

**MASTER  
MANAGEMENT**

# **Exploring Consumers' Second-hand Apparel Consumption Intention and Main Influential Factors**

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Dissertation

Master in Management

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Supervised by

**Professor Catarina Roseira**

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## Acknowledgments

For Jó and Glória.

For Sara and Júnior.

For my family.

For Rúben.

For Mai.

For Catarina.

For Filmon.

And, for Professor Catarina Roseira.

## **Abstract**

Fast fashion has been the main business model of the fashion industry over the past years. However, the second-hand market is growing and becoming more prominent, especially among consumers from Gen Z. Despite young people tending to be more concerned and to show a higher level of environmental responsibility, this attitude to be more sustainable often does not translate into actual behaviour.

In this sense, the main purpose of the present study was to analyse the consumers' intention towards purchasing, swapping, borrowing, or receiving second-hand apparel and to examine the main influential factors – especially the role of influencers, which has not been investigated in this specific context – that contribute to the (mis)alignment between consumers' positive attitude and their behaviour, using the theory of planned behaviour. Data collected from a sample of 268 participants, through a Portuguese and an English survey, was analysed by applying the structural equation modelling (SEM) conducted on IBM SPSS AMOS. The findings revealed that consumption intention is positively and directly influenced by the factors: attitude, subjective norms, and perceived behavioural control. Moreover, the attitude is positively and directly influenced by both the environmental knowledge and the environmental concern, as well as the factor subjective norms is by the influencers' role and the perceived behavioural control is by the perceived quality.

**Key-words:** Fast Fashion, Second-hand Apparel, Influential Factors, Influencers

**JEL-Codes:** D16 and L67

## Resumo

O modelo principal da indústria da moda nos últimos anos é o *fast fashion*. No entanto, o mercado de roupa em segunda mão tem vindo a crescer e a ficar mais predominante, especialmente entre os consumidores jovens (gen Z). Apesar de estes mostrarem uma maior preocupação e responsabilidade ambiental, esta atitude positiva para ser mais sustentável nem sempre se observa nos seus comportamentos enquanto consumidores.

Neste sentido, o principal propósito do presente estudo foi analisar a intenção de comprar, trocar, emprestar ou receber roupa em segunda mão e examinar quais os principais fatores – especialmente o papel dos influenciadores, que ainda não foi investigado neste contexto específico – que continuam a contribuir para esse (des)alinhamento entre uma atitude positiva do consumidor e o seu comportamento, usando a teoria do comportamento planeado. Os dados recolhidos de uma amostra de 268 pessoas, através de dois questionários (em português e inglês), foram tratados num modelo de equação estrutural no programa IBM SPSS AMOS. Os resultados comprovaram que a intenção de consumir roupa em segunda mão é positiva e diretamente influenciada pelos fatores: atitude, normas subjetivas e perceção de controlo comportamental. Adicionalmente, a atitude é influenciada direta e positivamente tanto pelo conhecimento como pela preocupação ambiental, as normas subjetivas são influenciadas de igual forma pelo papel dos *influencers*, assim como a perceção de controlo comportamental o é pela perceção de qualidade.

**Palavras-chave:** *Fast Fashion*, Roupa em Segunda-mão, Fatores, *Influencers*

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## Abbreviations

<b>TRA</b>	Theory of Reasoned Action
<b>TPB</b>	Theory of Planned Behaviour
<b>A</b>	Attitude
<b>EK</b>	Environmental Knowledge
<b>EC</b>	Environmental Concern
<b>SN</b>	Subjective Norms
<b>IR</b>	Influencers' Role
<b>PBC</b>	Perceived Behaviour Control
<b>PQ</b>	Perceived Quality
<b>DB</b>	Disposal Behaviour
<b>CI</b>	Consumption Intention
<b>SEM</b>	Structural Equation Modelling
<b>CFA</b>	Confirmatory Factor Analysis
<b>CR</b>	Composite Reliability
<b><math>\alpha</math></b>	Cronbach Alpha
<b><math>\lambda</math></b>	Factor Loadings
<b>AVE</b>	Average Variance Extract
<b><math>\beta</math></b>	Structural Path

## 1. Introduction

The fashion industry is the second-largest polluter worldwide: from energy and water consumption, to use of chemicals and waste generated (Sustain Your Style, 2020)<sup>1</sup>. Moreover, this industry's principal business model, fast fashion<sup>2</sup>, is an expert in creating fast trends at low-prices, which typically have short lifespans (Kim et al., 2013), which in return leads to a high pace of overconsumption and results in large numbers of waste and causes nefarious effects on the environment (Lang & Zhang, 2019).

This massive negative impact has led this industry to minimize its environmental pollution and make an effort to become more sustainable (Jalil & Shaharuddin, 2019). In this sense, major players in the market have created new and improved ways to provide ethical and green collections and have a strong commitment to recycle textiles (Shen, 2104). Furthermore, alternative forms to fast fashion, such as second-hand cloth stores, swap markets, fashion rentals, upcycling stores, have faced a popularity increase and thus have become more prominent over the years (Gwozdz et al., 2017). Lastly, new businesses with a sustainable business plan has their main core represent currently one of the most effective forms to differentiate from their competitors (Allen & Spialek, 2018) and attract fashion customers (Ciasullo et al., 2017).

The aforementioned has also been stimulated by the consumers. Because people's awareness regarding the direct impacts that their individual consumer behaviour has on its environmental surroundings is increasing (Parung, 2019), they are influencing and becoming more demanding of more sustainable business practices, at the same time as they become more interested in adopting sustainable behaviours and improving their consumption behaviour (Bernardes et al., 2018a; Shen et al., 2012; Sorensen & Jorgesen, 2019). However, even though the number of eco-friendly consumers is growing, numerous studies have consistently exposed how this attitude to be more green often does not translate into actual behaviour, especially with fashion items (McNeill & Moore, 2015) (as cited in Park & Lin, 2020); since, for instances, the perceived low-impact of their actions can often compromise

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<sup>1</sup> Sustain your Style is a non-profit organization based in Berlin, which provides equal access to well research information on the fashion industry (Sustain Your Style, 2020).

<sup>2</sup> It describes the rapidly available, constant trend setting, unexpansive fashion business model (Bick et al., 2018).

the adoption of sustainable practices (Kostadinova, 2016). In this sense, albeit females and younger customers typically tend to show a higher level of concern and responsibility for environmental causes when compared with males and older customers (Jahanshahi & Jia, 2018), in reality, their actual behaviour does not follow (Iran et al., 2019).

