




Sustainable intentions vs. consumption paradoxes: young consumers' engagement with second-hand fashion and textile waste management Zrównoważone intencje a paradoksy konsumpcji: zaangażowanie młodych konsumentów w modę z drugiej ręki i zarządzanie odpadami tekstylnymi

Anna Mielniczek¹ , Weronika Urbańska^{1*} , Hubert Jamry¹ , Aneta Ceglińska¹

¹ Faculty of Environmental Engineering, Wrocław University of Science and Technology

* Kontakt / Correspondence: veronika.urbańska@pwr.edu.pl

Abstract:

This study explores the shopping behaviors of young textile consumers in the context of sustainable fashion. A survey conducted at Wrocław University of Science and Technology indicates a high level of awareness of the fashion industry's negative environmental impact. 80% of respondents purchase second-hand clothing, motivated mainly by financial and environmental reasons. However, many also discard unused textiles. Women shop second-hand more often but buy textiles more frequently and with less focus on quality. These paradoxes may reflect behavioral greenwashing, where sustainability coexists with overconsumption.

Keywords: fast-fashion, sustainable fashion, circular economy, textile waste, consumer behavior

Streszczenie:

Niniejsze badanie analizuje zachowania zakupowe młodych konsumentów tekstyliów w kontekście zrównoważonej mody. Ankieta przeprowadzona na Politechnice Wrocławskiej wskazuje na wysoki poziom świadomości negatywnego wpływu przemysłu modowego na środowisko. 80% respondentów kupuje odzież z drugiej ręki, kierując się głównie względami finansowymi i ekologicznymi. Jednocześnie wielu z nich wyrzuca nieużywane tekstylia. Kobiety częściej robią zakupy w second-handach, ale także częściej kupują tekstylia i rzadziej zwracają uwagę na ich jakość. Te paradoksy mogą odzwierciedlać zjawisko greenwashingu behawioralnego, w którym deklarowana troska o zrównoważony rozwój współistnieje z nadmierną konsumpcją.

Słowa kluczowe: fast fashion, zrównoważona moda, gospodarka o obiegu zamkniętym, odpady tekstylne, zachowania konsumentek

1. Introduction

Fashion, as a fundamental consumer good, holds a significant role in societal life. Beyond its aesthetic and protective functions, it serves as a medium for expressing identity, social belonging, and individual values. Clothing can reflect an individual's social status, beliefs, and even emotions. Over the past few decades, the fashion industry has undergone dynamic transition from the traditional approach to the fast-fashion model, which prioritizes rapid production and consumption cycles [1–2]. Clothing has transitioned from a durable utility product to a disposable commodity, heavily influenced by evolving trends and mass culture. Manufacturers' swift adaptation to market

demand has led to frequent releases of new collections at low prices [3]. However, short production cycles result in reduced textile quality and durability, consequently limiting clothing's lifespan. According to the UK Consumer Report [4], the average longevity of garments is approximately 3.3 years. Furthermore, data from the European Environment Agency indicates that global annual clothing consumption reached 62 million tons in 2019 and is projected to rise to 102 million tons by 2030 [5]. Ethical aspects of the fast-fashion model are also questionable, as cost-reduction strategies often rely on exploitative labor practices in developing countries. Unsafe working conditions, low or no pay, and violations of human and children's rights are common abuses recorded at the produc-

tion stage [6].

One of the most prominent environmental consequences of fast-fashion is the rapidly increasing volume of textile waste generated annually [7]. The reduced lifespan of low-quality textiles necessitates frequent repurchasing. As a result, textiles very quickly turn into a waste stream. Moreover, textile waste is generated at multiple stages of the product lifecycle, including production and retail. Overproduction and frequent replacement of collections contribute to the disposal of unsold or withdrawn garments. The textile sector has the fourth largest impact on climate change, mainly due to the high carbon emissions and water consumption, usage of chemicals, and global transport [8–9]. During manufacturing, the textile industry utilizes over 8,000 different chemicals, including highly toxic substances with carcinogenic, mutagenic, and allergenic properties [10]. These chemicals enter industrial wastewater during production, and subsequently may contaminate ecosystems when inadequately treated [11]. In addition to chemical pollutants, textile microfibres - particularly microplastics - pose a significant risk, with their effects on human health still not fully understood [12]. Given these environmental concerns, the European Union (EU) has prioritized reforms within the fashion industry to mitigate its ecological footprint. The implementation of circular economy (CE) principles, particularly textile reuse and recycling, is essential for transitioning towards a slow-fashion model that emphasizes responsible and sustainable consumption [13–15]. Slow-fashion encourages consumers to make deliberate purchasing choices based on product quality, durability, and ecological considerations, while also promoting clothing repair, alteration, exchange, and resale [16–17].

In the fashion industry, consumers play a pivotal role in driving the transition towards a CE through their purchasing choices and ecological awareness [18]. However, existing literature highlights a pronounced gap between consumer awareness of sustainable fashion and its practical reflection in purchasing behavior [19]. This disparity is further exacerbated by the influence of mass media, as well as the widespread availability and affordability of clothing [20]. Therefore, fostering appropriate attitudes among young consumers is of particular importance, as they are the most susceptible to the fast-fashion paradigm. The social group known as “young adults”, while exhibiting a heightened awareness of ecological issues, particularly concerning climate change, tends to demonstrate relatively low levels of environmental responsibility and engagement in sustainability-oriented actions. Ecological considerations are often secondary in their purchasing decisions [21]. Nevertheless, a consumer study on sustainable fashion conducted in France, Germany, and the UK found that respondents aged 18–24 were significantly more inclined to select sustainable textiles compared to the broader population [22].

Recognizing the increasing significance of responsible textile consumption, this study aimed to evaluate consumer awareness and responsibility in both social and environmental dimensions. To achieve this objective,

a survey was conducted among a total of 969 members of the Wrocław University of Science and Technology community, focusing on young consumers aged 18 to 25. The questionnaire was structured into three thematic blocks, encompassing inquiries related to textile acquisition and disposal practices, as well as ecological awareness concerning the environmental impact of textile production and consumption. The findings of this study contribute to a deeper understanding of young consumer behavior and provide insights into the factors influencing their sustainable purchasing decisions.

2. Methodology

2.1. Respondent research

The research was carried out as part of a student’s project by the Environmental Team Science Club (ET). The research was conducted among the Wrocław University of Science and Technology community from May 9 to June 8, 2023, using a survey form in Polish created in Google Forms. The survey was shared on the social media of the Faculty of Environmental Engineering (FEE) and ET. Also, posters containing a QR code linking to the form and promoting the research were displayed around FEE buildings. The survey was anonymous in strict compliance with the privacy Policy and personal data protection. The total number of respondents was 969, and they were informed about the possibility of using and publishing the study results.

The initial part of the questionnaire contained 4 socio-demographic questions, including gender, age, place of residence, and education. The substantive part of the survey was divided into three thematic blocks, including consumer purchasing behaviour (block I), the textile industry’s impact on the environment (block II), and consumers’ textile waste behaviour (block III). The survey consisted mainly of closed-ended single-choice or multiple-choice questions with the possibility of selecting up to 3, exactly 3, or an unlimited number of answers. In selected questions, it was possible to enter one’s answer. Block II contained one matrix question with a five-point Likert scale. The total number of questions, depending on the answers indicated by the respondents in Block I, was 23 or 26.

