

TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Vilma Katariina Havo

**ATTITUDES OF FINNISH FEMALES TOWARDS BUYING  
SECOND-HAND SPORTS CLOTHING**

Bachelor's thesis

Programme International Business Administration, specialisation Marketing

Supervisor: Eliis Salm, MA

Tallinn 2023

I hereby declare that I have compiled the thesis independently and all works, important standpoints, and data by other authors have been properly referenced and the same paper has not been previously presented for grading.

The document length is 8756 words from the introduction to the end of conclusion.

Vilma Katariina Havo .....

(signature, 11.05.2023)

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## **ABSTRACT**

This study is focused to Finnish second-hand market and the female consumers. The purpose of the study is to identify the attitudes influencing buying behavior of SH sports clothing in Finland. Second-hand clothing studies are still limited and inconclusive up to this day, so further examinations are needed (Herjanto *et al.*, 2016). This paper was inspired by the author's genuine concern towards clothing pollution and the beforehand knowledge about sports clothing disposal.

The Theory of Planned Behavior (TPB) (Ajzen, 1991) and the ABC-model of attitude formation (Augoustinos *et al.*, 2014), were implemented as the conceptual basis of the study. Method of Summated ratings and Chi-square test of independence were also used to interpret the data. The data was collected via self-administered survey, an online questionnaire (n=200) in the year 2022.

Conclusions made by the author imply that Finnish female consumers have mildly positive attitudes towards buying SH sports clothing. Yet, the most significant aspects of attitude are determined by behavioral intentions. They were recognized as the cognitive, which includes beliefs and previous knowledge. More than half of customers said they would buy more used items if they had better access to them, but that does not alone mean that better access would grand better sales in SH sports clothing industry.

**Keywords:** Consumer attitudes, buying behavior, second-hand, used sports clothing

## INTRODUCTION

After oil, the textile and clothing (T&C) industry is the world's second most polluting industry (Snoek, 2017). It employs around 60 million people worldwide and generates over \$450 billion in annual revenues (Snoek, 2017). The fast rise of the population and the resulting desire for economic growth exacerbates these issues. That is why its popularity has increased on the global scale and shows no signs of decelerating (Herjanto *et al.*, 2016, 10). Although the industry has a wide range of products, clothing accounts for 60% of the T&C market (*Ibid.*, 2017). Textile goods require and consume a large quantity of nonrenewable resources in their manufacturing, supply, and use. Textile products are proliferating at a rapid rate, reducing overall useful life. (*Ibid.*, 2017) As a result, it's time to start thinking about how to make the sector more sustainable. (Okafor *et al.*, 2021). Second-hand clothing (SH) clothing consumption is one way of adding value to the garment value chain (Herjanto *et al.*, 2016, p.10).

While the pace of the T&C industry has increased, sportswear has become a driving factor for new fashion trends and textile innovation in the last half-century or more. An increasing amount of people depend on the recreation and amusement that sport offers them daily. In today's world, it's also a sizable sector with political and economic implications (Bielefeldt & Langkjær, 2016). Additionally, the average number of wears a garment receives before being discarded has decreased. The notion of sustainability and the circular economy system have been debated and used in different areas and industries due to the strong and rising purchasing power of Millennials and Generation Z. New methods to economic growth, for example, have had a significant impact on the fashion industry, resulting in a circular fashion paradigm (Kim *et al.*, 2021).

A remarkable part of this circular fashion paradigm is known to concentrate on T&C recycling. Textile recycling involves material repurposing and reusing old clothing, fabrics, and fiber waste. These materials are typically recovered from discarded clothing, carpets, furniture, tires, footwear, and other non-durable items like towels and sheets. Textile recycling has several environmental and economic advantages (Globe Newswire: Textile Recycling Market, 2022).

The inspiration for this study comes from the concern about the current state of the planet, but more specifically the lack of opportunities to buy and sell second-hand sports clothing in Finland. The author wishes to identify the factors affecting attitudes of Finnish female consumers towards sportswear that have been used and resold. While there is a separate market for it, what are the reasons behind attitude formation towards consuming recycled sports clothes? According to Hobbs (2016), women are more likely to buy second-hand goods than men. The author is Finnish, so the most effective way to gather information for the thesis in her case, was through her own contacts in social media. Therefore, the author chose to study Finnish females in this research.

There is very little research in the field of recycled sports clothing in Finland. Yet, there is a lot of scientific evidence about consumers being concerned about the polluting nature of their clothing consumption habits, but not enough data gathered on the reasons what attitudes are influencing buying intention of second-hand sports clothing (Goodland, 1995). The author is convinced that it is relevant to all parties the second-hand sports clothing industry to study the attitudes of the consumers regarding second-hand sports clothing. By increasing the consumer satisfaction in the second-hand market, more goods can be sold, and the sustainability of the clothing industry can be enhanced.

One problem of the second-hand industry is that there is a lot of known anticipation about second-hand clothes, but no specific research about the buying behavior and expectations towards more precisely at second-hand sports clothing. The research problem that this thesis is examining is the factors that influence the Finnish women's attitudes towards buying second-hand sports clothing. Additionally, the author wants to identify the practical actions the consumers would prefer to be taken by the second-hand retail industry for some more second-hand sports clothing to be sold. Especially in Finland second-hand is thought to be trendy, but not much research has been done about reusable sports clothing. The author's intention is to establish the attitudes built on previous buying experiences and other factors affecting attitudes to enlighten marketers in this field.

The purpose of this thesis paper is to investigate the factors influencing attitudes of Finnish females about buying of second-hand sports clothes. The author wishes to gain valuable information and help forward the consumption of second-hand goods. The subject of the study is aligned to second-hand because it is in high demand now and more research on the topic is needed to make the industry increasingly efficient. The sport clothing aspect has been chosen to this thesis, because

the author has been a competitive athlete for over a decade and since then has had a clear concern about the utilization of used sport clothing. Also, the recent rise of “athleisure” wear, meaning sports clothing that is meant to look sporty, yet designed for more general leisure usage, has already started causing concern. According to Wright and Kelly (2017), sporting clothing and other clothes made of synthetic materials are washed, minute plastic fibers known as "microfibers" are shed. Microfibers are flushed into natural rivers through wastewater systems, eventually reaching the sea (*Ibid.*, 2017). Microfibers are harming to the wildlife and have potential hazardous impacts on human life as well (*Ibid.*, 2017). The angle of sports clothing is essential in this thesis study, since a lot of research has been done for regular clothing in second-hand, but not for this polluting, niche category of clothing.

To research the aim of the paper, these three research questions were formed. All three are based on the three components of attitude formation: cognition, affection, and behavior (Augoustinos *et al.*, 2014). RQ's are presented as follows:

- RQ1: What kind of attitudes do Finnish females aged 18-70 possess towards second-hand sports clothing?
- RQ2: What are the most important characteristics of attitude influencing the buying decisions of second-hand sports clothing?
- RQ3: What could be done to increase the consuming of second-hand sports clothing?

The RQ's are researched through a multi attribute attitude model called ABC- model (Augoustinos *et al.*, 2014). The survey results will then be analyzed with The Method of Summated Ratings by Likert in 1932 and Theory of Planned Behavior (Ajzen, 1988), in mind. A theoretical, as well as literature review on models and theories used will be concluded. The author then proceeds to give an overview of Finnish sports textile market and second-hand business and its development. According to the literature reviewed, the author will give an overview about the findings of the survey questionnaire and answer the research questions.

The empirical research is based on a quantitative examination of data collected from female consumers in Finland. Establishing these measurements, the author assumes to enlighten the overall attitudes towards attributes researched and give suggestions based on the results in theoretical and practical form.

# **1. LITERATURE REVIEW**

This chapter is to present the related literature of the topic. The review has two main parts: consumer attitudes and consumer behavior. These themes have then been divided into more specific titles to underline the main points. Attitude formation and all its applicable factors, theories and models will be presented, as well as the relevant knowledge about second-hand sports clothing in the T&C industry. The intention of this chapter in the study is to present the relevant overview of the studied topics to help the reader to comprehend the basis of the study.

## **1.1 Consumer attitudes**

What are consumer attitudes and why is there a need to research them more? In this chapter the author will present the concept of attitude and why it is essential to discover more about it from the business point of view.

Marketers and managers are interested in influencing customers' perceptions of marketed goods to affect their preferences and dispositions to participate in certain behavior. Therefore, it is crucial to them to comprehend the idea of attitude and the process of attitude formation (Argyriou & Melewar, 2011).

Likert scales are part of a larger group of measures known as summated or aggregated rating scales because they are built on the concept that some underlying tendency can be measured by combining an individual's rating of his or her feelings, attitudes, or perceptions related to a set of specific disclosures or objects (Harpe, 2015). Method of Summated Ratings was found by Rensis Likert in 1932. The method is one of the most used in the social sciences and is used to assess attitudes (*Ibid.*, 2015). The method was used in this thesis to discover consumer attitudes. To use the method, the scale has to contain two items or more. Secondly, a rating scale must be the format of every item. Thirdly, the scale has to be designed to evaluate a quantified underlying construct. Lastly, the items cannot have correct answers.



The well-known and often used definition of attitude is “An attitude represents a persons’ general feeling of favorableness or unfavorableness toward some stimulus object” (Fishbein & Ajzen, 1975). Consumers are psychological individuals that have their own set of beliefs, thoughts, and attitudes that impact their purchasing decisions (Ikechukwu *et al.*, 2012). According to Ikechukwu and his colleagues (2012), people's attitudes cause them to act in predictable ways in response to similar objects.

When recognized human conduct is discovered to be significant to the attitude, attitude and behavior are connected. (Katz, D., 1960, p.168). Katz (1960) also defines attitudes as an individual's proclivity to mimic characteristics or objects in a positive or negative way that impacts their life.