Because the second-hand market is growing and becoming more widely adopted, especially by younger generations due to its low-prices and understanding of the environmental impact (ThredUp, 2020)<sup>3</sup>, this was the main aim of this paper: to investigate this form of collaborative fashion, which is still in need of further research (Iran et al., 2019), as well as the main influential factors for why consumers are turning to second-hand channels, which are also scarcely researched (Guiot & Roux, 2010). Furthermore, to the best of the author's knowledge, this research was the first to investigate explicitly the effect of influencers as a predicting factor of consumers' second-hand apparel consumption behaviour.

In this sense, the main purpose of this paper was to provide insights into these literature gaps and to contribute to the academic literature, by examining the attitude-behaviour gap, by exploring the main influential motivations of consumers when purchasing, exchanging, borrowing, and receiving second-hand clothes and by assessing the influencers' impact. The theory of planned behaviour by Ajzen (1991) was utilized as a base, and the structural equation modelling (SEM) was conducted for analysing the data collected.

The remainder of this dissertation proceeds as follows: Chapter 2 reviews the literature on fashion and sustainable consumer behaviour regarding apparel, addressing these study hypotheses. Chapter 3 presents the study's conceptual model and the methods employed, which is followed by Chapter 4 that depicts the results and Chapter 5 that discusses this research findings. In the last Chapter, the conclusions, managerial implications, limitations of this work and suggestions for future research are contemplated.

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<sup>3</sup> ThredUp is the world's largest online second-hand shopping destination, who conducts annual reports on resale growth, consumer trends, future of fashion, eco impact, etc. (ThredUp,2020).

## 2. Literature Review

This chapter aims to review the existing literature related to the fashion industry holistically, as well as the sustainability of consumers' behaviour when purchasing, swapping, borrowing, and receiving second-hand apparel. The influential factors under investigation and the hypotheses withdrawn are also included.

### 2.1 Fashion Industry: from Fast Fashion to Second-Hand

Fashion industry's negative environmental impact derives from energy consumption, use of water, the chemicals used and textile dyeing, waste generated, as well as greenhouse gas emissions. These are some of the reasons that make this industry one of the greatest polluters in the world, with a substantial negative effect on the environment (Sustain Your Style, 2020).

In addition, fast fashion has become the dominant business model, making large quantities of cloth available at low-prices with a very short lifespan (Bick et al., 2018). By fabricating many fashion seasons per year, businesses create and encourage the need for consumers to dispose of 'untrendy' clothing frequently (Yang et al., 2017), which leads to overproduction and overconsumption, generating an overflow of disposed apparel (Borusiak et al., 2020; Gwozdz et al. 2017). Hence, this fast pace consumption for new, novel and trendy fashion items endangers the environment, because of the water and the chemical treatments necessary and the high volume of waste generated by negligent apparel disposal (Sustain Your Style, 2020).

Nonetheless, there is an increasing number of more sustainable alternatives in the market (Iran et al., 2019), which are gaining a higher market share. Over the past years, fashion companies have been increasing their efforts and adopting more eco-conscious and sustainable ways of production, by, for example, making new garments with reused or recycled fibres (Chan & Wong, 2012; Shen, 2014); new businesses are emerging with a sustainable business plan as their main core, such as slow fashion<sup>4</sup> (Yang et al., 2017); and collaborative fashion consumption is becoming more widely adopted (Guiot & Roux, 2010).

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<sup>4</sup> Slow fashion consists of a movement contrary to fast fashion: textile and apparel chain is slowed down, clothes are more durable, and produced in a more sustainable and ethically way (Yang et al., 2017).

This last form of consumption consists in “instead of buying new fashion products, have access to already existing garments either through alternative opportunities to acquire individual ownership (gifting, swapping, or second-hand) or through usage options for fashion products owned by others (sharing, lending, renting, or leasing)” (Iran & Schrader, 2017, p. 472).

Over the past years, shopping second-hand clothes have faced not only a de-stigmatization, from being an activity usually associated with those in financial needs, but also a popularity increase, by becoming a rather rising trend in the market (Weistein, 2014) (as cited in Ferraro et al., 2016). By 2021, the online second-hand shopping is expected to grow around 69% because of the COVID-19 pandemic impact in the fashion industry; and by 2029, the second-hand total market is projected to grow to almost the double the size of fast fashion (ThredUP, 2020).

## **2.2 Sustainable Consumer Behaviour in Fashion**

Sustainable consumer behaviour can be categorized in all life functions – nutrition, mobility, housing, clothing, education, health and leisure (Kostadinova, 2016) – and it can be defined as “an improving pace of consumption that thrives to minimize the depletion of natural resources for future generations, by changing consumers’ habits in their purchasing, use and recycling behaviour” (Bernardes et al., 2018b, p.3).

Furthermore, one important conceptualization, which tends to be neglected, is how sustainable consumer behaviour is not only about consuming differently but it is also about consuming less, *i.e.*, about reducing personal consumption (Bick et al., 2018; Gwozdz et al., 2017; Kleinhückelkotten & Neitzke, 2019). In other terms, regarding fashion apparel, consumers can either reduce consumption or opt for different alternatives, such as, for instances, recycled, second-hand, upcycled items of clothes, or new clothes made of environmentally friendly materials – *e.g.*, cotton fibers –, made ethically, and made more durable (Gwozdz et al., 2017).

Even though consumers tend to know the positive effects of sustainable practices and are aware of the negative impacts of fast fashion, there is a constant need in consumers for impulsively buying new, low-cost, low-quality apparel that tends to have a shorter lifespan (Lang & Zhang, 2019) and a reluctance to adopt a more conscious consumption (Blasi et al.,

2020). Numerous studies have shown how the attitude towards sustainable consumption normally does not match the respective practices (*e.g.*, Iran et al., 2019, Iran & Schrader, 2019). Though consumers tend to feel guilty about buying fast fashion, tend to feel good about buying second-hand clothes (ThredUP, 2020) and tend to have a positive attitude towards second-hand apparel consumption, their actual behaviour tends to be not as sustainable – this phenomenon of incongruence is commonly referred to as the attitude-behaviour gap in several research contexts (Iran et al., 2019; Niaura, 2013; Padel & Foster, 2005; Soo & Mok, 2016).

### 2.3 Influential Factors and Hypotheses

As aforementioned, intention does not always translate into actual behaviour. A consumer saying he or she plans to buy, swap, borrow, or gift second-hand garments, does not mean he or she will actually visit and purchase clothes in a second-hand shop, for example. There are several influential factors to pro-environmental consumer behaviour that have been identified, which help to understand this inconsistency between consumers' attitudes and their actual behaviour.