The first block contained questions identifying the behaviour of consumers purchasing textiles and consisted of 9 or 12 questions. Respondents answered questions about the reasons for purchasing textiles as well as the frequency, preferred forms, and places of their purchases. The question “Do you buy second-hand (SH) textiles?” divided the respondents into two groups. The respondents who declared participation in textile second circulation (SC) answered 5 questions about the places where they purchase SH textiles, the main motivations and frequency of such purchases, and their limitations. The second group was asked 2 questions about the reasons why they do not participate in the SC of textiles and potential actions that could encourage them to change their decision.

The second block contained 4 questions regarding re-

spondents' knowledge about the textile industry's impact on the environment. Respondents stated whether and how the production and use of textiles negatively impact the environment. They also assessed the impact of individual stages of textile production and consumption on the natural environment on a five-point scale.

The third block contained 6 questions focusing on the textile waste aspect. Questions in this part concerned the reasons and methods of getting rid of textiles and the attitude of respondents to participate in selective textile waste collection.

2.2. Statistical analysis

The data analysis from the survey was carried out using Microsoft Excel computational tools. The data preparation stage included coding the responses, categorizing them, and creating a database in a format that allowed for further statistical processing. The results were analyzed using pivot table functions. Raw survey data were imported into a spreadsheet, and then variables for analysis were selected using available functions.

First, the focus was on analyzing the distribution of answers to individual questions. This allowed us to identify the most frequently chosen answers and general trends among respondents. The next step was to analyze the relationship between demographic variables (e.g., gender, age, education, domicile) and answers to selected questions. Data analysis showed that for most questions, there were no significant differences resulting from the respondents' domicile or education. However, some discrepancies were observed for different genders.

Pivot tables were also used to analyze Likert-scale questions, which enabled the calculation of mean response values within individual respondent groups and the assessment of the frequency of specific response categories. In the further part of the analysis, basic measures of descriptive statistics were calculated. The analysis results are presented graphically using bar charts for % values and pie charts for the number of responses.

3. Results

3.1. Metric data

The group of respondents (N=969) was dominated by women, young people up to 25 years, residents of big cities, and people with higher education or secondary education during their studies (students). Detailed metric data are presented in Table 1.

The significant dominance of the indicated groups of respondents results from the specific nature of the research conducted in the FEE academic environment. The main target group of the survey was first- and second-stage students, of whom over 60% were female students. A detailed sociodemographic analysis of the age group 18–25 (N₀) showed that: women constituted 75% of the respondents, students or people with higher education constituted 75% of the respondents, residents of large cities constituted

54% of the respondents, and students constituted 54% of the respondents.

A similar structure of the respondent group was obtained in studies conducted in Poland and Spain, where women constituted 75.7% and 81.6% of the respondents, respectively, and the average age was 24 and 22 years [23]. Due to the specificity of the respondents, the research results obtained for questions in blocks I, II, and III were analyzed for the age group of 18–25 years as the largest coherent group of respondents (N₀=584). At the same time in block I, depending on the answer to question 11, the group of respondents aged 18–25 was (N₁=470) and (N₂=114), respectively.

Table 1. Sociodemographic structure of respondents (authors' own study)

Tabela 1. Struktura socjodemograficzna respondentów (opracowanie własne)

Scope	Answer	Number of answers	%
Gender	man	219	22.6
	woman	728	75.1
	prefer not to say	22	2.3
Age	18–25	584	60.3
	26–35	191	19.7
	36–45	96	9.9
	46–65	84	8.7
	>65	14	1.4
Domicile	village	208	21.5
	small town (up to 10 000)	49	5.0
	medium city (10 000–100 000)	201	20.7
	big city (above 100 000)	511	52.8
Education	basic	16	1.7
	vocational	15	1.6
	secondary	189	19.5
	student	346	35.7
	higher	403	41.5

3.2. Block I - purchasing textiles

Textile purchasing behavior among respondents appears to be shaped by both functional needs and psychological or social drivers. While necessity remains a key factor, motivations such as the desire for novelty or preparation for specific events (e.g., formal or social occasions) also play a significant role. Promotional strategies by retailers influence over one-fifth of consumers, highlighting the impact of marketing on purchasing decisions. Additionally, a subset of respondents engages in shopping for entertainment or as a response to shifting fashion trends. Gender differences reveal that women are more likely than men to cite expressive or occasion-related motivations, whereas men more often report buying textiles out of necessity. The results are presented in Figure 1.

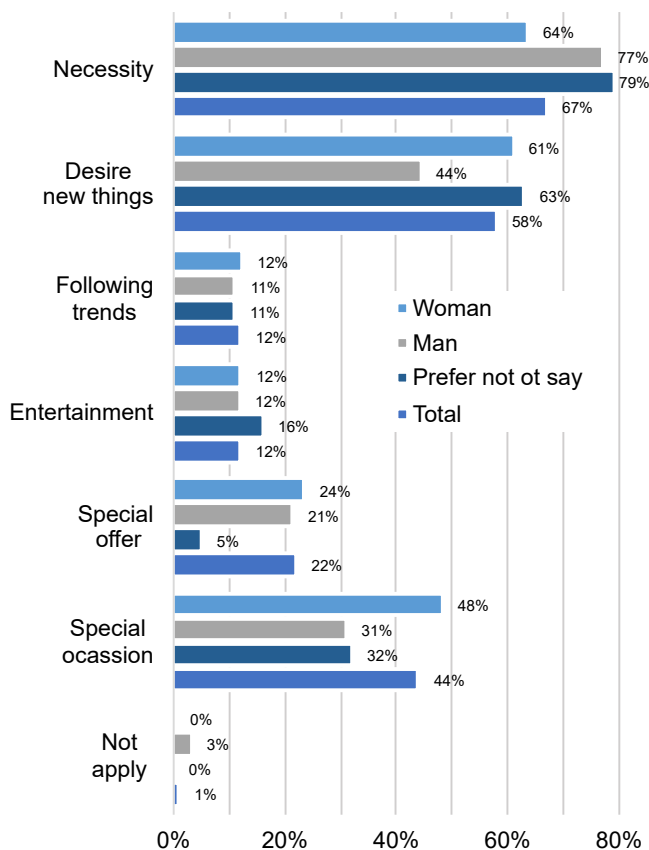


Fig. 1. Most common reasons for purchasing textiles – percentage distribution of responses by gender (authors’ own study)

Rys. 1. Najczęstsze powody zakupu tekstyliów – procentowy rozkład odpowiedzi według płci (opracowanie własne)

Nearly 50% of young respondents declared that they purchase textiles with seasonal frequency. At the same time, the results analysed by gender indicate that 52% of women and 33% of men declared more frequent shopping. According to the form of shopping, the most common answer was both stationary and online shopping (44%). In question 8, respondents declare chain stores (76%) and SH stores (57%) as the most common places to purchase textiles. Men significantly more often than women declared shopping in outlets and premium brand stores. In turn, significantly more women declared that they purchased SH textiles. When asked about habits regarding the examination of textile labels and the country of origin, 32% and 33% of respondents, respectively, reported that they always or often engage in these practices. Affirmative responses were more frequently provided by men. Conversely, 37.0% and 52.0% of respondents, respectively, indicated that they rarely verify this information or do not verify it at all.

