal of Retail and Distribution Management	3
Procedia CIRP	3
Sage Open	3
Science of the Total Environment	3
Asia Pacific Management Review	2
Journal of Business Research	2
Sustainability: Science, Practice and Policy	2
Textiles and Clothing Sustainability	2
Young Consumers	2
Other journals with a publication	46
Total	119

Citation analysis: critical knowledge points

Figure 4 illustrates the co-citation network of 119 articles, generating 14 clusters and 66 links through visualization and analysis. Within the network, each node represents the citation status of an article, with links indicating co-citation relationships. Larger node sizes denote frequently cited publications, underscoring their substantial contributions to the understanding of fast fashion, consumer behavior, and environmental impact.

Table 4 presents the top ten most frequently referenced documents, providing details on authors, publication year, document title, and source. Notably, these articles exhibit a high co-citation frequency and predominantly center on examining green consumption within the context of fashion.

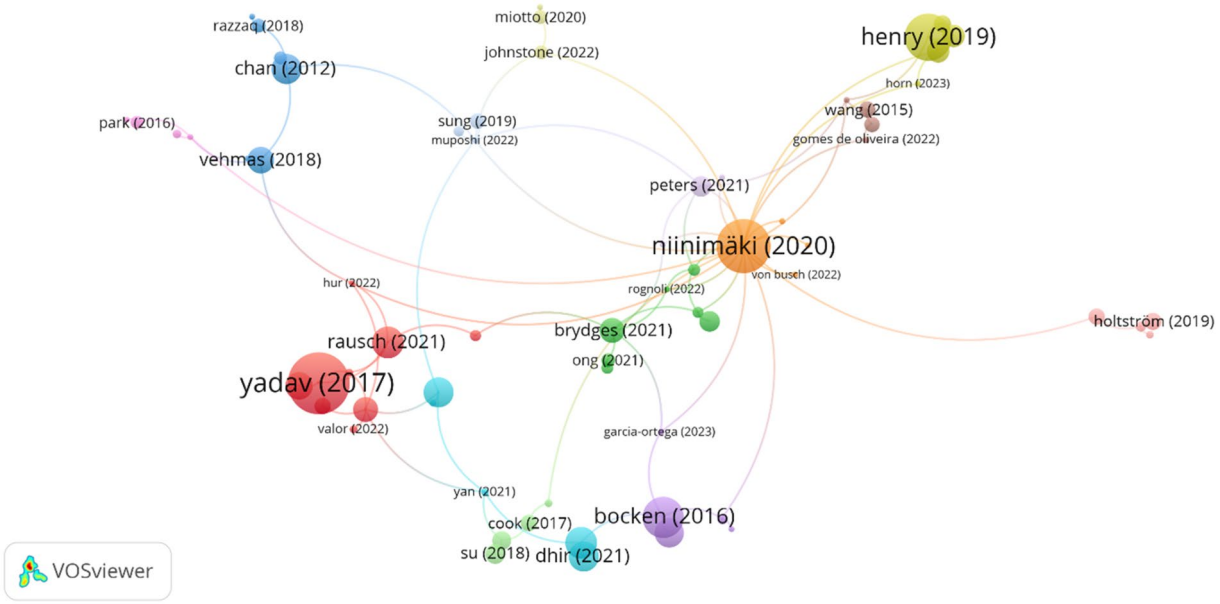

Figure 4. Document co-citation network.

Table 4. Top ten highly cited documents on fast fashion consumption and environmental impact between 2012 and 2021.

Co-citation frequency	Author	Title	Source
549	Yadav and Pathak (2017)	Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior	*Ecological Economics*
420	Niinimäki et al. (2020)	The Environmental Price of Fast Fashion	*Nature Reviews Earth and Environment*
315	Henry et al. (2019)	Microfibres from Apparel and Home Textiles: Prospects for Including Microplastics in Environmental Sustainability Assessment	*Science of the Total Environment*
243	Bocken and Short (2016)	Toward a Sufficiency-Driven Business Model: Experiences and Opportunities	*Environmental Innovation and Societal Transitions*
144	Jacobs et al. (2018)	Green Thinking but Thoughtless Buying? An Empirical Extension of the Value-Attitude-Behavior Hierarchy in Sustainable Clothing	*Journal of Cleaner Production*
143	Rausch and Kopplin (2021)	Bridge the Gap: Consumers' Purchase Intention and Behavior Regarding Sustainable Clothing	*Journal of Cleaner Production*
132	Lang and Armstrong (2018)	Collaborative Consumption: the Influence of Fashion Leadership, Need for Uniqueness, and Materialism on Female Consumers' Adoption of Clothing Renting and Swapping	*Sustainable Production and Consumption*
129	Dhir et al. (2021)	Why Do Retail Consumers Buy Green Apparel? A Knowledge-Attitud e-Behavior-Context Perspective	*Journal of Retailing and Consumer Services*
128	Chan and Wong (2012)	The Consumption Side of Sustainable Fashion Supply Chain: Understanding Fashion Consumer Eco-Fashion Consumption Decision	*Journal of Fashion Marketing and Management*
111	Joshi and Rahman (2019)	Consumers' Sustainable Purchase Behavior: Modeling the Impact of Psychological Factors	*Ecological Economics*

Based on the most cited documents, the most important research topics focus on the following: sustainable fashion consumption behavior and determinants (Joshi and Rahman 2015, 2019; Yadav and Pathak 2017); the attitude-behavior gap in sustainable clothing purchasing (Dhir et al. 2021; Diddi et al. 2019; Jacobs et al. 2018; Rausch and Kopplin 2021); facilitators and barriers toward sustainable clothing-purchase behavior (Rausch and Kopplin 2021); post-clothing purchase behavior (Henry et al. 2019; Niinimäki et al. 2020); and sustainable business models as an alternative to the linear business model (Chan and Wong 2012; Lang and Armstrong 2018). Together, these themes help readers to understand consumer behavior and decision-making processes related to sustainable fashion consumption.

Sustainable fashion consumption behavior and determinants

Studies related to consumer behavior attempt to explain the behavior that consumers exhibit when seeking, purchasing, using, evaluating, rejecting, and discarding a product or service that satisfies their needs (Essiz and Mandrik 2021; Roy and Datta 2022; Schiffman and Kanuk 2010). Most of this research has examined sustainable fashion consumption behavior using behavioral models that have included, for example, the theory of reasoned action (TRA), the theory of planned behavior (TPB), and the behavioral reasoning theory (BRT) (Ajzen 1991; Diddi et al. 2019; Jacobs et al. 2018; Joshi and Rahman 2019; Rausch and Kopplin 2021; Soh et al. 2017; Valaei and Nikhashemi 2017).