According to Hawkins *et al.* (2004), all three components of attitude have a generally consistent and balanced interaction with one another. Meaning that a change in one component of attitude tends to cause associated changes in the other components. According to Kotler (2004, 14), people tend to have attitudes towards nearly all things possible: music, politics, food, and all other things. Attitudes tend to place them in a mindset where they either like or dislike an object, and alternatively move towards or further away from it (Kotler, 2004).

Katz (1960) perceived that consumer attitudes may be classified into four major categories based on their motivating foundation. Those four categories of functions are:

1. Utilitarian;
2. Ego- defensive;
3. Value- expressive;
4. Knowledge.

The four functions are a part of Functional Attitude Theory (FAT) (Katz, D., 1960). Katz stated that there are three variables that are affected by these functions, one is the independent variable attitude, the other two are cognition and behavior that are both dependable variables (1960). The goal of the Functional Theory of Attitudes is to discover why people have specific attitudes and why they maintain them, as well as the potential of changing such attitudes (Katz, D., 1960). The main arguments of the functional approach are that attitude transformation is unfeasible if the explanations fail to address the reasons behind people's views (Katz, D., 1960). People tend to keep their attitudes for a reason.

## 1.2. Attitude formation and the ABC- model

In this thesis the author has chosen to use a multi-attribute model called the ABC- model of Attitude Formation (Breckler, 1984). The name ABC-model of attitudes is derived from three components: affect, behavior, and cognition (Solomon *et al.*, 2010). In the 1950s and 1960s, the Yale University Communication and Attitude Program developed the ABC- model (Augoustinos, *et al.*, 2014)

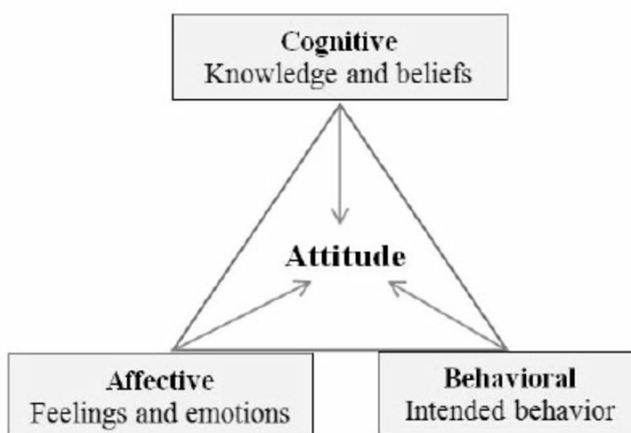


Figure 1: ABC- Tricomponent model of Attitude Formation source: Adopted from (Lee. Y-S., Shin. S-H., Greiner. P., 2015)

According to the tri-component attribute model, there are three major components from which attitude is formatted: cognition, affect and conation (Rosenberg & Hovland, 1960). Even though definitions of attitude formation can differ, it can be assumed that a person's attitude toward an object is a predisposition on his or her part to respond to the object in a neurological state of readiness, and experience, that has a direct impact on the individual's response to all things and situations. (Allport, 1935)

Typically, an individual's attitude is based on a combination of several features or attributes that he or she evaluates. That is why attitude formation is a complex process. Researchers use multi-attribute models and theories based on those models to understand consumer priorities and build methods to attract them in the most effective way. The potential advantage of multi-trait models over the less complex general impact method is improved understanding of attitudinal structure.

### **1.3. Buying behaviour of second-hand and the TPB**

The Theory of Planned Behavior (TPB) is a commonly used expectancy-value model of attitude-behavior interactions that have had some success in forecasting a range of behaviors (Ajzen, 1988). The origin of this theory lies in the Theory of Reasoned Action (TRA) (Ajzen, 1985). Isak Ajzen created TRA from the basis of the Fishbein- model by Martin Fishbein, and that is why the theory is also nowadays known as the Fishbein-Ajzen model.

Predicted behavioral control (PBC), is a third predictor of intents that is included in the TPB. As a result, behavioral intention is determined by three direct determinants:

1. attitudes;
2. subjective norms;
3. PBC.

In the TPB theory, attitudes stand for consumers' views about a behavior, indicating the perceived effects or characteristics of the behavior, whereas subjective norms are ideas about other people's attitudes toward a behavior. The TPB theory proposes that PBC and intentions would interact in their predicting behavior, with intentions becoming stronger predictors of behavior as PBC increased. Consideration of control perceptions is significant because it extends the theory's applicability beyond readily performed volitional acts to those complicated objectives and outcomes (Ajzen, 1988). The relationship between intention and behavior illustrates the reality that people tend to perform behaviors that they plan to accomplish (Conner & Armitage, 2006).

Both TPB & TRA models were created to give concise explanations of informational and motivational impacts on behavior (Conner & Armitage, 2006). The limitation of this theory in the case of this thesis is that experience is not considered.

The consumer's overall perception of purchasing second-hand sports apparel goods is referred to as their attitude toward acquiring second-hand fashion. According to research, attitude has a significant influence on customer purchasing decisions (Seo & Kim, 2019).

Positive views regarding purchasing items such as organic food have been found to be strongly linked with purchase intention (Arvola *et al.*, 2008). Negative attitudes, on the other hand, were associated with a refusal to acquire SH goods. As an example, some may believe that second-hand garments formerly owned by unknown persons are unhygienic and of poor quality. According to

Guiot and Roux (2010), one reason for rejecting SH goods purchasing was a negative attitude about second-hand clothing. As a result, customers' opinions regarding buying used clothing are thought to influence their desire to buy second-hand.

As this thesis study is focused on the attitudes that have an influence on the buying behavior of second-hand goods, it is also important to acknowledge that the two remaining determinants of behavioral intention in TPB are not directly included in the research. The attitudinal element influencing behavioral intentions was operationalized in the context of second-hand clothes purchasing using Ajzen's concepts. The author included the TPB theory in the research to underline the section that attitudes have in predicting buying behavior. The consumer attitudes are researched by identifying the consumer's views about a behavior and determining the perceived positive and negative characteristics of consuming second-hand sports clothing.

## **2. SECOND-HAND CONCEPT**

Second-hand clothes are a synonym for worn clothing, and apparel becomes second-hand when its owner changes, regardless of when it was purchased (Cervellon *et al.* 2012). During the time of mass manufactured apparel, second-hand clothing being trendy, is a relatively new concept, as second-hand clothes have been linked with poverty in the past (Hansen, 2010). Before, secondhand clothing was a common source of apparel. Importantly, second-hand clothing still carries varied connotations for people of different social backgrounds. This study focuses solely on second-hand sports clothing in a high-income nation Finland. Second-hand clothes have grown popularity in high-income nations as customers' environmental consciousness has grown (Hansen, 2010).

### **2.1. Second-hand market**

Second-hand stores are becoming increasingly popular, mostly because of the vintage style, but also because of what they represent: recycling something worn and typically of good quality while avoiding the buildup of unwanted clothing. The disposal of products at the end of their lives is a major environmental issue in the textile industry. The responsible handling of solid textile waste is critical for the textile industry's long-term development (Koszewska, 2019).

While the form of increasingly trading second-hand clothing for circular solutions is now popular, it is not new. The history of second-hand clothing trade takes place in the middle of Middle Ages and Renaissance (14th century) Europe (Ana, 2017). Back then, most consumers could not afford new clothing due to its high pricing in manufacturing and logistics costs (*Ibid.*, 2017). By the 19th century the living standard had increased to the point where second-hand started to lose its popularity and stand for export to Africa (*Ibid.*, 2017). The various population movements, such as wars, molded second-hand into a business and the purpose shifted from “lack of clothing” to “having personal clothing residue due to high supply” (*Ibid.*, 2017). Mechanization of the textile industry enabled the overall residue to be exported to developing countries in the name of charity (*Ibid.*, 2017).

Now in the 20th century, vintage claimed its popularity again and has risen to a multimillion business. According to Allied Market Research, the second-hand clothing industry's market value was 5.6 billion US dollars in 2019 and is projected to generate 7.6 billion US dollars by the year 2027 (Parihar & Prasad 2021).

According to Camacho-Otero *et al.* (2018), there is a growing interest in the connection between consumption and the circular economy. Customer adoption of circular solutions seems to be dependent on human qualities such as personality traits, beliefs, and ideologies, all of which can impact consumer views. Additionally, product offering, personal beliefs, and specific understanding of the circular economy solution, such as consuming second-hand products have an influence on intention to act according to the offer (Camacho-Otero *et al.*, 2018).

The Guardian (2021) reported that according to Clothes Aid, 350 000 tons of used, but still usable clothing goes to landfill in the UK every year. Even though the trends such as fast fashion and increasingly rapid changes in collections of clothing stores are making it hard for people to keep up with newest trends, the clothes do not have to end up as trash or industry residue.

When the original owner of the garments no longer wishes to hold on to his/her clothes, second-hand clothing disposable behavior arises (Brookshire & Hodges, 2009). There are several ways to dispose unwanted clothing apparel, but according to Herjanto, Scheller-Sampson and Erickson (2016, 2-6) there are five main practices of executing them:

1. ridding;
2. recycling;
3. donating;
4. sharing;
5. exchanging.

Via all the above practices, clothing can be placed to a new owner and not as waste. Regardless of the practice, recycling old clothing will help to manage the increasing residue of the clothing industry.

## 2.2. Sustainability and second-hand

Clothes are now greatly underutilized especially in Western countries because of growing competition among fashion businesses, mass manufacturing of items, and price-conscious buyers. Under wearing garments wastes resources and puts a burden on the environment and the economy. Reusing garments is one solution to the problem since it reduces the need for new items, which improves the environment. Low-income households and college students with a limited budget are more inclined to purchase at thrift stores that sell gently worn things at reduced costs (Alliance, 2017).

