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Consumer preferences for fast fashion products in the context of environmental awareness

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The datasets generated and/or analysed during the current study are not publicly available due to considerations related to participant privacy and the anonymous nature of data collection, but are available from the corresponding author on reasonable request.

Abstract - With the growing prominence of fast fashion and its environmental implications, understanding consumer preferences in this context has become increasingly important. While previous studies have extensively examined environmental awareness in fashion consumption, they have predominantly relied on self-reported attitudes, offering limited insight into how consumers make trade-offs between competing product attributes in a choice-based setting. This study aims to investigate consumer preferences for fast fashion attributes and to analyse the role of environmental awareness in shaping these preferences. Data were collected through an online questionnaire survey conducted in Hungary (n = 285), incorporating a Best-Worst Scaling (BWS) experiment using the object case approach to capture the relative importance of key product attributes. Preferences were analysed using both counting measures and conditional logit models based on the maximum difference decision rule. The results

indicate that *value for money* is the most important attribute across all consumer groups, while *material*, *price*, *utilisation*, and *combinability* are significantly less important relative to the reference attribute (*convenience*). Although descriptive differences can be observed between consumer groups with different levels of environmental awareness, interaction-based model results show that these differences are not statistically significant. The findings suggest that environmental awareness does not lead to systematically different preference structures in a choice-based context, indicating that policy interventions and managerial strategies aimed at promoting sustainable consumption should not rely solely on raising environmental awareness, but also need to account for the underlying trade-offs between competing product attributes that shape consumer decision-making.

Keywords – Fast Fashion; Environmental Awareness; Consumer Behaviour; Best-Worst Scaling (BWS)

1. Introduction

Due to the deepening of consumerism, the fast fashion industry has been thriving since the early 2000s. Its rise has been driven in part by the growing number of fast fashion brand stores and consumers' passion for fashion. Although the industry provides consumers with affordable, trend-driven clothing, it has also become a major contributor to environmental degradation as it often overlooks its long-term consequences. High carbon emissions, water use and pollution, and huge amount of textile waste are some of the key issues caused by fast fashion (Niinimäki, 2020). Change is required, since the initiatives of some fashion stores (using eco-friendly materials, minimising the use of water and chemicals) may not be enough.

To provide a structured overview of the topic, the introduction is organised into three subsections. First, the environmental impacts of fast fashion are discussed, followed by a review of the relationship between fast fashion and environmental awareness. Finally, the research aim and scope of the study are presented.

1.1 The environmental aspects of fast fashion

According to Lehmann et al. (2019) and Keller (2023), the fast fashion sector ranks as the second largest polluter globally. This may seem surprising at first, because attention and environmental regulation were initially focused on sectors whose negative environmental and social impacts are most obvious (chemical industry, automotive industry). However, in recent years it has become clear that sustainability issues are present in all industries (Saraswathy et al., 2026). As fast fashion aims to produce and sell as many garments as possible in the shortest possible time and to maximise profit, it

almost completely ignores human rights and environmental concerns (Keller, 2023).

The sector's water use is shocking in itself and has a staggering environmental impact, as it is the second largest water-consuming industry behind agriculture. Based on IUCN data, it takes 2,700 litres of water to produce a single cotton T-shirt and 7,500 litres for a pair of jeans. The former is the water consumption of a person for 2.5 years. However, the fashion industry is also at the forefront of air pollution, responsible for almost 10% of global carbon emissions (Earth, 2024). Preparing a simple 100% cotton T-shirt produces more than 10 kg of greenhouse gases (Vandette, 2019). In 2018, 2.1 tonnes of greenhouse gases were emitted by the industry, 30% of which were produced during transport and packaging, i.e. the "least harmful" stage (Blum, 2021).

In addition, it is important to mention the immense amount of textile waste that is generated during the production and wearing of fast fashion garments. It is a burning problem that most of the clothes that are no longer used are simply thrown away, with no regard for separate waste collection (Bujda, 2025). In the US alone, 11.3 million tonnes of textile waste is landfilled annually, which is 85% of all textiles. This means that the average person throws away around 37 kg of clothing every year (Igini, 2023).

1.2 Fast fashion and environmental awareness

Numerous previous studies have examined the issue of fast fashion and clothing consumption from various, yet closely interrelated, perspectives, including product-related purchasing factors, social and psychological effects, sustainability awareness, and the discrepancy between attitudes and behavior. To make the major patterns emerging in the literature easier to follow, Figure 1 concisely summarizes the most important themes emerging from previous research. Subsequently, Table 1 presents the selected empirical studies in greater detail, covering their objectives, methodological approaches, and main findings.

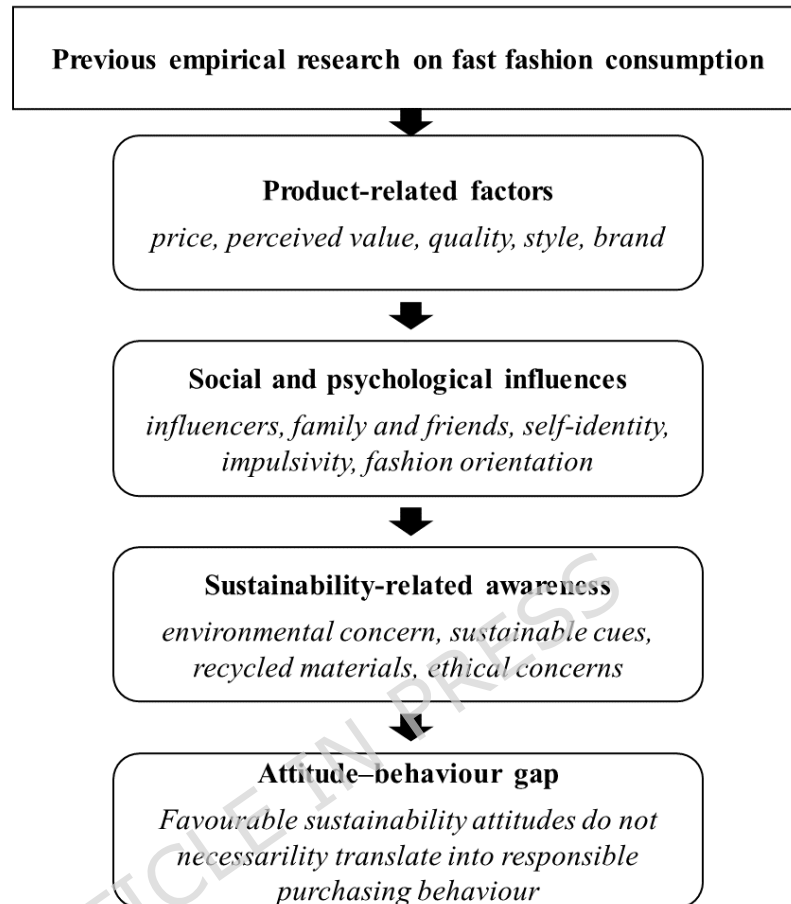


Figure 1. Key themes emerging from previous empirical research on fast fashion consumption

The results of the studies published between 2015 and 2026 show that, overall, psychological and personal factors, social (influencers, friends, and family opinion) and product-related factors (price, brand, and style) are important for influencing clothing consumption behaviour (Zhang et al., 2025). The main reasons for fast fashion's popularity are the product range, perceived value, and constantly renewing collections, which are also the main motivators of fast fashion brand addiction (Mrad et al., 2020). A number of environmental challenges have been identified in the industry, such as the use of unsustainable materials, packaging, transport, and waste (Islam et al., 2025). Consumer attitudes towards the industry are mostly negative, as many individuals express criticism and even boycott behaviour due to the sector's environmental harms, unethical practices, and contribution to overconsumption (Anh, 2025). Almost all generations are aware of the

environmental challenges and tend to hold favorable views on sustainable fashion; however, this does not consistently translate into their actual purchasing behaviour (Zhang et al., 2021; Fani et al., 2022; Taborecka et al., 2023). This attitude-behaviour gap has been widely studied in various aspects of sustainability, such as green/sustainable consumption in general (Zrałek, 2017; Wintschnig, 2021; Zhuo et al., 2022; Müller et al., 2025), food consumption (Schäufele et al., 2021), transportation (Haider et al., 2019), shopping in supermarkets (Munro et al., 2023), or even purchasing recycled and upcycled fashion products (Park and Lin, 2020); however, it only appears in a few papers specifically in the case of fast fashion purchase (Zhang et al., 2021; Taborecka et al., 2023; Magwegwe and Shaik, 2024).