The reviewed studies are mainly supported by TPB, an extension of TRA, which encompasses an individual's behavioral intention through attitude and subjective norm (Ajzen 1991; Diddi et al. 2019; Rausch and Kopplin 2021). As for TPB, it comprises the components of TRA and includes perceived behavioral control to explain the effect on behavioral intention, serving as a critical antecedent of consumer behavior (Jianhua Wang et al. 2021). BRT, by contrast, identifies attitudes, subjective norms, and perceived behavioral control as global motives that are broadly interpreted and influence behavioral intentions. In addition, this theory completes the model with reason as a determinant of the individual's behavior that helps to justify or defend his or her actions (Diddi et al. 2019; Yadav and Pathak 2017). The findings of these studies indicate that perceived values, commitment to sustainability, sustainable knowledge, attitudes, and subjective norms are good predictors of consumers' intentions to purchase sustainable clothing (Diddi et al. 2019; Hassan et al. 2022; Jung et al. 2020; Yadav and Pathak 2017; Yan et al. 2021). Also, researchers state that there is increasingly a gap between the intention and behavior to purchase sustainable clothing and that the gap needs to be addressed.

The attitude-behavior gap

Although several concepts of sustainable clothing consumption have been proposed, most consumers still lack insight into the intention-behavior gap regarding sustainable consumption. In other words, although they have a pro-environmental attitude, they do not translate the attitude into sustainable actions (Dangelico et al. 2022; Dhir et al. 2021; Diddi et al. 2019; Jacobs et al. 2018; Jung et al. 2020; Rausch and Kopplin 2021; Stringer et al. 2020; Wang et al., 2021). The findings of these studies point out that there are aspects that inhibit environmentally friendly intention formation and sustainable clothing-purchasing behavior, and the results of the surveys in different countries and focus groups found the following. The findings of Jung et al. (2020) point out that for Chinese consumers aesthetic and authentic values are important and would help to close the gap between attitude and behavior. Jacobs et al. (2018) state that lack of knowledge about where to buy sustainable clothing and the perception of quality among German female consumers inhibit consumer behavior toward buying sustainable clothing. While true, closing this gap requires a deeper understanding about potential enablers and barriers for consumers to adopt sustainable purchasing behavior.

Facilitators and barriers toward sustainable clothing-purchase behavior

Regarding potential facilitators and barriers toward sustainable clothing-purchasing behavior (Dhir et al. 2021; Jacobs et al. 2018; Rausch and Kopplin 2021), the researchers found that fashion awareness does not hinder or enhance sustainable clothing purchase, noting that fashion is no longer a barrier to sustainable clothing purchase (Jacobs et al. 2018). Another enabler for sustainable apparel purchasing is the awareness of additional risks and costs of the entire apparel industry supply chain. This implies that high environmental concern has a positive influence on sustainable fashion-purchase intention compared to consumers with lower environmental concern (Dangelico et al. 2022). Also, they have reported that manufacturing garments with eco-friendly material increases consumers' intention to buy sustainable products and even to pay a higher price for the product (Dangelico et al. 2022; Rausch and Kopplin 2021). However, the main barriers to sustainable clothing consumption are limited availability of sustainable clothing, perceived aesthetic risk, and socio-demographic variables (age, gender, economic income, education) (Dangelico et al. 2022; Jacobs et al. 2018; Rausch and Kopplin 2021).

Post-purchase behavior

With the development of advertising, rapidly changing trends, and ever-decreasing product prices in the field of fashionable clothing, consumers are consuming and buying too much. The higher the consumption of clothing, the more waste it generates. While it is true, research has emerged to examine post-purchase consumer behaviors focused on textile waste and microplastic discharge.

The findings of these studies point to the need to address consumer sustainability knowledge and personal values to counteract textile waste (Polajnar Horvat and Šrimpf 2021; Yan et al. 2021). These studies report the lack of sustainable knowledge on the part of consumers as the main motivator of post-purchase clothing-disposal behavior. This is related to the nature of the fashion industry supply chain and the paucity of information available to consumers. However, research has suggested that most consumers do not consider sustainability in their clothing decision-making processes for several reasons. First, studies have shown that consumers value power and success, choosing to use clothing as a tool to show personal achievement causing them to dispose of their clothing items faster with the intention of finding the next items that can represent their power and success (Jung et al. 2020; Yan

et al. 2021). Second, research indicates that some consumers are unwilling to reduce their level of clothing consumption because they enjoy acquiring and accumulating clothing through shopping (Lang and Armstrong 2018; Muruganantham and Bhakat 2013).

Other studies have delved into the comprehensive environmental footprint of the industry, spanning from fiber production to end-of-life of the product. These investigations consider several factors, including water and energy use, chemical inputs, CO_2 emissions, waste production (Niinimäki et al. 2020; Roos et al. 2019; Sandin et al. 2019), and microplastic discharge (Henry et al. 2019). The findings support the importance of implementing sustainable practices and developing the necessary skills to reduce environmental impacts. Likewise, they propose the implementation of a preliminary midpoint indicator in sustainability-assessment tools, focusing primarily on loss during consumer care. This initiative aims to influence the classification of textile fibers and, consequently, decisions affecting ongoing microplastic pollution.

Sustainable business model as an alternative to the linear business model

All the studies underscore the imperative of comprehending green or ecological clothing-consumption behavior as a potent means to mitigate the adverse impacts of fashion-garment consumption (Chan and Wong 2012; Jacobs et al. 2018; Rausch and Kopplin 2021; Yadav and Pathak 2017). Eco-friendly fashion is crafted meticulously, considering its environmental footprint, utilizing biodegradable or recycled materials, and adhering to environmentally responsible production processes (Chan and Wong 2012; Dangelico et al. 2022; Niinimäki et al. 2020). The term "consumption of eco-friendly fashion" refers to consumers' sustainable fashion-purchasing behavior (Chan and Wong 2012; Dhir et al. 2021). In contrast, fast fashion consumption is deemed unsustainable due to the extensive resources utilized in its production, the release of pollutants into soil, air, and water, and the significant volume of textile waste dumped globally each year (Niinimäki et al. 2020). In response to the linear and unsustainable business model of fast fashion, different sustainable business models for the consumption of sustainable clothing are emerging.