Conventional company strategies prioritize profit maximization by meeting rising demand while ignoring the environmental consequences of their operations. This phenomenon is especially noticeable in the garment industry, where manufacturing has moved to lower-cost nations with poor working conditions, low prices and declined quality (Goworek *et al.*, 2012). Clothing's life cycle has been shortened to respond to rapidly changing consumer preferences and contemporary styles (*Ibid* 2012).

According to a Yle media article, a Finn discharges on average 13 kilograms of textile waste in just one year (2017). Furthermore, the total consumption of textiles in Finland was comprehensively evaluated for the first time in 2019, and it was all together 130 811 tons (Koskinen, 2017). Also, in 2019, the total volume of end-of-life textiles was 85 770 tons (*Ibid.*, 2017). Only 18% of this was exported, with the residue remaining in Finland to be reprocessed or used as materials or energy (*Ibid.*, 2017). Approximately 60% of all end-of-life textiles are still being destroyed in Finland (Nurmi, 2021).

According to Goodland (1995), sustainable development should incorporate social, environmental, and economic sustainability, and use these three to begin the process of making development sustainable. An essential issue in garment pollution prevention is the gathering and sorting of worn clothing to control their resale value and bring about beneficial developments in this area (Stanescu, 2021). According to Koszewska (2019), consumers have a vital role in rejecting consumerism and assisting the recycling process when it comes to clothing waste. Textile

industry remains to be one of the most polluting industries, because it has one of the longest supply chains and the rate of recycling is still considerably low at 15 percent (Jia *et al.*, 2020).

Clothing production necessitates resources and has an environmental impact at each stage of the life cycle: production of natural or synthetic fibers, knitting and finishing of fabrics, creation, and commercialization of products, repairing, and washing while in use, and, finally, disposal of out-of-date products (EEA, 2014).

Europe's roadmap for sustainable growth is called the European Green Deal and one essential part of it is called the new Circular Economy Action Plan. Plastics and textiles are mentioned in the plan as the two key product value chains that should be prioritized in the development of European circular economy (Eionet Report, 2021). Also, according to the European Waste Directive, all Member States will be obligated to separate the collection of textile waste by January 1<sup>st</sup>, 2025 (Eionet Report, 2021). The waste collection renewal also pertains Finland to the mission and that is why creating a united system for collecting and reusing sports clothing is so essential.

Sportswear is such a harmful industry niche within fashion and garment industry, because of the fabrics that are used in making the goods and the difficulty in disposing of them. The most used synthetic fiber used in fabrics is polyester, followed by cotton, and nylon (European Commission, 2020a). Synthetic fibers offer unique features that contribute to high-quality, high-performance, and long-lasting textile goods that are frequently used in sportswear (EEA, 2014). Unfortunately, they also contribute considerably to environmental consequences such as the usage of fossil resources and energy, as well as greenhouse gas emissions and shedding of microfibers (EEA, 2014). European Commission states the following about textile reuse and recycling have a significant potential to reduce environmental impacts" (Eionet Report, 2021).



### **3. RESEARCH**

In this chapter the author outlines the study's goal and displays the research's form and design. The data gathering and analysis methods are described, as well as the study's reliability. The technique and method for gathering and analyzing data are described in the first section. The main objectives are established, and the measuring procedure is presented. The sample technique and design strategy for gathering information data are presented.

The empirical part of the research focuses on pointing out the consumer attitudes towards second-hand sports clothing. The multi attribute model was used as a base to form a questionnaire based on investigating consumer attitudes about second-hand sports clothing. The Method of Summated Ratings was implemented to amplify the attitudes emerged in the Likert- scale section of the empirical study. Additionally, the Chi-square test of independence was used. Data was gathered in three element bases according to the ABC attitude formation model that are: cognitive (C), behavioral (B), and affective (A). This separation of the components will help to understand the variables affecting attitudes that are in relation to buying behavior. This can benefit the marketers as well as the attitudinal research field.

#### **3.1. Research plan and method**

The aim of this thesis is to determine, what attitudes do Finnish females have towards second-hand sports clothing. The author wishes to resolve the research aim by collecting timely data via a self-administered survey. This method was selected, because the author assumed it is the most straightforward and effective data collection method for this study.

Three research questions were created so that they will answer the aim of the research. The three research questions are:

- RQ1: What kind of attitudes do Finnish females aged 18-70 possess towards second-hand sports clothing?
- RQ2: What are the most important characteristics of attitude influencing the buying decisions of second-hand sports clothing?
- RQ3: What could be done to increase the consuming of second-hand sports clothing?

Based on these three research questions, the author planned the empirical part of the study. It was conducted as an online survey. This survey was molded into a questionnaire with Google Forms tool and distributed online via social media groups, posts, and chats. A total of 20 questions were added to the questionnaire and divided into three sections. The form of the research was chosen, because of the known resource restrictions of a bachelor thesis. Limitations in research budget, time frame and data gathering tools made the author choose an online survey. This data collection method would provenly be the most efficient in gathering quantitative data to this thesis. Google Forms as the platform was used because of its familiarity and conveniency to the author. Following the empirical investigation, data can be presented in the form of statistics, graphs, and charts.

The research sample was chosen to be Finnish females at the age of 18-70 years. This age range was selected, because this group represented the majority of work aged females in Finland. Also, the author identified that respondents over 70 years old were difficult to reach through social media platforms.

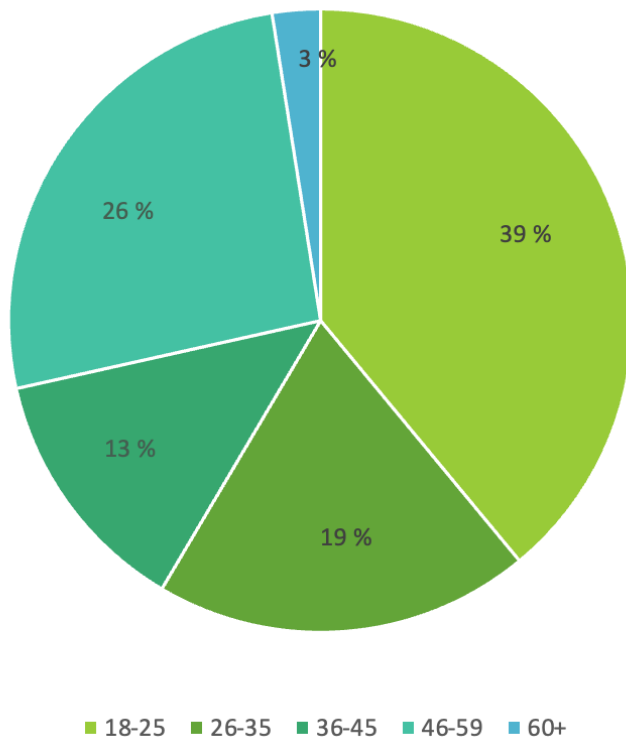


Figure 2: Questionnaire respondent age groups, n= 200

Source: Havo (March 2022) data collected by author, questions found in appendix 2.

There was a total of 203 respondents to the author’s questionnaire, from which 3 did not belong to the target sample and were not included in the data analysis. As can be seen in Figure 2 (above), young adults from age 18 to 25, were represented in the questionnaire by 39%, which was expected, because the author is in the same age range and has a big social media network within this age group. The next biggest respondent group was middle aged women by 26% and after that, women from 26-35 by 19%. The smallest age groups represented in this questionnaire survey were women from 36-45 by 13% and finally were women from 60 ahead with 3% attendance. These demographic factors were all expected, because of the age groups divided so that the authors parents' age group was the second highest response rate. Additionally, the women over 60+ are more difficult to reach through social media, since they do not use it as much as the younger generations.

To avoid sample bias, the survey respondents were picked using two sampling procedures. A convenience sample with non-probability individuals chosen depending on their availability and

desire to participate. The author also applied the voluntary response sample approach, by making a public post on Instagram, as well as in Facebook and invited individuals to answer to the survey form willingly. The questionnaire was also distributed by the authors' relatives to reach as wide a range of respondents from various age groups as possible.

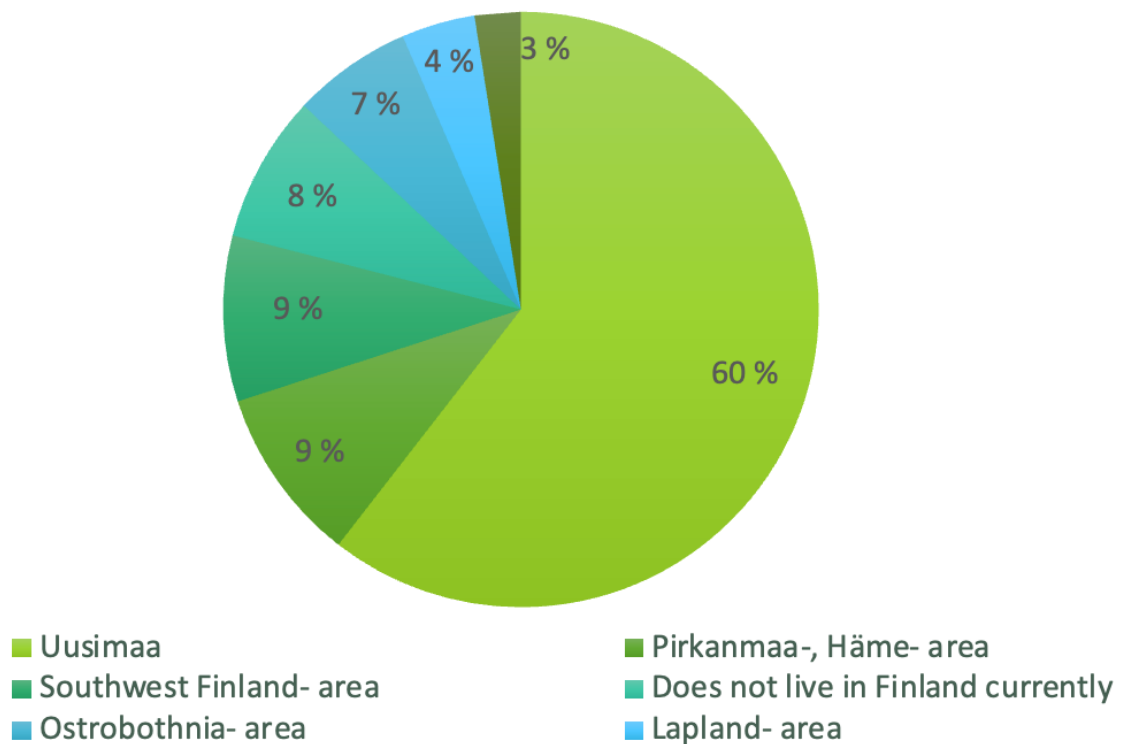


Figure 3: Questionnaire respondent living areas, n= 200

Source: Havo (March 2022) data collected by author, questions found in appendix 2.

