**ARTICLE**

# Understanding Brazilians' Intentions in Consuming Sustainable Fashion

Mikaela Daiane Prestes Floriano¹
mikaelapfloriano@gmail.com | 🔾 0000-0001-6859-4405

Celso Augusto de Matos¹
celsoam@unisinos.br | 🔾 0000-0002-2538-9089

**ABSTRACT**

This study analyzed the determinants of sustainable fashion purchasing behavior, incorporating the following factors into the Theory of Planned Behavior: moral obligation, awareness of consequences, and previous sustainable purchasing behavior. A survey was carried out with Brazilian consumers of sustainable fashion, and a total of 179 responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicated that 'moral obligation' and 'awareness of consequences' had an impact on the behavioral attitude of sustainable fashion consumers. Furthermore, of the three TPB components, only attitude and 'perceived behavioral control' influenced the purchase intention. Finally, it was found that the actual consumption of sustainable fashion could be explained by the intention and the previous purchase behavior; also, age had a moderating influence on the relationship between the intention and the consumption of fashion. Therefore, this study provides marketers with comprehensive information about the psychological, social, cultural, and demographic determinants of sustainable fashion purchasing behavior.

**KEYWORDS**

Moral Obligation, Awareness of Consequences, Previous Purchase Behavior

# 1. INTRODUCTION

Sustainable fashion became popular as a way to solve environmental issues caused by the manufacturing industry. It has been criticized because its production and marketing processes are based on continuous consumption, which can have a severe environmental impact (Armstrong et al., 2015). Sustainable fashion, therefore, was conceived as a broad term that incorporates principles that are less offensive to society and the planet, such as fair working conditions, reuse, and the production of items from organic and biodegradable materials that do not harm the environment (Mukendi et al., 2020).

The popularity of pro-environmental fashion products is a reflection of consumers' understanding of the consequences of their purchasing decisions and the increased interest in sustainability-related topics (Mukendi et al., 2020), which has made it essential for the industry to adapt to consumers' demands and to take account of and reduce practices that harm the environment. However, not all ecological awareness and social responsibility is reflected in real intentions and behaviors, when it comes to purchasing fashion products (Jeorgens, 2006), which often occurs as a consequence of the consumers' lifestyle of most Western countries (Ulanowicz, 2020).

Furthermore, Jacobs et al. (2018) have pointed out that the real demand for ecological products is not observed, due to the lack of knowledge of the motivations that precede the sustainable choices of individuals. Although some investigations have confirmed that aspects such as product variety and design influence sustainable fashion purchase intentions, most of these surveys are carried out on academics or panels of respondents. They may not fully represent actual purchasing behavior for sustainable fashion (Mukendi et al., 2020).

Therefore, we do not understand the psychological and social determinants of the actual consumption of sustainable fashion very well, and there are uncertainties about what actually characterizes the purchase intentions of these products (Mukendi et al., 2020). The authors highlight the lack of research into different contexts and profiles, as well as adapting theories previously used to investigate the consumption of traditional fashion, to sustainable fashion. This study therefore aims to use the Theory of Planned Behavior (TPB) to understand the consumption of sustainable fashion by Brazilian consumers.

TPB refers to one of the main models used to predict the psychological elements that direct consumers to consume certain things (Scalco et al., 2017), on the basis that an individual's intention is dependent on a structure of beliefs in the advantages and disadvantages of behaving in a specific manner, as well as beliefs in the social norms for following the given behavior, and beliefs in control, as perceived by the individual who acts in this way (Ajzen, 1991; Si et al., 2020).

However, although the focal components of TPB provide good predictions about the behavioral intentions of individuals, some authors highlight the need to include other variables that can improve the explanatory capacity of the original model, since attitude, subjective norms, and control behavior may not fully represent all the theoretical determinants for pro-environmental behavior or intentions (Han & Stoel, 2017).

More specifically, Han and Stoel (2017) and Si et al. (2020) point out that factors such as moral obligations and conscience can significantly increase the attitudes and intentions of socially-responsible consumption, and the same can be seen in the explanation for pro-environmental behavior (Chen, 2020) and more interest in sustainable products (Rezvani et al., 2018). It also appears that consumers who have a positive experience linked to previous consumption of ecological products are more likely to make new purchase decisions on sustainable goods, as this is a way to achieve similar benefits to those previously acquired from purchasing green products (Lang & Armstrong, 2018; Han, 2020).

In this sense, this study aims to verify the determinants that influence the behavior of sustainable fashion consumers, incorporating the following factors into the Theory of Planned Behavior: moral obligation, awareness of consequences, and previous sustainable purchasing behavior. This research is important because it analyses the behavior of consumers of sustainable fashion products from a population that is still poorly understood, and which therefore will satisfy the need identified by Mukendi et al. (2020) for analyses into different cultures and contexts that will provide more detailed theories on sustainable fashion. Furthermore, there is little literature on the purchase behavior for sustainable fashion items and what exists is based on exploratory investigations that sometimes fail to jointly analyze the actual purchase intentions and the behaviors for these products (Rausch & Kopplin, 2021). Therefore, this paper can integrate previous findings that aim to fill the intention-behavior gap in relation to sustainable fashion consumption, by providing a comprehensive view of intention formation and, afterwards, actual purchase consumption.

Despite the growing interest of consumers in sustainable fashion items, there are still barriers that prevent this type of product becoming more popular. For instance, the low level of knowledge of consumers and that of the industry itself about what constitutes sustainable fashion and the different behavioral factors related to this segment (Moon et al., 2015). Therefore, as this research is being carried out on those individuals who are real consumers of sustainable fashion, it should be able to obtain information such as a profile for these people, the motivations for this consumption and the types of products that these consumers prefer and consider to be sustainable fashion. It is believed that this information may identify managerial terms by generating knowledge that can be applied to designing more accurate, specific and, consequently, effective marketing strategies for the sustainable fashion industry, in order to not only improve the experience for ecological consumers, but also to increase this audience.