Another perspective highlighted in the reviewed studies advocates sufficiency as a catalyst for innovation in sustainable business models (Bocken and Short 2016). This model entails curbing consumption within the business framework, achieving this through consumer education and engagement to moderate demand. It emphasizes producing long-lasting products to counter obsolescence, promoting an extended lifespan to minimize disposal and premature replacement. The approach prioritizes addressing needs over fueling desires and fast fashion, aiming to decrease overall resource consumption. This involves implementing conscious shifts in sales and marketing techniques, adopting new revenue models, and integrating technological solutions.

Additionally, the collaborative consumption business model is proposed as a socio-economic alternative, centering on renting and sharing. This model, recommended as a supplementary revenue stream for the industry, concurrently extends the lifespan and frequency of use of garments (Bocken and Short 2016; Lang and Armstrong 2018). Coupled with this is the circular economy, an economic model that aims to maximize resource efficiency and minimize waste. This model is proposed as an alternative to the take, make, and dispose model (Brydges 2021).

Keyword co-occurrence analysis – the knowledge base

Keywords serve as a succinct reflection of an article's primary content, making keyword analysis a valuable tool for discerning crucial research topics within the scientific domain (Zhu and Hua 2017). Illustrated in Figure 5, the keyword co-occurrence network comprises 12 nodes, encompassing 283 keywords connected by 2,640 links. Each node symbolizes a keyword, with its size corresponding to the co-occurrence frequencies. The extracted keywords include company, uniqueness, clothing, transition, fashion brand, solution, recycling, green consumer behavior, fashion consumption, firm, sustainable fashion, and fast fashion retailer. As these keywords closely align with the literature's essence, delving into related keywords proves instrumental in unveiling the focal points of research on fast fashion-consumption behavior and the environmental impacts of the fashion industry.

The terms were consolidated into a singular category, encompassing "clothing," "garment," "textile," and "fashion apparel." As detailed in Table 5, the top 77 terms collectively accounted for 1,137 co-occurrence frequencies, constituting a substantial 60% of all keyword frequencies.

Within this keyword list, certain terms emerge as particularly prevalent in terms of frequency of use. The most notable among these are: consumer behavior (122 times), personal values (63 times), product (46 times), environmental impacts (36 times), attitude (34 times), clothing (33 times), fashion (28

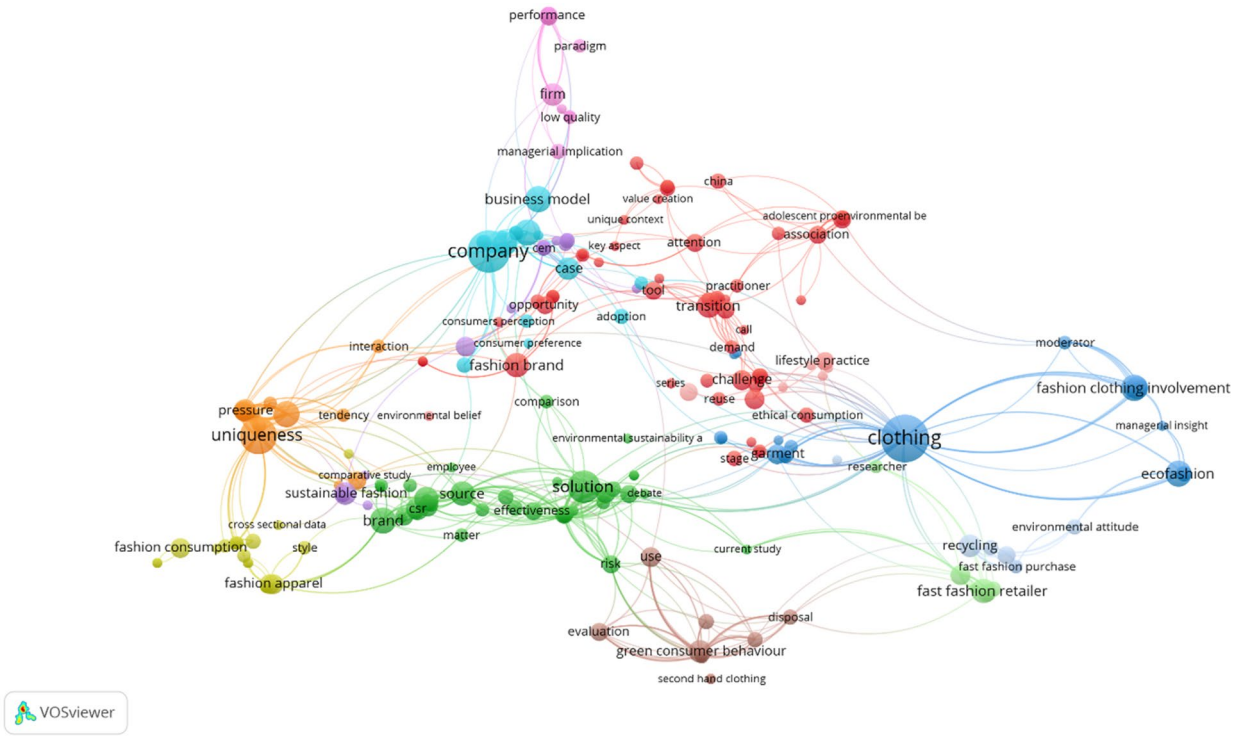

Figure 5. Network-visualization map of keywords.

times), and sustainability (25 times). Further keywords with higher frequencies are detailed in Table 6. This pattern implies that consumer behavior and personal values stand out as foundational elements in shaping the consumption behavior of fast fashion and its environmental impact.

Therefore, the keywords listed in Table 6 are pertinent in the field of research concerning fast fashion and its environmental impact, as they reflect the intricate interplay among various pivotal factors. On one hand, the nexus between the consumer and value is paramount within this context, given that consumers often seek affordable and fashionable products aligning with their preferences and needs. On the other hand, this pursuit of value frequently contends with the adverse environmental impacts associated with the mass production and swift turnover of garments, where quality and durability may be compromised in favor of accessibility and novelty. Consumer attitudes toward fast fashion vary, ranging from indifference to concerns regarding sustainability and the environment. The fashion industry, encompassing the companies operating within it, exerts significant influence both in trendsetting and garment production, thereby contributing to the rapid evolution of fashion and the heightened demand for fast fashion products. This demand, partly propelled by a culture of materialism and the quest for uniqueness, presents additional challenges in terms of sustainability and quality. In essence, the relevance of these keywords underscores the imperative of comprehensively addressing the environmental and social challenges associated with fast fashion, while recognizing the significance of factors such as consumer perception, sustainability, and corporate responsibility in the pursuit of sustainable and ethical solutions.