The declaration of purchasing or not purchasing SH textiles divided the respondents into two groups, who were asked separate questions in the further part of Block I. In the entire respondent group N_0 , 81% of respondents declared an affirmative answer. The results showed significant differences in responses by gender – 60% of men

and 86% of women indicated an affirmative answer. The analysis of responses by place of residence showed that the SC is most often chosen by residents of large and small towns (84% and 86.2%, respectively). Education does not influence whether or not to buy SH textiles.

Respondents who participated in textile second circulation ($N_1=470$) declared that the most common places for purchasing textiles were SH shops (81%), shopping platforms (59%), and family or friends (39%). Women were more likely than men to use sales platforms and exchange and/or buy textiles from family and friends. More men declared purchasing SH textiles in vintage shops and at organised exchanges. Detailed results are presented in Fig.2.

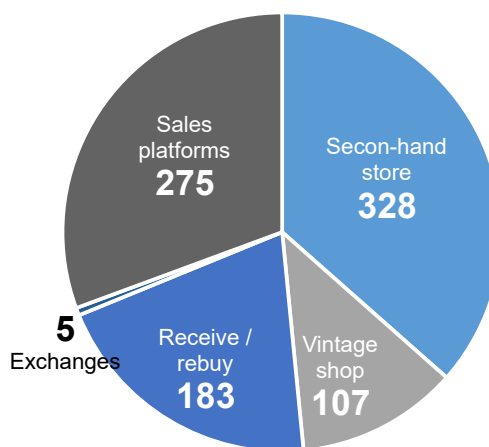


Fig. 2. The most common places to buy SH textiles (authors’ own study)

Rys. 2. Najczęstsze miejsca zakupu tekstyliów z drugiej ręki (opracowanie własne)

Price emerged as a dominant factor in shaping consumer decisions related to SH textile purchases. Other motivations diverged by gender, with women showing a stronger inclination toward environmental values, whereas men were relatively more motivated by product uniqueness. At the same time, a portion of respondents associated SH shopping with recreational and entertainment aspects. These findings highlight the multidimensional nature of consumer engagement with SH fashion. Detailed results are presented in Fig.3. In the context of the second-hand purchases frequency, 52% of respondents declared that they buy SH textiles several times a year, and 39% indicated a greater frequency. 55% of respondents purchase up to 10 pieces of SH textiles per year. At the same time, 16% of respondents purchase more than 25 pieces of SH textiles per year. A higher percentage of women than men declare that they purchase SH textiles more frequently and in greater quantities.

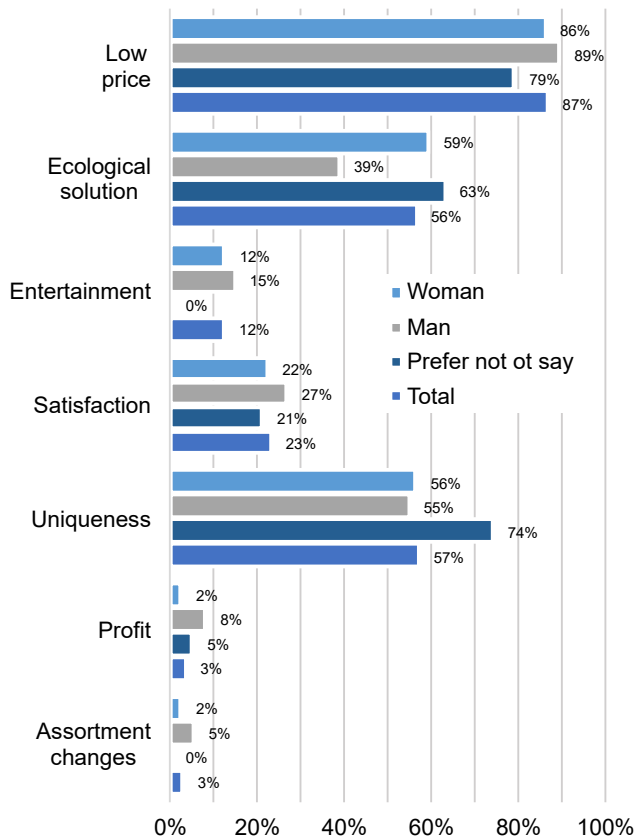


Fig. 3. The most important reasons for buying in SC – percentage distribution of responses by gender (authors' own study)

Rys. 3. Najważniejsze powody zakupów w drugim obiegu – procentowy rozkład odpowiedzi według płci (opracowanie własne)

As restrictions on the type of purchased SH textiles, respondents most frequently indicated underwear, personal use textiles, and shoes, which together accounted for almost 75% of all responses. Everyday wear and special occasion clothing received the fewest responses. 3% of respondents state that they purchase in SC all types of textiles. Detailed results are presented in Fig. 4.

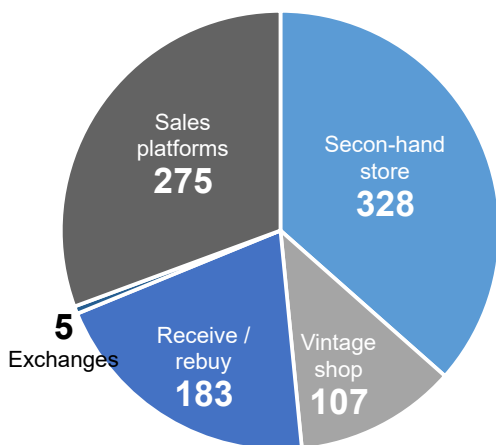


Fig. 4. Textiles which respondents do not purchase through SC (authors' own study)

Rys. 4. Tekstylia, których respondenci nie kupują w drugim obiegu (opracowanie własne)

Respondents who reported not purchasing second-hand textiles ($N_2=114$) were asked to indicate the primary reasons underlying this decision, as well as potential factors that could motivate a change in their purchasing behavior. Most respondents declared difficulties in finding a specific product (62%), hygiene reasons (44%), and the desire to have new things (40%). The hygienic aspect was more important for the women (48%), and the desire to have new things for the men (45%). On average, every fifth respondent also indicated the aspect of low quality, lack of appropriate size, and the need for product selection. The lack of a shop near the place of residence was indicated by 14% of all respondents, while among respondents living in villages or small towns, this answer was declared by 24% of respondents. Respondents identified several factors that could potentially influence their willingness to reconsider purchasing from second-hand channels (SC). Among these, perceptions of product quality, return policies, selection, and price emerged as key considerations. Gender-based differences were observed, with men placing relatively greater emphasis on better product selection, while women were more responsive to the availability of branded items. A notable minority of respondents either expressed resistance to any reconsideration or were unable to pinpoint a specific factor. Detailed results are shown in Fig. 5.