The sample of 200 respondents was distributed in a way that 60% of the respondents reported living in Uusimaa area at the moment. This was expected since majority of the second-hand establishments are located near the capital Helsinki. Also, the author is from this area, so the representations of the sample was expected. A total of eight percent of the respondents do not live in Finland currently, and the smallest participation regarding the living area was from Karelia-area.

The first element of attitude the research covers is the cognitive element. Cognitive element in attitude formation stands for beliefs and previously learnt things about the target of attitude. The consumer's beliefs towards second-hand sports clothing were measured by questions about the

possible risks in buying SH clothing and by identifying the most- and least appealing factors of SH sports clothing. Additionally, an open question about the attributes that could make consumers buy more SH sports clothing was added. These questions help to comprehend the most general beliefs about buying SH sports-clothing.

The second element of attitude is behavior or in other words, connotation. This element represents the effect of attitude or behavior the customer possesses towards the research object and the way it affects his/her stand towards it. Here the author assembled a set of questions about the past behaviors that the respondents had performed towards the research object. For example, the buying cycle tempo, store location preference and importance of product accessibility were reviewed. Also, an open question about the possible additional factors of SH sports clothing that could make a customer buy SH spots clothing was added. This question was added to reveal the missing features of second-hand sports clothing that would have a clear demand among the consumers. The Theory of Reasoned action was used to examine the specific intentions. The author chose to get a closer look at personal factors and the normative belief factor (NB) was only interpreted via the cognitive attitude formation component.

Affective element represents the feelings a customer has towards the research object. In this section the author tried to determine what kind of feelings do the respondents have towards second-hand. This part of the study is focused on the Likert- scale questions that will reveal the strength and potential positive or negative beliefs that the customer might possess towards the research object. The questions were formed as positive or neutral claims about sustainability, appearance, ethicality, quality, condition, accessibility, and selection. A Likert- scale from “Totally agree” (1) to “Totally disagree” (5) was inserted. By transitioning the verbal scale to a numerical scale, the smallest added number of responses per option was determined to be the most favorable for the respondents. Individual item response values were combined to get a total or average score that reflected a person's overall attitude toward the construct of interest. Method of Summated Ratings was used to calculate the average of responses given by the respondents about SH sports clothes.

The Chi-square test of independence is a hypothesis test that can be used to seek to identify if there is a statistically significant relationship between two categorical variables. The Chi- square test of independence was used now to examine if two independent variables in data have a significant association between them. The selected variables were, the respondent's location of residency notified in the questionnaire (six distinct regions in Finland and one option for those living abroad)

and the response to the question that if the second-hand clothing in general was more easily accessible for them, would the respondent buy more of SH clothing, and the answers of ("yes", "no", and "I'm not sure").

The chi-square test of independence was done by choosing the needed data from the appendix 2. dataset (question 6. section 1.) & (question 20. section 6.) and accumulating the 200 answers from both questions to excel. Then the contingency tables were drawn (7x3) and by this, summarize the counts for each location and answer combination.

The null hypothesis was stated as follows:

- There isn't a significant relationship between the respondent's location of residence in Finland, and the willingness to buy SH sports clothing if it was more accessible for them.

Alternative hypothesis was stated as :

- There is a significant relationship between the respondent's location of residence in Finland, and the willingness to buy SH sports clothing if it was more accessible for them.

Then using the previous tables and determining the values of  $\chi^2$ , Df and finally p-value. And by using the knowledge gathered before, the phi coefficient was calculated (Figure 9). Varying from 0 to 1, the phi coefficient will show the association between the independent variables, making it easier to interpret in the analysis.

The author began to look for the significant relationship with a contingency table calculated with summarizing the counts for each location and response combination. The Chi-square test statistic and related p-value was then computed. If the p-value is less than your selected significance threshold, (0.05), the null hypothesis can be rejected and infer that there is a significant connection between the location and the response.

### **3.2. Results and analysis**

The results of the online questionnaire are collected in this section. The data is analyzed with the help of the ABC model, Method of Summated Ratings, and the Chi-square test of independence. The empirical research results show the answers of all 200 respondents and show the most

significant findings. By using MS Excel, the author has gathered the most important data into charts to make it easier to comprehend the findings to the reader.

The Chi-square test of independence was conducted by the author to find out whether the third research question can be answered partly- or at all by the accessibility of the SH sports garments. The two categorical variables that were measured in this Chi-test of independence, are accessibility of SH sports clothing for the respondents of the questionnaire previously asked, and their location (Table 1).

[Table 1: The Chi-square test statistic](#) results

|                 |      |
|-----------------|------|
| X2              | 7,98 |
| Df              | 12,0 |
| P-value         | 0,78 |
| Phi coefficient | 0,19 |

Source: Havo (March 2022) data collected by author, questions found in Appendix 2.

The null hypothesis was not able to be rejected, meaning the findings indicate that there is not a statistically significant relationship between respondents' location and their response to the question. The phi coefficient, on the other hand, indicates that there may be some link between the variables, but it is not strong enough to be regarded relevant or important.

The author interprets this by following manner. There is a weak positive association indicating that there is a connection between the willingness to buy SH clothing in Finland by Finnish women, but location and accessibility alone cannot make consumers buy more SH sports clothing.

### **3.2.1. Beliefs and values**

The first section will introduce the values and beliefs part of attitude formation. The author approached this section by first discovering if the respondents know what the term second-hand means and then proceeded to find out the preferences of the consumers. By understanding the

perceived risks, good- and bad features, and overall preferences, the author was able to comprehend more deeply, what the respondents feel towards the research object. In addition, an illustration of the prospective expectations of the targeted audience is provided by comparing how much, according to the respondents, the products have specific features and which traits are most essential to the respondents.

As can be seen in Appendix 2, ten answer options were presented when asked about the meaning of second hand is to the answerers. Out of 200 answers, 65 chose the exact same combination of answers among 10 choices, and they were "used", "ecological", and "trendy". Another popular combination of choices was "used" and "inexpensive", which were chosen by 25 attendees among the sample six out of 200. So much as 95 percent of the attendees related the word "used" to the term second-hand. Also, 73% of attendees associated the word ecological to the second-hand term. Only 12 stated that they associate the term second-hand with the words "expensive" or "bad quality" (Appendix 2).

There was also a blank space in the question to fill in an association to the term, if needed. There where answers such as " excellent find", "interesting" and "more ecological than bought new but not necessarily ecological".

The Method of Summated Ratings was utilized to identify the weights of the most positive features in SH sports clothing. The Likert- scale answers were converted into a more readily interpretable format by naming "Totally Disagree" into a 5 and all the way to "Totally Agree" as a 1. Then the total scores, also called the sentiment scores, were calculated as averages, and developed into a chart. As can be seen from the Figure 4, the overall most preferred features were price, ethicality, and durability. On the other hand, the least agreeable positive response got selection, trendiness, and accessibility.

The overall average calculated from all features measured positively showed that respondents have a positive attitude to SH sports clothing, but the score of 2,58 is also tilted towards the neutral section (Figure 4.).