## 2. THEORETICAL BACKGROUND

### 2.1. Theory of Planned Behavior and Sustainable Consumption

The Theory of Planned Behavior (TPB) has been widely used to predict behavioral intentions. According to Ajzen (1991), an intention refers to a type of conscious action plan that requires a specific behavior and a motivation to carry it out. The intention, therefore, has been accepted as the best predictor of human behavior and, therefore, it is at the center of the TPB. This theory assumes that an individual's specific behavior is based on intentions that can be predicted by attitudes, subjective norms, and behavioral control, which are the independent focal components of TPB (Ajzen, 1991).

Attitude is the degree to which a person has a favorable or unfavorable view of a certain behavior (Ajzen, 1991). It is directly associated with behavioral intentions and is related to the actual behavior observed in different contexts (Scalco et al., 2017). The second determinant is the motivation for a person to engage in a behavior, based on the observations and expectations of other individuals (Klöckner, 2013), i.e. the subjective norms are the perceived social pressure to act out the behavior (Ajzen, 1991). Finally, behavioral control refers to whether the behavior is considered to be simple or complex to carry out. It is also based on past experience and potential difficulties (Ajzen, 1991).

By making it easier to understand the psychological factors behind an individual's behavior, TPB, in recent years, has been used as an alternative way to investigate the intention of consumers in relation to the purchase of different types of products (Han & Stoel, 2017). Therefore, this

theory is also used to analyze the consumption of sustainable products (Fleșeriu et al., 2020; Si et al., 2020), demonstrating that the three factors in TPB can be treated as effective predictors to explain the gaps between intention and actual behavior in terms of ecological products. However, TPB is not always a completely satisfactory method to demonstrate specific behaviors. This theory is only suitable to explain planned and intentional behavior, and it is not recommended as a way to analyze subjects' habitual decisions (Ajzen, 1991).

On this basis, TPB proved to be effective at predicting specific consumption behaviors for sustainable fashion, because we understand that the acquisition of fashion products is a consequence of volitional control, in other words, it results from a cognitive process in which the subject chooses the frequency and variety of items they will buy, (Bong Ko & Jin, 2017; Jacobs et al., 2018). However, when compared to other research on the consumption of ecological products, there are fewer investigations that used TPB to elucidate the intention to purchase sustainable fashion, especially in relation to the actual consumption of this type of product.

As well as the psychological characteristics of individuals, Mukendi et al. (2020) recommend that other factors need to be considered when verifying the antecedents of the intention to purchase sustainable fashion, due to conflicting results from other studies, which generates uncertainty about which characteristics can be identified as determinants for the consumption of these products. Lundblad and Davies (2016) point out the importance of attributes related to social and environmental concerns in the consumption of fashion items, since information on social responsibility and awareness of ecological practices results in a greater understanding of the environmental consequences of consumption choices, generating a sense of moral obligation and awareness of the consequences, which results in more sustainable behavior (Hwang et al., 2015).

Furthermore, previous investigations suggest that an individual's past experience of ecological products, in relation to performance, or the frequency of their involvement in sustainable activities, may be related to pro-environmental purchase decisions, that are a recurrent feature in their lives (Khare & Sadachar, 2017; Lang & Armstrong, 2018; Han, 2020). As a result, an extended TPB model is suggested, which includes the variables: moral obligation, awareness of the consequences, and previous purchase behavior, as antecedents to the consumption of sustainable fashion. The theoretical model for this study is therefore presented below.

## 2.2. HYPOTHESES

Different factors can motivate people to consume sustainable products, and the literature recognizes that moral and ethical obligations can lead individuals to make consumption choices that can reduce the environmental impact (Lundblad & Davies, 2016). Moral obligation refers to the subject's guilt or pride in taking a specific action that has a moral context (Beck & Ajzen, 1991), and, in this study, based on previous investigations, such as that by Si et al. (2020), the moral obligation is established by the norms and moral pressure to purchase a particular item, that the consumer is aware of.

Feelings of moral obligation are essential in order to develop pro-environmental intentions and behaviors, since the actions of each individual are directly dependent on their moral standards (Han & Stoel, 2017; Wu et al., 2020). The moral obligation, therefore, can act as a self-regulatory mechanism that determines individual consumer choices (Wu et al., 2020). Therefore, when considering environmental concerns, an individual's predilections can be motivated by a sense of ethical and moral obligation, which culminates in beliefs that reduce future feelings of guilt (Hwang et al., 2015).

In view of this, previous studies have incorporated the moral obligation into TPB in order to increase the explanatory ability of this model (Chen, 2020; Si et al., 2020).The study by Bhutto et al. (2021), based on this idea, aimed to assess, empirically, the association between moral obligation and subjective norms, one of the original components of TPB, in order to show that morality does not have a significant effect on the motivations for sustainable consumption, based on the observations and expectations of other people. It has also been suggested that moral obligation is related to the original TPB model as an antecedent factor of behavioral attitudes, in contrast to the authors' proposition, by treating the moral obligation as a personal norm that is intrinsic to each subject and that behavioral attitudes refer to individual assessments of the individual to determine a behavior (Ajzen, 1991). Therefore:

- **H1** Moral obligation has a positive impact on the behavioral attitude of consumers of sustainable fashion.

Consumer awareness determines how consumers think about their attitudes and behavior, and this factor is considered as one of the determinants associated with responsible and sustainable consumption choices (Si et al., 2020). This occurs because the consumer, being aware of the environmental problems generated by consumption, becomes favorable towards choosing to purchase green products (Laroche et al., 1996).

These propositions were empirically tested by Razzaq et al. (2018), who verified that there was a positive association between 'awareness of the consequences' and the intention to purchase sustainable fashion products. Although this has been verified, we can still look at theoretical gaps on how 'awareness of the consequences' influences the purchase decisions of individuals in relation to sustainable products (Si et al., 2020) and how this is related to the TPB model. Therefore, in order to examine the effect of awareness on ecological consumption, it is suggested that 'awareness of consequences' is positively related to a favorable attitude towards the consumption of sustainable fashion products. Therefore, we propose that:

- **H2** Awareness of consequences has a positive impact on the behavioral attitude of sustainable fashion consumers.