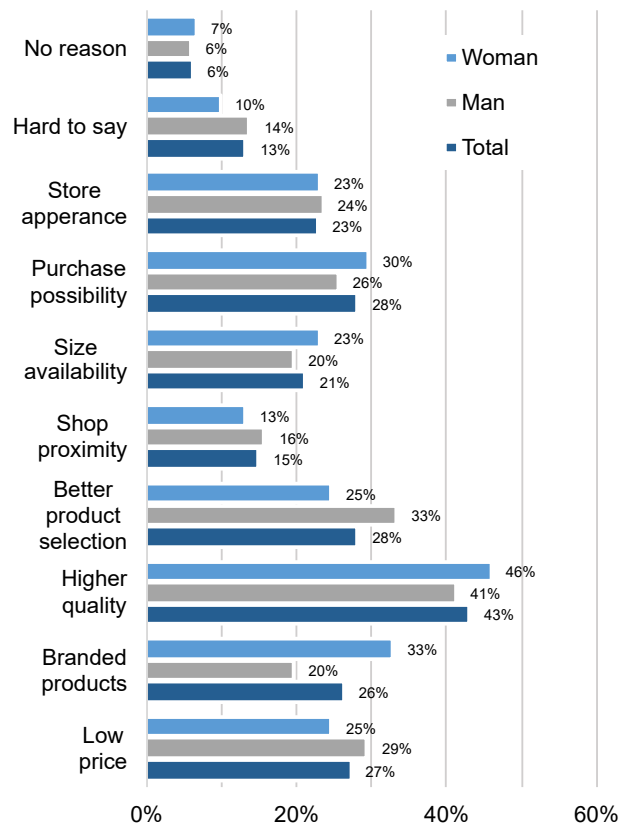


Fig. 5. Potential motivations of respondents to participate in the SC - percentage distribution of responses by gender* (authors' own study)
* Responses from the „Prefer not to say” gender group ($n=2$) are excluded from the chart due to insufficient sample size.

Rys. 5. Potencjalne motywacje respondentów do wspierania drugiego obiegu – procentowy rozkład odpowiedzi według płci* (opracowanie własne)
* Odpowiedzi z grupy „Wolę nie podawać” ($n=2$) nie zostały ujęte na wykresie ze względu na niewystarczającą liczebność próby.

3.3. Block II – the environmental impact of the textile industry

A majority of respondents (81%) perceived the textile industry as having a negative impact on the environment. Among young participants, the most frequently identified environmental concerns included high water consumption (73%), waste generation (60%), and the release of chemicals into ecosystems (59%). In contrast, the impacts considered least significant were the generation of wastewater and soil degradation. Similar results were obtained for rating the environmental impact of textile production and consumption at individual stages, with respondents identifying waste management, transport, and animal breeding as the most impactful.

Over 50% of the respondents identified the higher quality products, increased producer responsibility, and the promotion of SC as the most significant measures undertaken by companies in the textile sector to mitigate their environmental impact.

3.4. Block III – textile waste

The disposal of textiles was most frequently associated with practical factors such as wear and tear, lack of use, or size mismatch. Gender-based patterns emerged, with women more frequently reporting disposal due to reasons related to lifestyle or aesthetic shifts, such as lack of space or changes in personal style. A detailed breakdown of responses is provided in Fig. 6.

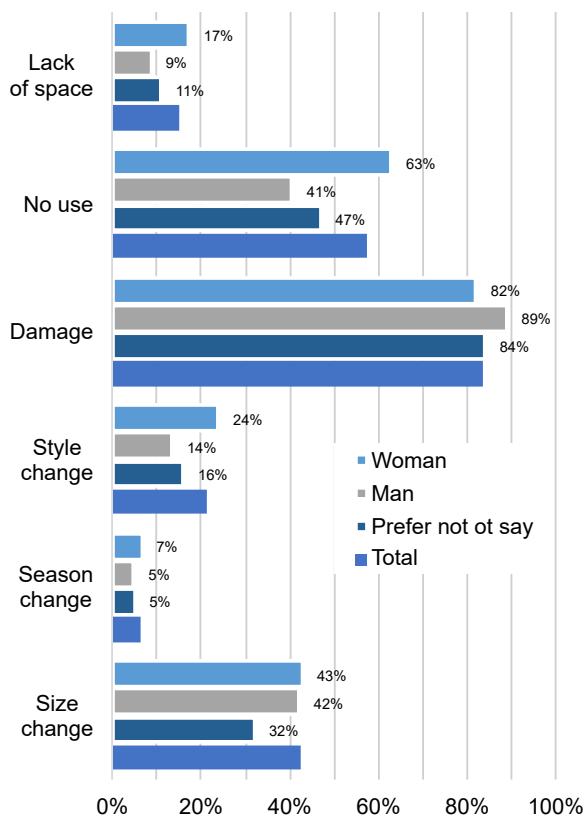


Fig. 6. Reasons for textiles throwing away - percentage distribution of responses by gender (authors' own study)

Rys. 6. Powody wyrzucania tekstyliów – procentowy rozkład odpowiedzi według płci (opracowanie własne)

Textile disposal practices among respondents reflect a preference for extending the lifecycle of garments by passing items on to family or friends and reselling. A considerable proportion also reported utilizing dedicated collection containers. Gender-based differences were observed: women more frequently engaged in reuse-oriented practices, while men were comparatively more likely to dispose of textiles via the mixed waste stream. Detailed results are shown in Fig.7. At the same time, 3% of respondents indicated that they sometimes get rid of new, unworn textile products, 51% of respondents do it occasionally, and 37% never.

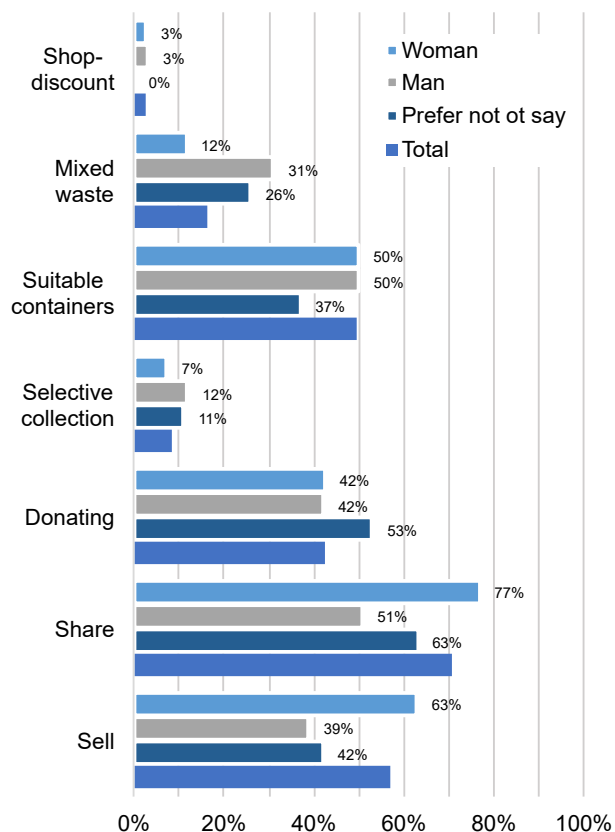


Fig. 7. Ways of textile disposal – percentage distribution of responses by gender (authors' own study)

Rys. 7. Sposoby pozbywania się tekstyliów – procentowy rozkład odpowiedzi według płci (opracowanie własne)

95% of respondents stated that the introduction of the selective textiles collection will significantly affect the development of their SC. At the same time, 71% of respondents declared their readiness to participate in such a system, and 52% of them stated that it would not cause any difficulties in their daily routines. Respectively, 22% and 32% of respondents were unable to provide a clear answer in this regard.