In order to examine the underpinning reasons for a consumer's behaviour according to the authors Kostadinova (2016) and Joshi and Rahman (2019) there are two main theories commonly accepted and employed by several studies: the theory of reasoned action (TRA) and the theory of planned behaviour (TPB). The first suggests that human behaviour is influenced by individuals' attitudes towards it and by social norms. The second extended the TRA by complementing it with the perceived behaviour control, *i.e.*, by one's belief of how easy or not performance is expected to be (Ajzen & Madden, 1986). TPB is the most widely and reliable used theory on a myriad of researches in the study of sustainable behaviour – *i.e.*, it is considered as a good predictor of intentions to purchase green products<sup>5</sup> (Kalafatis et al., 1999) – and of fashion consumption (Iran et al., 2019). In short, the three determinants that explain a person's behavioural intention are attitude, subjective norms, and perceived

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<sup>5</sup> Consists of "a product whose design and/or attributes (and/or production and/or strategy) uses recycling (renewable/toxic-free/biodegradable) resources and which improves environmental impact or reduces environmental toxic damage throughout its entire life cycle." (Durif et al, 2010, p. 27).

behaviour control. Furthermore, according to the author Ajzen (1991), adding relevant explanatory variables in a certain context to the TPB can, in many cases, deliver a better understanding of the model mechanism and enhance the prediction power of an individual's behavioural intention. In previous research, motivations for consumers' intention and actual behaviour to purchase, swap, borrow, or receive second-hand clothes have been identified and study. The present research aimed to focus on those that are more recent and that were not explored extensively in previous academic literature.

In this sense, regarding attitude, this refers to the assessment of a particular behaviour (Iran et al., 2019), *i.e.*, whether the consumer depicts its behaviour as negative/bad or positive/good (Ajzen, 1991). In this research context, in line with the authors Borusiak et al. (2020) definition, attitude consists on the positive attitude consumers have about the direct positive effects on the environment that adopting a second-hand apparel consumption has. This is a good variable to directly influence and predict the consumption intention (Niaura, 2013). Thus, the first hypothesis was stated as follows.

*H1. Attitude is positively and directly related to consumption intention.*

Regarding the environmental knowledge, limited research has been done examining the relationship between consumer's knowledge and attitude (Chen et al., 2018). Researches shows that people are becoming more aware of fashion excessive waste, water and air pollution (Parung, 2019) and their level of knowledge is increasing (Armstrong et al., 2015). Whereas, other papers reveal a consumers' unwillingness to buy sustainable because of lack of information (Bernardes et al., 2018b; Nam et al., 2017). About second-hand consumption particularly, it is important to assess the consumers' level of knowledge on the impact that not producing new clothes has on the environment (Chen et al., 2018), as well as on the fast fashion effects. The higher the knowledge, the higher the consumer's attitude is likely. Hence, the following hypothesis was formulated.

*H2. Environmental knowledge is positively and directly related to attitude.*

The environmental concern is the person's awareness of environmental matters, which encourages someone to be more environmentally friendly (Hu et al., 2010) (as cited in Auliandri et al., 2018). According to Parung (2019), over the past years, this awareness has



been increasing, and consumers are becoming more aware of the direct impact their consumption behaviour has on the environment. The higher this concern for the environment, the more positive the consumer's attitude is likely to be (Auliandri et al., 2018). Thus, the hypothesis was stated as follows.

*H3. Environmental concern is positively and directly related to attitude.*

Concerning subjective norms, it consists of a person's belief of what others think of a certain behaviour and how it encourages them to perform that behaviour (Ajzen, 1991), which may or may not reflect the exact view of others. In this sense, if she or he believes the people that are more important for her or him – typically their friends and family – have a positive appreciation towards second-hand garments and/or they approve them to do that behaviour, then the consumer's intention is likely to be higher (Borusiak et al., 2020).

Due to the current unprecedented times where influencers – which in this research comprises the activists, celebrities, or people on Instagram, TikTok or YouTube that consumers follow, who might advocate a more sustainable lifestyle through thrifting, up-cycling, among other alternatives to fast fashion – can easily reach any person through social media, they are becoming an even more important element on people's life and way of living. Moreover, Forbes (2020) outlined that the influencer marketing industry was on course to be worth more than 15\$ billion by 2022. Thus, the influencers' role on people's behaviour could be included into the subjective norms' variable: not only the friends' and family's impact should be considered, but also the influencers' one. In this sense, this research intends to investigate this direct impact between influencers has on the subjective norms, and, subsequently, the indirect impact – via SN – on the consumers' intention behaviour with regards to second-hand apparel. Hence, in the current research, the following hypotheses were proposed.

*H4. Subjective norms is positively and directly related to consumption intention.*

*H5. Influencers' role is positively and directly related to subjective norms.*

The perceived behavioural control consists of a person's belief of how easy or difficult performance of the behaviour is likely to be (Ajzen, 1991). It comprises the knowledge of location (in this case, where local second-hand stores are located), the

availability in terms of time to purchase second-hand apparel, instead of fast fashion garments (Borusiak et al., 2020) and the possibility to purchase, exchange borrow, or receive second-hand apparel from relatives and friends. Besides these aspects, it can be of added value to extend this variable and also infer the perceived quality that consumers have on second hand clothes. Previous research has shown how the fear of hygiene issues, the uncertainty of cleanliness, the poor quality of the product and the lack of trust tends to impede people from wanting and actual buying second-hand clothes, thus acting as barriers (Laitala and Klepp, 2018) (as cited in Lang & Zhang, 2019). Therefore, the fourth and fifth hypotheses are formulated as follows.

*H6. Perceived behavioural control is positively and directly related to consumption intention.*

*H7. Perceived quality is positively and directly related to perceived behavioural control.*

Concerning disposal behaviour, this is a new factor in consumer behaviour, which is about opting for an alternative end than going to waste, *i.e.*, “reusing clothes, recycling clothes, donating to charities, giving them away to the second-hand store, put unwearable clothes in the recycling bin, etc.” (Jalil & Shaharuddin, 2019, p. 4225) and thus going against the popular trend to get rid of clothes frequently after wearing only a few numbers of times (Lang & Zhang, 2019; Presley & Meade, 2018). According to Jalil and Shaharuddin (2019), apparel disposal with sustainability in mind can lead to the purchase intention of eco-fashion products, ergo, by establishing a parallel to second-hand clothing, the following hypothesis was suggested.