Attitude affects the degree to which an individual evaluates the performance of a specific behavior, in a favorable or negative way. Therefore, the greater the positive attitude, the greater the probability that the individual will act according to the behavior in question (Ajzen, 1991). A favorable attitude towards environmental concerns and ecological products has been identified in previous studies as an influence on the intention to make sustainable purchases (Chen & Hung, 2016; Paul et al., 2016; Ru et al., 2018). Similarly, Zheng & Chi (2015) and Jacobs et al. (2018), examining this relationship with regard to the consumption of fashion products, suggest that, where consumers have favorable beliefs in relation to sustainable fashion products, their behavioral attitude will exert a positive intent to purchase. Therefore, when we examine the prediction based on attitude in the intention to consume, we suggest that this construct is linked to attitudes in favor of the actual consumption of sustainable fashion. Therefore:

- **H3** Behavioral attitude has a positive impact on the intention to purchase sustainable fashion.

Reference groups are believed to be important agents in consumers' purchasing decisions. They have a significant impact on how an individual behaves (Ajzen, 1991). Subjective norms, therefore, have been linked strongly to the intention to purchase different types of ecological products (Ru et al., 2018). They have also been associated with the purchase of clothing items (Han & Stoel, 2017). Rahman et al. (2020) stated that individuals tend to be more influenced by social issues, as related to the consumption of ecological fashion, than by the environmental impact caused by their purchase decisions, which confirms that the consumption choices of consumers tend to be significantly affected by social influence (Ciasullo et al., 2017). Therefore, on the basis that consumption is not only instigated by characteristics intrinsic to the individual, and in order to understand the influence of social elements on the behavior of consumers of sustainable fashion, it is suggested that:

- **H4** Subjective norms have a positive impact on the intention to purchase sustainable fashion.

Perceived behavioral control characterizes the degree to which an individual believes a specific behavior is easy or difficult to follow, considering factors such as skill, confidence, time, and money (Ajzen, 1991). In the context of socially responsible products, the perceived control variable is identified as a predictor of the intention to purchase these items (Paul et al., 2016; Mohiuddin et al., 2018), not being observed by Lang and Armstrong (2018) a significant relationship between perceived behavioral control and adherence to consumption and services related to sustainable clothing, contradicting previous findings that found an association between perceived control and ecological fashion (Bong Ko & Jin, 2017). Therefore, having verified where the roles for this component of TBP converge, in relation to the intentions to purchase sustainable fashion, the hypothesis is:

- **H5** Perceived behavioral control has a positive impact on the intention to purchase sustainable fashion.

Intention prevails as the closest variable for acting on a behavior. It also serves as a joining factor between the components of TPB and the result of a behavior (Klöckner, 2013; Li et al., 2018). The intention to purchase ecological products has had positive effects on sustainable purchasing behavior (Han & Stoel, 2017; Si et al., 2020). In relation to fashion, few investigations have identified the association between the purchase intention and actual consumption of sustainable fashion products. There has been a lack of detail on how the existing fashion literature, which is directly linked to TPB concepts and the intention to purchase (Jacobs et al., 2018), can be applied to the consumption of sustainable goods (Mukendi et al., 2020).

Mukendi et al. (2020) states that in order to review and utilize previous phenomena to create new pro-environmental theories in relation to fashion, demographic factors should be considered, in order to understand which personal aspects need to be actually addressed to encourage the intention and the consumption of sustainable fashion, so that they can be used to complement the effects of psychological characteristics in predicting purchase decisions (Mukendi et al., 2020). The gender and age variables are significant indicators in determining purchase intentions for clothing items (Rahman, Fung & Chen, 2020) and green products (Bloodhart & Swim, 2020).

Individuals who are young or female are more likely to purchase clothes and shoes produced through fair trade, or from organic or recyclable materials (Hwang et al., 2015; Baier et al., 2020).

Therefore, if we treat intention as a determinant construct for predicting ecological behavior (Li et al., 2018), the pro-environmental intention in relation to fashion could be suggested to be decisive in turning behaviors into real purchases of sustainable products, while also recognizing that demographic variables are part of this equation. Therefore, it is suggested that:

- **H6** A sustainable purchase intention has a positive impact on the consumption of sustainable fashion.
- **H7** Demographic factors (a) gender and (b) age have a moderating effect on the relationship between purchase intention and the consumption of sustainable fashion behavior and this relationship is more significant among younger and female individuals.

Although the intention is acknowledged as a significant determinant that positively influences the occurrence of many different behaviors, this study suggests that this construct may not be the only critical motivator in achieving sustainable fashion consumption. This is because consumers who have a positive experience or perception of green products may develop new intentions to continue purchasing sustainable goods as a way to act on behaviors that will provide them with benefits similar to those they have previously acquired (Lang & Armstrong, 2018). Therefore, on the basis that repeated behaviors can establish continuous intentions and behaviors, and that past sustainable experiences tend to result in further ecological purchases (Khare & Sadachar, 2017; Han, 2020), it is suggested that, together with the purchase intention, past purchasing behavior is directly related to the consumption of sustainable fashion. It acts as a complementary construct to TPB. Therefore, it is proposed that:

- **H8** Past sustainable purchasing behavior has a positive impact on sustainable fashion consumption.

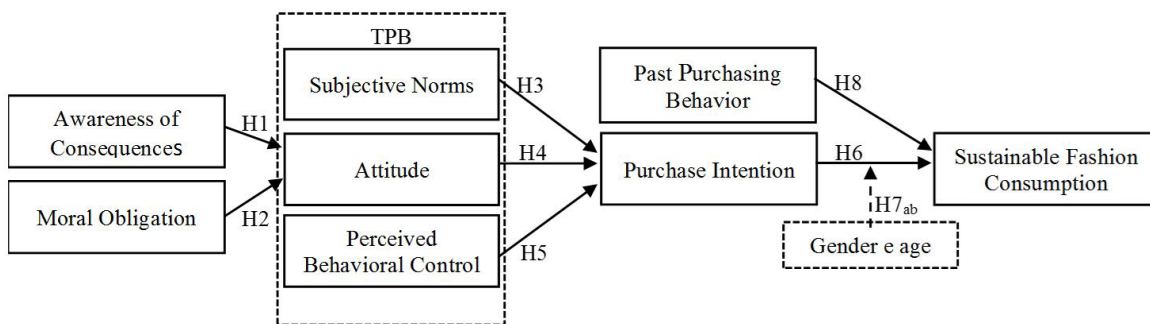The structured theoretical model for this study is presented in Figure 1.