As shown in Table 1, previous research consistently highlights the importance of product-related factors (such as price, quality, and style), as well as social and psychological influences in shaping fast fashion consumption behaviour. At the same time, several studies point to a discrepancy between environmental attitudes and actual purchasing behaviour, indicating the presence of an attitude-behaviour gap. While consumers are generally aware of the environmental impacts of fast fashion and often express favourable views toward sustainable consumption, this awareness does not necessarily translate into more responsible purchasing decisions. These findings suggest that, although environmental awareness is widely recognised, its role in shaping actual purchasing behaviour remains ambiguous.

Table 1. Selected empirical studies informing the analysis of fast fashion consumption and the attitude-behaviour gap

Author(s)	Year of publication	Aim	Methods	Results
Ahuja	2015	to analyse the effect of brand on consumer buying behavior in India, to study what actually is branding and consumer behavior	consumer survey, descriptive statistics	□ Brand awareness tends to decline among older individuals; □ price and brand were the most important attributes; □ eight out of ten people consider

				brands to have evolved into a status symbol.
Knežević et al.	2016	to examine the clothing purchase motives, preferences, attitudes, behaviours, and store choice criteria of Croatian adolescents	questionnaire , descriptive statistics, correlation analysis	□ Most people prefer shopping in malls over other retail formats; □ teenagers' attitudes toward fashion and clothing are still in the process of developing; □ they tend to rely heavily on the views of family and friends; □ for this group, the Internet and television serve as important channels for consumer communication.
Valaei and Nikhashe mi	2017	to explore the factors influencing the attitudes and purchase intentions of Generation Y consumers towards fashion clothing in Malaysia	questionnaire , partial least squares-structural equation modelling (PLS-SEM)	□ Generation Y's attitudes toward fashion apparel are primarily influenced by brand and self-identity, whereas factors such as style, price, country of origin, and

				social identity play a lesser role; □ brand, style, price, and social identity have the strongest influence on consumers' intention to purchase fashion clothing, whereas country of origin and self-identity do not.
Wassén et al.	2017	to examine the factors that affect Generation Y Swedish women's intention to purchase eco-friendly fast fashion	focus group interview	□ Key factors influencing women's consumption of eco-friendly fast fashion: knowledge and awareness, style, convenience, scepticism and financial situation; □ the sample does not intend to buy eco-friendly fast fashion and therefore does not show such behaviour.
Nakalinda	2018	to explore the factors that shape consumer	survey, correlation analysis, multiple	□ Psychological and personal factors influence

		purchasing behaviour of fast fashion clothing in the UK	linear regression analysis	consumer buying behaviour, whereas social factors have no impact.
Nistor	2019	to reveal fashion brand preferences among students in Cluj-Napoca, Romania	online survey, focus-group interview, descriptive statistics, one-way ANOVA	□ Just over half of the students report having a favourite fashion brand, and these brands are predominantly from the fast fashion segment; □ clothing brands are less important for students; □ brand sensitivity is highest among those who are engaged with fashion, tend to adopt trends early, and are less influenced by price.
Mrad et al.	2020	to explore the main motives of consumer-brand relationships for luxury and fast fashion	in-depth interview	□ Main motives for luxury brand addiction: self-expression, status consumption, perceived quality;

		brands in Lebanon		□ Main motives for fast fashion brand addiction: product choice, perceived value, constantly new collections; □ consequences of brand dependence: interpersonal relationships, financial issues, motivation to work harder.
Pääkkönen	2020	to analyse the environmental issues associated with the fast fashion industry and the attitudes of Finnish consumers toward it, and to analyse the industry's potential for sustainable change	focus-group interview	□ A number of environmental challenges have been identified: the use of unsustainable materials, packaging, transport and waste; □ consumer attitudes towards the industry are mostly negative; □ a correlation was found between the cognitive part of environmental attitudes and

				environmental behaviour.
Revlon-Chion et al.	2020	to investigate whether the relationship between influencers and consumer impulsivity is favourable to fast fashion in the UK	online survey, structural equation modeling (SEM)	□ Content of influencers encourages impulse buying; □ the perception of the authenticity of influencers is directly and positively related to consumers' propensity to buy spontaneously ; □ partnering with influencers to raise consumer awareness about sustainable and ethical consumption benefits the fast fashion industry.
Zhang et al.	2021	to examine consumer attitudes towards sustainability of fast fashion products in the UK	online questionnaire , descriptive statistics, regression analysis	□ While the cognitive and behavioural components align across cultures and religions, the affective component still differs significantly; □ people in employment

				are more aware of environmental issues than the unemployed ones; □ gender only matters for purchasing decisions; □ cognitive and emotional understanding of sustainability has increased, yet this does not necessarily translate into more responsible buying decisions.
Fani et al.	2022	to investigate the effect of sustainability cues on consumers' preferences	focus groups, online experiments, mediation tests	□ The use of recycled materials is appreciated by young adult consumers and can encourage their purchase of fashion products; □ the effect of sustainability symbols on young adult consumers remains ambiguous; this is true

				not only for consumers who are disinterested in the sustainability of fashion consumption but also for those who indicate a moderate—but still significant—environmental concern; □ perceived proximity to self-image is important in the buying intention towards sustainable fashion products; □ thus, including sustainability cues on a product is not always an effective business strategy.
Khan et al.	2022	to reveal Indian (Mumbai) consumers' purchasing behaviour towards apparels	consumer survey, cross-sectional analysis, Chi-square test	□ For the buyer, need is one of the most important factors, followed by occasion and price; □ there is no link between gender and

				shopping mode, brand preferences and willingness to pay for clothes.
Mandarić et al.	2022	to investigate the discrepancy between attitudes and actual purchasing behaviour among Croatian consumers	online questionnaire, descriptive statistics, correlation analysis	□ Participants generally hold a favorable view of brand sustainability; □ a positive relationship exists between how important consumers consider a fashion brand's sustainability and their decision to purchase sustainable clothing products; □ the sustainability of a fashion brand or product ranks among the least influential factors in consumers' purchase decisions.
Rehman and Al-Ghazali	2022	to investigate how social advertising, personal factors, and	questionnaire, partial least square structural equation	□ Consumer behaviour is significantly influenced by social advertising,

