



Article How COVID-19 Affected Portuguese Travel Intentions—A PLS-SEM Model

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Abstract: COVID-19 was a defining moment of the 21st century, causing major disruptions to tourism and global mobility. Travel patterns have changed significantly, influencing people's perception of travel. This study aims to explore how COVID-19 affected the travel intentions of the Portuguese. The research is based on a questionnaire administered to 762 individuals, using structural equation modeling with partial least squares. In general, individuals have a reasonable perception of fear of the consequences of COVID-19, risk, and travel behavior and do not appear to have anxiety or fear of traveling. As for their intention to travel, they seem to have intentions. The results of this analysis demonstrate that fear of traveling, and travel behavior directly influence travel intentions and, indirectly, through fear of the consequences of COVID-19, anxiety, fear of traveling, and perceived travel risk. This study is particularly relevant for entities that manage and monitor the travel intentions of their clients and consumers, especially in the travel and tourism sector. It aims to more effectively meet the needs and desires of travelers, in addition to formulating strategies that promote the recovery of tourism in the post-pandemic period. The added value of research lies in its potential to guide strategic decision-making and policy formulation.

Keywords: anxiety of COVID-19; intention to travel; risk of traveling; fear of traveling; travel behavior

1. Introduction

The COVID-19 pandemic has affected all sectors of the global economy and drastically transformed people's lifestyles, generating high levels of uncertainty [1,2]. With the rapid spread of the virus in 2020, a persistent global health crisis took hold, prompting governments and international institutions to adopt strict social distancing measures to contain the spread of the disease. Many countries have implemented severe travel restrictions, such as closing borders, repatriating citizens and discouraging tourism. The suspension of international and domestic flights has resulted in a drastic reduction in global mobility [3], halting tourism and travel in many countries for several months [2,4]. This scenario has had profound and lasting impacts on the travel industry in all regions of the world [2,5,6].

The spread of the virus by international travelers has linked COVID-19 to global mobility, perpetuating fear of social contact even after restrictions are lifted [2,6,7]. Despite the continued need to travel for leisure, tourism or business reasons, the pandemic has reshaped consumption patterns, travel behaviors, and travel-related psychological states [6,8–10].

Increasing research shows that pandemics have a serious and lasting impact on risk perceptions and travel choices [11–13]. COVID-19, due to its rapid and invisible mode of



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Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). transmission and its morbidity and mortality, has heightened fears and anxieties globally. This fear has significantly affected travel behavior by introducing new concerns into travel intentions [14–16]. For health reasons, many people experience concerns and negative emotions regarding travel, especially international travel [15,17–19]. Given the importance of understanding these changes and barriers related to COVID-19, this study is relevant. Matiza and Kruger [20] emphasize the continued need to analyze risk perception and travel behavior in different regions to develop post-crisis communication and marketing strategies. Therefore, this study explores how the COVID-19 pandemic influenced the travel intentions of the Portuguese, a country in Western Europe where studies of this nature are lacking. In a context of uncertainty and health security concerns, understanding the factors that shape travel decisions is crucial to inform recovery and adaptation strategies in the tourism sector.

Planning trips involves risks and uncertainties, constituting a complex decisionmaking process [21], becoming even more accentuated in the context of a pandemic. COVID-19 not only creates anxiety, but it also provokes fear. Therefore, it is important to understand the Portuguese people's perception of their travel intentions, answering the following question: How has COVID-19 affected the Portuguese people's travel intentions? More specifically, this study examines the role of COVID-19 on travel fear and anxiety, travel risk perception, and travel behavior during a declared pandemic. The literature shows that the perception of travel risk is increasingly associated with behaviors and intentions [19,22–24]. However, there are few studies on the direct impact of COVID-19 on travel intentions, with the work of Neuburger and Egger [19] in the DACH region of Europe being an exception. Additional studies are needed to assess the importance of risk perception in different regions.

Despite the extensive literature on tourism and consumer behavior, there remains a significant gap in understanding how COVID-19 specifically has affected travel intentions. There are no studies that, in a single model, simultaneously assess how fear of travel, anxiety, the consequences of COVID-19, risk perception, and travel behavior in a pandemic affect travel intentions. This study aims to fill this gap by providing a comprehensive analysis of the variables that influence Portuguese people's travel intentions in response to the COVID-19 pandemic. In doing so, we seek not only to contribute to existing literature but also to offer practical insights to help plan public policies and marketing strategies adapted to new post-pandemic realities.