*Figure 1.* Theoretical model
*Source:* Authors (2021).

Next, we present the methods used in this study.

## 3. METHODS

This investigation followed a quantitative approach, using a survey design (Hair et al., 2014). The target population were consumers of sustainable fashion. Brazil is one of the largest textile producers in the world, producing around 9.8 billion items of clothing and household items, being responsible for the use of large amounts of water and the generation of waste (Sebrae, 2015). Therefore, the analysis of the sustainable fashion purchase behavior of Brazilians is pertinent. By not having knowledge and access to the parameter of consumers of these products, a non-probabilistic convenience sampling was adopted (Hair et al., 2014).

Data was collected through the application of a structured and self-administered questionnaire, which was developed based on previous studies. Hence, eight scales validated in previous research were used. These instruments translate the core constructs of the theoretical model, and are detailed in Table 1.

**Table 1**
*Scales*

| Scale | References | Items |
|---|---|---|
| Subjective Norms | | 3 |
| Attitude | Adapted from Bong Ko and Jin (2017) | 4 |
| Perceived Behavioral Control | and Si et al. (2020). | 4 |
| Purchase Intention | | 3 |
| Moral Obligation | Adapted from Si et al. (2020). | 4 |
| Awareness of Consequences | Adapted from Han (2020). | 4 |
| Past Purchasing Behavior | Adapted from Lang and Armstrong (2018) and Han (2020). | 2 |
| Sustainable Fashion Consumption | Adapted from Fischer et al. (2017). | 4 |

*Source:* Authors (2021).

The instruments were translated into Portuguese and adapted to meet the objective of this study, using a seven-point Likert-type scale so that respondents could demonstrate the degree of agreement/disagreement (Hair et al., 2014). Questions concerning the sociodemographic profile (gender, age, marital status, education, and income) and questions about sustainable consumption activities (2 items) were also included, that is, the type and motivations for the consumption of sustainable fashion.

Following the recommendations of Mukendi et al. (2020) on the need to improve research with consumers who actually consume sustainable fashion items, this study seeks to investigate those individuals who can be considered as actual consumers of these products. In this rstudy , the actual consumer is considered to be an individual who has been purchasing sustainable fashion products for at least one year, following Xiao (2019)' guidelines in relation to the period in which a behavior can be considered sustainable. Thus, a filter question was included to identify whether or not the respondents were part of the target population, asking at the beginning of the questionnaire about the frequency of purchases of sustainable fashion items. Those who answered consuming sustainable products for more than a year were invited to continue with the survey.

To determine the minimum sample size, considering the lack of knowledge and access to the parameter of the sustainable fashion consumer population, the G*Power software was used. Therefore, the parameters proposed by Hair et al. (2016) were adopted: a) average effect size ($f^2$ = 0.15), b) 95% statistical power, c) 5% significance level, and the number of predictors related to the adopted model. The result revealed by the G*Power software pointed out that the sample should have at least 138 sustainable fashion consumers. In addition, seeking to ensure that the proposed model was carried out reliably, the recommendation suggested by Hair et al. (2009), which predicts that for each variable observed, information from at least five respondents must be obtained. Therefore, when verifying the 28 items of the collection instrument, a sample of 140 observations was determined as a minimum size.

To ensure the correct conceptual structure, we tested the questionnaire by two marketing researchers and twenty consumers of sustainable products. This pretest aimed to verify the items in order to assess aspects such as content, formulation, and writing. After the pre-test, the research instrument was applied completely online, using Google Forms, shared with Brazilian groups dedicated to sustainable fashion and conscientious consumption on the Facebook social network. Mukendi et al. (2020) point out that social media are the main channels used by consumers to obtain information about sustainable products, also serving as a means for fashion retailers to increase the intention and positive attitudes of purchasing their ecological products. Data collection took place during the month of October 2020.

Descriptive statistics were used to verify the profile of respondents and information about sustainable fashion consumption (Hair et al., 2014) through the IBM SPSS 20.0 software. To analyze the proposed structure, we used structural equation modeling through partial least squares (PLS) software. PLS was selected because of its ability to accurately analyze samples that have small sizes (Hair et al., 2019).

PLS approach is based on the following steps: model specification, evaluation of the measurement model and analysis of the structural model (Hair et al., 2019). These three phases are carried out and explained in the next section. Furthermore, seeking to assess whether the relationship between purchase intention and sustainable fashion consumption changes due to the sociodemographic characteristics of the sample (H7ab), we tested the effects of gender and age on the model's relationships through Multigroup Analysis (PLS- MGA). This technique concerns a set of different procedures developed to compare estimates between two or more groups of data (Sarstedt et al., 2011).

For the multigroup analysis, the variables gender and age were used as criteria for dividing the sample into subsamples. Gender was categorized based on the gender of the respondents, with female individuals taking the value 1 and male people taking the value 2. Concerning the age group, the age of the individuals was coded taking into account those people considered as young , aged up to 29 years and assigned the value 1, and those aged over 30 years, considered adults (not young people) and who assume the value 2, this division occurred in accordance with Brazilian legislation, which determines as young people aged between 15 and 29 years old (Brasil, 2013). SmartPLS V. 3.3 software was adopted to perform these analyses.

The results obtained in the field research are discussed below.

# 4. RESULTS

The study obtained responses from a total of 196 participants. After initial screening, 16 responses were excluded for not matching the desired profile for this investigation or for presenting missing data. Thus, the final study sample used for the analyzes consisted of 179 valid responses.