		brand image influence Malaysian consumers	modeling (PLS- SEM)	personal factors, and brand image; □ social advertising and personal factors are also positively and significantly associated with brand image.
Mehta et al.	2023	to investigate factors that influence Indian consumers' intention to purchase fast fashion, how these factors affect actual fast fashion buying behaviour, and the moderating role of attitudes toward sustainable clothing consumption	questionnaire, partial least square structural equation modeling (PLS-SEM)	□ Fashion orientation has a significant impact on the desire to buy fast fashion, which is closely related to fast fashion purchasing behaviour; □ environmental consciousness has a negative impact on fast fashion purchasing intentions; □ consumer attitudes towards sustainable clothing significantly reduce the link between fast fashion purchasing

				intentions and behaviour.
Taborecka et al.	2023	to examine differences in attitudes towards sustainable clothing and actual purchasing behaviour among four cohorts of women in Slovakia	questionnaire survey, one-way ANOVA	□ All generations showed a positive attitude toward sustainable clothing, particularly younger ones; however, this did not consistently translate into their actual purchasing behaviour; □ Generation Z and Baby Boomers tend to avoid purchasing sustainable clothing, while Generations X and Y show a neutral stance on the matter.
Magwegwe and Shaik	2024	to understand the predictors of consumers' sustainable fast fashion purchasing behavior	questionnaire survey, hierarchical regression	□ perceived behavioral control mediated the relationship between sustainability awareness and sustainable fast fashion purchasing behavior; □ perceived behavioral

				control and its interaction with attitude significantly predicted sustainable fast fashion purchasing behavior; □ sustainability awareness significantly predicted perceived behavioral control; □ lower perceived behavioral control is associated with a stronger positive relationship between attitude and sustainable fast fashion purchasing behavior.
Müller et al.	2025	to explore the relationship between environmental attitudes and actual behaviors among demographic groups in Hungary	questionnaire survey, principal component analysis	□ Women, individuals with higher educational attainment, and urban residents consistently display stronger alignment between attitudes and actions;

				□ the largest discrepancies occur in behaviors requiring infrastructural support or economic investment.
Boman et al.	2026	to determine Swedish consumers' preferences for T-shirts with different levels of health risks to the consumer, environmental impact of production, and working conditions during production	choice experiment survey	□ The health attribute was ranked highest, followed by working conditions and the environmental attribute; □ parents exhibited a lower overall marginal willingness to pay than consumers who purchase for themselves; □ there is a general pattern of higher willingness to pay to avoid the lowest level ('Very Poor') of each attribute and achieve the intermediate level ('Fairly Good') than for further improvements

				to the highest level ('Good').
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Source: Authors' own research, 2026

1.3 Research aim and scope

The aim of this research is to investigate consumer preferences in the fast fashion industry and to analyse the influence of environmental attitudes on these preferences. Our research question was: Can differences in environmental awareness explain heterogeneity in fast fashion preference structures? Although it might be expected that higher environmental awareness and more positive attitudes toward sustainability lead to more environmentally sustainable consumption behaviour (Haws et al., 2014) in the case of fast fashion consumption, too (Wassén et al., 2017, Pääkkönen, 2020; Mandarić et al., 2022; Mehta et al., 2023; Taborecka et al., 2023), the relationship is not straightforward, since some papers found no relationship between behaviour and the other variables, i.e. identified an attitude-behaviour gap (Kim and Damhorst, 1998; Zhang et al., 2021; Taborecka et al., 2023; Magwegwe and Shaik, 2024).

Moreover, while a growing body of literature has examined environmental awareness in the context of fashion consumption, most existing studies rely on self-reported attitudes and behavioural intentions, typically measured through Likert-type scales (e.g. Kim and Damhorst, 1998; Haws et al., 2014; Mandarić et al., 2022). However, such approaches are limited in their ability to capture how consumers make trade-offs between competing product attributes in a structured choice setting. One exception is the choice experiment conducted by Boman et al. (2026), but it examined the relative importance of environmental dimension of clothing consumption to social and health dimensions. As a result, there is still limited empirical evidence on how environmental awareness is reflected in actual preference structures when consumers are required to make explicit choices.

To address this gap, the present study applies a choice-based approach to examine how consumers evaluate key fast fashion attributes and how these evaluations are influenced by their level of environmental awareness, thus contributing to a deeper understanding of the relationship between environmental awareness and purchasing behaviour in the fast fashion industry in a more realistic setting. In addition to capturing fast fashion preference structures, the study also provides a broader overview of consumer behaviour related to clothing purchases, including shopping frequency, purchase motivations, and key decision criteria.

2. Methodology

2.1 Questionnaire development

As a first step of the research process, a pilot survey was conducted (n=33) to pre-screen the most frequently considered aspects of clothing shopping. On a 5-point Likert scale (where 1 = not at all important, 5 = extremely important), respondents were asked to rate 14 aspects (selected from Knežević et al., 2016; Li et al., 2022; Liu, 2022; Cayaban et al., 2023; Handranata and Kalila, 2025), including price, brand, quality, material, colour, convenience, fashion, combinability, influencer recommendation, friend recommendation, store accessibility, sustainability, value for money, and utilisation/wear time. Based on the average importance for each of the attributes assessed, the rank of the attributes in order of importance was established (illustrated by Table 2), and the seven highest-rated attributes (quality, combinability, convenience, value for money, price, utilisation/wear time, and material) were selected for inclusion in the main survey and the Best-Worst Scaling (BWS) experiment. The decision to retain seven attributes was guided by considerations related to the experimental design (i.e. the BWS design applied in the study), ensuring both cognitive feasibility for respondents and balanced representation of attributes across choice tasks.

Table 2. Ranking of clothing buying attributes (n=33)

Rank	Attributes	Average	Standard deviation
1.	quality	4.42	0.83
2.	combinability	4.33	1.08
3.	convenience	4.27	0.98
4.	value for money	4.15	1.15
5.	price	4.06	1.20
6.	utilisation/wear time	4.06	1.22
7.	material	4.03	1.02
8.	colour	3.97	1.02
9.	fashion	3.21	1.08
10.	sustainability	3.21	0.99
11.	brand	3.06	1.00
12.	store accessibility	3.00	1.22
13.	friends' recommendation	2.67	1.08
14.	influencers' recommendation	1.45	0.75

Source: Authors' own research, 2024

For the rest of the research, the seven highest-ranked attributes identified in the pilot study were used in an online survey ($n = 287$), which was shared on social media platforms (Facebook, Instagram) among Hungarian users. The questionnaire was available for one month (between 6 May 2024 and 7 June 2024). The convenience sampling method was used, so the sample is not representative.

All methods were carried out in accordance with relevant research guidelines and regulations. The study involved an anonymous and non-sensitive online questionnaire. The research design was reviewed and approved by the Research Ethics Committee of the Faculty of Economics and Business, University of Debrecen (approval number: GTK-KB 001-02/2024). Participation was voluntary, and informed consent was obtained digitally from all participants prior to completing the survey.

The questionnaire was structured in four parts: (1) general consumer behaviour questions, (2) best-worst scaling block to assess preferences, (3) environmental awareness block, (4) socio-demographic data.

The general consumer behaviour section included questions on the frequency of clothing purchases, type of clothing stores visited, time and purpose of garment purchases, popularity of fast fashion, and the expenditure on clothing purchases. In the best-worst scaling block respondents had to choose from different combinations of the pre-filtered attributes. The fictitious choice scenarios were created using balanced incomplete block design (BIBD), which ensures that each attribute appears an equal number of times across choice sets and that all attributes are systematically and comparably evaluated (Montgomery, 2017). The experimental design used the 7-7-3 parameter combination (number of attributes, number of decision situations, number of attributes within a decision situation). In 7 decision situations, each respondent was asked to choose the least and the most important of 3 attributes, as follows: *“How important are the following attributes to you, when buying clothes in a fast fashion store? In the following you will find 7 decision situations, each of which will contain 3 criteria. Please, select in each situation the most and the least important attributes for you when buying clothes in a fast fashion store!”* Table 3 contains an example of decision situations shown to the respondents.