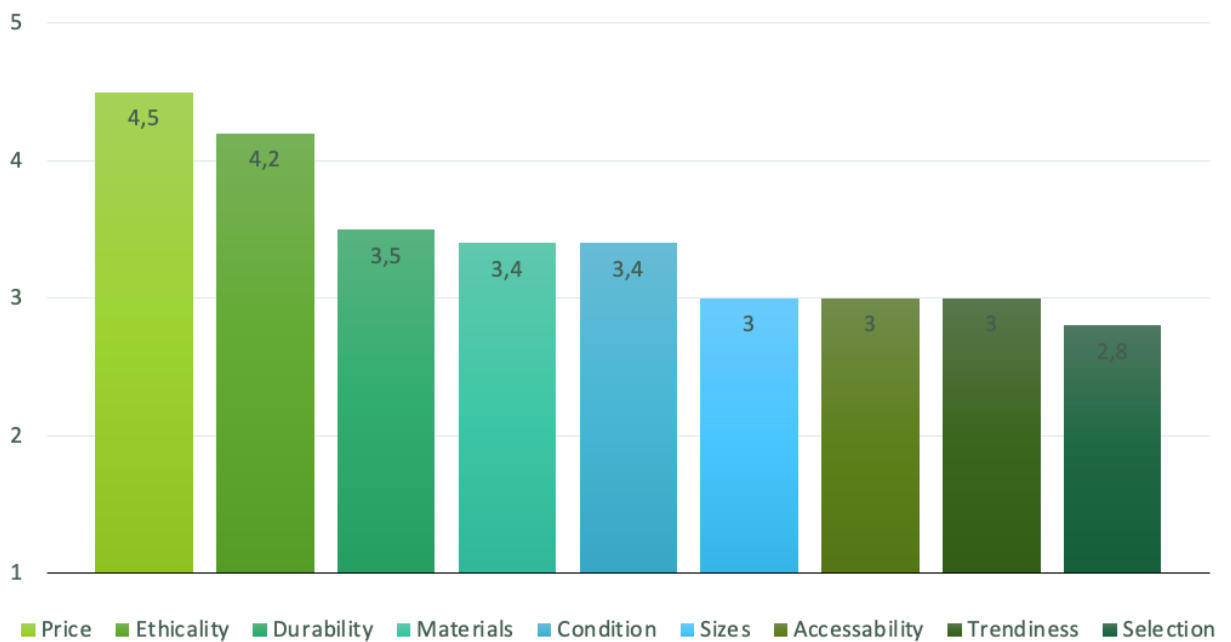


Figure 4: What are the most appealing features of SH sports clothing?

Source: Havo (March, 2022) data collected by author, questions found in appendix 2.

The questionnaire additionally had a question about the least preferred features of SH sports clothing and the most agreed parts were selection and accessibility (Appendix 2). Also, condition and sizes as well as trendiness were thought to be neutral.

Among the respondents, the two most preferred clothing categories to buy second-hand were outerwear (71,5%) and hoodies/ fleeces (55%). 29 answerers picked two of these options as their preferred clothing category to buy second-hand sports clothing. Only 4% of the survey respondents stated that they would like to buy undergarments second-hand. Approximately 40% of the respondents would prefer to buy sports tops or pants second-hand (Appendix 2).

The author wanted to determinate if the availability was a motivational issue that would make the respondents hesitant about buying second-hand sports clothing.

### **3.2.2. Buying behaviour**

The second component of attitude formation ABC model, behavior (B) casts light to personal preferences affecting past behaviors to define the possible consumer behavior.

A critical part of the life cycle of clothing is the number of times the garment is being worn. That is why the author wanted to specify, how often the respondents buy new sports clothing. The pace of the clothing acquisition and clutter that will reform into the cabinets. This study mainly focuses to the consumer side of second-hand, but since the industry has a characteristic that consumers sell or donate their own “unused” garments to others, the seller is also often a buyer.

The average times the survey respondents buy sports clothing per year is 5. Close to half of the respondents buy sports clothing once or twice a year but only 14% of the respondents buy sports clothing less than once a year.

Nearly half of the respondents stated that they prefer to have both options available, a physical store and online store. For second-hand garments it mostly means that the same items cannot be uploaded to online store as well added to the physical store collection. The biggest restrictions with providing these elements are usually the budget, the number of workers available and time resources. Also, the high item turnover can result in problems in logistics and warehouse management systems.

Out of 200 respondents, a total of 113 had bought second-hand sports clothing before. And 77 respondents stated that they had not bought second-hand sports clothing. Only 5% of the respondents was not sure if they have or haven't bought SH sports clothing (Figure 5).

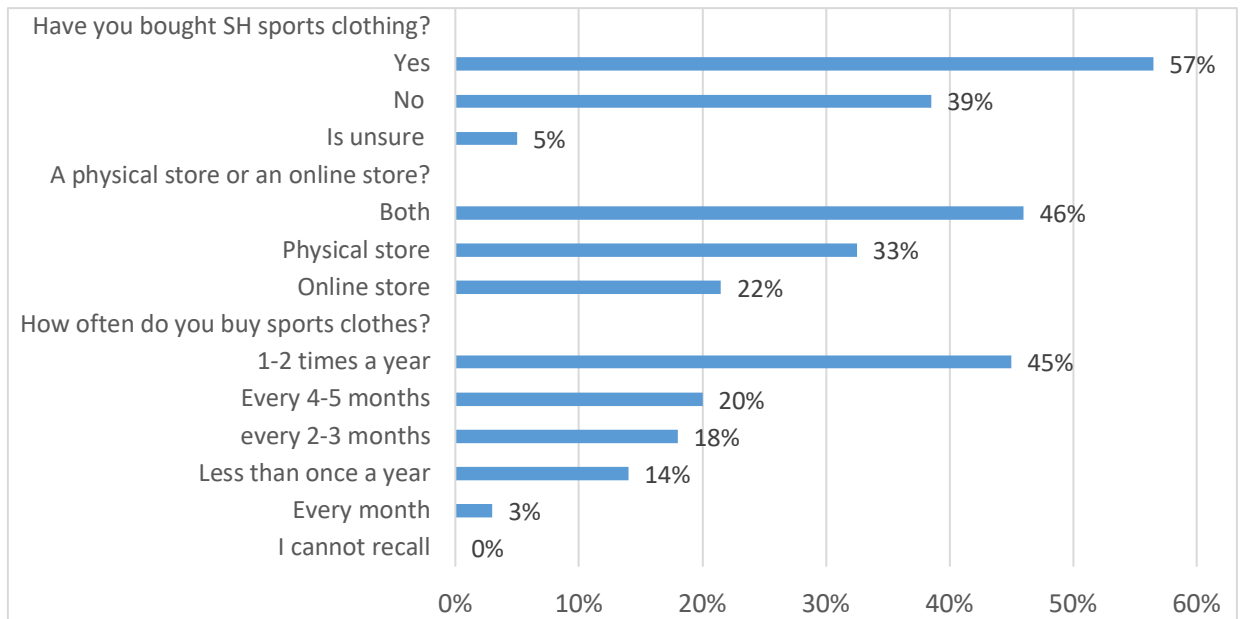


Figure 5: Behavioral- component questions from questionnaire

source: Havo (March, 2022) data collected by author, questions found in Appendix 2.

As the author still wished to find out what kind of element were missing from the stores that sell second-hand sports clothing, so that the respondents did not wish to buy them, an open question was asked. *“If something, what would make you buy more SH sports clothing?”* (Appendix 1). The open question was added to find out the wants and needs of the customers to better understand their answers in the figure above. The author chose 10 most popular answers out of the total of 157 answers (Appendix 2)

1. Increased availability;
2. Better selection;
3. More accurate quality description;
4. More second-hand stores;
5. Specific section for sportswear in second-hand shops;
6. Amplified size selection;
7. A united location to shop only second-hand sports clothing;
8. Better store display;
9. Fitting possibility;
10. More recent collections available.

According to the respondents, the most important features to improve would be availability (17%), better and more honest description of the product (12%), and better selection (10%). Also, 60% of the answerers stated that they would buy more second-hand sports clothing if it was more easily available for them (Appendix 2).

The Theory of Planned Behavior states that consumer attitudes represent personal perceptions of a behaviour, showing the perceived impacts or qualities of the conduct. The thoughts or characteristics that play a role for the individual during the appraisal process are known as silent beliefs. The results of this research show that the attitudes representing the learnt perceptions of the second-hand market in general might have an impact on the intention to buy second-hand sport goods. The clothing is thought to be the desired quality and price range, the buying possibilities of the goods are not as favorable.

### **3.2.3. Feelings**

To investigate the feelings that the respondents have towards second-hand sports clothing, the author created a five point Likert- scale, where seven claims about the research object were stated. The gathered data was analyzed by using the already identified sentiment scores of the most impactful features of SH sports clothing (Figure 7).

The most significant positive response was found in the statement about the ethicality of second-hand sports clothing. 127 respondents “totally agreed” to the statement of buying SH sports clothing being ethical (Appendix 2).

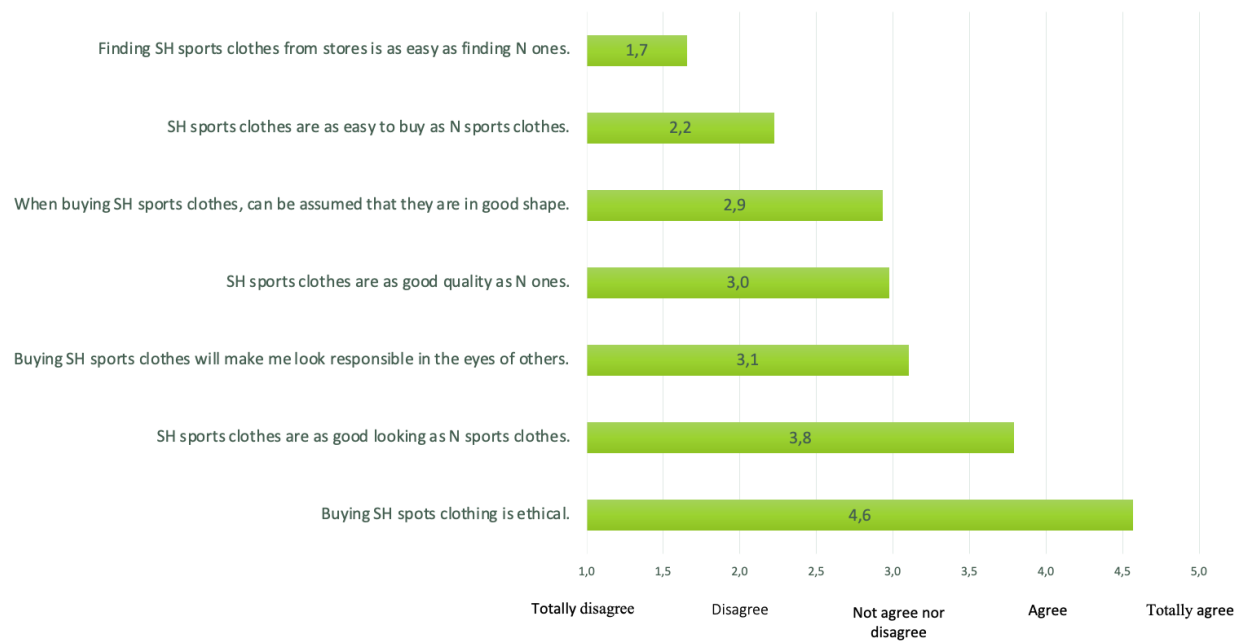


Figure 6: Affective component of questionnaire data collection

Source: Havo (March, 2022) data collected by author, questions found in appendix 2.