According to research trends, it is observed that since 2012, ecological fashion and fashion consumption have been prominent research topics, as shown by the results of Thorisdottir and Johannsdottir (2019) and Yang et al. (2017) who noted that from that year onward research around these topics increased. The trend of research reports in this area is depicted in Figure 6, showing the new keywords that have appeared most frequently in studies reported in the last three years, mentioned more than seven times. These studies focus on green consumer behavior, sustainable consumption, materialism, transition, solution, the fashion industry, environmental concern, sustainability, fast fashion, perception, influence, uniqueness, quality, brand, and intention. Interest in these topics has intensified with the increase in textile waste in landfills, leading to greater soil, air, and water pollution and even the impacts generated at the end of the lifespan of a garment.

Content analysis

In this study, 119 carefully selected documents were organized into related topics, as illustrated in Table 7, following a comprehensive review. These documents formed the basis for identifying current and future research areas and facilitating discussions on the environmental impacts of fast fashion-industry consumption. Furthermore, the analysis of the

Table 5. Top keywords and frequencies for fast fashion and environmental impact.

Rank	Keyword	Rank	Keyword
1	Fashion rental/fashion rental business model	40	Brand/retail apparel brand/fast fashion brand
2	Consumer behavior/consumer behavior	41	Millennial shopper/Generation Y/Generation Y luxury fashion good/Gen Y consumer
3	Sustainable clothing/sustainable collection/sustainable fashion/ecofashion	42	Sustainable consumption/green consumer behavior/ pro-environmental behavior/ethical consumption/ eco-fashion consumption decision
4	Clothing/garment textile/fashion apparel	43	Environmental sustainability/environmental concern
5	Fast fashion consumer/fast fashion purchase/ fashion consumer	44	Company/sustainable business/textile firm
6	Low quality/low quality product	45	Concern/ethical concern
7	Post-purchase/post-consumer textile/post purchase behavior	46	Uniqueness/uniqueness duration/unique product
8	Fast fashion environment/fast fashion retailer/fast fashion industry	47	Consumer value/personal value/sustainable value
9	Online purchase behavior	48	Sustainable fashion-avoidance behavior
10	Positive attitude	49	Structural model
11	Low price/price	50	Moderator
12	Communication	51	Price-premium level
13	Fashion involvement	52	Opportunity
14	Fashion consciousness	53	Participant/participation
15	Driver	54	Person
16	Valuable insight	55	Digital platform
17	Consequence	56	Extended producer responsibility policy
18	Interest	57	Corporate legitimacy
19	Attention	58	Brand uniqueness
20	COVID pandemic	59	Pressure
21	Psychological entitlement	60	Recycling
22	Challenge	61	Performance
23	Variance	62	Financial performance
24	Product return	63	Risk
25	Duration	64	Animal welfare
26	Circular economy	65	Use
27	Choice	66	Human health
28	Disposal	67	Satisfaction
29	Materialism	68	Potential solution
30	Microplastic	69	Triple Bottom Line sustainability
31	Fashion-clothing involvement	70	Worker
32	Natural environment	71	Sustainable transition/transition
33	Scarcity	72	Vanity
34	Lifestyle practice/life	73	Social marketer
35	Main source	74	Sale
36	Business stewardship	75	Corporate social responsibility
37	Self-identity	76	Theory of reasoned action
38	Managerial implication	77	Importance
39	Individual		

Table 6. Top fifteen keywords and their frequencies in the context of fast fashion and environmental impact.

Rank	Keyword	Frequency
1	Consumer	122
2	Value	63
3	Product	46
4	Impact	36
5	Attitude	34
6	Clothing	33
7	Fashion	28
8	Sustainability	25
9	Company	24
10	Fashion industry	23
11	Influence	20
12	Fast fashion	18
13	Materialism	18
14	Uniqueness	16
15	Quality	15

document co-citation network allowed the observation of concepts with greater influence, similarities, or relationships, offering insights into both highly cited and less cited elements. This analysis contributed valuable information on fast fashion consumption and its environmental impact, enabling the identification of central themes, content, and interrelationships (Wu et al. 2022). Figure 7 shows the visualization of the network in the knowledge domain with the 15 most frequent abstract terms as seen in Table 6.

The abstract terms were divided into three different research groups shown in Figure 7 in three different colors.

- Cluster 1: consumption behavior, in red;
- Cluster 2: personal values, in green;
- Cluster 3: product, in blue.

Consumption behavior

This predominant cluster, the largest of the clusters, revolves around the sustainable consumption of ecological clothing. It discusses the key determinants shaping consumers' behavioral intentions toward sustainable fashion products (Dangelico et al. 2022). Its importance is highlighted by the growing interest in addressing consumers' environmental concerns, particularly