*H8. Disposal behaviour is positively and directly related to consumption intention.*

Lastly, all the aforementioned, predictors can influence directly or indirectly the consumers’ willingness to purchase, exchange, borrow, or receive second-hand apparel, however depending on the generation the consumer is from, the results are likely to differ. Some studies have not found a significant relationship between age and sustainable consumer behaviour (Bulut et al., 2017), but that is not always the case. In several studies, older adults tend to report weaker environmental attitudes (Frazen & Vogl, 2013; Gelissen, 2007) and young adults are more likely to engage and be passionate about environment issues (Kadic-Maglajlic et al., 2019). Moreover, ThredUp (2020) assessed that currently those who are

adopting second-hand shopping faster than others are young consumers (gen Z, under 24), followed by millennials (gen Y, between 25-37), gen X (between 38-55) and baby boomers (56 or older). Besides age group, the other social-demographic variable gender has also been identified from previous research to influence consumer's intention and actual behaviour regarding second-hand clothes (Park & Lin, 2020). Typically, female consumers are normally more concerned with environmental issues (Jahanshahi & Jia, 2018) and are more open to buying second-hand apparel (ThredUp, 2020). In this sense, age and education were incorporated as control variables to explore their possible influence on intentions to purchase, exchange, borrow or receive second-hand apparel.

Based on this literature review and suggested hypotheses, the conceptual model of this research and the quantitative methodology implemented are portrayed in the following chapter.

### 3. Research Objective and Methodology

This chapter recalls the research objective and the research hypotheses integrating them in the conceptual model, which appears in Fig. 3.1. Then, it presents the quantitative research methodology that was employed, namely the study’s measures and measurements, how the data was gathered through a survey, and how the structural equation modelling was used on IBM SPSS AMOS version 26 to analyse such data.

#### 3.1 Conceptual Model

Based on the theoretical developments and suggested hypotheses, a conceptual model was developed (see Fig. 3.1). This proposed empirical model, which presents the structural paths to be tested, attempts to provide a more comprehensive understanding of the second-hand apparel consumption intention.

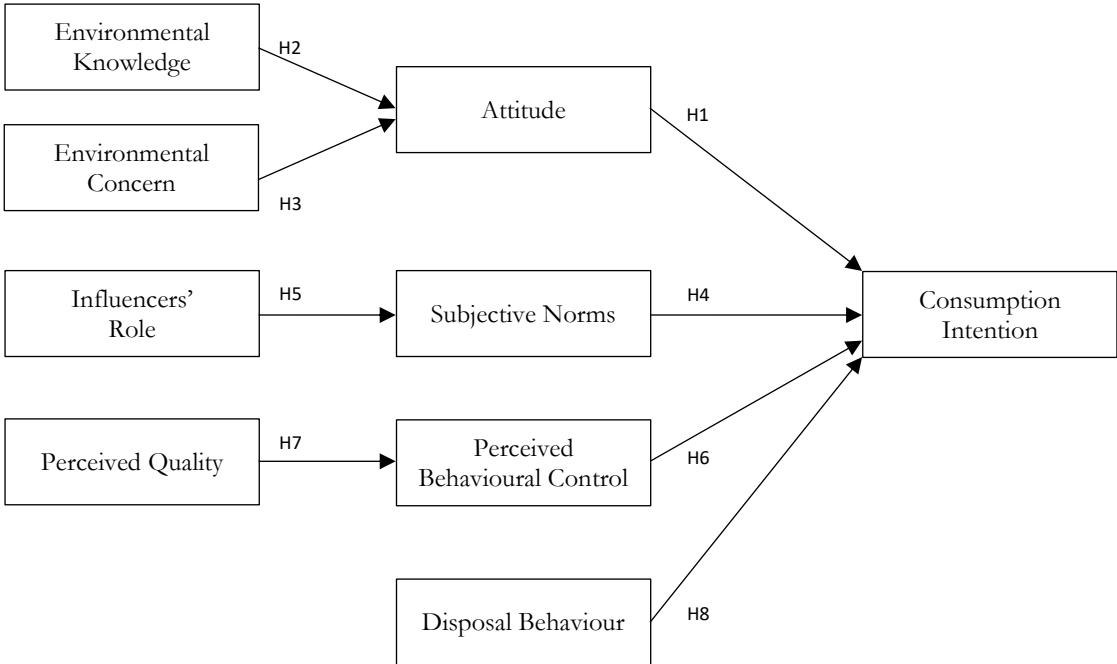


Fig. 3.1. Proposed Conceptual Model

Thus, this research was constructed to profoundly understand the consumers consumption' intention towards second-hand clothes using the theory of planned behaviour and expand it by adding the aforementioned influential factors.

### 3.2 Survey and Measurements

The survey consisted of three parts. The first section inferred about consumers' purchasing frequency and last year consumption habits regarding second-hand apparel. The second one measured these research variables: attitude (A), subjected norms (SN), perceived behavioural control (PBC), influencer role (IR), perceived quality (PQ), disposal behaviour (DP), environmental knowledge (EK), environmental concern (EC) and consumption intention (CI). Every variable was constructed and measured on a 5-point Likert scale ranging from 1, strongly disagree, to 5, strongly agree. The last part consisted on demographic questions concerning age, gender, education, income; and on an optional-open-question about personal experience, and what motivates and demotivates them to consume second-hand apparel.

Since, regarding clothing consumption, most survey's items of previous researches are not standard (Gwozdz et al., 2017), the developed measurements for this research are adapted from existing ones to reflect this specific experiment context or are new (see Sources, Table 3.1.).

**Table 3.1. Construct and Measurement Items**

Construct		Measurement	Sources
Attitude (A)	A1	I believe that buying, exchanging, receiving, and sharing second-hand clothes by me will help in reducing pollution and also help in improving the state of the environment.	(Borusiak et al., 2020)
	A2	I believe that buying, exchanging, receiving, and sharing second-hand by me will help in reducing wasteful usage of natural resources.	
	A3	I believe that buying, exchanging, receiving, and sharing second-hand by me will help in natural resources protection.	
Environmental Knowledge (EK)	EK1	I think fast fashion is one of the biggest industry polluters.	
	EK2	I think fast fashion consumes large amounts of water.	