4. Discussion

The most common reason for purchasing textiles declared by young respondents is necessity, understood as a purchase motivated by a real need to supplement the wardrobe due to, for example, damage, change in size, or lack of a given type of clothing. This finding may be

interpreted as a positive indicator of rational and need-based consumption patterns within young consumers. The frequency of purchasing textiles is also positive, with nearly half of young consumers indicating a frequency no greater than seasonal. However, the presence of other motivational factors raises concerns. A substantial share of respondents reported buying clothes driven by non-functional motivations, such as the desire for novelty, exposure to promotional campaigns, or recreational shopping. Notably, 20% of respondents admitted to purchasing new clothing items multiple times per month. This level of consumption likely exceeds actual need and may reflect impulsive or habitual purchasing behaviors, potentially undermining sustainable fashion goals. Indicated findings point to a paradox in young consumers' behavior: while many appear to act consciously and responsibly in their textile consumption, a significant proportion still engages in overconsumption.

Respondents most frequently identified chain stores as their primary source of textile purchases. This finding is consistent with expectations, given the widespread availability of such retailers in shopping malls and online sales, which is as popular among respondents as stationary shopping. Popular chain stores belonging to the fast-fashion system introduce even more than 20 fashion collections a year, contributing to the acceleration of consumption cycles [24]. At the same time, over half of the respondents indicated SC channels as a preferred purchasing option, while approximately 24% reported buying textiles from clothing outlets. These results suggest a noteworthy trend among young consumers toward alternative forms of textile purchasing that may be more sustainable. The preference for SH products or outlet items, typically associated with better quality or surplus stock from fast-fashion retailers, may reflect growing environmental awareness and a desire to engage in more responsible consumption practices.

The slow fashion model is based on reduced consumption of clothing, emphasizing the purchase of fewer but higher-quality items that offer durability and long-term value [25]. In this context, consumer behaviors such as verifying the quality, fiber composition, and country of origin of textiles are key indicators of socially and environmentally responsible purchasing. According to the findings, approximately one-third of young consumers report engaging in such verification, suggesting the emergence of more conscious consumption habits. Textile sourcing and composition information play a critical role in sustainable fashion choices. Locally produced textiles contribute to lowering the carbon footprint by reducing the need for international transportation [26]. Likewise, awareness of fiber composition allows consumers to make more informed decisions, preferring recyclable or biodegradable materials and avoiding blends of natural and synthetic fibers that are difficult to recycle. Furthermore, attention to care labels can extend the lifespan of garments, which supports changes towards slow fashion. Despite these positive signs, the data reveal significant gaps in sustainable behavior. Over one-third of respondents do not check la-

bel information at all, and half never verify the country of origin. This suggests that a considerable segment of young consumers lacks awareness or engagement with key aspects of responsible textile consumption. These findings underscore the need for targeted educational initiatives and clearer labeling practices that can support informed decision-making and foster more sustainable habits.

The SC of textiles plays a pivotal role in the transformation of fashion towards CE principles. By enabling the reuse of textile products, SC serves as a viable alternative to the dominant fast-fashion model, contributing to the reduction of textile waste streams and the extension of product life cycles. Among the surveyed group of young consumers, nearly 2/3 indicated SC as one of their most frequent sources of clothing, and as many as 80% declared that they purchase textiles in this channel. These figures suggest a growing openness among young consumers to engage in more sustainable consumption practices. The primary motivations for engaging with SC include financial considerations, environmental concerns, and the appeal of product uniqueness. This observation aligns with findings from similar research conducted among 18-24 year-old consumers in France [22]. Concurrently, the literature suggests that ecological, ethical, and social motivations alone are seldom sufficient to engage in SC consumption unless accompanied by financial incentives [27-28]. Only 3% of respondents declare purchasing all types of textile products in SC. The main restrictions are hygienic and apply to underwear, personal textiles, and shoes. These findings are consistent with previous studies indicating that fears related to germs, disease transmission, and product cleanliness strongly influence consumer hesitancy, especially for products that come into direct contact with the skin [29-31]. In addition to hygiene-related concerns, respondents identified structural and operational differences between SC and fast-fashion retail models as notable barriers. The inherently variable and non-replicable nature of SC inventory, driven by the post-consumer and post-production waste streams, limits the ability of second-hand retailers to consistently meet market demand in terms of style, sizing, and seasonality. The lack of standardized presentation and assortment often requires consumers to invest considerable time and effort in browsing. In contrast, the undoubted advantage of the fast-fashion model is the full range of product sizes, the seasonality of the collection, and the specific style and character of the clothes sold by each brand. The significance of these factors is further underscored by respondents' answers to the question concerning potential actions that could incentivize their participation in SC. In their responses, approximately 1/4 of respondents indicated greater size availability, enhanced product selection, access to branded items, and a more attractive store's appearance. An equally important aspect for consumers would be a better returns policy, which is very common in the fast-fashion model. As the literature indicates, return policies are more likely to promote purchases than to encourage returns [32]. Notably, the most frequently desired change in SC was the improvement in offered product quality. The quality of textiles available in

the SC is closely tied to both - the original manufacturing quality and the effectiveness of sorting processes. The declining quality of textiles associated with the fast-fashion model adversely affects the quality of SH textiles. Consumers particularly emphasize issues such as faded colors, malfunctioning zippers, low tear resistance, and split seams as indicators of inferior quality [24]. These deficiencies undermine consumer trust and satisfaction with SC purchases. In contrast, some respondents motivated their SC purchases by the high quality of products. Respondents particularly emphasized the availability of textiles made from natural fibers, such as silk or linen, offered at affordable prices. This indicates that with proper curation and communication, the SC sector has the potential to appeal to quality-conscious consumers, provided that barriers related to hygiene, consistency, and user experience are systematically addressed.

More than 50% of the young SC consumers indicated that they purchase up to 10 products annually, which aligns with the dominant self-reported purchasing frequency of „several times annually”. This relatively moderate level of consumption suggests that, for many individuals, SC serves as a supplementary source of clothing acquisition rather than a primary mode of fast-paced consumption. Notably, a substantial group of young respondents reported purchasing more than 25 items annually through SC, and 13% indicated that they view this form of shopping as a source of relaxation and entertainment. Such behavior may be influenced by both economic and psychological factors. The affordability of second-hand textiles lowers the barrier to frequent purchasing, while the non-repeatable and unpredictable nature of SC inventory can create a sense of urgency or scarcity. This may encourage impulsive buying driven by the fear of missing out on unique or desirable items. Importantly, these patterns may also reflect a phenomenon referred to as behavioral greenwashing [33]. The aforementioned concept refers to a form of cognitive dissonance where consumers rationalize excessive or compulsive consumption of SH clothing with environmental ethics, including a commitment to sustainable fashion. This paradox underscores a critical tension in contemporary sustainable fashion discourse: while SC offers a more circular alternative to fast fashion, it does not inherently guarantee sustainable behavior. Without deeper shifts in consumer awareness and self-regulation, second-hand shopping can reproduce the same patterns of overconsumption that characterize the fast fashion model.

The study revealed that 1/5 of young respondents does not engage in the SH clothing market. Among this group, over 40% cited a preference for owning new items as the primary reason for their avoidance of SC. Additionally, 13% were unable to identify any factor that might encourage them to reconsider their stance. These findings suggest a general negative approach to the SC, which may stem from psychological or social factors, e.g., issues of social status, prejudices, or fear of criticism [34-35].