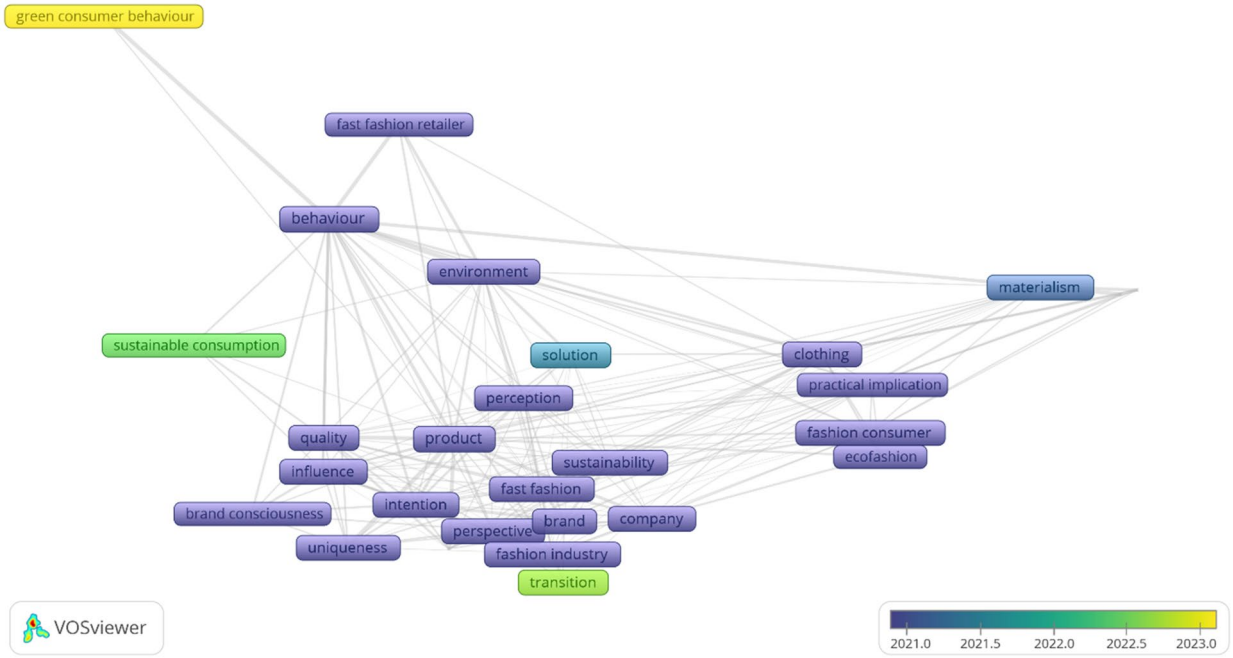

Figure 6. Emerging keywords in recent years.

Table 7. Documents grouped by research topics.

Research Topic	Citations
Consumer behavior related to the concepts of ecology, fast fashion, ethics, green practices, and sustainability.	Lang and Wei (2019); Amaral and Spers (2022); Dangelico et al. (2022); Rausch and Kopplin (2021); Diddi et al. (2019); Razzaq et al. (2018); Chan and Wong (2012); Yadav and Pathak (2017); Joshi and Rahman (2019); Sung and Woo (2019); Thi Tuyet Mai (2019); Ghani et al. (2020); Nam et al. (2017); Kim et al. (2021); Leal Filho et al. (2022); Deschamps et al. (2016); Acquaye et al. (2023); Mellander and Petersson (2021); Talaat (2022); Liu and Koivula (2023); Vladimirova et al. (2022); Muposhi and Chuchu (2022); Ong et al. (2021); Bilińska-Reformat and Dewalska-Opitek (2021); Adeola et al. (2021); Yan et al. (2021); Liu et al. (2020); Sun et al. (2020); Stringer et al. (2020); Joanes et al. (2020); Su and Chang (2018); Valaei and Nikhashemi (2017); Cook and Yurchisin (2017); Park and Kim (2016); Joung (2014); Tajuddin et al. (2014); Lee et al. (2015); Johnstone and Lindh (2022); Lertwannawit and Mandhachitara (2012); Badgaiyan and Verma (2014); Mrad and Cui (2020); Calderón Urbina et al. (2021); van den Berge et al. (2021); Willett et al. (2022); de Moor et al. (2021); Nittala and Moturu (2023); Kim et al. (2014).
Business models that integrate concepts such as circularity, collaboration, and sufficiency.	Heggelund et al. (2023); Rognoli et al. (2022); Buchel et al. (2022); Garcia-Ortega et al. (2023); Karaosman and Marshall (2023); Brydges (2021); Amasawa et al. (2023); Wren (2022); Jain et al. (2021); Bukhari et al. (2018); Peters et al. (2019); Vehmas et al. (2018); Bocken and Short (2016); Lang and Armstrong (2018); Caspersen and Navrud (2021); Holtström et al. (2019); Bauwens et al. (2020); Ostermann et al. (2021); Barros et al. (2021); Dragomir and Dumitru (2022); Wilson (2015); Arrigo (2022); Vasques et al. (2017); Piontek et al. (2020); Valor et al. (2022).
Assessment of the environmental impacts of various textile fibers, including wool, cotton, and synthetic fibers.	Horn et al. (2023); Wiedemann et al. (2023); Millward-Hopkins et al. (2023); Grünzner et al. (2023); Gaylarde et al. (2021); Zhao et al. (2021); Palacios-Mateo et al. (2021); Peters et al. (2021); Stone et al. (2020); Niinimäki et al. (2020); Garcia et al. (2019); Piontek et al. (2019); Henry et al. (2019); Wang et al. (2015); Martin and Herlaar, (2021); Wai Yee et al. (2016).
Luxury fashion consumption behavior.	Zhang and Kim (2013); Giovannini et al. (2015); Soh et al. (2017); Mundel et al. (2021); Bindi et al. (2023).
Corporate social responsibility.	Miotto and Youn (2020); Gaskill-Fox et al. (2014); Calza et al. (2023); Mickelsson et al. (2023); Diddi and Niehm (2017). Miotto and Youn (2020); Gaskill-Fox et al. (2014); Calza et al. (2023); Mickelsson et al. (2023); Diddi and Niehm (2017).
Marketing as a strategy for sustainable consumption.	Jacobson and Harrison (2022); Gossen and Kropfeld (2022); Christie and Venter de Villiers (2023).
Explorations of the fashion business and its problems.	Roberts et al. (2023); Mehrjoo and Pasek (2014); Boström and Micheletti (2016); Cooper and Claxton (2022); Ali et al. (2020); Perera and Ratnayake (2019); Adamkiewicz et al. (2022); Bocken and Short (2021); Greco and De Cock (2021); Roberts et al. (2023).

regarding the negative impacts generated by the fashion industry in both the production and consumption phases (Diddi et al. 2019; Haukkala et al. 2023).