	EK2	I think fast fashion generates large amounts of textile trash.	
	EK4	I think that the carbon emissions when buying, exchanging, receiving and sharing second-hand clothes are mitigated.	
Environmental Concern (EC)	EC1	I will keep using the products I have purchased for as long as possible.	(Moon et al., 2015)
	EC2	I minimize the purchase of products that are unnecessary or have little use.	
	EC3	I consider the use of second-hand products an environmentally friendly behaviour.	
	EC4	When I dispose a product, I will pay attention to its reusability or return it for recycle bins.	
	EC5	I believe each consumer can have a beneficial effect on the environment when buying second-hand products.	
Subjective Norms (SN)	SN1	I think most people that are important to me approve of me buying clothes from friends or relatives.	(Iran et al., 2019)
	SN2	I think most people that are important to me approve of me buying second-clothes in shops.	
	SN3	I think most people that are important to me approve of my buying second-hand clothes online.	
	SN4	I think most people that are important to me approve of me exchanging clothes with friends or relatives.	
	SN5	I think most people that are important to me approve of me receiving second-hand clothes from friends or relatives.	
	SN6	I think most people that are important to me approve of me borrowing clothes from friends or relatives.	
	SN7	I think most people that are important to me approve of me receiving borrowed clothes from friends or relatives.	
Influencers' Role (IR)	IR1	The people I follow on YouTube, Instagram, TikTok, etc., make me want to buy, exchange, borrow or receive second-hand clothes.	
	IR2	People like Greta Thunberg make me want to buy, exchange, borrow or receive second-hand clothes.	
	IR3	The celebrities I like the most make me want to buy, exchange, borrow or receive second-hand clothes.	
Perceived Behavioural Control (PBC)	PBC1	I know where I can buy second-hand clothes.	(Borusiak et al., 2020; Iran et al., 2019)
	PBC2	I am capable of buying second-hand clothes.	
	PBC3	I have enough time to choose a second-hand item when I have to buy clothes.	
	PBC4	I have the possibility to exchange clothes with friends or relatives.	
	PBC5	I have the possibility to receive second-hand clothes from friends or relatives.	
	PBC6	I have the possibility to borrow clothes to friends or relatives.	
	PBC7	I have the possibility to receive borrowed clothes from friends and relatives.	
Perceived Quality (PQ)	PQ1	I am not worried about the cleanness of second-hand clothes.	

	PQ2	I trust the clothes hygiene.	
	PQ3	The quality of second-hand clothes will be not poor.	
	PQ4	I don't have concerns about the quality.	
	PQ5	I feel comfortable wearing clothes that have been worn by others.	
Disposal Behaviour (DB)	DB1	I donate unwanted clothes to charity or people who need them.	(Jalil & Shaharuddin, 2019)
	DB2	I give away unwanted clothes to relatives or friends.	
	DB3	I always try to make a new design for a purpose with unwearable clothes (up-cycle).	
	DB4	I always make an effort to put unwearable clothes in recycling bins.	
Consumption Intention (CI)	CI1	I intend to buy clothes from friends or relatives in the next year	(Iran et al., 2019)
	CI1	I intend to buy clothes from second-hand shops in the next year.	
	CI3	I intend to buy second-hand clothing online in the next year.	
	CI4	I intend to exchange second-hand clothes with friends or relatives in the next year.	
	CI5	I intend to receive clothes from friends or relatives in the next year.	
	CI6	I intend to borrow clothes to friends or relatives in the next year.	
	CI7	I intend to receive borrowed clothes from friends or relatives in the next year.	

### 3.3 Sample and Data Collection

To gain new insights into second-hand apparel consumption behaviour, an English and a Portuguese survey were administrated between August and September, 2020 to collect data. Pre-tests for each survey, with a group of 5 and 10 people, respectively, were conducted to ensure formal (layout), structural (response time) and content (understanding) aspects. After linguistic modifications, the surveys were disseminated online and physically, in the city of Porto. A total of 275 completed questionnaires were received. A total of 268 valid responses were retained for analyses after 7 were deleted due to the following reasons: (a) submitted survey twice; (b) survey filled out randomly (*e.g.*, straight-lining answers); or (c) unanswered questions. According to Kline (2015), a typical sample size in SEM studies is comprised between 200 and 300.

### 3.4 Methods

The data collected from the responses, captured by Google Forms, was processed using the structural equation modelling (SEM). SEM is a statistical analysis technique used for exploring the relations and influences among various latent<sup>6</sup> variables (Kline, 2015). In this sense, using IBM SPSS AMOS version 26, firstly, each observed<sup>7</sup> variable was subjected to a confirmatory factor analysis (CFA) to evaluate its validity and reliability. And then, in order to test the hypothesized paths and investigate the underlying relationships between the latent variables, the structural model test was performed.

The outcomes achieved by conducting the structural equation modelling analysis on the proposed structural paths are depicted in the following chapter.

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<sup>6</sup> Also referred as unobserved: variables not directly measured but inferred by the relationships or correlations among measured variables. Corresponds to the hypothetical constructs (Kline, 2015).

<sup>7</sup> Also referred as manifest: variables directly measured, that represent the data (Kline, 2015).



## 4. Results

This chapter illustrates these research findings concerning the profile of respondents, the confirmatory factor analysis, as well as the structural paths and structural model testing results.

### 4.1 Sample Characteristics

A general overview of the sample profile was obtained via a descriptive analysis of the data.

Table 4.1. provides the demographic profile of respondents. From a total of 268 respondents, 74.3% were female and 25.0% were male. The age range of the sample was from 17 to 80, being the largest percentage (63.1%) under 17 to 24; *i.e.*, generation Z was sampled more. The sample used avoids a typical representativeness bias associated, for example, with student samples (*e.g.*, Antil, 1984; Reimers et al.; 2016, Roberts, 1996) (as cited in Jacobs et al., 2018).

Among the participants' nationalities: the majority were Portuguese (86.9%), followed by American and German (1.9% each), and then Vietnamese (1.5%). The analysed sample is not 100% Portuguese – since the nationalities varied from 20 countries, including: Algerian, American, Australian, Canadian, Chinese, Dutch, Ecuadorian, English, Eritrean, German, Indian, Israeli, Italian, Kenyan, Korean, Lithuanian, Pakistani, Portuguese, Taiwanese, and Vietnamese –, thus avoiding another common limitation in previous researches (Bernardes et al., 2018b).

The most reported education level completed, and monthly income was, correspondingly, University (58.8%) and between 0€ - 500€ (41.4%).

**Table 4.1. Demographic Profile**

Variable	Items	Frequency	Valid Percent
Gender	Female	199	74.3
	Male	67	25.0
	Prefer not to say	2	0.7
Age	17 - 24	169	63.1
	25 - 37	47	17.5
	38 - 55	31	11.6

	+ 56	21	7.8
Nationality	American	5	1.9
	German	5	1.9
	Indian	3	1.1
	Portuguese	233	86.9
	Vietnamese	4	1.5
	Other	14	6.7
Education Level	≤Elementary School	10	3.7
	High School	100	37.5
	University	157	58.8
Monthly income	0€ - 500€	111	41.4
	501€ -1000€	54	20.1
	1001€ - 1500€	37	13.8
	1501€ -2000€	13	4.9
	2001€ -3000€	9	3.4
	+ 3 001 €	10	3.7
	Prefer not to say	34	12.7

Table 4.2. provides an insight about the participants' last year consumption habits with regards to second hand clothes. Concerning the purchasing frequency of new or second-hand clothes, the majority actively does it monthly (37.7%) and quarterly (36.6%). When it comes to having actual experience with buying second-hand clothes whether on stores, online, or from family the majority did not have (80.2%, 91.0% and 71.3% respectively). Moreover, 50% of consumers have swapped clothes before and 52.2% received second-hand clothes. Lastly, borrowing clothes was done by 65.7% of consumers and 52.2% were lend clothes from relatives or friends last year.