This study is considered innovative in integrating multiple variables—fear of travel, anxiety, risk perception, and travel behavior—into a unique model that examines their complex interactions in travel decisions during the pandemic. The findings have the potential to inform effective strategies for managing tourist destinations and adapting companies in the sector, promoting a sustainable and resilient recovery in tourism.

After this introduction, the literature review will discuss the variables studied and formulate research hypotheses. Next, the methodology is presented, detailing the population, sampling method, the sample is characterized, and the data collection instruments and research procedures are described. In the results and discussion section, a statistical analysis is carried out followed by a discussion considering the literature review carried out. Finally, the conclusions will address limitations, theoretical and practical implications, and suggestions for future research.

2. Literature Review

2.1. Fear of Traveling, Anxiety, and Fear of the Consequences of COVID-19

By nature, traveling to any destination is a complex decision-making process that is affected by socioeconomic factors, psychographic characteristics and factors related to the destination itself [21], inevitably involving uncertainties. People evaluate a variety of factors when planning a trip, such as product or destination attributes, potential negative outcomes, need(s), and values, and these assessments are very personal and different. For instance, some people may perceive a destination as scary and risky, while others may evaluate the same place as fun and exciting. It is, therefore, an intrapersonal and emotional process. Emotions can affect the way people decide their destinies and behavior, with fear being a basic emotion [25], which is inherent in all human beings, regardless of age or ethnicity. Fear is a primordial response to the perception of threat, triggering a physiological reaction that manifests itself as a feeling of nervousness, worry, discomfort, vulnerability, disturbance, or panic. It is an emotion triggered by danger, pain, or harm [26].

So, it can be deduced that if traveling inevitably involves uncertainties, then fear is an intrinsic emotion of a decision-making process of this nature, and anxiety is considered to be a subjective feeling that arises from exposure to a real or potential risk situation. More specifically, anxiety is the physiological response to emotion triggered in a person when they perceive a threat.

A viral outbreak, such as COVID-19, which has infected more than 10 million people worldwide, in which people are exposed daily to local and international news about the number of deaths and infection rates, can cause fear and, consequently, anxiety in people; therefore, it is not uncommon for people to feel fear and other negative emotions regarding their health, especially when they need to move to other places due to the possibility of transmitting a contagious, which affects your perception of travel risk, which is the risk associated with making a decision to take a trip [14,17,18].

Through the literature review carried out, the study by Ahorsu et al. [14], who developed the Fear of COVID-19 Scale and found a positive relationship between fear of COVID-19 and hospital anxiety, is known. The authors Luo and Lam [15] carried out a study on "Travel bubble" destinations (a recent term introduced by travel operators and refers to a program that allows people to travel to nearby countries without any quarantine requirements) in Hong Kong, with the aim to investigate the relationship between the variables: fear of COVID-19, travel anxiety and risky attitude towards travel intention. They concluded that fear of COVID-19 directly affects travel anxiety and risk attitude and that these variables negatively influence intention to travel. However, they did not find the existence of a direct relationship between fear of COVID-19 and the intention to travel, only through travel risk anxiety and attitude. This leads to the need for further investigation, namely in other places that are not "Travel bubble" destinations, to confirm the significance of the fear of COVID-19 in the travel intentions of individuals. Incidentally, these same authors suggested the need for further studies in other geographies, mainly in the West, where people have very different attitudes and intentions from Asians, as is the case in China. Thus, and contributing to closing the identified knowledge gap, analyzing the fear and anxiety of traveling and the consequences of COVID-19 in a pandemic, the following research hypotheses are formulated:

Hypothesis 1 (H1). Fear of the consequences of COVID-19 positively influences fear of traveling.

Hypothesis 2 (H2). Fear of the consequences of COVID-19 positively influences travel anxiety.

Hypothesis 3 (H3). Travel anxiety positively influences fear of travel.