As a conceptual underpinning, research has considered factors like attitude, subjective norms, perceived behavioral control, and perceived value as key determinants of behavior (Dangelico et al. 2022; Diddi et al. 2019; Rausch and Kopplin 2021; Wang et al. 2021; Yadav and Pathak 2017). Several studies have spotlighted a discrepancy between consumers' environmental awareness and their actual behavior when purchasing sustainable fashion apparel (Dhir et al. 2021; Hur and Faragher-Siddall 2022; Jacobs et al. 2018; Wang et al. 2021). Despite environmental concerns, consumers often undergo a psychological shift that intensifies their materialistic desires to acquire new and unique

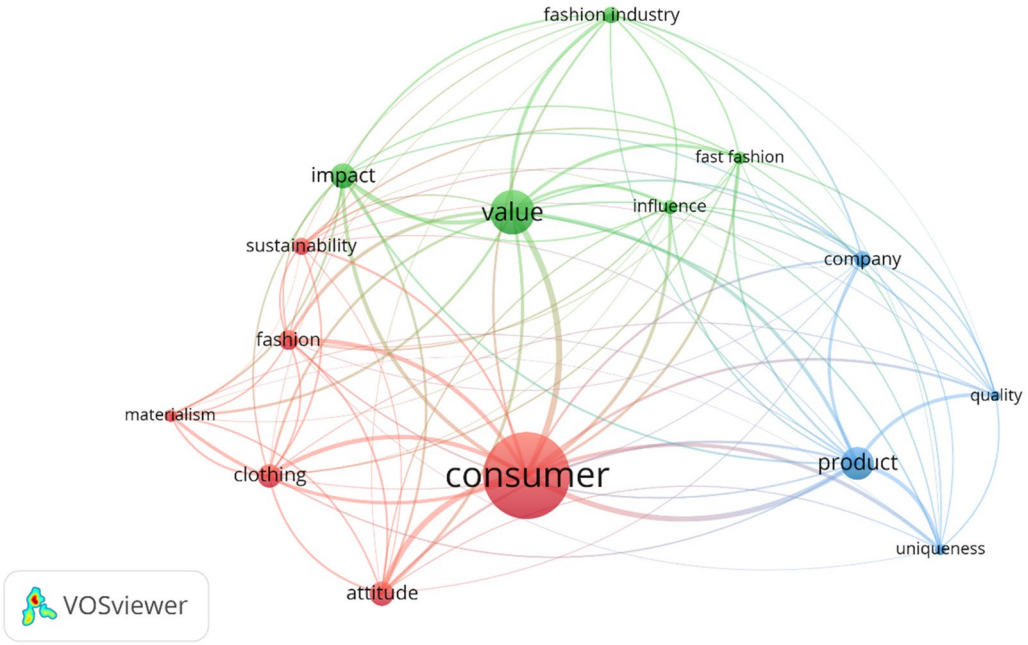

Figure 7. Knowledge domain clusters.

garments (Hur and Faragher-Siddall 2022), leading to unsustainable consumption.

Another challenge to adopting sustainable fashion products arises from the desire to showcase one's identity within one's social environment. In this regard, Galante Amaral and Spers (2022), Giovannini et al. (2015), Lertwannawit and Mandhachitara (2012), and Soh et al. (2017) report that social image is linked to the need for uniqueness, originality, and acceptance from the surrounding social circle. The consumers' innate drive for individuality and the aspiration to stand out propel them to seek distinctiveness through the acquisition of fashionable garments, all in pursuit of personal development and improvement (Soh et al. 2017; Wang and Hsu 2019). The lack of variety in sustainable clothing is a significant constraint in addressing the issue of fast fashion consumption. However, a noteworthy challenge arises from the limited variety in sustainable clothing, serving as a substantial hurdle in addressing the issue of fast fashion consumption. Adding to this challenge is the easier accessibility consumers have to fast fashion compared to sustainable clothing options (Hur and Faragher-Siddall 2022). Further complicating matters is the pricing factor; generally, fast fashion proves more affordable than sustainable clothing, which is often perceived as expensive (Chan and Wong 2012; Cook and Yurchisin 2017; Sun et al. 2020).

Personal values

In the realm of literature, Cluster 2 captures into the intricate relationship between personal values and the environmental impacts of the fashion industry. Various studies establish a discernible link between fast fashion purchases and the subsequent disposal of clothing items. Fast fashion garments are often perceived as disposable, lacking the attributed value or emotional connection to more sustainable choices (Diddi et al. 2019; Yan et al. 2021). Furthermore, personal values such as self-improvement, self-interest, and selfishness are identified as having a negative correlation with environmentally responsible behaviors, a connection that is frequently intensified by materialistic tendencies (Liu and Koivula 2023; Yan et al. 2021).

Individuals committed to pro-environmental behavior, prioritizing equality, and demonstrating concern for the well-being of others and nature, are driven by self-transcendent values. In stark contrast, values centered around personal achievement, which encompass power and accomplishments, primarily focus on individual success and dominance over others (Diddi and Niehm 2017). Within this spectrum, materialism stands out as a manifestation of personal achievement values, aligning with trends influenced by hedonic motives, instrumental goals, or societal perceptions (Liu and Koivula 2023; Yan et al. 2021). Consumers driven by materialistic or self-interested motives often bolster their self-image through frequent clothing purchases, contributing to the swift disposal of garments. This behavioral pattern has led to a surge in the volume of clothing items ending up in landfills, exacerbating environmental impacts significantly (Khan et al. 2023).

Research indicates that for consumers to embrace environmentally responsible or sustainable behavior, they must perceive tangible social and economic

benefits to enhance their social status (Yan et al. 2021). Some researchers propose marketing as a persuasive communication tool to motivate people to change their behavior and adopt the consumption of sustainable clothing (Christie and Venter de Villiers 2023; Gossen and Kropfeld 2022; Jacobson and Harrison 2022). The promotion of social benefits can change people's perceptions of what life satisfaction means and motivate them to consume in a more sustainable way, resulting in a positive impact on the well-being of society, environmental well-being, and economic well-being. For example, social marketing through campaigns in department stores, schools, and social networks can be utilized to educate consumers about the negative consequences of buying in abundance, such as the environmental and social impacts that their consumption triggers and the debt associated with excessive consumption.

Product

The advent of fast fashion has triggered a substantial surge in the consumption of apparel products (Lertwannawit and Mandhachitara 2012; Puiu et al. 2021). The linear business model inherent in fast fashion, characterized by producing short-lived garments, has raised pertinent environmental concerns. These concerns encompass a spectrum of risks, from water consumption and soil erosion to the extensive resources required to produce fibers like cotton, linen, and others. Additionally, there is growing apprehension about water and soil pollution from using chemicals in garment-manufacturing processes (Cruz and Rosado da Cruz 2023). The environmental impacts extend further to issues such as the presence of microplastics and textile waste in substantial water bodies, particularly originating from synthetic fibers extensively employed in the fast fashion-manufacturing process (Marsh et al. 2022).