Table 3. Example of a decision situation

Most important	Attribute	Least important
0	value-for-money	0
0	quality	0
0	material	0

Source: Authors' own research, 2024

In the environmental awareness section, respondents' level of environmental awareness was measured using a set of statements adapted

from Haws et al. (2014), capturing green consumption values that reflect environmentally oriented attitudes and behavioural tendencies. Responses were recorded on a five-point Likert scale (where 1 = strongly disagree and 5 = strongly agree). The statements used to measure environmental awareness were as follows:

1. It is important to me that the products I use do not harm the environment.
2. I consider the potential environmental impact of my actions when making many of my decisions.
3. My purchase habits are affected by my concern for our environment.
4. I am concerned about wasting the resources of our planet.
5. I would describe myself as environmentally responsible.
6. I am willing to be inconvenienced in order to take actions that are more environmentally friendly.

The socio-demographic questions at the end of the questionnaire are directed towards gender, age, family status, educational level, place of living, and income status.

2.2 Methods

To achieve the research aim, the best-worst scaling (BWS) preference valuation method was used. The BWS tests individuals' preferences in hypothetical decision situations by asking respondents to select the most and the least preferred option within a given set. Depending on the type of BWS applied, this may involve choosing among alternatives (in the "alternative" case), attribute levels within a profile (in the "profile" case), or individual attributes (in the "object" case) (Finn and Louviere, 1992; Louviere et al., 2013). By repeating this task across multiple choice sets, it becomes possible to derive the relative importance of each attribute in terms of their contribution to overall preference. In this research, the BWS "object" case was used to evaluate different product attributes related to clothing purchases (the 7 attributes mentioned in subsection 2.1). In the data analysis, both the so-called "counting" and the "modelling" approaches of the BWS "object" case were used (Aizaki and Fogarty, 2023).

In the analysis different statistical indicators have been defined for the "counting" approach in the context of the BWS "object" case (Aizaki and Fogarty, 2023). These indicators are the disaggregated best-minus-worst (B-W) score and its standardized score and the aggregate versions of them (equations 1–6 in Aizaki and Fogarty, 2023). In the modelling phase, discrete choice models were estimated according to the maximum difference decision-making approach, which maximises the utility level between the most and least preferred option. Specifically, a conditional logit (CL) model was

applied, which is grounded in random utility theory. In this framework, the utility associated with each attribute is decomposed into a systematic (observable) and a random (unobserved) component, and choice probabilities are derived based on the relative differences in utility (Aizaki and Fogarty, 2023).

To evaluate the responses Excel and R were used (R Core Team, 2020), for the latter the crossdes package for the BIBD type experimental design (Sailer, 2013), support.BWS (Aizaki and Fogarty, 2023), and apollo (Hess and Palma 2019; Hess and Palma 2024) packages for the data analysis of the BWS part were used.

Figure 2 summarises the main steps of the research process as a vertical sequence of stages, highlighting the key inputs, methods, and outputs at each step.

First, the relevant product attributes were identified based on the literature review and pilot study. These attributes served as the basis for constructing the experimental design using a balanced incomplete block design (BIBD), which was applied to generate the BWS choice situations.

Next, the questionnaire was compiled by incorporating the BWS tasks and additional sections on consumer behaviour and environmental awareness. This was followed by data collection.

Finally, the collected data were analysed using both descriptive statistical methods and BWS-specific approaches, including the counting and modelling techniques. The modelling approach was based on the maximum difference decision rule and estimated using a conditional logit model.

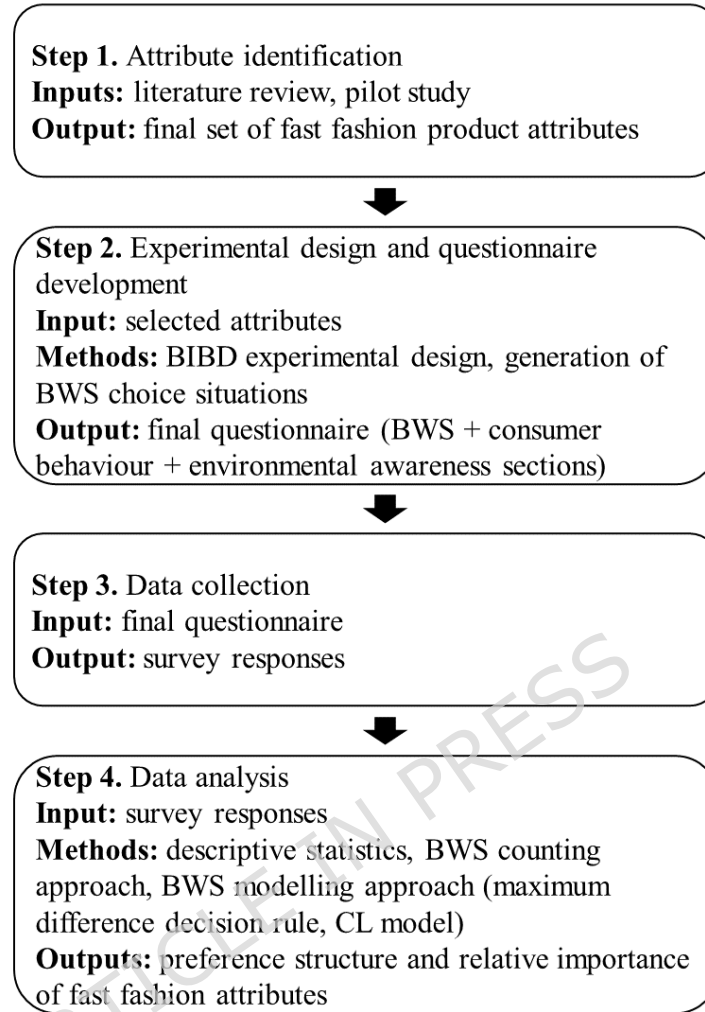


Figure 2. Structure of the research process, illustrating the sequence of steps and the associated inputs, methods, and outputs

Source: Authors' own research, 2024

3. Results

3.1 Description of the sample

The sample characteristics are presented in Table 4. It shows that the majority of respondents are female (82.46%), with an average age of 25. The lowest proportion of respondents live in the capital (15.44%), while the distribution of the other types of settlement is almost the same. More than half of the respondents (54.39%) have a secondary school leaving certificate, while 34.04% have a higher education qualification. The majority (55.09%) are still studying or working full or part-time. In the latter case, 81.88% do intellectual work. In terms of income, the two largest groups (29.82%) have

no net income or a net monthly income between 100 and 300 thousand HUF (246.8 and 740.4 EUR), while only 7.02% of respondents earn more than 500 thousand HUF (1,234.1 EUR).