## 4.1. Sample Profile

The demographic profile of respondents was examined based on the variables: gender, age, marital status, education and income. In this sense, it is possible to observe that more than half of respondents (55.3%) are female consumers, aged 29 years or less (55.9%) and most participants were single at the time of the survey (65.6%). Regarding education, 43% have higher education as their highest academic qualification. Regarding monthly income, the most frequent response among respondents was R$1,001 to R$3,000 (33.5%).

As for the type of sustainable fashion consumption, 70.90% of the sample purchases at a thrift store, since in these places consumers claim to find exclusive pieces that represent a better cost-benefit ratio by combining a more conscious environmental philosophy with fair prices. Furthermore, the consumption of recycled and resignified products (13.40%) was also highlighted by respondents.

Concerning the motivations to consume sustainable fashion, it is possible to verify that the respondents adhered to the purchase of ecological products when they understood that their consumption activities were contributing to the aggravation of environmental (55.29%) and social (29.61%) problems. These findings show that sustainable fashion consumers perceive the consequences generated by their purchasing decisions, at the same time seeking personal benefits inherent to consumption.

## 4.2. Measurement Properties and Structural Model

Initially, the basic measurement model was investigated to verify the reliability and validity of the scales that were used. First, the factor loadings were analyzed, indicating that the item "SFC4", a component of the Sustainable Fashion Consumption construct, had a loading less than 0.5, and, therefore, was excluded from the analysis. Subsequently, all constructs obtained satisfactory loads for carrying out the other assessments. The results observed for each variable are shown in Table 2.

The reliability of the constructs was verified through the values of Cronbach's Alpha and the composite reliability, being observed that for both indexes all constructs reached values above the recommended minimum (0.70), supporting the reliability of the scales. The average variance extracted was also verified, the indices obtained were satisfactory, and the eight latent variables reached values greater than 0.5. These results confirm the convergent validity of all items in the model.

**Table 2**
*Descriptive statistics and factor loading of the variables*

| Variable | Factor Loading | Mean | Standard Deviation |
|---|---|---|---|
| **Moral Obligation (Overall)** | | **6.018** | **0.978** |
| I think that it's my duty to consume sustainable fashion products. | 0.872 | 6.40 | 1.078 |
| I would feel guilty if I didn't consume sustainable fashion products. | 0.716 | 5.03 | 1.692 |
| To consume sustainable fashion products is in line with my principles. | 0.820 | 6.28 | 1.082 |
| I think that all people should consume sustainable fashion products. | 0.732 | 6.36 | 1.130 |
| **Awareness of Consequences (Overall)** | | **6.702** | **0.535** |
| To consume fashion products in an unsustainable way will contribute to the increase of environmental impacts such as the emission of polluting gases. | 0.647 | 6.79 | 0.537 |
| To consume fashion products in an unsustainable way will contribute to the exhaustion of natural resources. | 0.684 | 6.93 | 0.352 |
| To consume fashion products in an unsustainable way will contribute to precarious working conditions and improper remuneration for employees in this sector. | 0.786 | 6.70 | 0.762 |
| To consume fashion products in an unsustainable way will cause environmental impacts that will have short- and long-term consequences and effects. | 0.746 | 6.39 | 1.462 |
| **Attitude (Overall)** | | **6.614** | **0.671** |
| It's advisable for me to consume sustainable fashion products. | 0.780 | 6.68 | 0.745 |
| It's beneficial for me to consume sustainable fashion products. | 0.884 | 6.68 | 0.769 |
| It's enjoyable for me to consume sustainable fashion products. | 0.795 | 6.58 | 0.813 |
| It's worthwhile for me to consume sustainable fashion products instead of conventional products to contribute to environmental protection. | 0.811 | 6.52 | 0.950 |
| **Subjective Norms (Overall)** | | **4.463** | **1.375** |
| People who are important to me, as family and friends, think I should purchase sustainable apparel products. | 0.802 | 4.02 | 1.679 |
| People who are important to me would approve of my purchasing sustainable apparel products. | 0.876 | 3.88 | 1.667 |
| People who are important to me want me to purchase sustainable apparel products. | 0.834 | 5.49 | 1.500 |
| **Perceived Behavioral Control (Overall)** | | **6.102** | **1.025** |
| I believe I have the ability to continue to buy sustainable apparel products. | 0.855 | 6.22 | 1.029 |
| If it's entirely up to me, I am confident that I am able to continue purchasing sustainable apparel products. | 0.933 | 6.25 | 1.125 |
| I am very confident that I will continue to buy sustainable apparel products. | 0.916 | 6.27 | 1.154 |
| Whether or not I purchase sustainable apparel products is entirely up to me. | 0.736 | 5.68 | 1.475 |
| **Past Purchasing Behavior (Overall)** | | **5.505** | **1.171** |
| I have often tried to make sustainable fashion products purchase that is less harmful to the environment. | 0.882 | 5.21 | 1.398 |
| I have frequently chosen the product that contributes to least to pollution when there is a choice. | 0.951 | 5.80 | 1.148 |

**Table 2**
*Cont.*

| Variable | Factor Loading | Mean | Standard Deviation |
|---|---|---|---|
| **Purchase Intention (Overall)** | | **6.541** | **0.845** |
| I intend to purchase sustainable apparel products instead of conventional products. | 0.907 | 6.57 | 0.880 |
| I plan to purchase sustainable apparel products instead of conventional products. | 0.890 | 6.42 | 1.054 |
| I want to purchase sustainable apparel products instead of conventional products. | 0.913 | 6.63 | 0.873 |
| **Sustainable Fashion Consumption (Overall)** | | **4.467** | **1.309** |
| I choose clothing items from fair trade production, even if they are more expensive than conventional clothes. | 0.863 | 5.40 | 1.287 |
| I choose clothing items from organic production (e.g., made from organic cotton). | 0.837 | 4.08 | 1.711 |
| I choose clothing items with labels that guarantee absence of chemical pollutants. | 0.826 | 3.91 | 1.637 |

*Source:* Authors (2021).