**Table 4.2. Past Year Experience of Second-hand Apparel Consumption**

Question	Items	Frequency	Valid Percent
Purchasing frequency of clothes	Weekly	5	1.9
	Monthly	101	37.7
	Quarterly	98	36.6
	Once or Twice/year	51	19.0
	Never	13	4.9
Purchase from friends or relatives	Yes	77	28.7
	No	191	71.3
Purchase in second-hand stores	Yes	53	19.8

	No	215	80.2
Purchase second-hand clothes online	Yes	24	9.0
	No	244	91.0
Exchange clothes with friends or relatives	Yes	134	50.0
	No	134	50.0
Borrow clothes to friends or relatives	Yes	176	65.7
	No	92	34.3
Friends and relatives lend you clothes	Yes	135	50.4
	No	133	49.6
Receive second-hand clothes from friends or relatives	Yes	140	52.2
	No	128	47.8

## 4.2 Reliability and Validity

A confirmatory factor analysis consists in assessing whether the proposed model measurements and constructs meet the standards of reliability and validity.

The reliability, or the internal consistency of scale items, is tested through a composite reliability (CR) – also referred to as construct reliability – and a Cronbach alpha ( $\alpha$ ): if proven, the minimum adequate value should be 0.6 each (Hair et al., 2010). The validity is measured through factor loadings ( $\lambda$ ), which is fulfilled if the minimum value for each indicator is 0.5 (Gagueiro & Pestana, 2014) and the average variance extract (AVE), which minimum value must be 0.4 (Kline, 2015).

The CFA was conducted at two stages. The first showed that PBC1 ( $\lambda=0.422$ ), DB1( $\lambda=0.480$ ), DB2 ( $\lambda=0.488$ ), DB3 ( $\lambda=0.487$ ), EC1 ( $\lambda=0.431$ ), EC2 ( $\lambda=0.390$ ), EC4 ( $\lambda=0.437$ ), and I2 ( $\lambda=0.499$ ) did not fulfilled the minimum value of 0.5 for standardized factor loading, so these items, as well as the latent variable disposable behaviour were removed from the model (see Table A.1., Appendix).

A re-measurement was conducted. Based on Table 4.3., which illustrates the findings of the second stage of the CFA, all variables satisfy the discriminant assessments, *i.e.*, the measurement items were verified as valid and reliable. On the one hand, the factor loadings were mainly high on their respective variable: in general, if it is above 0.5 it is classified as a significant item loading (Gagueiro & Pestana, 2014), so all are able to represent each respective construct. And the AVE values were within 0.482 and 0.850, thus the minimum

value of 0.4 was exceeded in all variables. On the other hand, for the Cronbach alpha, all items show a more than adequate internal consistency, being A and SN excellent ( $\alpha \geq 0.9$ ), and the others good ( $0.9 > \alpha \geq 0.8$ ) (Gagueiro & Pestana, 2014). Regarding CR, all variables had a value greater than 0.834.

**Table 4.3. The Analysis Results of CFA**

Construct/Measurements	Factor Loadings ( $\lambda$ )	Average Variance Extracted (AVE)	Cronbach's alpha ( $\alpha$ )	Composite Reliability (CR)
<i>Attitude (A)</i>				
A1	0.912	0.850	0.953	0.944
A2	0.903			
A3	0.950			
<i>Environmental Knowledge (EK)</i>				
EK1	0.887	0.644	0.854	0.874
EK2	0.900			
EK3	0.852			
EK4	0.503			
<i>Environmental Concern (EC)</i>				
EC3	0.826	0.761	0.860	0.864
EC5	0.916			
<i>Subjective norms (SN)</i>				
SN1	0.728	0.706	0.943	0.943
SN2	0.807			
SN3	0.748			
SN4	0.913			
SN5	0.878			
SN6	0.877			
SN7	0.909			
<i>Influencers Role (IR)</i>				
IR1	0.827	0.638	0.828	0.839
IR2	0.647			
IR3	0.901			
<i>Perceived Behavioural Control (PBC)</i>				
PBC2	0.547	0.482	0.875	0.881
PBC3	0.509			
PBC4	0.803			
PBC5	0.786			
PBC6	0.843			

PBC7	0.917			
<b>Perceived Quality (PQ)</b>				
PQ1	0.551			
PQ2	0.829			
PQ3	0.793	0.507	0.822	0.834
PQ4	0.587			
PQ5	0.756			
<b>Consumption Intention (CI)</b>				
CI1	0.546			
CI3	0.517			
CI4	0.843	0.485	0.895	0.865
CI5	0.826			
CI6	0.793			
CI7	0.897			

### 4.3 Structural Model and Hypotheses Testing

A structural path analyses was performed to test the proposed structural paths.

To test proposed hypotheses of the model<sup>8</sup>, firstly, a correlation between all the latent variables was conducted to see if there were in fact positive or negative relationships between them, *i.e.*, to assess if it would be possible to conduct the structural paths needed. As seen in Table 4.4., there are positive correlations between consumption intention and attitude ( $r_{1,8}=0.452$ ), subjective norms ( $r_{2,8}=0.568$ ) and perceived behaviour control ( $r_{4,8}=0.756$ ).

In addition , the results also indicated a positive correlation between SN and influencers ' role ( $r_{3,2}=0.337$ ); between PBC and the perceived quality ( $r_{5,4}=0.559$ ); and between A and both the environmental concern ( $r_{7,1}=0.785$ ) and environmental knowledge ( $r_{6,1}=0.627$ ).

**Table 4.4. Correlations between Constructs**

	1	2	3	4	5	6	7	8
1 A	1.000							
2 SN	0.488	1.000						
3 IR	0.411	0.337	1.000					
4 PBC	0.451	0.633	0.460	1.000				
5 PQ	0.461	0.576	0.439	0.559	1.000			

<sup>8</sup> Model fit:  $\chi^2_{(df=587)} = 1792.530$ ,  $p < 0.000$ ; comparative fit index = 0.842; incremental fit index = 0.843; normed fix index = 0.783; and root mean square error of approximation = 0.088.

6	EK	0.627	0.383	0.369	0.407	0.424	1.000		
7	EC	0.785	0.538	0.370	0.517	0.552	0.684	1.000	
8	CI	0.452	0.568	0.484	0.756	0.523	0.396	0.500	1.000

Then, each hypothesis was tested through the structural equation modelling technique, whose results are presented both on Table 4.5. and Fig. 4.1. These display that hypothesis 1 till 7 were supported empirically, in other terms, all of these proposed structural paths were positively and directly related, and p-values were lower than the minimum required, 0.05.