Table 4. Sample distribution

Variable	Sample (<i>n</i> =285)
Gender (%)	
Female	82.46
Male	16.84
Do not want to respond	0.70
Age	
Average	25.65
Standard deviation	8.68
Median	22.00
Number of people living in the household	
Average	3.11
Standard deviation	1.12
Median	3.00
Number of people below 18 in the household	
Average	0.44
Standard deviation	0.81
Median	0.00
Place of living (%)	
Capital city	15.44
County seat	28.77
Other city	28.77
Village/settlement	27.02
Education (%)	
8th grade of primary school or below	1.40
Vocational training	0.70
Vocational secondary school	9.47
High school (secondary-school leaving certificate)	54.39
University, PhD degree	34.04
Status (%)	
Student	55.09
Full-time worker	30.53
Part-time worker	9.47
Unemployed	1.05
Pensioner	0.70
Other	3.16
Type of work (%)	
Physical	18.12

Intellectual	81.88
Monthly net income (%)	
Have no income	29.82
Less than 100 thousand HUF (246.8 EUR)	6.67
100-300 thousand HUF (246.8-740.4 EUR)	29.82
300-500 thousand HUF (740.4 EUR-1,234.1 EUR)	17.89
More than 500 thousand HUF (1,234.1 EUR)	7.02
Do not want to respond	8.77

Note: The total number of survey respondents is $n=287$; however, since this research aims to assess consumer preferences related to clothes shopping, and the question “For what purpose do you buy clothes?” was answered with “I do not buy clothes” in case of 2 respondents, they were excluded from further analysis. The mean monthly net income in Hungary was 442,000 HUF (1,090.93 EUR), the median was 359,200 HUF (886.56 EUR) at the time of the survey (Hungarian Central Statistical Office, 2024).

Source: Authors’ own research, 2024

3.2 General consumer behaviour related to fast fashion

The results of the examination of the general clothes shopping behaviour and attitudes towards it are presented in Table 5. It shows that 40.7% of consumers buy clothes monthly and 37.19% quarterly, covering more than three quarters of the responses. More than two-thirds of the respondents (68.07%) buy clothing for their own use only, while the rest also like to buy clothes as gifts, and none of the respondents buy only for gift giving. The most popular type of shops are fast fashion brand shops (43.73%), followed by secondhand shops (24.73%), while just under 7% choose outlets when it comes to buying clothes. Most shoppers visit a fast fashion store monthly (32.98%) or quarterly (29.82%), while 3.16% never buy clothes in such shops. The majority (74.04%) prefer to buy in person in a shop rather than ordering online. More than 64% of consumers spend approximately 1-3 hours on a shopping trip, while just under 5% spend more than 3 hours, with an average spend of 13 783 HUF (34 EUR).

Table 5. General clothes shopping behaviour and attitudes towards it

Variables	Sample ($n=285$)
Frequency of clothes shopping (%)	
Less often than annually	1.75
Annually	4.56
Every six months	11.23

Quarterly	37.19
Monthly	40.70
Weekly	4.56
Place of clothes shopping (%)	
Fast fashion stores	43.73
Secondhand stores	24.73
Smaller boutiques	11.47
Outlets	6.99
Other	13.08
Frequency of visiting fast fashion stores (%)	
Never	3.16
Less often than annually	3.86
Annually	5.26
Every six months	19.30
Quarterly	29.82
Monthly	32.98
Weekly	5.61
Preferred way to buy clothes (%)	
Buy in stores	74.04
Order online	25.96
Aim of clothes shopping (%)	
For personal use only	68.07
As a gift	0.00
For personal use and as a gift	31.93
Time spent on a shopping trip (%)	
Less than an hour	30.88
1-3 hours	64.21
More than 3 hours	4.91
Average spending during a purchase (HUF)	
Average	13,783.00 (34.0 EUR)
Median	10,000.00 (24.7 EUR)
Standard deviation	15,296.37 (37.8 EUR)

Source: Authors' own research, 2024

3.3 Consumer preferences towards fast fashion according to the BWS counting approach

Before presenting the results, it is useful to briefly clarify the meaning of the attributes included in the Best-Worst Scaling (BWS) experiment. These attributes capture key aspects that typically influence clothing purchase decisions. *Quality* refers to the perceived durability and overall standard of the product, while *combinability* describes how easily a garment can be matched with other items in one's wardrobe. *Convenience* relates to the ease and comfort of the purchasing process. *Value for money* reflects the perceived trade-off between price and the benefits provided by the product,

whereas *price* refers to its monetary cost. *Utilisation* captures the expected frequency and duration of use. Finally, *material* refers to the fabric composition and the perceived quality of the textile used in the garment.

In the first stage of the analysis of consumer preferences, BWS survey data were analysed using the counting approach. The results are presented in Table 6.

Table 6. Results of BWS counting approach ($n=224$)

Aspect	B-W-value	Standardised B-W-value	Sqrt B-W-value	Standardised sqrt B-W-value	Ranking
Value for money	228	1.02	1.63	1	1
Convenience	79	0.35	1.21	0.74	2
Quality	47	0.21	1.14	0.70	3
Utilisation	-60	-0.27	0.87	0.53	4
Price	-86	-0.38	0.84	0.51	5
Material	-102	-0.46	0.77	0.47	6
Combinability	-106	-0.47	0.82	0.50	7

Note: In the data cleaning process, 61 respondents had to be excluded from further analysis due to incomplete responses in the BWS block and biased answers (e.g. systematically selecting the first attribute as the “best” option in all decision situations).

Source: Authors’ own research, 2024

Table 6 shows that *value for money*, *convenience*, and *quality* are the three most important attributes when buying clothes. However, the ability to combine the apparel with their existing clothing (*combinability*) and the *material* of the clothes are negligible factors.

The distributions of the B-W values for the attributes considered are illustrated in Figure 3, which indicate that attributes such as *value for money* and *convenience* tend to receive more positive B-W scores, suggesting a higher likelihood of being selected as “best” rather than “worst”. In contrast, attributes such as *price* and *material* are more frequently associated with negative scores, indicating that they are more often perceived as less important.

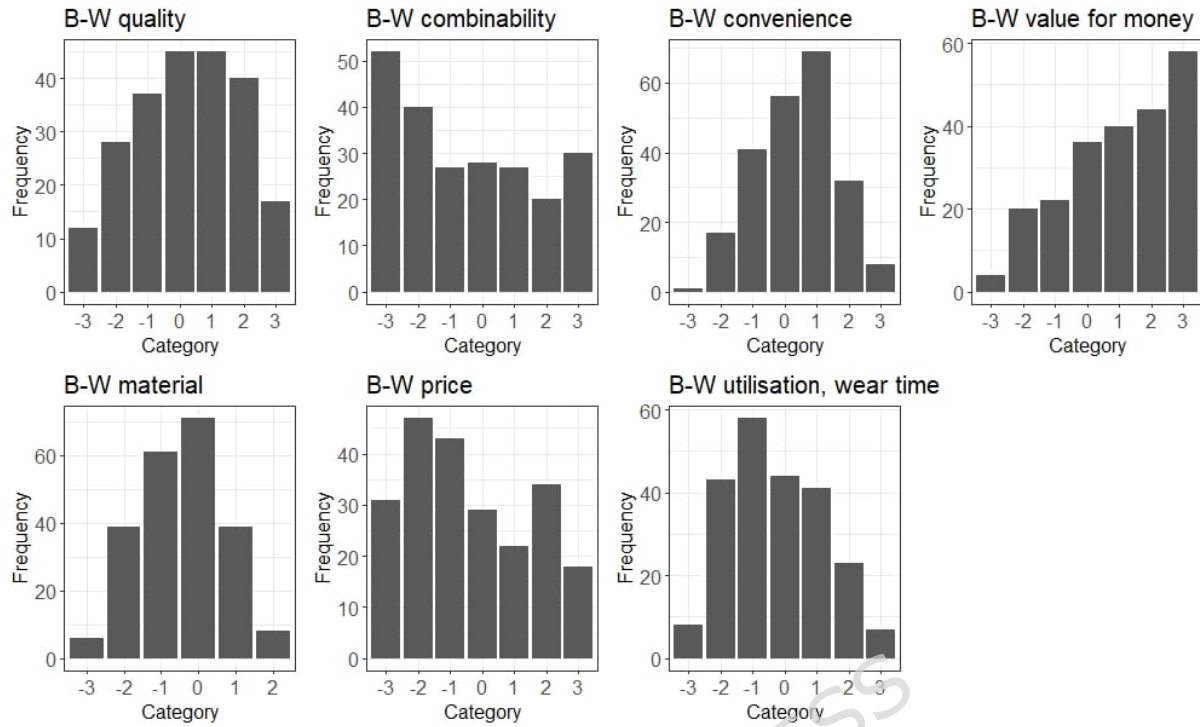


Figure 3. Distributions of the B-W scores for the attributes examined ($n=224$)