Discriminant validity was verified from the analysis of the Fornell-Larcker criterion, in which validity is determined by the square root values of the AVE of each latent variable, which must be higher than the correlation with other constructs of the model (Hair et al., 2019). The indices obtained support the discriminant validity of the constructs (Table 3).

To estimate the research model, a bootstrapping procedure was used through 5,000 repetitions (Table 4). For the assessment of collinearity, Hair et al. (2019) propose that acceptable values for the variance inflation factors need to be less than 5. In this study, the internal VIF presented indices lower than 1.856, showing that there is no multicollinearity in the model. In addition, another assumption concerns the size of the effect represented by the $f^2$ indicator, which demonstrates the absolute value of the individual contribution (Hair et al., 2019). In this sense, it was possible to verify that all relationships had effects in the model.

**Table 3**
*Measurement model*

| | α | CR | AVE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-MO | 0.794 | 0.867 | 0.620 | **0.788** | | | | | | | |
| 2-AC | 0.749 | 0.809 | 0.515 | 0.349 | **0.718** | | | | | | |
| 3-AT | 0.835 | 0.890 | 0.670 | 0.726 | 0.440 | **0.818** | | | | | |
| 4-SN | 0.804 | 0.876 | 0.702 | 0.215 | 0.242 | 0.298 | **0.838** | | | | |
| 5-PBC | 0.884 | 0.921 | 0.746 | 0.580 | 0.265 | 0.665 | 0.248 | **0.864** | | | |
| 6-PI | 0.888 | 0.930 | 0.816 | 0.567 | 0.405 | 0.715 | 0.298 | 0.650 | **0.904** | | |
| 7-PPB | 0.818 | 0.913 | 0.840 | -0.020 | -0.049 | 0.075 | -0.043 | 0.166 | 0.123 | **0.917** | |
| 8-SFC | 0.799 | 0.880 | 0.710 | 0.334 | 0.203 | 0.413 | 0.272 | 0.585 | 0.399 | 0.181 | **0.842** |

**Note.** MO – Moral Obligation; AC – Awareness of Consequences; AT – Attitude; SN – Subjective Norms; PBC – Perceived Behavioral Control; PI Purchase Intention; PPB – Past Purchasing Behavior; SFC – Sustainable Fashion Consumption;
*Source:* Research data (2021).

**Table 4**
*Structural model result*

| Hypothesis | VIF | $f^2$ | β | t-value | *Sig* | R² | Decision |
|---|---|---|---|---|---|---|---|
| **H1 MO → AT** | 1.139 | 0.836 | 0.652 | 10.888 | 0.001 | 0.567 | Supported |
| **H2 AC → AT** | 1.139 | 0.091 | 0.212 | 2.827 | 0.005 | | Supported |
| **H3 AT → PI** | 1.856 | 0.301 | 0.489 | 6.640 | 0.001 | | Supported |
| **H4 SN → PI** | 1.103 | 0.013 | 0.077 | 1.879 | 0.060 | 0.572 | Not supported |
| **H5 PBC → PI** | 1.802 | 0.121 | 0.306 | 4.026 | 0.001 | | Supported |
| **H6 PI → SFC** | 1.015 | 0.175 | 0.383 | 4.720 | 0.001 | 0.177 | Supported |
| **H8 PPB → SFC** | 1.015 | 0.021 | 0.134 | 1.970 | 0.049 | | Supported |

*Source:* Research data (2021).

Analyzing the indices obtained for the t-value, it is possible to determine the significance of the proposed hypotheses. With a significance level of 5%, the path coefficient is considered significant if the t statistic is equal to or greater than 1.96. Thus, from the established hypotheses, six relationships were statistically significant, while H4 did not show statistical support (Table 4). It is observed that the relationship between moral obligation and behavioral attitude is positive and significant (β = 0.652; $t$ = 10.888; $p$ = 0.001), providing support for H1. Similarly, H2, aware of the consequences on attitude, obtained satisfactory indices to ensure statistical support (β = 0.212; $t$ = 2.827; $p$ = 0.005).

H3, which predicts a relationship between attitude and purchase intention, was also supported (β = 0.489; $t$ = 6.640; $p$ = 0.001). In contrast, the proposed relationship between subjective norms and the intention to purchase sustainable fashion products was not significant (β = 0.077; $t$ = 1.870; $p$ = 0.060), so H4 was not supported. H5, which proposed the impact of behavioral control on the intention to purchase sustainable fashion products, also showed statistical significance (β = 0.306; $t$ = 4.026; $p$ = 0.001). In turn, H6 and H8, which verified the impact of purchase intention and previous purchase behavior on the consumption of sustainable fashion, indicated direct and positive relationships (H6: β = 0.383; $t$ = 4.720; $p$ = 0.001; H8: β = 0.134; $t$ = 1.970; $p$ = 0.049), with purchase intention showing the most expressive relationship.

The results of the structural investigation (Figure 2) indicate that the proposed model has 56.7% of explanatory power for attitude. With regard to path coefficients, moral obligation had the most significant relationship (β = 0.836). When the R² value obtained for the purchase intention was verified, its variation explained by the attitude, subjective norms and behavioral control was found to be 57.2%, with the purchase attitude showing the most significant relationship (β = 0.301 ). Finally, it was possible to observe that the proposed model has 17.7% of explanatory power for the consumption of sustainable fashion, in which the purchase intention had the most expressive association with this construct (β = 0.383).

The values obtained determine that the dependent variables Attitude and Purchase Intention had great explanatory effects, while Sustainable Fashion Consumption had a medium effect. In addition, the Stone Geisser Q² value was used to verify the predictive relevance of the model (Hair et al., 2019). The results show that the Q² values for Attitude, Intention to Purchase and Sustainable Fashion Consumption are, respectively, 0.365, 0.451 and 0.113. Considering that these values are above zero (Hair et al., 2019), it is evident that the research model had predictive relevance.