2.2. Risk of Traveling

Risk perception can be understood as a person's subjective assessment of the probability and severity of a threatening situation based on the perceived characteristics of that situation [19,27], which can influence a person's individual behavior. Thus, each individual perceives risk differently according to their individual characteristics, social structures, and cultural beliefs [27].

Risk perception is influenced by previous experiences, demographics, psychographics, and knowledge [28]. It is linked to the assessment of a situation in relation to the risk in making a travel decision [29], with different types of risk that influence the perception of travel risk, namely financial, psychological, satisfaction and time [30], natural disasters, hygiene and disease, crime and accidents [31], health problems [32]; as well as internal

factors (individual characteristics, or cultural background and previous experiences) and external factors (media, other sources of information and influence groups) [30,33].

In general, it can be considered that the perception of travel risk shows a strong correlation with the intention to change travel plans, travel to a certain destination, or avoid a certain destination [28,29]. Therefore, the perception of risk influences, firstly, the choice regarding whether or not to travel and then the choice of where to travel [29,33–35].

Several studies have analyzed the perception of travel risk after health crises [35–38]; however, very little is known about how COVID-19, an unprecedented pandemic that greatly affected the travel and tourism industry, affects people's perception of the risk of traveling. Only the case study by Neuburger and Egger [19] in the DACH region of Europe (Germany, Austria, Switzerland) is known; it compared the results of two periods during the outbreak of the COVID-19 pandemic and showed that there is an increased perception of travel risk over time. These authors concluded that the perception of the risk of traveling increased significantly over the study period, consistent with previous studies on health crises and infectious disease outbreaks [36,37,39,40]. In this way, as this is the only known study carried out during a COVID-19 pandemic, and its results are limited to its focus (DACH region) on a convenience sample, as evidenced by the authors themselves, it is considered relevant to examine, in other contexts, namely in Portugal, as is the purpose of this study, if the fear of the consequences of COVID-19 and of traveling in a pandemic influences the perception of risk of traveling by individuals. Thus, the fourth and fifth research hypothesis is formulated:

Hypothesis 4 (H4). Fear of the consequences of COVID-19 positively influences the risk of traveling.

Hypothesis 5 (H5). Fear of traveling positively influences the risk of traveling.

2.3. Travel Behavior

Travel behavior refers to the actions, decisions, and preferences of an individual or group during the process of planning, organizing, and carrying out a trip. This may include factors such as choice of destination, mode of transport, accommodation, planned activities, budget, and duration of the trip, among others, until the return home [6,9,10,22,30]. Travel behavior is influenced by a variety of factors, including the individual's needs and desires, economic, social, cultural, and environmental factors, as well as the availability of resources.

According to Irwin [41], global travel patterns are undergoing a paradigm shift resulting from the global pandemic (COVID-19). People's perception of COVID-19 influenced their travel intentions and motivations, changing daily travel behavior worldwide, especially in the way and frequency of travel with long-term repercussions [12]. The relationship between the perception of travel risk and travel-related behaviors is often discussed in tourism literature [24], in that if an individual perceives a high level of risk associated with a destination, such as a disease, crime or terrorism, this perception leads them to make an assessment of the situation and, as a result of this assessment, they are likely to develop negative emotions that will have an impact on their preferences, their psychological states in relation to travel and consequent travel-related behaviors [6,8–10,19].

In view of such changes evidenced in the literature on travel behavior resulting from the COVID-19 pandemic, it is considered necessary to objectively understand how fear and the perception of the risk of traveling are influencing the travel behavior of individuals to be able to act with vital actions that make it possible to minimize possible negative impacts. It is especially relevant for the travel and tourism industry to better respond to the sector's recovery and the needs and desires of customers. Thus, the formulation of the sixth and seventh research hypotheses of this study is justified.

Hypothesis 6 (H6). *The risk of traveling positively influences travel behavior.*

Hypothesis 7 (H7). Fear of traveling positively influences travel behavior.