First the mean of the single variable was identified from the Likert scale answers by giving the Likert- scale answers more easily interpreted values. Then the averages were identified for each question and compared to the overall average of the answers. This sentiment score is the overall score of the preferred features that SH sports clothing has, according to the respondents. Also, the negative aspects of second-hand sports clothing were identified in the questionnaire and the same method was utilized to identify the overall attitudes towards the negative features in SH sports clothing. The sentiment score for the negative features of SH is not positive but it is neutral, so we can assume that the respondents feel neutral about the least preferred features in second-hand sports clothing.

The sentiment score was additionally calculated from the attitudinal Likert- scale from questions 11 to 17, and the results show that the overall calculated average and the attitude level of the respondents is 2,7 (Table 2.). This number is drawn from the positive statements and the average of the answer options of “Totally agree” to “Totally disagree”. The most positive number possible was one and the most negative was five (Appendix 1).

Table 2. Sentiment scores of attitude calculation

| Question      | Sentiment score |
|---------------|-----------------|
| selection     | 3,2             |
| accessibility | 3               |
| trendiness    | 3               |
| condition     | 2,6             |
| durability    | 2,5             |
| ethicality    | 1,8             |
| total average | 2,7             |

Source: Havo (March 2022) data collected by author, questions found in Appendix 2.

Selection and accessibility were the two characteristics of SH sports clothing that the respondents did not have as positive attitudes toward. In the cognitive component section of this research's results, the disliked features were also evaluated by asking "If something, what could make you buy more second-hand sports clothing?". And the results of that question correlate to this table above since the same characteristics rise here to be more on the negative and neutral side rather than being on the positive side with the rest of the answers (Table 2). From this we can draw that better access to goods and wider selection could begin to solve the issues in SH market from the point of view of the customer (Appendix 2).

### 3.3. Discussion and recommendations

This study was conducted to identify the attitudes that Finnish females have towards buying second-hand sports clothing. The results of the study reveal the overall attitude, beliefs, and possible intentions towards second-hand sports clothing. The research data was gathered to solve the research questions and to help understand the attitudes that affect the buying process of SH sports clothing.

According to the ABC-model, the data analysis was separated into the three categories of attitude formation. The research aimed to answer three questions about the consumer attitudes towards

buying second-hand sports clothing. In the behavioral section, the past behaviors were identified and the possible change to more sustainable consumption patterns asked. The third research question about how the consumption of second-hand sports clothing was answered in this section.

Over 60 % of the respondents had already bought sportswear second-hand, and almost half of all respondents preferred to have an online store and a physical store. This is a challenge to second-hand shops because they do not necessarily have the resources to always maintain an online store. Yet, a total of 65 respondents out of the 200 said that they prefer to go to a physical store instead of an online store. On average, the respondents reported buying new sports clothing 5 times per year. Improving these features of second-hand sports clothing could, according to the consumers, make them buy more of second-hand sportswear. Those features are availability, better and more honest description of the products, and better selection. Also, a clearer store presence and one united place to shop would be preferred rather than individual sellers. Additionally, a total of 60% of the respondents stated that they would like to buy more second-hand sports clothing if the goods would be more easily accessible for them. The first research question was solved in the affective component by measuring the overall attitude towards the research object. The results showed that the attitudes vary from positive to neutral, but do not generally go to the negative side of the scale.

When asked from the consumers about their conception of the term second-hand, the most popular answers were “ecological (73%)”, “used” (95%), “trendy” and “inexpensive”. Majority of the respondents only selected positive features about second-hand. Results from the survey show that, price, ethicality, and durability are the three most distinguished features of SH sports clothing. And these features should be enhanced in marketing, branding, and overall ideology of SH sports clothing.

As the null hypothesis was not able to be rejected earlier, there is no significant relationship between the respondent’s willingness to buy more SH sports clothing if it was more accessible for them, and their location of residence in Finland. This means that despite from the ABC model of attitude formation, the increase of consumption of these products cannot be done solely by making the product more accessible. So, the attitudes must be enhanced with making the SH sports garments more desirable.

Further research is needed in order to specify the roots of the attitudes measured and the overall affect of them to the retail of Sh sports clothing. The influence of external factors, such as social

factors would have to be considered to establish the overall buying intention towards second-hand sports clothing. Additionally, the further research is required to establish literal and concrete ways for the marketers and resellers to establish more revenue from the field of second-hand sports clothing. The author believes that attitudes are an important part of customer buying behavior and that the results of this study can be used in further research. A larger study with more data would be important in identifying the inaccuracies of this study.

By repeating the study in the future, the change of attitudes towards second-hand sports clothing could be captured. Following theoretical proposals:

- Expansion of the theoretical research into normative factors;
- The study of attitude continued into more customer centered direction;
- Repeating the study in order to gain more knowledge on the changes of attitude.

The practical proposals for the field of SH sports clothing. The author wishes to highlight the perceived importance of attitudes in influencing buying behavior or second-hand sports clothing. The industry is seen as interesting, yet hard to acquire. For the marketers the author suggests:

- The two main negative characteristics (accessibility and selection) will be given more attention to increase the positive attitudes towards buying second-hand sports clothing;
- Establishing easier and more accessible experiences;
- Enhancing positive features of second-hand sports clothing (ethicality, low price, and trendiness).

The data from this survey is useful for various sizes of enterprises in the second-hand field, and non-profit organizations specified in resell of recycled goods.



## CONCLUSION

This study consists from two parts. The theoretical part was done by reviewing the previous literature to identify the research subject and the used models. The method for the second, empirical part was an online questionnaire and further analysis. Theory of Planned Behavior, the ABC- model, and the Method of Summated Ratings, as well as the Chi-square test of independence were utilized in data gathering and/or analysis. The empirical data was gathered to identify the consumer attitudes towards buying second-hand sports clothing. The data was gathered from Finnish females aged 18-70 years. There were overall 203 respondents in the questionnaire, of whom 200 were included in the research.

The research questions in this study were based on identifying the attitudes by approaching the research aim with the three attitude formation components, affection, cognition and behavior. The main findings answer to the research questions: 1. What kind of attitudes do Finnish females aged 18-70 possess towards second-hand sports clothing? 2. What are the most important characteristics of attitude influencing the buying decisions of second-hand sports clothing? 3. What could be done to increase the consuming of second-hand sports clothing?

Additionally, the lack of significant relationship between accessibility to consume and location was identified and this confirmed that larger changes must be made to reinforce the consuming of SH sports clothing.

The results of this study show that consumers have “mildly positive” attitudes towards buying second-hand sports clothing. Behavioral intentions are influenced by the most important features of attitude. They were identified to be the cognitive, so beliefs and prior knowledge. Over half of the consumers were willing to buy more second-hand goods, if there would be easier access. Most of the consumers are pleased with the current quality of SH sports clothing and believe that consuming second-hand is ethical. According to the consumers, the most negative attitudes towards buying SH sports clothing arise from the lack of accessibility and selection. An unpleasant

prior experience with second-hand sports clothing shopping may also influence the overall attitude towards consuming in this sector. This can be seen that even though consumers know that second-hand is for example, ecological and inexpensive, the prior buying experiences demotivate them to buy again. This survey established that the biggest issue in the second-hand sports clothing market at the moment is finding the products, and not the negative attitudes that consumers might hold against the products themselves.

The results of this research are useful to the Finnish second-hand research by enlightening the creation of more environmentally friendly business milieu and marketing strategies. The study has resource limitations, and by being able to focus on attitudinal factors, the normative beliefs were not included. The overall behavior research would require extended research on the field of attitudes influencing buying behavior of second-hand sports clothing. This study does not take attitude changes into account.

Adding time to the life cycle of the garments that consumers have already bought, the sustainability of clothing can be increased. Second-hand sports clothing is essential in this change, since buying already used goods can decrease the demand of newly produced sport goods and decrease textile waste. Further research among textile industry pollution and especially the possibilities in enhancing the product lifecycle in sports clothing is worthwhile in our environmental situation. Radical changes can be done in the recycled clothing sector for the better, and that is why further research is needed to enhance the customer interest for the increasingly sustainable direction. There is clearly a need for improvement in Finland for the T & C market and the aim of the study was to identify the attitudes that influence the buying of sustainable gear in the sport clothing sector.