Figure 2 summarizes the results of the structural model evaluation.
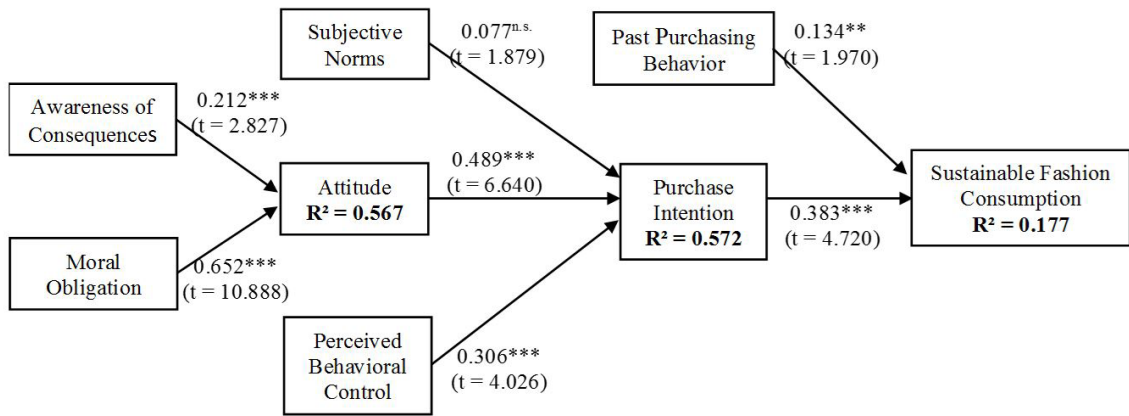


*Figure 2.* Structural model
*Source:* Authors (2021).
*Note:* ** = <0.05, *** = p<0.001, n.s. = not significant.

Finally, the standardized RMSR was analyzed, which refers to a criterion that represents the difference between the matrix of observed correlations and the matrix underlying the model, serving as a measure of goodness-of-fit that can be used to avoid specification errors. Assuming the value recommended by Hu and Bentler (1999), the model in this study shows an acceptable fit of 0.08.

The results of the estimated model are presented, below, the effect of the gender and age variables in the relationships discussed herein is verified.

## 4.3. MULTIGROUP ANALYSIS

A Multigroup Analysis was used to analyze whether the relationships between the purchase intention and sustainable fashion consumption constructs vary depending on the groups of the categorical variables gender and age (H7ab). To analyze these groups, the PLS-MGA approach was adopted, which determines significant differences between the groups when they present indices below 0.05 or above 0.95 (Sarstedt et al., 2011), the results are presented in Table 5.

**Table 5**
*Multigroup Comparison*

| Relationship | Female | | Male | | PLS-MGA | |
|---|---|---|---|---|---|---|
| | β | *p*-value | β | *p*-value | β (Female vs. Male) | p-value (Female vs. Male) |
| H7$_a$ PI → SFC | 0.375 | 0.001 | 0.420 | 0.002 | -0.045 | 0.761 |
| Relationship | Young | | Not Young | | PLS-MGA | |
| | β | *p*-value | β | *p*-value | β (Young vs. Not Young) | p-value (Young vs. Not Young) |
| H7$_b$ PI → SFC | 0.399 | 0.000 | 0.394 | 0.001 | 0.005 | 0.963 |

*Source:* Research data (2021).

Considering the evidenced indices, the group of female respondents showed a significant and positive path coefficient (β = 0.375, $p$ = 0.001). This result was also verified for male individuals (β = 0.420, $p$ = 0.002). However, the PLS-MGA p-value results demonstrate that there is no significant difference between the two groups, indicating that the relationship between purchase intention and actual consumption of sustainable fashion does not differ when considering the gender of the respondents in this study. Therefore, the H7a was partially supported, since the impact of gender in the proposed relationship is verified, however, not observing, in the researched sample, the significant difference between individuals of different genders.

Regarding age, both individuals considered young ($p$ = 0.001), aged up to 29 years, and those referring to the group of non-youth (adults) ($p$ = 0.001), obtained significant path coefficients. Observing the p value of PLS-MGA, there is a significant difference between the groups ($p$ = 0.963 > 0.95), indicating that the relationship between purchase intention and actual consumption of sustainable fashion was, in this study, more intense in the young group than in the group of individuals aged over 29 years (β = 0.399). Therefore, these findings provide support for H7b.

Next, the results found are discussed.

## 5. DISCUSSION

Based on field research on Brazilian individuals who have been consuming sustainable fashion products for at least a year, it was found that the attitude towards sustainable fashion consumption was influenced by moral obligation and the awareness of the consequences. This result enables us to make the inference that, as the individual starts considering the environmental and social impact of the way they consume and as they become aware of the moral pressure to take less harmful purchasing actions, they may adopt a favorable attitude towards a more environmentally-conscious purchasing behavior (Laroche et al., 1996).

Therefore, it is believed that, based on the sample examined, being aware of negative environmental consequences might mitigate unsustainable attitudes, and make individuals more willing to participate in ecological consumption. This willingness is also related to feelings of moral obligation by which individuals exercise self-control (Han & Stoel, 2017; Wu et al., 2020). Moral obligation and environmental awareness are personal factors that encourage actions that are more beneficial to the environment as a precaution against future problems and to alleviate the feeling of guilt (Hwang et al., 2015).

In this research, unlike previous studies, only two of the components of the original TPB model had an impact on the intention to purchase sustainable fashion products (i.e. attitude and perceived behavioral control). This means that the intention to purchase sustainable fashion is influenced by favorable behavioral beliefs about this type of product, whether in relation to the beliefs in factors intrinsic to individuals about how easy it is to act on a behavior (Ajzen, 1991), or to beliefs favorable to sustainable fashion itself (Zheng & Chi, 2015; Jacobs et al., 2018).

This study demonstrated that social pressure does not directly influence the purchase intention of actual consumers of sustainable fashion. This contradicts previous research that showed that subjective norms determine the intention to purchase sustainable items (Han & Stoel, 2017; Ru et al., 2019), and corroborates the investigation by Rausch and Kopplin (2021), who did not obtain any statistical support to evidence the impact of the subjective norm on the intention to purchase sustainable clothing. Analyzing this alongside the other results, it appears that, for the

sample investigated from Brazil, the choice of eco-fashion products is more closely related to individual factors and the environmental impact caused by consumption than the influences and pressure from third parties. This is a factor that must be considered when creating a promotional strategy for these products.