Source: Authors' own research, 2024

3.4 Consumer preferences towards fast fashion in the context of environmental awareness

In order to examine consumer preferences towards fast fashion in the light of environmental awareness, respondents were divided into groups according to their level of environmental awareness on the basis of the third block of the questionnaire, the results of which are presented in Table 7.

Table 7. Distribution of responses to statements on environmental awareness ($n=224$)

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Median	Average	Standard deviation
Statement 1	1.14	7.08	31.10	40.46	20.23	3.00	3.42	1.00
Statement 2	3.28	14.84	29.53	38.80	13.55	3.00	3.03	1.12
Statement 3	4.04	14.43	31.17	32.32	18.04	3.00	3.00	1.18
Statement 4	1.34	4.26	13.77	33.59	47.03	4.00	3.87	1.15

Statement 5	1.75	9.15	37.15	39.84	12.11	3.00	3.22	0.98
Statement 6	3.51	11.52	34.97	30.34	19.66	3.00	3.08	0.15

Notes: See the numbered statements in section 2.1. The first row of the table shows the grades on a five-point Likert scale, where 1 is “Strongly disagree” and 5 is “Strongly agree.”

Source: Authors’ own research, 2024

The results in Table 7 show that in case of almost all statements, grades 3 and 4 have the highest proportions, so the majority of participants support these statements. For most of the statements, only a minority of respondents consider themselves to be less or not at all environmentally awareness. The highest agreement was seen with statement 4, “I am concerned about the waste of our planet’s resources.” The lowest agreement was observed for statement 3, “My buying habits are influenced by my concern for our environment.” For each respondent, the median score for the six statements was determined, and they were sorted into one of the following three groups:

- low environmental awareness (median<3) (n=53)
- neutral environmental awareness (median=3) (n=64)
- high environmental awareness (median>3) (n=107)

Through this clustering, it was possible to look at consumer preferences towards fast fashion specifically, in an attempt to identify a possible source of preference heterogeneity based on environmental awareness. The means and the standard deviations of the B-W values are illustrated in Figure 4, both aggregated (“Total sample”) and group-specific.

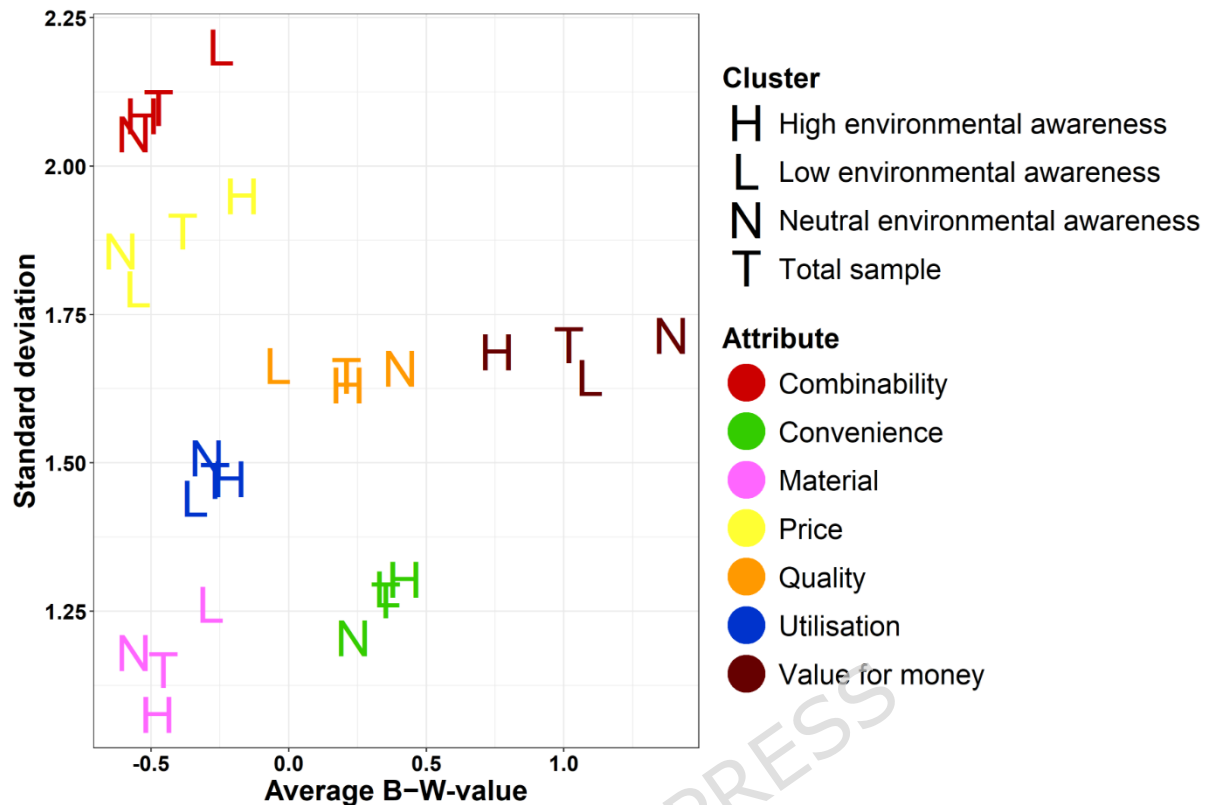


Figure 4. Two-dimensional representation of means and standard deviations of B-W values ($n=224$)

Source: Authors' own research, 2024

Figure 4 shows that *price* is the least important attribute for consumers with low environmental awareness, while *value for money* is the most important attribute for this group. It can also be observed that *quality* and *utilisation* are not among the most important attributes for these consumers, suggesting that long *wear time* (*utilisation*) and waste reduction are not primary considerations. Consumers with high environmental awareness are more likely to prioritise *quality* and *utilisation* when buying clothes, and *convenience* appears to be more important for them compared to consumers with low environmental awareness. The largest differences between the groups (based on standard deviations) are observed for *combinability*, *price*, and *material*.

3.5 Consumer preferences towards fast fashion according to the BWS modelling approach

Although the results of the counting approach show differences between the preferences of groups based on their environmental awareness, these are not remarkable. For further analysis, the consumer preferences of the three groups (low, neutral, high environmental awareness) were examined with the help of the BWS modelling approach and its three decision approaches (maximum difference, sequential, and marginal sequential). These have led

to very similar results, therefore only the results of the maximum difference is presented here.

The results of the conditional logit (CL) model estimation based on the maximum difference decision approach are presented in Table 8.