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## APPENDICES

### Appendix 1. Design of online questionnaire

| Section | Questions   | Scale items  | Scale type    |
|---------|---|--|---------------|
| 1       | How often do you estimate buying new sports clothes?  | A1 – every month<br>A2 – every 2 to 3 months<br>A3 – every 4 to 5 months<br>A4 – 1-2 times a year<br>A5 – less than once a year<br>A6 – cannot recall  | Nominal scale |
|         | Do you prefer to buy your sports clothes from a physical store or an online store?          | A1 – online<br>A2 – physical store<br>A3 – both<br>A4 – neither  | Nominal scale |
|         | Have you ever bought second-hand sports clothing?   | A1 – yes<br>A2 – no<br>A3 – not sure   | Nominal scale |
|         | What does the term second-hand mean to you? Please choose all that applies*                 | A1 – old<br>A2 – used<br>A3 – ecological<br>A4 – inexpensive<br>A5 – expensive<br>A6 – good quality<br>A7 – bad quality<br>A8 – trendy<br>A9 – shabby<br>A10 – other, what?<br>(open answer) | Matrix scale  |
|         | What kind of sports clothes do you like to buy second-hand? Please choose all that applies* | A1 – pants<br>A2 – shirts / tops<br>A3 – undergarments<br>A4 – shoes   | Matrix scale  |

| Section | Questions   | Scale items   | Scale type                |
|---------|---|---|---------------------------|
| 1       |   | A5 – outerwear<br>A6 – hoodies / fleeces<br>A7 – none of the above  |                           |
|         | Would you buy more second-hand sports clothing if it was more easily available for you?   | A1 – yes<br>A2 – no<br>A3 – not sure  | Nominal scale             |
|         | Appealing fetures of second-hand sports clothing are ... <ul style="list-style-type: none"> <li>• Price</li> <li>• Matrials</li> <li>• Durability</li> <li>• Accessibility</li> <li>• Selection</li> <li>• Trendiness</li> <li>• Ethicality</li> <li>• Condition</li> <li>• Sizes</li> </ul>          | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale*                                  | Likert scale<br>-1 to -5  |
|         | The least appealing features of second-hand sports clothing are... <ul style="list-style-type: none"> <li>• Price</li> <li>• Materials</li> <li>• Durability</li> <li>• Accessibility</li> <li>• Selection</li> <li>• Shabbyness</li> <li>• Cleaness</li> <li>• Condition</li> <li>• Sizes</li> </ul> | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale*                                  | Likert- scale<br>-1 to -5 |
|         | Pick biggest risks that you think there are when buying second-hand sports clothes.   | A1 – wrong size<br>A2 – bad quality<br>A3 – product is broken<br>A4 – wasting money<br>A5 – to end up not using the product<br>A6 – no return possibility<br>A7 – grimy smell | Matrix scale              |
|         | If something, what would make you consume more scond-hand sports clothing?  | Open question   | –                         |

Source: Havo (2022), author's online questionnaire, Section 1.



| Section | Claims   | Scale items  | Scale type               |
|---------|--|--|--------------------------|
| 2       | SH sports clothes are as easy to buy as N sports clothes.                  | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |
|         | Finding SH sports clothes from stores is as easy as finding N ones.        | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |
|         | SH sports clothes are as good quality as N ones.                           | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |
|         | When buying SH sports clothes, can be assumed that they are in good shape. | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |
| 2       | Buying SH spots clothing is ethical.                                       | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |
|         | SH sports clothes are as good looking as N sports clothes.                 | a) totally disagree<br>b) disagree   | Likert-scale             |

| Section | Claims  | Scale items  | Scale type               |
|---------|---|--|--------------------------|
|         |   | c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale*                                       | -1 to -5                 |
|         | Buying SH sports clothes will make me look responsible in the eyes of others. | a) totally disagree<br>b) disagree<br>c) nor agree or disagree<br>d) agree<br>e) totally agree<br><br>Different row for every Likert- scale* | Likert-scale<br>-1 to -5 |

Source: Havo (2022), author's online questionnaire, Section 2.

| Section | Questions   | Scale items   | Scale type    |
|---------|---|---|---------------|
| 3       | Age   | A1 – 18-25 years<br>A2 – 26-35 years<br>A3 – 36-45 years<br>A4 – 46-59 years<br>A5 – 60 + years   | Nominal scale |
|         | Sex   | A1 – Woman<br>A2 – Man<br>A3 – Prefer not to say  | Nominal scale |
|         | In which of the following county groups do you live in Finland? | A1 – Lapland area<br>A2 – Karelia & Savo area<br>A3 – Ostrobothnia area<br>A4 – Häme & Pirkanmaa-area<br>A5 – Southwest Finland<br>A6 –Uusimaa<br>A7 – I do not currently live in Finland | Nominal scale |

Source: Havo (2022), author's online questionnaire, Section 3

## Appendix 2. Questionnaire responses

Questionnaire answers, Vilma Katariina Havo, 2022, Thesis survey

The results include 3 sections presented below.

| Section | Question number | Question   | Answer options        | Quantity<br>n=200 | Percentile |
|---------|-----------------|--|-----------------------|-------------------|------------|
| 1.      | 1.              | How often do you estimate buying new sports clothes?                               | every month           | 6                 | 3 %        |
|         |                 |  | every 2-3 months      | 36                | 18 %       |
|         |                 |  | every 4-5 months      | 40                | 20 %       |
|         |                 |  | 1-2 times a year      | 90                | 45 %       |
|         |                 |  | less than once a year | 28                | 14 %       |
|         |                 |  | I cannot recall       | –                 | 0 %        |
|         | 2.              | Do you prefer to buy your sports clothes from a physical store or an online store? | online                | 43                | 22 %       |
|         |                 |  | physical              | 65                | 33 %       |
|         |                 |  | both                  | 92                | 46 %       |
|         | 3.              | Have you ever bought second-hand sports clothing?                                  | yes                   | 113               | 57 %       |
|         |                 |  | no                    | 77                | 39 %       |
|         | 4.              | What does the term second-hand mean to you? Please choose all that applies*        | old                   | 27                | 14 %       |
|         |                 |  | used                  | 189               | 95 %       |
|         |                 |  | ecological            | 145               | 73 %       |
|         |                 |  | inexpensive           | 164               | 82 %       |
|         |                 |  | expensive             | 3                 | 2 %        |

|    |   |               |     |      |
|----|---|---------------|-----|------|
| 5. | What kind of sports clothes do you like to buy second-hand? Please choose all that applies* | pants         | 82  | 41 % |
|    |   | shirts/ tops  | 78  | 39 % |
|    |   | undergarments | 8   | 4 %  |
|    |   | shoes         | 41  | 21 % |
|    |   | outerwear     | 143 | 72 % |
| 6. | Would you buy more second-hand sports clothing if it was more easily available for you?     | yes           | 121 | 61 % |
|    |   | no            | 23  | 12 % |
|    |   | I'm not sure  | 56  | 28 % |

| Appealing features of second-hand sports clothing are ... |       |           |            |               |           |            |            |           |
|---|-------|-----------|------------|---------------|-----------|------------|------------|-----------|
|   | Price | Materials | Durability | Accessibility | Selection | Trendiness | Ethicality | Condition |
| Totally disagree  | 2     | 4         | 3          | 9             | 16        | 9          | 2          | 7         |
| Disagree  | 1     | 13        | 25         | 64            | 80        | 54         | 5          | 31        |
| Neutral   | 6     | 107       | 68         | 62            | 50        | 83         | 27         | 73        |
| Agree   | 73    | 59        | 76         | 50            | 40        | 43         | 75         | 53        |
| Totally agree   | 118   | 17        | 28         | 15            | 14        | 11         | 91         | 36        |
| <b>Percent</b>  |       |           |            |               |           |            |            |           |
| Totally disagree  | 1 %   | 2 %       | 2 %        | 5 %           | 8 %       | 5 %        | 1 %        | 4 %       |
| Disagree  | 1 %   | 7 %       | 13 %       | 32 %          | 40 %      | 27 %       | 3 %        | 16 %      |
| Neutral   | 3 %   | 54 %      | 34 %       | 31 %          | 25 %      | 42 %       | 14 %       | 37 %      |
| Agree   | 37 %  | 30 %      | 38 %       | 25 %          | 20 %      | 22 %       | 38 %       | 27 %      |
| Totally agree   | 59 %  | 9 %       | 14 %       | 8 %           | 7 %       | 6 %        | 46 %       | 18 %      |

| The least appealing features of second-hand sports clothing are... |       |           |            |               |           |            |           |           |
|--|-------|-----------|------------|---------------|-----------|------------|-----------|-----------|
|  | Price | Materials | Durability | Accessibility | Selection | Shabbiness | Cleanness | Condition |
| Totally disagree   | 106   | 29        | 40         | 12            | 13        | 11         | 36        | 31        |
| Disagree   | 59    | 59        | 53         | 39            | 33        | 17         | 26        | 25        |
| Neutral  | 19    | 92        | 76         | 62            | 57        | 30         | 47        | 44        |
| Agree  | 11    | 13        | 21         | 69            | 73        | 81         | 63        | 76        |
| Totally agree  | 5     | 7         | 10         | 18            | 24        | 61         | 28        | 24        |
| <b>Percent</b>   |       |           |            |               |           |            |           |           |
| Totally disagree   | 53 %  | 15 %      | 20 %       | 6 %           | 7 %       | 6 %        | 18 %      | 16 %      |
| Disagree   | 30 %  | 30 %      | 27 %       | 20 %          | 17 %      | 9 %        | 13 %      | 13 %      |
| Neutral  | 10 %  | 46 %      | 38 %       | 31 %          | 29 %      | 15 %       | 24 %      | 22 %      |
| Agree  | 6 %   | 7 %       | 11 %       | 35 %          | 37 %      | 41 %       | 32 %      | 38 %      |
| Totally agree  | 3 %   | 4 %       | 5 %        | 9 %           | 12 %      | 31 %       | 14 %      | 12 %      |