**Table 4.5. Hypothesis Testing Results**

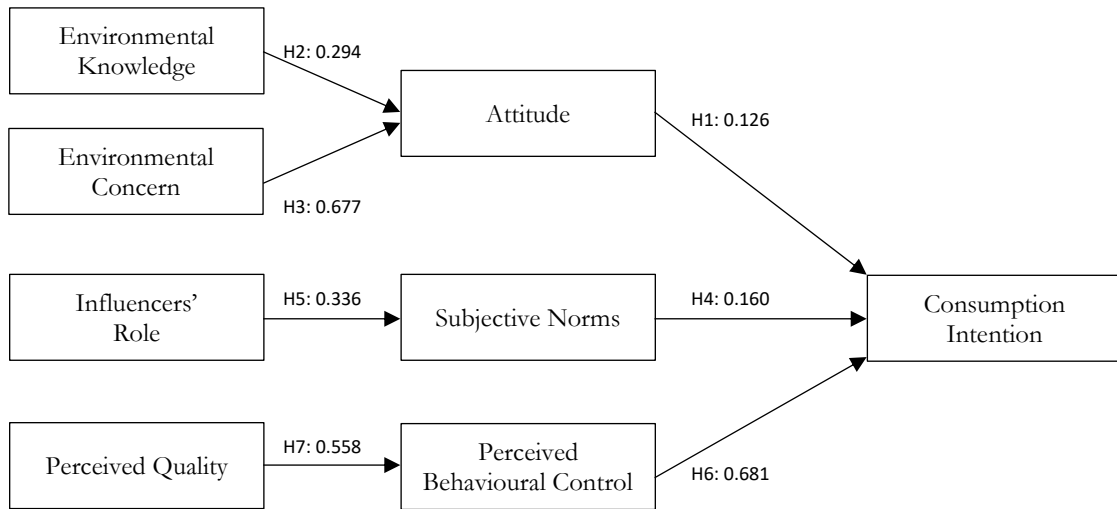
	Structural Path ( $\beta$ )	Standardized Estimates	S.E.	C.R.	p-value	Result
<i>Hypothesis</i>						
H1	A $\rightarrow$ CI	0.126	0.042	2.472	0.013	Supported
H2	EK $\rightarrow$ A	0.294	0.045	5.909	***	Supported
H3	EC $\rightarrow$ A	0.677	0.065	11.376	***	Supported
H4	SN $\rightarrow$ CI	0.160	0.041	3.043	0.002	Supported
H5	IR $\rightarrow$ SN	0.336	0.055	4.924	***	Supported
H6	PBC $\rightarrow$ CI	0.681	0.103	6.475	***	Supported
H7	PQ $\rightarrow$ PBC	0.558	0.091	5.767	***	Supported
<i>Effects of control variables</i>						
	Age $\rightarrow$ CI	-0.014	0.037	-0.309	0.757	Not supported
	Gender $\rightarrow$ CI	-0.233	0.082	-4.743	***	Supported

Note: \*\*\* Significant coefficient is recorded at p-value <0.001

In the context of the population investigated, consumption intention's direct predictors had positive influences: attitude ( $\beta=0.126$ , p-value<0.013), subjective norms ( $\beta=0.160$ , p-value<0.002) and perceived behaviour control ( $\beta=0.681$ , p-value<0.001), being the influence of this last one the biggest. Environmental knowledge ( $\beta=0.294$ , p-value<0.001) and concern ( $\beta=0.677$ , p-value<0.001) positively and directly influenced attitude. Influencers' role ( $\beta=0.336$ , p-value<0.001) had a positive and direct influence on subjective norms. And lastly, the perceived quality ( $\beta=0.558$ , p-value<0.001) also showed a positive and direct influence on the perceived behavioural control.

Furthermore, the higher the path ( $\beta$ ), the higher the influence of the independent variable on the dependent one. In this sense, H3, H6, and H7 had not only a positive/direct influence, but also a significant one.

Regarding the control variables, on the one hand, gender was found to influence consumption intention ( $\beta=-0.223$ ). On the other hand, age did not have an impact on consumption intention, since the p-value criteria of 0.05 or less was not verified.



Note: the illustrated values are the standardized estimates

**Fig. 4.1. Structural Modelling Testing Final Results**

A discussion, in light of the academic literature, about these research's results, achieved by analysing the constructs and the proposed structural paths, is presented in the next section.

## 5. Discussion

The intention of this research was to investigate the attitude-behaviour gap and provide a better comprehension on what motivates consumers to purchase, exchange, borrow, or receive second-hand apparel, with a special focus on the more recent or not as deeply studied influential factors: disposal behaviour, environmental knowledge, influencers role, and perceived quality.

As previously depicted, unlike the proposed by Jalil & Shaharuddin (2019), the variable disposal behaviour did not pass the validity tests for this specific sample and model research. One possible reason behind this can be that this sample was not a good fit for this latent variable, which had to be eliminated in the confirmatory factor analysis phase. Probably a bigger (or different) sample would solve this reliability issue.

Concerning the others influential factors, the obtained empirical data revealed that each hypothesis was supported, through a series of statistically testing processes. In this sense, the findings provided a better understanding of the motivations researched.

Firstly, as expected, the three central components of the theory of planned behaviour – attitude, subjected norms, and perceived behavioural control – proved to be good predictors of consumers' intention, which is in line with previous research on the theory of planned behaviour with regards to second-hand clothes (*e.g.*, Iran et al., 2019; Iran and Schrader, 2017). Regarding the positive impact that attitude has on the actual intention to consume second-hand clothes in the future, it was to a lesser extent than the other influential factors. Once again, the attitude-behaviour gap described was observed: despite having a good perception of the positive consequences of consuming second-hand apparel on the environment, that does not necessarily mean consumers will behave accordingly. Concerning the PBC, specifically, in this research model, this variable had the highest positive influence, meaning that knowing where to buy; having the time to choose second-hand rather than new clothes; and having the possibility to purchase, exchange, borrow or receive from friends or family members, makes the consumer more likely to engage in the future. This finding upholds the described research outcomes of Borusiak et al. (2020). Nonetheless, on the optional-open-question, some consumers expressed the lack of knowledge concerning the location of stores in their local city as the main hinder for not purchasing second-hand clothes.



Secondly, the environmental knowledge proved to have a positive influence on attitude. This showed that consumers who are more knowledgeable about fast fashion damaging consequences on the environment, and about the positive effects that choosing to buy, swap, borrow, or receive second-hand clothes instead, tend to have a better sense of reality and hence a higher attitude. This is aligned with previous research (Parung, 2019).