The production of polyester clothing is a significant source of pollution across its entire value chain, encompassing production, use, and end-of-life stages, thereby contributing to resource depletion (Bailey et al. 2022; Gaylarde et al. 2021; Henry et al. 2019; Palacios-Mateo et al. 2021). Synthetic fibers, constituting two-thirds of garments, as highlighted by Henry et al. (2019), Palacios-Mateo et al. (2021), and Niinimäki et al. (2020), are characterized by their non-biodegradable nature. This prevalent use of synthetic fibers raises concerns about the release of microplastics into aquatic systems, posing threats to wildlife and introducing risks to human health through ingestion, a phenomenon propagated through the food chain (Bailey et al. 2022; Henry et al. 2019; Palacios-Mateo et al. 2021; Stone et al. 2020). The studies indicate the omnipresence of microfibers, both in the air and within living spaces or outdoor environments. As airborne particles, microfibers can be transported by the wind and settle as dust in urban areas or remote locations such as Lake Hovsgol in Mongolia (Free et al. 2014) and Mount Everest (Napper et al. 2020).

The surge in post-consumer textile waste, primarily driven by the brief period of garment use and rapid disposal influenced by shifting fashion trends (Palacios-Mateo et al. 2021; Polajnar and Šrimpf 2021), is a substantial contributor to global warming (Khan et al. (2023). However, concerted efforts are underway to address these environmental concerns through sustainability initiatives, such as implementing a circular economy and aiming for a more sustainable textile sector (Amasawa et al. 2023; Brydges 2021; Heggelund et al. 2023; Peters et al. 2019; Rognoli et al. 2022). Collaborative business models, like garment renting or selling, are also being explored to prolong the lifespan of clothing items, thereby mitigating the environmental impacts associated with the fashion industry (Arrigo 2022; Lang and Armstrong 2018).

Discussion

This systematic review compiles the outcomes of 119 studies, employing scientometric methods to dissect pivotal aspects, explore the knowledge base, and delineate domains within consumer behavior in fast fashion and its environmental impact. The resulting insights are elucidated in the knowledge roadmap, visually presented in Table 8.

Through an analysis of document co-citation, it becomes evident that a highly cited document explores ecological purchasing behavior utilizing the TPB. This exploration underscores the theory's efficacy and relevance in unraveling consumers' intentions and behaviors regarding the acquisition of ecological clothing (Yadav and Pathak 2017).

Another emerging area of interest within the fashion industry pertains to environmental costs, encapsulating elements from production to consumption (Niinimäki et al. 2020). In essence, consumer behavior and environmental cost are intertwined factors linked to the fashion industry and its environmental impact, warranting thorough quantitative scrutiny in future research to ascertain their respective influence proportions.

The knowledge mapping of fast fashion and its environmental impact, as elucidated in this study, emerges from the analysis of the document co-citation network and a comprehensive

Table 8. Knowledge roadmap on fast fashion and its environmental impact.

Knowledge Roadmap on Fast Fashion and Its Environmental Impact						
Critical Points	Behavior of sustainable consumption; environmental impact of the fashion industry.					
Knowledge Domain	Cluster 1, Consumer Behavior; Cluster 2, Personal Values; Cluster 3, Product.					
Knowledge Framework	Consumer Behavior	Consumer-Behavior Patterns	Business Model	Product Characteristics	Environmental Impact Determinants	Companies
Knowledge base	Sustainable consumer	Positive attitude	Fashion rental business model	Ecological materials	Animal welfare	Sustainable business
	Sustainable fashion purchasing behavior	Valuable knowledge	Circular economy	Recycling	Natural environment	Business management
	Eco-friendly consumer	Environmental concern	Digital platform	Low product quality	Human health	Corporate involvement
	Ethical consumer	Psychological right	Collaborative economy	Low price	Scarcity	Triple bottom line
	Online shopping behavior	Practical lifestyle	Linear business model	Product returns	Microplastics	Corporate legitimacy
	Fast fashion consumer	Sustainable clothing		Lifespan	Post-consumer textiles	Extended producer responsibility policy
	Fashion enthusiast	Sustainable collection		Markup level	Wastewater	Potential solution
	Post-purchase behavior	Sustainable fashion		Uniqueness	Textile waste	Financial outcomes
	Impulsebuying behavior	Eco-fashion consumption decision		Fast fashion retailers		Sustainable transition
		Satisfaction		Retail-clothing brand		Corporate social responsibility
		Engagement		Usage		Risk
		Sustainable value		Disposal		Challenge
		Ethical concern				
		Social pressure				
		Choice				
		Generations Y and Z				
		Fashion Awareness				
		Consequence				
		Self-Identity				
		Individuality				
		Interest				
		Brand uniqueness				
		Fast fashion brand				
		Materialism				
		Opportunity				
		Post-purchase				
		Uniqueness				
		Consumer value				
		Personal value				
		Vanity				
		Involvement in fashion purchase				

examination of document content. This exploration unveils three pivotal concepts: 1) consumer behavior, 2) personal values, and 3) product. These three factors underscore the influence of consumers and their values on shaping the fast fashion industry and its consumption patterns. Personal values reflect individual differences, allowing consumers to be classified into different groups based on one or several traits. These are some of the personal values that are reported to influence fast fashion-consumption behavior: need for uniqueness, materialism, impulsiveness, and fashion consciousness.

Consumers' need for uniqueness is satisfied by purchasing fast fashion due to its changing style, allowing consumers to distinguish themselves from others through the acquisition of fashionable clothing (Gawior et al. 2022; Lang and Armstrong 2018; Soh et al. 2017). In response to materialistic consumers, the low prices of fast fashion allows them to purchase more goods (Badgaiyan and Verma 2014; Pellegrino and Shannon 2021). Impulsive consumers tend to make spontaneous decisions without much consideration for the consequences of their behavior; also, their lack of control leads them to buy in larger quantities (Badgaiyan and Verma 2014; Sung and Woo 2019). Fashion-conscious consumers tend to buy fast fashion, since this industry provides fashionable and innovative clothing and an affordable price which provides consumers seeking to differentiate themselves from others with an opportunity to do so through innovative styles (Lang and Armstrong 2018; Lertwannawit and Mandhachitara 2012; Puiu et al. 2021).