2.4. Intention to Travel

The intention to travel is an expression of interest in undertaking a trip in the near future, indicating the probability that an individual will plan and effectively execute a trip [42]. It is defined as the predisposition, desire, or willingness to travel to a specific place in a certain period with a specific purpose [15,43,44], which can be for business or simply for leisure or tourism. It is based on two sources or factors that drive this intention: (1) personal sources, such as experiences from previous trips, recommendations from friends and family, and own motivations, among others, and (2) sources of information, such as for example, media news, specific events at the destination, travel promotions and offers, economic, political, and legal factors [43,45]. Both contribute to the formation of the perception of the intention to travel, which, consequently, will result in a corresponding decision to actually carry out a trip or not. However, there is a consensus in the literature that, for the process of forming the perception of the intention to travel, the sources of information are declared to be even more important [15,44,46]. In addition to these basic driving sources, the literature also shows that the intention to travel can be influenced by other factors such as fear, anxiety, risk, and safety because of what can happen during a trip [14,15,44,47], even more so in the course of a global pandemic state, with daily information on people infected by COVID-19, morbidities and deaths. People become anxious and worried, and their perceived risk level of traveling and their travel behaviors affect their travel intentions [15,40,44]. In this way, understanding how factors such as fear of traveling and travel behavior influence travel decisions in the global pandemic of COVID-19 proves to be of particular interest, contributing useful knowledge for the entities that manage and monitor consumers' intentions to travel. Ergo, the following research hypotheses are formulated:

Hypothesis 8 (H8). Fear of traveling negatively influences travel intentions.

Hypothesis 9 (H9). Travel behavior negatively influences intentions to travel.

Based on the explained literature review and in summary form, Figure 1 presents the conceptual model and the formulated hypotheses.



Figure 1. The conceptual framework and the hypotheses formulated. Source: Own Elaboration.

3. Materials and Methods

3.1. Population and Sample

The target population for this study includes Portuguese individuals aged 18 and over. Sampling was carried out using the non-probabilistic convenience technique, in which participants were selected based on specific criteria: immediate availability, knowledge of the subject under study, and low associated cost. The sample of the present study is composed of 762 individuals aged between 18 and 75 years, with an average age of 42.79 (SD = 12.78). In Table 1, it can be seen that 50.1% (n = 381) of the individuals are female and 49.9% (n = 379) are male. Regarding marital status, most are married or in a civil partnership (54.3%, n = 413). Regarding academic background, participants with a bachelor's degree predominate (45.9%, n = 349). In terms of professional status, most individuals work (69.7%, n = 530). Finally, it is observed that 71.6% (n = 544) of individuals have a medium level of income.

Variable		n	%
	Female	381	50.1
Gender	Male	379	49.9
	Single	269	35.4
Manital status	Married or in a civil partnership	413	54.3
Marital status	Widowed	6	0.8
	Divorced or separated	72	9.5
	Basic education (up to 9th grade)	11	1.5
A cadomic background	Secondary education (up to 12th grade)	104	13.7
Academic background	Bachelor's degree	349	45.9
	Master's/PhD	296	38.9
	Employee	530	69.7
	Self-employed worker	123	16.2
Professional situation	Unemployed	35	4.6
Professional situation	Student	51	6.7
	Retired	19	2.5
	Domestic worker	2	0.3
	Very low	29	3.8
	Low	65	8.6
Level of income	Medium	544	71.6
	High	118	15.5
	Very high	4	0.5

Table 1. Sample characterization.

Source: Own Elaboration.

3.2. Data Collection Instruments

This study used a questionnaire survey with all the answers being closed and compulsory. This instrument consists of two parts. The first part analyzes different perceptions: fear of the consequences of COVID-19, anxiety about COVID-19, fear of traveling, risk of traveling, travel behavior, and intention to travel. In the second part, some sociodemographic data were requested (see Table 1).

Five items were used to measure fear of the consequences of COVID-19, and three items were used to measure anxiety about COVID-19. These items were adapted from the Fear of COVID-19 Scale by Ahorsu et al. [14], which, according to the authors, was developed in a hospital context but is a scale that can measure the fear of COVID-19 in other contexts. To measure fear of traveling, three items adapted from the Pandemic (COVID-19) Anxiety Travel Scale by Zenker et al. [4] were used. To measure the risk of traveling, five items adapted from the Travel Risk Perception scale used in the study by Neuburger and Egger [19] were used. To measure the study by Neuburger and Egger [19] were used in the study by Neuburger and Egger [19] were used, but with a

slight adaptation for the pandemic context. It should be noted that all items were adapted to the context of this study and measured on a 5-point Likert agreement scale (1—totally disagree and 5—totally agree).