The results revealed pronounced gender-based differences in textile purchasing behavior. Women declared a higher frequency of textile purchases, often motivated by

the desire to acquire new items, and were less likely than men to verify information provided on product labels. Simultaneously, women demonstrated greater engagement with SH clothing, with 20% more women than men citing environmental concerns as a motivation for their SC purchases. Furthermore, 40% of women, compared to 27% of men, stated that they buy SH textiles at least once a month or more frequently. Annual purchasing patterns also reflect this disparity, with women significantly more likely than men to report buying more than 10 SH items per year. The above responses indicate that women play a key role in driving the fashion industry, which is reflected in their higher textile consumption compared to men. Other scientific publications confirm that women are characterized by higher textile consumption and, at the same time, greater involvement in sustainable fashion and the SC of textiles [36]. On the other hand, the combination of high SH purchasing frequency and the other above-mentioned factors may indicate the phenomenon of behavioral greenwashing, where consumer ethics allow for further intensive consumption if it meets the assumed ethical standards. In this context, frequent consumption may be „morally justified” by the perception that purchasing SH items aligns with sustainable values. Such behavior highlights a potential contradiction, where ethical considerations facilitate rather than slow consumerism.

Every 4th young respondent identified the textile industry as having a negative environmental impact, primarily due to high water consumption, chemical pollution, and textile waste. These concerns are well-documented in the literature [37-40]. Respondents pointed to higher product quality and producer responsibility as key actions for the fashion industry to support sustainable fashion. These suggestions align with the EU Council’s 2024 strategy on sustainable textiles, which promotes extended producer responsibility and the development of textile recycling technologies [41]. The young consumer responses indicate their high environmental awareness. Literature underlines that the growing social awareness related to environmental problems has forced the textile industry to develop towards sustainable production [42]. However, the purchasing behaviors observed in the study - such as frequent shopping driven by desire or entertainment - indicate a disconnect between ecological awareness and actual sustainable consumer practices. This supports the concept of the ‘attitude-behavior gap’, where sustainable intentions are not consistently translated into action [43].

A positive observation emerging from the study is that textile disposal was most frequently motivated by physical damage, indicating that many consumers extend the use phase of garments before discarding them. In contrast, nearly 60% of respondents - particularly women - reported discarding textiles due to lack of use, highlighting issues of overconsumption and impulsive or poorly considered purchasing decisions. Combined with disposal due to size or style changes, these findings suggest that a substantial portion of post-consumer textile waste may consist of garments still suitable for reuse within the SH market. Effective circular fashion requires, above all, improvements in

the textile collection system. During the study period, respondents most commonly disposed of textiles by giving them to family or friends, reselling them, or using dedicated textile containers. These behaviors reflect a proactive attitude toward supporting second-hand circulation and align with circular economy principles. Textile container donations - popularized in Poland during the 1990s humanitarian efforts - remain a common practice as in other European countries [44-45]. The mentioned system is implemented by non-governmental charitable organizations or the private entities. The largest charitable organizations typically cooperate with the textile sector, enabling the reuse of good-quality textiles. However, some of these collections carry the risk of abuse by dishonest companies, especially with low-value or poor-quality textiles. The solution to these problems is undoubtedly the implementation of an effective system for textile waste collection and processing supervised by municipal waste management systems. At the time of the research period (2023), no nationwide selective collection system for textiles had been implemented in Poland, although its introduction was planned for 2025 in line with broader EU policies. Nevertheless, some municipalities have begun collecting textiles through stationary selective waste collection points (SWCP), and around 10% of respondents reported using these facilities to dispose of textiles. Importantly, 70% of surveyed young consumers declared a willingness to participate in selective textile collection, indicating strong potential for public engagement. At the same time, a significant portion of respondents were not ready to declare participation in selective textile collection, likely due to limited information about the system's functioning at the time.

As of 2025, it is established in national legislation that municipalities are required to collect textiles at least through SWCP. However, from the residents' perspective, this solution is not always convenient due to significant regional disparities in access. According to 2022 data, Poland operated 2,172 SWCP, equating to an average of one point per approximately 17,000 inhabitants [46]. In densely populated urban areas, such as Warsaw - with over 1.8 million residents and only four collection points - this ratio is considerably less favorable. Conversely, in rural or sparsely populated regions, the primary barrier is the distance and the logistical burden placed on residents to transport textile waste themselves. These accessibility limitations may contribute to consumer disengagement from proper textile disposal practices. In response, some municipalities have introduced supplementary solutions, including municipal textile containers and periodic mobile collection events [47]. While these measures may enhance local participation, reducing regional infrastructure disparities will be crucial to ensuring equitable and effective textile waste management nationwide.

Currently, at the beginning of 2026, the first quantitative data on textile waste collected in 2025 are emerging. For example, the Wrocław municipality collected 610 tons of textiles - nearly 80% at SWCP and 20% through mobile collections [48]. This represents a significant increase compared to 2023 and 2024, where 67 and 81 tons of

textiles were collected, respectively. Detailed data for each Polish municipality will appear in annual reports, which are typically published in the second quarter of the year. These reports will also present the implemented textile collection models and enable an assessment of their effectiveness through nationwide comparison.

At the same time, it is already evident that the introduction of a selective textile collection system has disrupted the functioning of non-system collection schemes. The most well-known charitable organization in Poland cooperating with a company from the textile sector has suspended its container-based textile collection due to the declining quality of donated items. Representatives of the organization point to a significant increase in the share of damaged textiles within the collected stream, which should instead be delivered to SWCP. The easy accessibility of charitable containers, combined with the limited availability of SWCP facilities and the prospect of penalties for improper waste sorting, encourages consumers to dispose of all textiles through charitable collection. As a result, the cooperation has become unprofitable due to the high costs of managing and disposing of unusable clothing [49]. This situation already highlights deficiencies in municipal textile collection systems, indicating the need to improve their accessibility for residents. At present, it remains unclear how these changes will affect the actual management of the textile waste stream.

5. Conclusions

The findings of this study underscore young consumers' engagement with sustainable fashion, revealing both promising trends and existing challenges. One of the most positive aspects observed is the environmental impact awareness of the fashion industry, which translates into conscious purchasing decisions. Many respondents demonstrate a preference for second-hand shopping and express concern over the environmental impact of the textile industry. These attitudes indicate a shift toward more sustainable practices and a willingness to engage in circular economy models, such as clothing reuse and selective textile collection. At the same time, it should be acknowledged that the respondent group was not fully demographically balanced, with a predominance of female participants. Given that women exert a stronger influence on the fashion industry than men, this imbalance may have shaped some of the observed patterns. Nevertheless, the high level of sustainability awareness remains a significant and meaningful finding. However, this awareness does not always translate into consistent, sustainable behavior.

A central contradiction emerges in consumer practices: while purchases are often declared to be need-driven and based on conscious reflection, non-functional motivations, such as the pursuit of novelty or entertainment, remain prevalent. This ambivalence is particularly evident in the popularity of second-hand shopping, which, despite its sustainable potential, sometimes replicates the consumption intensity of fast fashion. Such behavior reflects

the phenomenon of behavioral greenwashing, wherein consumers use ethical justifications to rationalize excessive consumption under the guise of sustainability. It must also be noted that the study did not allow for a strong comparison between the young respondent group and the broader population, as the general population sample was significantly smaller. Although this limits the possibility of generalization, it does not diminish the internal consistency of the patterns identified within the analyzed group.