Table 8. CL model estimation using the maximum difference approach
($n=224$)

The aspects considered and the estimated model data	Low environmental awareness group ($n=53$)	Neutral environmental awareness group ($n=64$)	High environmental awareness group ($n=107$)
	Coefficient		
Value for money	0.34*** (0.12)	0.56*** (0.13)	0.15** (0.08)
Quality	-0.18 (0.15)	0.08 (0.12)	-0.09 (0.10)
Material	-0.28*** (0.10)	-0.36*** (0.08)	-0.39*** (0.06)
Price	-0.40*** (0.15)	-0.38*** (0.15)	-0.26** (0.12)
Utilisation	-0.31*** (0.12)	-0.24*** (0.10)	-0.28*** (0.08)
Combinability	-0.27* (0.18)	-0.36** (0.17)	-0.42*** (0.12)
Convenience	Reference category		
Number of observations	371	448	749
Pseudo R ²	0.03	0.06	0.02
Log-likelihood (0)	-665	-803	-1342
Log-likelihood (converged)	-643	-756	-1310
AIC	1298	1524	2632
BIC	1321	1549	2659

Notes: *** indicates the significant parameter estimation at 1%, ** at 5%, * at 10%. AIC: Akaike information criteria; BIC: Bayesian information criteria. The values of the robust standard errors are shown in parentheses below the coefficient estimates.

Source: Authors' own research, 2024

The model estimates in Table 8 show that compared to the attribute fixed at base level (i.e. *convenience*), *combinability*, *utilisation*, *price*, and *material* are significantly less important in all three groups; perception of the importance of *quality* does not differ significantly from *convenience*; and

value for money is significantly more important than *convenience* for all three groups.

Figure 5 illustrates the relative importance of the aspects examined for the three groups. It can be seen that *value for money* is the most important attribute for all three groups and it is the only attribute that is significantly more important than *convenience*.

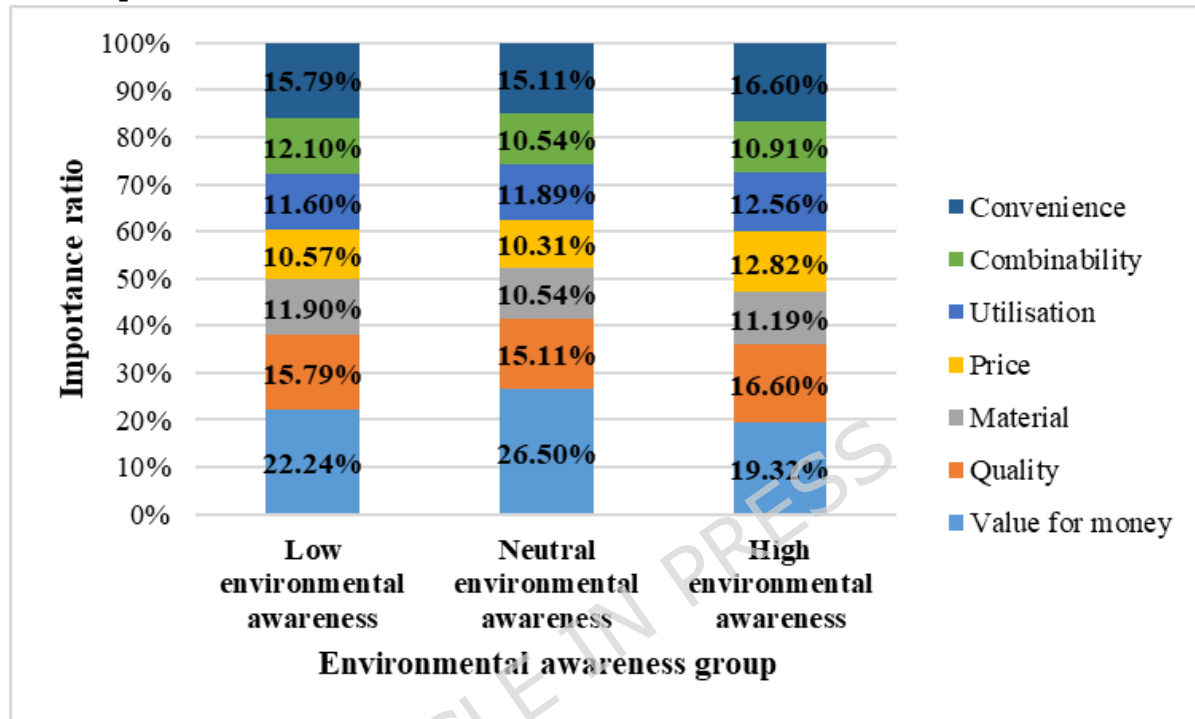


Figure 5. Relative importance of the attributes examined by environmental awareness groups (maximum difference approach) ($n=224$)

Resource: Authors' own research, 2024

To formally assess whether the observed differences between the groups are statistically significant, an interaction-based conditional logit model was estimated, allowing preference parameters to vary across the three environmental awareness groups. The results indicate that none of the interaction effects are statistically significant. This suggests that, despite some descriptive differences observed across groups, the underlying preference structures do not differ significantly between consumers with different levels of environmental awareness. Detailed estimation results are reported in Appendix A.

4. Discussion

The aim of this research was to analyse the fast fashion-related consumer behaviour and to analyse the influence of environmental attitudes on the fast-fashion preferences. Based on the online consumer survey, it was found that

the majority of consumers in the sample buy clothes very frequently (monthly) and do this mostly in a fast fashion store. This can largely be due to the fast fashion characteristic of so-called micro-collections, as these companies are able to launch new products in around 5 weeks, which immediately attract the majority of consumers to the store (Parliament's Office, 2020). Another reason of frequent purchase could be the satisfaction that comes from shopping experience. A study shows that respondents used words like 'excitement' and 'adrenaline' to describe their feelings when buying clothes (Dukes et al., 2019). These feelings can lead to compulsive buying (Benson and Eisenach, 2013) and consumers engaged in compulsive buying are much likely to repeat the experience as often as possible (Dukes et al., 2019).

At first, it seems surprising that the majority of respondents prefer to buy in person, even with the rise of e-commerce. One could assume that the COVID-19 pandemic increased online shopping and that consumers now rely on this convenience to order almost all products, including clothes, but this is not actually the case. A study from 2021, which, among other things, examines the evolution of online consumer behaviour as a result of COVID-19, showed that the pandemic has not led to ordering more clothes, shoes, and accessories online, despite more frequent promotions and online discounts in Hungary (Varga, 2021). A further research study came to the conclusion that in case of clothing people are more likely to travel to the store for both information search and product trial than in case of books (Zhai et al., 2017). In addition, a previous study found that people who enjoy shopping, so their attitude towards "fun" shopping is positive, tend to buy relatively more in-store (Maat and Konings, 2018).

The majority of respondents spend between 1-3 hours on a single clothing purchase and prefer to buy for themselves rather than as a gift. Alongside fast fashion, second-hand shops are becoming increasingly popular and, if only slowly and to a lesser extent, the second-hand market is also emerging. The reason behind its popularity can be, first of all, the "treasure hunt experience" they provide (Wang et al., 2022). Other factors second-hand consumers driven by are responsibility, decrease of impulse purchases, reference groups, and self-fulfillment (Haraldsson and Peric, 2017). The popularity of second-hand is obviously good news for our environment and planet, even if it is not the main reason consumers choose to wear those kinds of clothes.