3.3. Procedures

The data collection process was carried out using social networks to avoid social contacts. The Google Forms tool was used to create the questionnaire, whose link was shared on the researchers' Facebook social networks. The publication of the link was accompanied by a short text requesting participation in the study and informing participants of the objectives, anonymity, data confidentiality, and the fact that they were used solely for statistical research purposes. The study took place from 8 to 17 August 2021. It should be noted that before starting the data collection process, a preliminary version of the questionnaire was constructed, and a pre-test was carried out on 15 individuals from the tourism area, considering a sufficient sample of respondents as recommended by Canhota [48] and Fonseca et al. [49], who advise a number of respondents between 10 and 20. In the pre-test, in order to clarify and improve understanding on the part of the participants, some adjustments were made (mainly at the semantic level) to the items in the constructs.

IBM SPSS Statistics 28 [50] and SMART PLS 4 [51] software were used to process the data. To characterize the participants, descriptive statistics were used. Initially, to check the adequacy of the sample, according to Field [52], the Kaiser–Meyer–Olkin (KMO) index and Bartlett's test of sphericity were used. According to the author, for the adequacy of the sample to be acceptable, the KMO value must be greater than 0.5, and the test must obtain p < 0.05. Next, an exploratory factor analysis was applied, using the principal components method and the Kaiser criterion (eigenvalues greater than 1). Note that factor loadings with values above 0.50 are considered satisfactory [53].

Partial least squares-structural equation modeling (PLS-SEM) was used since the context was that of a pandemic, so it is intended to test and validate exploratory models that are not theoretically developed in full [54].

According to Henseler et al. [55], to validate the results of the model, a process consisting of two steps is performed (Step 1: validation of the external model; Step 2: validation of the internal model). The first step involves evaluating reliability and convergent and discriminant validity. With regard to reliability, there are two aspects to assess: the reliability of the items and the reliability of the constructs. Thus, the loadings must be greater than 0.708 to indicate that the construct ex-plains more than 50% of the variance of the indicator and thus has acceptable item reliability, and the Cronbach's alpha and composite reliability values must be greater than 0.7 for reliability to be considered acceptable [56]. Convergent validity is assessed through the AVE (Average Variance Extracted) value, whose values for the different constructs under study must be greater than 0.5 [57]. Finally, to complete the first stage, the discriminant validity is evaluated. To this end, it must be checked whether the values corresponding to the square roots of the AVE of all the constructs are higher than the correlations between the constructs [57].

In the second step, the structural model is evaluated through the analysis of the coefficient of determination (R^2) of the endogenous variables, and a bootstrapping technique was used to determine the t statistics and the significance of the paths [54]. The coefficients of determination vary between 0% and 100% and assess the percentage of variance explained by the de-pendent variables in the structural model. In the area of social and behavioral sciences, according to Cohen [58], a coefficient of determination of 2% is classified as a small effect, 13% as a medium effect, and 26% as a large effect.

4. Results

4.1. Evaluation of the Measurement Model

In order to evaluate the model, reliability, convergent and discriminant validity are analyzed. In Table 2, it is possible to analyze in detail the measurement items and their

descriptive measures (average and standard deviation), and also the values of Cronbach's alpha (α), composite reliability (CR), and the AVE of the constructs. In the first analysis, the Kaiser-Meyer-Olkin (KMO) sampling measure and Bartlett's Sphericity test revealed an acceptable adequacy of the sample for all of the constructs under study, showing that each of them exceeded the value of 0.5 (FCC: $\chi^2(10) = 2042.309$, p < 0.001, KMO = 0.787, AC: $\chi^2(3) = 819.404$, p < 0.001, KMO = 0.679, FT: $\chi^2(3) = 1561.310$, p < 0.001, KMO = 0.743, RT: $\chi^2(10) = 1306.303$, p < 0.001, KMO = 0.818, TB: $\chi^2(36) = 5644.550$, p < 0.001, KMO = 0.919, IT: $\chi^2(3) = 527.679$, p < 0.001, KMO = 0.632) as suggested by Field [52]. All variables have a one-dimensional structure and explain more than 50% of the total variance (FCC: 64.51%, AC: 72.57%, FT: 84.71%, RT: 58.63%, TB: 66.12%, and IT: 65.02%).