Gender-based differences were also observed. Women, while generally more engaged with sustainable fashion channels and more likely to cite environmental motivations, also exhibit higher purchasing frequencies and are less attentive to product-related information such as origin or composition. This paradox reinforces the broader pattern of misalignment between sustainable attitudes and actual behavior, highlighting the persistence of the attitude-behavior gap in the fashion domain. The demographic disproportions in the sample suggest an important direction for future research, particularly in exploring how age and gender shape sustainable fashion engagement and consumption intensity.

Despite these challenges and methodological constraints, the findings offer a promising outlook for the role of young consumers in transforming the fashion system. Their expressed willingness to participate in sustainable initiatives, coupled with a growing demand for transparency and quality, can serve as a catalyst for systemic change. The high rate of declared participation in selective textile collection also suggests an increasing commitment to waste reduction and resource conservation. This engagement reflects an evolving mindset where individual consumer actions contribute to broader systemic change, emphasizing the importance of collective responsibility in fostering a sustainable fashion industry. Bridging the gap between intention and action will require targeted education, improved infrastructure, and stronger institutional support to ensure that sustainable choices are both accessible and meaningful.

Overall, despite the indicated limitations, the study provides a coherent and valuable contribution to the understanding of young consumers' sustainability-related behaviors. By capturing both the strengths and contradictions of this group, it offers a nuanced and empirically grounded perspective that constitutes a strong foundation for further research and practical interventions aimed at supporting the transition toward a more sustainable fashion system.

Acknowledgements: The authors wish to express their sincere gratitude to all students who contributed to various stages of the research as members of the Environmental Team scientific group. In particular, we acknowledge the valuable involvement of Maryla Znamierowska, Emilia Rus, Weronika Bugajska, Michał Kuciej, Karolina Decowska, and Olga Lemańska. Special thanks are extended to Marcin Wdowikowski for his support with the statistical analysis.

Data availability: The survey form and other data, including results, are available from the corresponding author on request.

luding results, are available from the corresponding author on request.

6. References

- [1] Baena, V. (2024). The shift from fast fashion to socially and sustainable fast fashion: The pivotal role of ethical consideration of consumer intentions to purchase Zara. *Corporate Social Responsibility and Environmental Management*, 31(5), 4315-4328. <https://doi.org/10.1002/csr.2803>
- [2] Olivar Aponte, N., Hernández Gómez, J., Torres Argüelles, V., & Smith, E. D. (2024). Fast fashion consumption and its environmental impact: A literature review. *Sustainability Science, Practice and Policy*, 20(1). <https://doi.org/10.1080/15487733.2024.2381871>
- [3] Long, X., & Nasiry, J. (2022). Sustainability in the fast fashion industry. *Manufacturing & Service Operations Management*, 24(3). <https://doi.org/10.1287/msom.2021.1054>
- [4] WRAP. (2017). *Valuing our clothes: The cost of UK fashion*. https://www.wrap.ngo/sites/default/files/2020-10/WRAP-valuing-our-clothes-the-cost-of-uk-fashion_WRAP.pdf
- [5] European Environment Agency (EEA). (2019). *Textiles and the environment in a circular economy*. Eionet Report - ETC/WMGE 2019/6. <https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-wmge-reports/textiles-and-the-environment-in-a-circular-economy>
- [6] Vijayarasa, R., & Liu, M. (2022). Fast fashion for 2030: Using the pattern of the Sustainable Development Goals (SDGs) to cut a more gender-just fashion sector. *Business and Human Rights Journal*, 7(1), 45-66. <https://doi.org/10.1017/bhj.2021.29>
- [7] Boston Consulting Group. (2019). *Pulse of the fashion industry*. <https://globalfashionagenda.org/pulse-of-the-industry>
- [8] European Environment Agency (EEA). (2022). *Textiles and the environment: The role of design in Europe's circular economy*. <https://www.eea.europa.eu/publications/textiles-and-the-environment-the>
- [9] Tran, H. N. Q., & Dung, N. D. (2024). Fast fashion issue in Vietnam: Legal aspects and environmental protection. *Pakistan Journal of Criminology*, 4, 1119-1136. <https://doi.org/10.62271/pjc.16.2.1119.1136>
- [10] Nimkar, U. (2018). Sustainable chemistry: A solution to the textile industry in a developing world. *Current Opinion in Green and Sustainable Chemistry*, 9, 13-17. <https://doi.org/10.1016/j.cogsc.2017.11.002>
- [11] Khan, W. U., Ahmed, S., Dhoble, Y., & Madhav, S. (2023). A critical review of hazardous waste generation from textile industries and associated ecological impacts. *Journal of the Indian Chemical Society*, 100, 100829. <https://doi.org/10.1016/j.jics.2022.100829>
- [12] Weis, J. S., & De Falco, F. (2022). Microfibers: Environmental problems and textile solutions. *Microplastics*, 1(4), 626-639. <https://doi.org/10.3390/microplastics1040043>
- [13] Rashid, S., & Malik, S. H. (2023). Transition from a linear to a circular economy. In *Renewable Energy in Circular Economy* (pp. 1-18). Springer Nature. https://doi.org/10.1007/978-3-031-42220-1_1
- [14] Gorokhova, T., Shpatakova, O., Toponar, O., Zolotarova, O., & Pavliuk, S. (2023). Circular economy as an alternative to the traditional linear economy: Case study of the EU. *Revista de Gestão Social e Ambiental*, 17(5), e03385. <https://doi.org/10.24857/rgsa.v17n5-002>
- [15] Castro-López, A., Iglesias, V., & Puente, J. (2021). Slow fashion trends: Are consumers willing to change their shopping behavior to become more sustainable? *Sustainability*, 13(24), 13858. <https://doi.org/10.3390/su132413858>
- [16] Zhang, B., Zhang, Y., & Zhou, P. (2021). Consumer attitude towards sustainability of fast fashion products in the UK. *Sustainability*, 13(4), 1646. <https://doi.org/10.3390/su13041646>