This study demonstrated that, in relation to the result that subjective norms do not exert a significant effect on the intention of Brazilian consumers to purchase sustainable fashion products, there might be two different reasons for this result. First, although the sample investigated demonstrated positive previous attitudes, intentions, and behaviors in relation to sustainable fashion, the lack of a collective norm or values in Brazil on conscious consumption may explain the lack of social elements that further encourages consumer behavior regarding sustainable items. This argument is supported by surveys in Brazil, that demonstrate that only 24% of consumers can be regarded as ecologically aware (Boreki, 2021). Therefore, it may be the case that if collective environmental awareness became more established, this could emphasize the individual desire of consumers to respond to such a social norm and, therefore, there would be an increase in intention and choice for sustainable products. As this is not the case, the lack of social influence on consumers' intentions to acquire sustainable fashion may be a reflection of the low social demand for sustainable consumption, as perceived by Brazilians.

Another explanation for the verified result may be linked to the nature of the fashion that interested the consumers in the sample. Purchases of fashion products are considered a type of consumption that is intrinsically linked to the consumers' identity. It is related to providing for their psychological needs, such as improving self-esteem and self-expression (Lundblad & Davies, 2016). According to the authors, sustainable fashion items can be the opposite of a conventional understanding of fashion. They give consumers a greater sense of individuality and comfort, as one of the goals of the sustainable fashion consumer is to distance themselves from the perceptions of other people and express their opinions and values through their purchases (Lundblad & Davies, 2016). The lack of statistical support for the relationship between subjective norms and intention to purchase sustainable fashion, therefore, may be due to the sample's desire for sustainable items that meet individual aspirations, which is different from the traditional understanding of fashion as a form of social conformity and compliance with social norms.

Finally, this research assessed the impact of purchase intentions and past experience of ecological products, that encourage the same behavior to be repeated (Khare & Sadachar, 2017; Han, 2020), on the actual consumption of sustainable fashion. Intention was established as being the most important variable for someone to act on a behavior (Klöckner, 2013; Li et al., 2018), and it was observed in this study that this variable was, in fact, the most significant in relation to the behavior, sustainable purchasing.

However, although the variables that were analyzed to investigate the direct impact on sustainable fashion consumption (previous purchase behavior and purchase intention) have been supported statistically and can be considered as determinants for this type of consumption when verifying the coefficient of determination (17.7%), it is argued that the intention and previous purchase behavior should not be seen as the only explanatory factors for the actual consumption of sustainable fashion, which can be addressed in future research.

This study also investigated the moderation of demographic variables on the relationship between purchase intention and actual consumption of sustainable fashion. Although the gender variable moderated the proposed relationship, there was no significant difference between people

of different genders. On the other hand, the indices obtained indicated that the relationship between purchase intention and actual consumption of sustainable fashion was more significant in the group of young consumers. This finding is in line with previous research that found that young people are more receptive to eco-fashion ideals and products (Hwang et al., 2015; Baier et al., 2020).

The conclusion of the study is presented below.

## 6. FINAL CONCLUSIONS

On the basis that pro-environmental behavior as an essential factor to create effective sustainable environments, this study aimed to verify the determinants that influence the behavior of sustainable fashion consumers. The fashion industry has drawn attention because it is a sector that has many unsustainability problems, both in its production processes as well as in consumption and social issues related to labor.

Therefore, in order to answer the arguments of Mukendi et al. (2020), this study used TPB to identify the psychological, social, and demographic factors that influence the behavior of real consumers of sustainable fashion from a population that has not been investigated significantly before and where fashion has a strong impact on its culture, in other words, Brazilian consumers.

Based on the findings of the field research, it can be said that the Brazilians in the survey, who consume sustainable fashion, are aware of the social and environmental impact of fashion, they think about their purchasing activity in moral terms, they have a favorable attitude and intention towards sustainable consumption of fashion, they are not equally affected by social pressure, and they take account of precious experiences when deciding about purchasing sustainable fashion items.

On a managerial level, when verifying whether the choice for sustainable fashion products is more related to individual factors and the environmental impact caused by consumption, than the influence and pressure from third parties, it seems pertinent for marketers s to promote ethical factors and the social impact inherent in sustainable fashion products as part of their strategy, so that consumers can appreciate what consuming that item will contribute to the environment, society and for them, the consumer.

As an example of a possible strategy, sustainable fashion retailers could use different means of communication, such as online social networks and specialized experience exchange websites, among others, to display campaigns to make consumers aware of the environmental and social issues resulting from unsustainable consumption and promote messages to encourage individuals to be more socially responsible.

The dissemination of information about the benefits of sustainable fashion products would aim to make consumers aware that they can have a positive impact by choosing sustainable products instead of more polluting, conventional ones. In other words, companies should rely on informative environmental education programs that focus on informing the general public about what sustainable fashion is and the causes related to this industry, as well as explaining about how these items are produced and the importance of policies such as reverse logistics, using organic raw materials, lengthening the product's life cycle, etc. Strategies like this can have an influence and establish more environmentally- conscious attitudes, intentions, and actual buying behavior.

## 6.1. RESEARCH LIMITATIONS AND FUTURE STUDIES

Although the study contributes specifically to the understanding of consumer behavior in relation to sustainable fashion, it has some limitations. Firstly, the size of the sample may be considered small, which prevents the results from being generalized. Future research could expand this study in terms of demography and to compare similar contexts and cultures. In addition, the predictive capacity of the model could be improved by adding other relevant constructs. A suggestion for future analyses is the impact of factors such as individual values and consumer personality traits. It should also be taken into account that the behavior of sustainable fashion consumption was based on the behavior reported by the respondents, as the research was designed as a survey. Future studies could encompass the effective choice of the consumer for a sustainable fashion item, by using experiments, for example.

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