Table 2. Estimation of the evaluation parameters of the measurement model.

Items	M (SD)	Loadings
Fear of the consequences of COVID-19 ($\alpha = 0.859$, CR = 0.899, AVE = 0.645)		
F1. I am afraid of being infected with COVID-19.	3.30 (1.25)	0.896
F2. Thinking about the possibility of being infected with COVID-19 makes me uncomfortable.	3.44 (1.28)	0.858
F3. I am afraid of dying because of COVID-19.	2.86 (1.44)	0.800
F4. I am afraid of the health consequences that could result from the pandemic situation.	3.18 (1.24)	0.817
F5. I am afraid of the social consequences that could result from the pandemic situation.	3.48 (1.19)	0.614
Anxiety of COVID-19 (<i>α</i> = 0.810, CR = 0.884, AVE = 0.718)		
A1. I get nervous or anxious when I see or read news in newspapers and on social media about COVID-19.	2.46 (1.18)	0.862
A2. I can't sleep because I'm worried about being infected with COVID-19.	1.38 (0.76)	0.803
A3. My heart races or flutters at the thought of being infected with COVID-19.	1.65 (0.98)	0.875
Fear of traveling ($\alpha = 0.910$, CR = 0.943, AVE = 0.847)		
T1. Due to the pandemic situation, I am afraid to risk my life when traveling.	2.77 (1.23)	0.912
T2. Watching the news about the pandemic situation makes me afraid to travel.	2.67 (1.26)	0.939
T3. The identification of the Delta variant of COVID-19 has left me with less desire to travel.	2.53 (1.29)	0.910
Risk of traveling ($\alpha = 0.821$, CR = 0.874, AVE = 0.583)		
R1. Tourism is the main driver of the spread of COVID-19.	2.38 (1.10)	0.671
R2. Staying in a hotel is a risk because there are many people from different countries, who may be carriers of the virus.	2.53 (1.14)	0.784
R3. I fear that the virus could be carried by tourists into my immediate environment.	2.73 (1.12)	0.851
R4. Travel should be banned to prevent a wider spread of the virus.	2.10 (1.13)	0.774
R5. Currently, traveling to destinations with a high number of COVID-19 cases should be avoided.	3.78 (1.17)	0.726
Travel behavior (α = 0.935, CR = 0.946, AVE = 0.661)		
B1. I would currently cancel my travel plans to countries with a high number of COVID-19 cases.	3.59 (1.30)	0.748
B2. I would currently avoid air travel.	2.88 (1.39)	0.885
B3. I would currently avoid traveling by boat.	2.91 (1.41)	0.865
B4. I would currently avoid traveling by train.	2.74 (1.33)	0.861
B5. I would currently avoid big events.	3.66 (1.25)	0.721
B6. I would currently avoid visiting tourist attractions.	3.06 (1.30)	0.841
B7. I would currently avoid domestic travel (traveling within the country).	1.94 (1.08)	0.677
B8. I would currently avoid any contact with other tourists.	2.88 (1.24)	0.817
B9. I would currently avoid traveling abroad.	2.95 (1.41)	0.874
Intention to travel ($\alpha = 0.728$, CR = 0.766, AVE = 0.542)		
I1. I travel, whenever I have a chance to travel, even in a pandemic situation.	2.69 (1.26)	0.964
I2. I will do my best to improve my way of traveling by meeting the required standards.	4.18 (1.01)	0.458
I3. I will continue to collect travel-related information for the future, even in a pandemic situation.	3.67 (1.15)	0.699

Note: All loadings are significant at p < 0.001. Source: Own elaboration.

The reliability of the constructs is considered adequate, as the values of Cronbach's alphas and composite reliabilities are above 0.7 [56]. Five items are observed with loadings below 0.708 (F5, R1, B7, I2 and I3). These items were kept in the analysis due to their importance for the constructs under study and also because, according to Hair et al. [56], indicators with external loadings between 0.40 and 0.70 should only be removed from the

analysis if their elimination results in an increase in the reliability index and the AVE value of the respective construct, which is why the items were not eliminated. All other loadings are above 0.72. In terms of convergent validity, this is considered adequate because the AVE values of all the constructs are greater than 0.5 [57].