Generation Y and Z consumers are more likely to purchase fast fashion clothing due to the nexus between low prices and fashion, which serves as an incentive for these demographic cohorts (Mundel et al. 2021; Polajnar and Šrimpf 2021; Valaei and Nikhashemi 2017). Technological advances and the ubiquity of social networks have facilitated access to a wide range of affordable fast fashion options, which resonates especially among these generations, who prioritize convenience and variety (Melović et al. 2021; Mundel et al. 2021). In addition, identification with current trends and self-expression through fashion are important to Generations Y and Z, and fast fashion offers an accessible means to meet these evolving needs. This link between low prices and fashion is reinforced by the acceleration of the fashion cycle and the perpetual renewal of trends, which fosters a fast consumption mentality and a continuous search for novelty among members of these age groups. Taken together, these factors make fast fashion attractive to Generation Y and Z consumers, preferring it to more expensive or more sustainable alternatives.

As part of the analysis of the information gleaned from the selected studies, the themes related to the investigated subject take centerstage: 47 papers (39%) consider consumer behavior, exploring aspects such as ecology, fast fashion, ethics, green practices, and sustainability. Additionally, 26 (22%) studies examine business models, incorporating concepts like circularity, collaboration, and sufficiency. Another 16 (13%) contributions assess the environmental impacts of various textile fibers, including wool, cotton, and synthetic alternatives. Seven papers (6%) address the challenges hindering the transition to sustainable behaviors.

Furthermore, five studies (4%) investigate luxury fashion-consumption behavior, revealing how consumers fulfill their desires for luxury fashion through fast fashion purchases. A further five pieces of literature (4%) highlight corporate social responsibility, a pivotal aspect in mitigating the negative impacts of the textile and clothing industry. Three documents (3%) explore marketing as a strategy for sustainable consumption, while 10 contributions (8%) scrutinize the fashion business and its challenges, proposing sustainable strategies.

These diverse topics offer a comprehensive overview of issues related to fast fashion and emphasize areas that warrant further investigation.

The knowledge repository, domain, and structure collectively craft a roadmap for understanding consumer behavior in fast fashion and its environmental impact. This repository is comprised of 77 primary keywords identified through keyword co-occurrence analysis. The domains encapsulate influential concepts, categorized into three clusters: Cluster 1 – Consumer Behavior, Cluster 2 – Personal Values, and Cluster 3 – Product. These clusters feature keywords such as: consumer, value, product, impact, attitude, clothing, fashion, sustainability, company, fashion industry, influence, fast fashion, materialism, uniqueness, and quality, as determined through co-occurrence analysis.

In alignment with the knowledge repository, critical junctures, and domains, these elements collectively sculpt the structural landscape. This landscape encompasses factors influencing consumer behavior, various consumption behaviors, business models, product characteristics, and companies. To facilitate a deeper understanding of the insights presented by researchers, we systematically grouped keywords based on their respective domains. This organizational approach is visually depicted in Table 8, which serves as a comprehensive roadmap derived from the findings of this study.

Conclusion

The intricate interplay between fast fashion consumption and its consequential environmental impacts has remained a central focus within scholarly discourse. The scrutiny of 119 reviewed articles underscores the profound challenges posed by these dynamics in attaining the broader objectives of sustainable consumption and production. Through the rigorous lens of a systematic literature review and the adept application of scientometric methods, this study not only dissects, but maps the intricate terrain of knowledge surrounding fast fashion and its environmental ramifications.

The environmental repercussions stemming from the fast fashion industry, coupled with the crucial pivot toward sustainability, have been under thorough investigation. Despite the extensive exploration of these subjects, a notable void persists in the comprehensive review of existing research. This study endeavors to bridge this gap by delivering an exhaustive and quantifiable examination within the domain of fast fashion and its environmental impacts, leveraging the precision of a scientometric approach. To underscore the accomplishment of this objective, we present a detailed knowledge roadmap, offering insights to guide future research endeavors. The comprehensive literature review of fast fashion and its environmental impacts spanning the past eleven years has revealed several promising directions for future research.

While current studies have predominantly delved into sustainable clothing-consumption behavior, a significant gap persists in comprehending the determinants of unsustainable fast fashion consumption, including social, psychological, and economic influences leading consumers to opt for fast fashion products over more sustainable alternatives. Hence, there is a crucial need to explore and reshape the underlying factors driving unsustainable fast fashion consumption.

While some research has extensively explored quantitative factors and methods, methodologies in this domain predominantly lean toward qualitative approaches. There is a pressing need for quantitative methods involving larger sample sizes and precise measurement tools capable of quantifying the impacts of unsustainable consumption in fast fashion accurately throughout its entire lifecycle, including production, transportation, usage, and final disposal of garments.

Research on environmental impacts has employed single or multiple indicators to assess the ecological consequences of fashion-industry products, focusing on the product life cycle. While this approach has yielded abundant quantitative data on environmental impact, the current lack of transparency and accessibility in tracking information about the fashion industry's supply chain or products poses a challenge in accurately measuring the actual environmental impacts of these products. Achieving transparency may require increased pressure from governments and policymakers to secure authentic data. Therefore, it is crucial to explore and compare the environmental impacts of different materials used in fast fashion-garment production, with a focus on factors like water and carbon footprinting and natural resource usage. Additionally, achieving transparency and mitigating the negative environmental impacts of fast fashion may necessitate investigating the effectiveness of existing regulations and proposing supplementary policies. These policies could encompass measures such as environmental taxes, sustainable production standards, and transparent labeling, all of which may require heightened pressure from governments and policymakers to ensure the availability of authentic data.

Measuring ecological impacts and implementing strategies to mitigate consumer-driven effects are crucial for developing sustainable solutions. Thus, we recommend further research to explore new sustainability-promoting strategies and technologies in the fast fashion industry, such as alternative material production, circular design, garment recyclability, and ethical manufacturing practices. Additionally, investigating the influence of consumer education and awareness on purchasing decisions can facilitate a shift toward more conscious and sustainable consumption in the fast fashion context.

Ultimately, we recommend further investigation of the social and economic impacts of fast fashion, particularly considering the influence of globalization on this industry. Regarding these dimensions, research should consider the impacts of fast fashion production and consumption on local communities, encompassing issues such as labor conditions, fair wages, human rights, and gender equity within the fast fashion-supply chain. Additionally, exploring how globalization has fueled the increase in production and consumption of fast fashion, along with its environmental ramifications at both local and global scales, including issues such as water and air pollution, biodiversity loss, and climate change, is essential.

These research gaps represent promising areas for future studies that can contribute to a more comprehensive understanding of the environmental challenges associated with fast fashion and the development of sustainable solutions.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Consejo Nacional de Humanidades, Ciencias y Tecnologías (CONAHCYT).

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