In terms of the attributes taken into consideration when buying clothes, the results differ slightly from previous findings. In a study, price and brand were expected to be the most important criteria (Ahuja, 2015), but in our case, price is only ranked 5th, while brand was not even included in the 7 most important criteria in the pre-screening. One of the reasons for this may be the fact, already revealed in a study in 2019, that although more than half of the younger age group have a preferred fashion brand (which are mostly

fast fashion brands), brand is not an important factor for young consumers when buying clothes (Nistor, 2019). Moreover, as Sellitto et al. (2021) stated, fast fashion customers often choose not only according to the absolute price, but also according to a positive price/benefit perception. This could explain our result, i.e. the highest importance of the value for money attribute in fast fashion purchase. The price sensitivity of Hungarian consumers (Hajdu and Notari, 2012) may also play a role in these results.

Regarding our research question whether differences in environmental awareness can explain heterogeneity in fast fashion preference structures, the findings of this study highlight the limited role of environmental awareness in shaping preference structures. This result is consistent with the well-documented attitude-behaviour gap, where positive attitudes toward sustainability do not necessarily translate into corresponding behavioural changes in the fast fashion context (Magwegwe and Shaik, 2024; Müller et al., 2025). Although some descriptive differences can be observed between consumer groups with different levels of environmental awareness, these differences should be interpreted with caution. Consumers with high environmental awareness appear to place greater emphasis on quality and utilisation, suggesting a potential intention to reduce waste, while consumers with low environmental awareness tend to prioritise value for money. These findings are partly consistent with previous studies indicating that environmental awareness may influence attitudes towards fast fashion and sustainable clothing consumption (Mehta et al., 2023). In addition, the majority of consumers – particularly those with low environmental awareness – are not willing to pay more for eco-friendly clothing (Srinivasan et al., 2020), and materialism has been shown to negatively affect sustainable consumption behaviour (Leinenga, 2019). However, the results of the modelling approach indicate that these differences are not statistically significant. This is also reflected in Figure 5, where, although some descriptive differences can be observed between consumer groups, these differences remain relatively small. In line with previous research results (e.g. Müller et al., 2025), this suggests that environmental awareness does not translate into systematically different preference structures in a choice-based context, reinforcing the presence of an attitude-behaviour gap in fast fashion consumption. From a behavioural perspective, this finding implies that consumers' decisions in the fast fashion context are primarily driven by trade-offs between product attributes rather than by attitudinal factors alone.

5. Conclusions

In summary, we can state that in addition to the negative impact of fast fashion on the environment, the lack of environmental awareness among consumers is also a pressing problem. Evidence shows that even among

consumers who report a high level of environmental awareness, only some translate this concern into actual behaviour.

Our research aim was to investigate consumer preferences towards fast fashion products in the context of environmental awareness. The results of our online survey show that almost half of the respondents buy in fast fashion stores frequently. Although some descriptive differences can be observed across groups, the impact of environmental awareness on consumer preferences is limited, as the interaction-based modelling results indicate no statistically significant differences in preference structures.

In addition to the empirical results, the study also contributes to the existing literature in several respects. By applying a choice-based approach (Best-Worst Scaling), it provides insight into how consumers make trade-offs between competing product attributes, going beyond traditional survey methods based on self-reported attitudes. The findings also offer further evidence on the limited role of environmental awareness in shaping preference structures in the fast fashion context, thereby reinforcing the relevance of the attitude-behaviour gap in this domain. Overall, the results suggest that environmental awareness alone is not sufficient to drive meaningful changes in consumer decision-making, which adds to the broader literature on sustainable consumption.

The results have clear implications for both policymakers and fast fashion companies. While educational campaigns may influence environmental attitudes, they are unlikely to translate into substantial behavioural change on their own. Policymakers should therefore complement such approaches with measures that directly affect decision-making contexts, e.g., implementing clear and standardised environmental labels or improving the visibility of sustainable alternatives in retail settings. Besides, measures such as minimum durability standards, extended producer responsibility schemes, the promotion of repairability, and the regulation of marketing practices that encourage overconsumption could shift consumption patterns toward more environmentally friendly products without requiring substantial attitudinal change. Given the strong role of price sensitivity – particularly among consumers with lower levels of environmental awareness – price-based instruments are likely to be more effective than strategies aiming to raise environmental awareness. Subsidies for sustainable clothing, taxes on environmentally harmful products, and financial incentives for circular business models could help align consumer choices with sustainability objectives.

Since environmental awareness does not significantly shape preference structures, marketers should focus their product development and communication efforts on tangible attributes like value for money, quality, and utilization rates rather than heavy emphasis on environmental friendliness, which – based on our results – fails to bridge the attitude-

behavior gap. While differences are not statistically significant, high-awareness consumers show slight preferences for quality and waste reduction; therefore, to appeal to this group, fast fashion businesses could introduce targeted “premium durable” sub-lines at competitive prices. However, the majority of consumers, especially those with low environmental awareness, prioritize value for money and resist premiums for eco-friendly options. Fast fashion brands can capture this segment by offering budget-friendly products of acceptable quality, using promotions or bundling to encourage longer utilization without relying on green appeals.

This study is subject to several limitations. First, the use of convenience sampling limits the generalisability of the results. At the same time, the sample predominantly consists of young consumers who are more actively engaged in fast fashion consumption, which is consistent with the focus of the study. However, this also implies that the findings primarily reflect the preferences of this consumer segment and may not be directly generalisable to the broader population. Second, the study relies on a stated preference approach, where respondents evaluate hypothetical choice situations. Although this method allows for the analysis of trade-offs between attributes, it may not fully capture actual purchasing behaviour in real market settings. Third, environmental awareness was measured using self-reported statements, which may not fully reflect actual behaviour, and this may contribute to the limited explanatory power of environmental awareness in the modelling results.

Future research could extend the present study in several directions. First, the use of larger and more diverse, preferably representative samples, including cross-country comparisons, could provide more robust insights into consumer preferences in the fast fashion market and their determinants. Second, future studies could combine stated preference methods with revealed preference data to better capture real-world behaviour. Third, further research could explore additional sources of preference heterogeneity, in order to better understand the drivers of consumer decision-making in the fast fashion context.

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Appendix

Appendix A. Results of the interaction-based conditional logit model

The attributes considered and the estimated model data	Interaction-based conditional logit model (n=224)
	Coefficient
Value for money	0.34*** (0.12)
Value for money×High environmental awareness	-0.19* (0.15)
Value for money×Neutral environmental awareness	0.22 (0.18)
Quality	-0.17 (0.15)
Quality×High environmental awareness	0.08 (0.18)
Quality×Neutral environmental awareness	0.25* (0.19)
Material	-0.28*** (0.10)
Material×High environmental awareness	-0.11 (0.12)
Material×Neutral environmental awareness	-0.08 (0.13)
Price	-0.40*** (0.15)
Price×High environmental awareness	0.14 (0.19)
Price×Neutral environmental awareness	0.02 (0.21)
Utilisation	-0.31*** (0.12)
Utilisation×High environmental awareness	0.03 (0.14)
Utilisation×Neutral environmental awareness	0.07 (0.15)

Combinability	-0.27* (0.18)
Combinability×High environmental awareness	-0.15 (0.22)
Combinability×Neutral environmental awareness	-0.09 (0.25)
Convenience	Reference category
Number of observations	1568
Pseudo R ²	0.0358
Log-likelihood (0)	-2809
Log-likelihood (converged)	-2709
AIC	5454
BIC	5550

Notes: *** indicates the significant parameter estimation at 1%, ** at 5%, * at 10%. AIC: Akaike information criteria; BIC: Bayesian information criteria. The values of the robust standard errors are shown in parentheses below the coefficient estimates.

Source: Authors' own research, 2024