| Section | Question number | Question  | Answer options                     | Quantity n=200 | Percentile |
|---------|-----------------|---|------------------------------------|----------------|------------|
| 1       | 9               | Pick the biggest risks that you think there are when buying second-hand sports clothes. | wrong size                         | 64             | 32 %       |
|         |                 |   | bad quality                        | 80             | 40 %       |
|         |                 |   | product is broken                  | 48             | 24 %       |
|         |                 |   | wasting money                      | 7              | 4 %        |
|         |                 |   | ending up not wearing the clothing | 43             | 22 %       |
|         |                 |   | no possibility to return           | 68             | 34 %       |
|         |                 |   | grimy smell                        | 116            | 58 %       |

| Section<br>1   | Question number   |   |  |   |                                      |  |   |    |
|----------------|---|---|--|---|--------------------------------------|--|---|----|
|                | 11  | 12  | 13   | 14  | 15                                   | 16   | 17  |    |
| Question       | SH sports clothes are as easy to buy as N sports clothes. | Finding SH sports clothes from stores is as easy as finding N ones. | SH sports clothes are as good quality as N ones. | When buying SH sports clothes, it can be assumed that they are in good shape. | Buying SH spots clothing is ethical. | SH sports clothes are as good looking as N sports clothes. | Buying SH sports clothes will make me look responsible in the eyes of others. |    |
| Answer options | 1. Totally disagree                                       | 39  | 88   | 14  | 8                                    | 0  | 3   | 20 |
|                | 2. Disagree   | 106   | 97   | 55  | 67                                   | 1  | 15  | 29 |
|                | 3. Not agree nor disagree                                 | 31  | 11   | 69  | 67                                   | 11   | 49  | 80 |
|                | 4. Agree  | 19  | 4  | 46  | 46                                   | 61   | 87  | 52 |
|                | 5. Totally agree  | 5   | 0  | 16  | 12                                   | 127  | 46  | 19 |

| Question      | Sentiment score |
|---------------|-----------------|
| Accessibility | 3               |
| Selection     | 3,2             |
| Durability    | 2,5             |
| Condition     | 2,6             |
| Trendiness    | 3               |
| Ethicality    | 1,8             |
| Total         | 2,7             |

The sentiment score calculations are specified in the thesis. This chart is based on the numbers from questions 11-17.

| Section | Question number                       | Question     | Answer options  | Quantity<br>n=200 | Percentile |     |
|---------|---------------------------------------|--------------|---|-------------------|------------|-----|
| 3       | 18.                                   | Demographics | not 18 yet  | 1                 | 0 %        |     |
|         |                                       |              | 18-25   | 78                | 39 %       |     |
|         |                                       | Age          | 26-35   | 39                | 20 %       |     |
|         |                                       |              | 36-45   | 26                | 13 %       |     |
|         |                                       |              | 46-59   | 52                | 26 %       |     |
|         |                                       |              | 60+   | 5                 | 3 %        |     |
|         |                                       |              | 19.   | Sex               | woman      | 200 |
|         |                                       | man          |   |                   | 1          | 0 % |
|         |                                       | other        |   |                   | 1          | 0 % |
|         |                                       | 20.          | In which of the following county groups do you live in Finland? | Lapland- area     | 8          | 4 % |
|         | Karelia-, Savo-,<br>Kymenlaakso- area |              |   | 5                 | 3 %        |     |
|         | Southwest Finland-<br>area            |              |   | 13                | 7 %        |     |
|         | Pirkanmaa-, Häme-<br>area             |              |   | 19                | 10 %       |     |
|         | Ostrobothnia- area                    |              |   | 18                | 9 %        |     |
|         | Uusimaa                               |              |   | 121               | 61 %       |     |
|         | does not live in<br>Finland currently |              |   | 16                | 8 %        |     |

| Answer                     | Quantity | Percentile |
|----------------------------|----------|------------|
| Availability               | 34       | 17%        |
| Better selection           | 20       | 10%        |
| Easier to find             | 6        | 3%         |
| Clearer store presence     | 8        | 4%         |
| Better online presentation | 2        | 1%         |

|  |    |     |
|--|----|-----|
| One united place to shop                     | 9  | 4%  |
| Better advertising/ more knowledge available | 2  | 1%  |
| Sizes separated in store                     | 10 | 5%  |
| Better quality descriptions                  | 24 | 12% |
| Better display                               | 7  | 3%  |
| Fitting possibility                          | 6  | 3%  |
| New models available                         | 5  | 2%  |
| Lower price                                  | 3  | 1%  |
| More need of sports clothing                 | 3  | 1%  |
| Nothing                                      | 4  | 2%  |
| More stores                                  | 11 | 5%  |
| Brand of liking                              | 3  | 3%  |

The answers from question 10 are listed below.  
The question was an open question. n= 114

#### Section 2. Question 10. (Open question)

If something, what would make you consume more second-hand sports clothing?

In the above table is a summary of the most frequent answers.

1. Better availability
2. If there were more products for sale cheap
3. Opportunity to try
4. Availability and price
5. That's if I play more
6. I will only buy if another made a hut purchase if there were more than new ones on offer
7. then!
8. Easy to buy



9. Better availability
10. An online store with second-hand sportswear.
11. Better availability, more supply, possibility to match (eg not in Zada)
12. Selection of sizes and models, in good condition
13. if it were easier to find clothes
14. Beautiful and clear presentation
15. better availability and wider selection, assurance of purchase reliability, assurance of product quality
16. Availability, ie a good neat selection.
17. Nothing sweaty, but ski clothes if there were even clearer outlets and easier access.
18. The quality of the clothes and the fact that they would not have stretched in the previous use, for example
19. A neat presentation that gives the product the value it deserves
20. Neat presentation
21. Purity
22. If they were advertised so they could be easily found.
23. Probably availability, because even today, Second Hand discoveries are a coincidence trade
24. If suitable low-grade clothing would be readily available
25. Specialized second-hand stores for sportswear
26. increasing range
27. The fact that you know the product is little used
28. Guarantee that the product is still really high quality (there are no traces of use in the material, no smells, no holes, etc.), the guarantee is not a Chinese copy of the brand, the sales platform would be modern, functional, reliable and easy to use

29. Nothing. I always wear my own sportswear to the finals so they don't even dare wash the floor.
30. If I did more sports
31. Good selections nearby
32. Versatile places to buy, the same terms of trade as new ones
33. Trial and refundable
34. A more accurate and honest description of the product used and how long it has been used
35. Availability
36. Wider selection of clothes in good condition
37. Need
38. An Emmy-type implementation, maybe even more as a seller.
39. Easier access
40. matter
41. Availability
42. Better availability
43. If you didn't have to buy these from individuals, but there was a collective flea market for used training underpants, etc. But you had to get there, I wouldn't buy online
44. Easy to buy
45. Good start up services that make them easier to buy and sell.
46. A clearer distinction from other clothing categories
47. If there were more clothes in good condition in the selection.
48. Nothing
49. Opportunity to try

50. Easy to find, eg by species and size. Well presented in the point of sale and online store, good pictures, clear consistent product descriptions. Sort by condition, so there would also be different price range of clothes. Sometimes a slightly worse garment is enough, leaving more room to choose at the buying stage.
51. Assured quality and freshness
52. Availability
53. Knowledge of good places to buy these.
54. Familiar size / brand, fresh scent
55. It specializes in e-commerce and ease of purchase
56. Better availability
57. Ease of access, e.g., physical store for SH clothing
58. Easy comparison of clothing size labels and better availability / selection
59. Is not
60. There would be more on offer
61. More selection
62. Availability and appropriate specific forum. And if I could find the same used one, which I would buy new anyway. For example, if someone bought the wrong size and didn't use it, often such "unbeatable" running shoes might have been found in the market. I am looking specifically for high-quality rigs when used, I would not buy, for example, basic jerseys that are cheap even when new.
63. Nothing. I wouldn't buy used sportswear.
64. comprehensive range, specialties
65. If my own size (large sizes) would be more available.
66. Better quality (not already worn out, can withstand hard work)
67. A clear place with a good supply.
68. Easier access to products in good condition

69. Better selection
70. The right size and branded product I use
71. Better availability
72. These could at least have their own department or even a business
73. One should assure me that the clothes do not smell and are hygienic.
74. Availability of buying, better pictures and friendly sellers
75. Improving the range
76. Good quality and selection
77. Better availability at a stone foot shop
78. More flea markets and the opportunity to buy a second hand
79. If SH training clothes were sold in the same places as new clothes, but at a cheaper price. You will have to go to SH stores and flea markets less often, because I can't browse and go through every product.
80. Availability
81. Quality
82. Better selection
83. Opportunity to try before making a purchase decision
84. Price / quality
85. To make them more available and easily accessible, e.g., an online application for used sportswear.
86. Better availability
87. Easier access
88. Quality rating, newer models, better selection
89. One store with second-hand products from different brands
90. Easily available and in your own clothing size

91. That they could be bought in one place with search capabilities
92. own platform dedicated to sportswear, eg with online flea markets
93. Information on the history of the clothing used. For example, I wouldn't buy used leggings if they were used in a hard workout = heavy sweating = the idea of dirt
94. availability
95. Information that is new or little used
96. Better availability and selection.
97. Centralized sale of used sportswear.
98. Availability
99. Affordable online stores
100. Perhaps the greater availability of so-called "trend-appropriate" clothing
101. More visits second-hand stores, guaranteed clothing quality / cleanliness
102. Wider supply
103. Better fit of second hand movements and clear and attractive presentation.
104. Availability
105. Better availability
106. Better availability
107. More selection
108. That there are bigger sizes, timeless in style and affordable
109. Probably the fact that they were washed and serviced properly before sale, and put up attractively.
110. Easier availability and larger selection
111. I am quite brand loyal and my favorite brands, my own size, are rarely available in Second Hand stores

- 112. Sizes and good condition
- 113. More supply
- 114. Little used qualitatively sustainable products Ethically made products.
- 115. Nice-looking, fashionable clothing made of natural materials

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