Thirdly, just as inferred by the authors Auliandri et al. (2018), the environmental concern also proved to have a positive and significant influence on attitude. Thus, this showed that people who have a good understanding of environmentally friendly behaviours and a good understanding of how opting for second-hand products, instead of new, can have a positive and direct impacts on the environment. In contrast to Kostadinova (2016) findings – where consumers often do not adopt sustainable behaviour because of the perceived low-impact of their actions –, this research's consumers showed a high understanding of how their consumption habits can have a direct impact on the environment.

Quarterly, the factor influencers' role proved to have a positive influence on the subjective norms, and consequently, an indirect positive effect on consumption intention. In other terms, the influencers that consumers' watch and/or follow (*e.g.*, youtubers, activist, celebrities) in their daily lives, can also be included in the most important people in the consumers life: what the family members and friends think and approve matters, as well as what the influencers encourage matters. If the influencers that consumers follow advocate a more sustainable lifestyle, incentivise better consumption practices and specifically address the positive effects of buying second-hand clothes instead of novel garments, then the consumer is more likely to want to engage with second-hand apparel in the future. Additionally, based on the optional-open-question, one consumer (female, 23) said how through influencers, the practice to buy second-hand is becoming more normalized, and some quality and hygiene issues are being demystified. Another (female, 22) expressed how by seeing videos and photos of her favourite influencers helps her know more about fast fashion effects and about eco-responsible consumption behaviours. A last consumer (female, 19) referred how influencers could target the stores to make the overall process easier.

Lastly, regarding the perceived quality, this had a positive influence on the perceived behavioural control. This means, as referred by Chi (2015) that quality plays a significant influence on consumption decision making. If the consumer perceives the second-hand clothes as clean, no hygiene problems, satisfactory quality, and have no discomfort wearing

other people's clothes, then the more likely they are to see the act of buying, exchanging, borrowing or receiving such clothes as a behaviour they can easily adopt.

Threefold interesting observations that were brought up on the optional-open-question by some consumers were, first, how the clothes sizes can be problematic (for example, extra-large are not easily found), which compromises their consumption intention. Second, the joy to find unique pieces of clothing, which is in line with other researches (*e.g.*, Cervellon et al., 2012; Ferraro et al., 2016; Lang & Armstrong, 2018). Lastly, how the price is no longer a distinctive factor, in contrast to Wagner et al. (2017), where cost reasons make second-hand garments more desirable. More and more, especially in sales' season, consumers can easily purchase new and never before used clothes that are unexpansive (Iran et al., 2019), hence, when the environmental aspect is not the main motivation, the consumers inquired feel demotivated to consume second-hand apparel, since the prices of second-hand and new garments are almost the same.

## 6. Conclusion

The current study has confirmed the positive influences proposed by the hypotheses and the conceptual model, which were verified via a structural equation modelling analysis. Thus, this research was able to contribute to the existing academic literature on the attitude-behaviour gap, by providing new insights on more recent influential factors towards second-hand apparel consumption intention.

The findings demonstrated how the environmental concern and environmental knowledge about fast fashion and the second-hand market *per se* influence a favourable attitude towards second-hand garments; how influencers are impacting consumers' beliefs and thus should be considered when referring to the most important people in their lives when analysing the subjective norms; and how the clothes cleanliness and quality should also be included in when the variable perceived behavioural control is analysed. Because, to the best of the author's knowledge, the role of influencers in general has not been discussed in the context of second-hand apparel, the principal contribution of the present study is precisely this exploration: the direct and positive impact it has on the subjective norms and, therefore, the indirect influence it has on the consumption intention to purchase, exchange, borrow or receive second-hand apparel.

### 6.1 Managerial Implications

Taking a competitive advantage of this research findings, informing consumers of their apparel consumptions effects on the environment, and the benefits that changing their behaviour has and how it helps, for instances, to save water and reduce textile, is fundamental to motivate consumers to adopt more sustainable consumption practices (McEachern et al., 2020), *i.e.*, educating consumers can consequently help to shift their consumption behaviour. One way to raise awareness about the second-hand market, about how this practice is tremendously positive for the environment and about the store locations (which was found to be a problematic for many consumers inquired) would be for second-hand stores to consider increasing their' stores presence, especially on online channels. In light of the positive influence of celebrities, activists and 'common' people that consumers follow, second-hand stores should aim to have an influencer endorsement, someone who would

provide such information to their followers. Like this, second-hand stores could capture the popularity increase of second-hand clothes and take a proactive online presence, namely on social media, which has been identified as the preferable way to connect with younger generations (Bernardes et al., 2018a).

## **6.2. Limitations and Suggestions for Future Research**

This research comes with certain limitations, that could motivate further research. In essence, the sample characteristics are the principal one: the unequally age distribution and the female overrepresentation (which is common on questionnaire's researches, since women tend to be more involved with fashion apparel (Cervellon et al., 2012), did not allow to do an unbiased generational cohort and gender analysis. If the percentages of female and male were more equally distributed, as well as those of gen Z, gen Y, gen X and older consumers, then this would allow to do a more proper analysis, not biased *a priori*.

Future research can extend this research by testing and replicating this study, having the aforementioned limitations in mind, in other contexts. Likewise, it would also be worth considering, and indeed analysing, the reliability-failed factor, disposal behavior, and check its actual influence on consumers' intention towards second-hand apparel.

## Appendix A

Table A.1. Factor Loadings from CFA's 1<sup>st</sup> Stage

Construct	Factor Loadings ( $\lambda$ )
<i>Attitude (A)</i>	
A1	0.912
A2	0.903
A3	0.950
<i>Environmental Knowledge (EK)</i>	
EK1	0.887
EK2	0.899
EK3	0.853
EK4	0.503
<i>Environmental Concern (EC)</i>	
EC1	0.431
EC2	0.390
EC3	0.857
EC4	0.437
EC5	0.886
<i>Subjective norms (SN)</i>	
SN1	0.728
SN2	0.807
SN3	0.748
SN4	0.913
SN5	0.878
SN6	0.877
SN7	0.909
<i>Influencers Role (IR)</i>	
IR1	0.827
IR2	0.647
IR3	0.901
<i>Perceived Behavioural Control (PBC)</i>	
PBC1	0.422
PBC2	0.547
PBC3	0.509
PBC4	0.803
PBC5	0.786
PBC6	0.843

PBC7	0.917
<b><i>Perceived Quality (PQ)</i></b>	
PQ1	0.550
PQ2	0.828
PQ3	0.794
PQ4	0.588
PQ5	0.757
<b><i>Disposal Behaviour (DB)</i></b>	
DB1	0.480
DB2	0.488
DB3	0.487
DB4	0.630
<b><i>Consumption Intention (CI)</i></b>	
CI1	0.549
CI2	0.499
CI3	0.540
CI4	0.840
CI5	0.828
CI6	0.783
CI7	0.887

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