- [17] Domingos, M., Vale, V. T., & Faria, S. (2022). Slow fashion consumer behavior: A literature review. *Sustainability*, 14(5), 2860. <https://doi.org/10.3390/su14052860>
- [18] Koszewska, M. (2017). Consumer in the face of the challenges of circular economy in textile and clothing market [in Polish]. *Research Papers of Wrocław University of Economics*, 501. <https://doi.org/10.15611/pn.2017.501.12>
- [19] Mandarić, D., Hunjet, A., & Kozina, G. (2021). Perception of consumers' awareness about sustainability of fashion brands. *Journal of Risk and Financial Management*, 14, 594. <https://doi.org/10.3390/jrfm14120594>
- [20] Rostiani, R., & Kuron, J. (2019). Purchase of fast-fashion by younger consumers in Indonesia: Do we like it or do we have to like it? *Jurnal Ekonomi dan Bisnis Indonesia*, 34(3), 249-266. <https://core.ac.uk/reader/297709030>
- [21] Proszowska, A., Mamcarczyk, M., & Lisowski, R. (2024). Factors shaping environmental awareness of young adults and its importance in market decision-making processes. *International Entrepreneurship Review*, 10(3), 79-94. <https://doi.org/10.15678/IER.2024.1003.06>
- [22] Premiere Vision. (2024). *Fashion: The new priorities of young consumers*. <https://www.premierevision.com/en/articles/df3754d9-75fa-ef11-90cb-00224888722c>
- [23] Borusiak, B., Szymkowiak, A., Lopez-Lluch, D. B., & Sanchez-Bravo, P. (2021). The role of environmental concern in explaining attitude towards second-hand shopping. *Entrepreneurship and Business Economics Review*, 9(2), 71-83. <https://doi.org/10.15678/EBER.2021.090205>
- [24] Centobelli, P., Abbate, S., Nadeem, S. P., & Garza-Reyes, J. A. (2022). Slowing the fast fashion industry: An all-round perspective. *Current Opinion in Green and Sustainable Chemistry*, 38, 100684. <https://doi.org/10.1016/j.cogsc.2022.100684>
- [25] Jung, S., & Jin, B. (2016). Sustainable development of slow fashion businesses: Customer value approach. *Sustainability*, 8(6), 540. <https://doi.org/10.3390/su8060540>
- [26] Handayani, R. B., & Thanaprasittikul, S. (2022). Finding value: Exploring local resources for sustainable fashion. In *Sustainability in Creative Industries. Advances in Science, Technology & Innovation* (pp. 75-89). Springer, Cham. https://doi.org/10.1007/978-3-031-52726-5_7
- [27] Harris, F., Roby, H., & Dibb, S. (2016). Sustainable clothing: Challenges, barriers and interventions for encouraging more sustainable consumer behaviour. *International Journal of Consumer Studies*, 40, 309-318. <https://doi.org/10.1111/ijcs.12257>
- [28] Jägel, T., Keeling, K., Reppel, A., & Gruber, T. (2012). Individual values and motivational complexities in ethical clothing consumption: A means-end approach. *Journal of Marketing Management*, 28(3-4). <https://doi.org/10.1080/0267257X.2012.659280>
- [29] Liang, J., & Xu, Y. (2018). Second-hand clothing consumption: A generational cohort analysis of the Chinese market. *International Journal of Consumer Studies*, 42(1), 120-130. <https://doi.org/10.1111/ijcs.12393>
- [30] Shah, P., & Gajjar, C. (2021). Secondhand shopping: Understanding consumer behavior toward pre-owned clothing in India. *WRI Publications*. <https://doi.org/10.46830/wri-pn.20.00035>
- [31] Amaral, J. H. G., & Spers, E. E. (2022). Brazilian consumer perceptions towards second-hand clothes regarding Covid-19. *Clean Responsible Consumption*, 5, 100058. <https://doi.org/10.1016/j.clrc.2022.100058>
- [32] Janakiraman, N., Syrdal, H. A., & Freling, R. (2016). The effect of return policy leniency on consumer purchase and return decisions: A meta-analytic review. *Journal of Retailing*, 92(2), 226-235. <https://doi.org/10.1016/j.jretai.2015.11.002>
- [33] Byłok, F. (2017). Morality and ethical consumption: A discussion on ethical dimensions in consumption [in Polish]. *Power of Judgment*, 13, 194-206. <http://hdl.handle.net/11089/25817>
- [34] Herjanto, H., Scheller-Sampson, J., & Erickson, E. (2016). The increasing phenomenon of second-hand clothes purchase: Insight from the literature. *Jurnal Manajemen dan Kewirausahaan*, 18(1), 1-15. <https://doi.org/10.9744/jmk.18.1.1-15>
- [35] Neugebauer, D. D. (2022). *Second-hand fashion: Rags or riches?* (Master thesis). IPAM Porto. <https://comum.rcaap.pt/server/api/core/bitstreams/4b19b345-542f-4822-bd72-ca6ba7cac0a9/content>
- [36] Kleinhüeckelkotten, S., & Neitzke, H. P. (2019). Social acceptability of more sustainable alternatives in clothing consumption. *Sustainability*, 11(22), 6194. <https://doi.org/10.3390/su11226194>
- [37] Jadhav, S. B., Chougule, A. S., Shah, D. P., Pereira, C. S., & Jadhav, J. P. (2015). Application of response surface methodology for the optimization of textile effluent biodecolorization and its toxicity perspectives using plant toxicity, plasmid nicking assays. *Clean Technologies and Environmental Policy*, 17, 709-720. <https://doi.org/10.1007/s10098-014-0827-3>
- [38] Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews Earth & Environment*, 1, 189-200. <https://doi.org/10.1038/s43017-020-0039-9>
- [39] Acharya, S., Rumi, S. S., Hu, Y., & Abidi, N. (2021). Microfibers from synthetic textiles as a major source of microplastics in the environment: A review. *Textile Research Journal*, 91(17-18), 2136-2156. <https://doi.org/10.1177/0040517521991244>
- [40] Köhler, A., Watson, D., Trzepacz, S., Löw, C., Liu, R., Danneck, J., Konstantas, A., Donatello, S., & Faraca, G. (2021). *Circular economy perspectives in the EU textile sector - Final report*, Publications Office. <https://doi.org/10.2760/858144>
- [41] Council of the European Union. (2024). *Proposal for a directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste - General approach*. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST_11300_2024_ADD_1_REV_1
- [42] Karthik, T., & Gopalakrishnan, D. (2014). Environmental analysis of textile value chain: An overview. In *Roadmap to sustainable textiles and clothing* (pp. 101-120). Springer, Singapore. https://doi.org/10.1007/978-981-287-110-7_6
- [43] Soyer, M., & Dittrich, K. (2021). Sustainable consumer behavior in purchasing, using and disposing of clothes. *Sustainability*, 13(15), 8333. <https://doi.org/10.3390/su13158333>
- [44] Soares, B., Ramos, M., & Martinho, G. (2024). Factors to consider for the implementation of a municipal scheme for the separate collection of textile waste. *Sustainable Futures*, 7, 100203. <https://doi.org/10.1016/j.sftr.2024.100203>
- [45] Li, Yibing. (2024). *A Comparative Analysis of Textile Waste Collection Methods in Norway, Finland, and Sweden* (Bachelor Thesis). <https://www.theseus.fi/handle/10024/906715>
- [46] Institute of Environmental Protection - National Research Institute. (2024). Reports of Voivodeship Marshals on the implementation of municipal waste management tasks in 2022. <https://ios.edu.pl/aktualnosci/sprawozdania-marszalkow-wojewodztw-z-realizacji-zadan-z-zakresu-gospodarowania-odpadami-komunalnymi-w-2022-r>
- [47] Green Wrocław. (2024). *Samochód zbierający odzież i tekstylia wyjedzie na ulice Wrocławia*. <https://www.wroclaw.pl/zielony-wroclaw/samochod-zbierajacy-odziez-i-tekstylia-wyjedzie-na-ulice-wroclawia>
- [48] Green Wrocław. (2026). *Wrocławski system zbiórki tekstyliów – najefektywniejszy w Polsce*. <https://www.wroclaw.pl/zielony-wroclaw/wroclawski-system-zbiorki-tekstyliow-najefektywniejszy-w-polsce>
- [49] Money.pl. (2026). *Kontenery PCK znikają – oto skutek nowych przepisów*. <https://www.money.pl/gospodarka/kontenery-pck-znikaja-oto-skutek-nowych-przepisow-7190859173349984.html>