Table 3 shows that the values of the square roots of the AVE (bold values in Table 3) of all the constructs are higher than the correlations between the constructs, so there is evidence of discriminant validity [57]. An analysis of the VIF values showed that they are less than 1.889, i.e., less than three, as recommended by Hair et al. [56], so it can be said that there are no collinearity problems. Regarding the average values of the latent variables, it appears that individuals have a reasonable fear of the consequences of COVID-19 (M = 3.25, SD = 1.02) but do not seem to have anxiety (M = 1.83, SD = 0.83), nor fear of traveling (M = 2.65, SD = 1.16). Concerning the perception of risk and travel behavior, there seems to be indifference on the part of individuals (values close to the midpoint of the scale). In relation to the intentions to travel, they seem to have intentions, although this does not show very high mean levels (M = 3.51, SD = 0.92).

Table 3. Results of discriminant validity: Fornell-Larcker criterion test.

	FCC	AC	FT	RT	ТВ	IT
FCC	0.803					
AC	0.595	0.847				
FT	0.681	0.558	0.920			
RT	0.535	0.380	0.595	0.764		
ТВ	0.563	0.394	0.686	0.714	0.831	
IT	-0.223	-0.179	-0.403	-0.234	-0.438	0.736
Mean	3.25	1.83	2.65	2.70	2.96	3.51
Standard deviation	1.02	0.83	1.16	0.86	1.06	0.92

Note: FCC: Fear of the consequences of COVID-19, AC: Anxiety of COVID-19, FT: Fear of traveling, RT: Risk of traveling, TB: Travel behavior, IT: Intention to travel. The diagonal values represent the values of the square root of the AVE. Source: Own elaboration.

4.2. Evaluation of the Structural Model

According to Figure 2, the variable fear of the consequences of COVID-19 explains 35.3% of the variable anxiety of COVID-19; and these two variables, together, explain 50.0% of the variation of the variable fear of traveling. The variables fear of the consequences of COVID-19 and fear of traveling together explain 38.6% of the variation in the variable risk of traveling. The variable with the highest percentage of explained variation is travel behavior (61.5%) which is explained through the variables travel risk and fear of travel. Finally, 21.1% of the variance of the variable intentions to travel is explained by fear of traveling and travel behavior. According to Cohen [58], these values are considered medium and large effects.

In view of these results, it is easy to see that all these variables under study, directly or indirectly, influence the intentions to travel to a given destination, corroborating the literature [14,15,24,29].

The empirical results presented in Table 4 show that the perception of fear of the consequences of COVID-19 has a significant and positive influence on the perception of fear of traveling ($\beta = 0.541$, t = 15.782, p < 0.001), on the perception of anxiety about COVID-19 ($\beta = 0.596$, t = 24.990, p < 0.001), and on the perception of risk of traveling ($\beta = 0.243$, t = 5.486, p < 0.001), which empirically supports Hypotheses 1, 2 and 4. These results, in a Portuguese pandemic context, are in line with what is advocated in the studies by Ahorsu et al. [14] and Luo and Lam [15], who found a positive relationship between fear of COVID-19 and travel anxiety and risk perception.



Figure 2. Conceptual model with determination coefficients. Source: Own Elaboration.

Path	Coefficient	t-Value ^a	Decision
H1: FCC \rightarrow FT	0.541	15.782 ***	Supported
H2: FCC \rightarrow AC	0.596	24.990 ***	Supported
H3: $AC \rightarrow FT$	0.236	6.166 ***	Supported
H4: FCC \rightarrow RT	0.243	5.486 ***	Supported
H5: $FT \rightarrow RT$	0.429	10.027 ***	Supported
H6: $RT \rightarrow TB$	0.473	15.859 ***	Supported
H7: $FT \rightarrow TB$	0.404	12.845 ***	Supported
H8: $FT \rightarrow IT$	-0.195	4.348 ***	Supported
H9: TB \rightarrow IT	-0.306	6.502 ***	Supported

Note: FCC: Fear of the consequences of COVID-19, AC: Anxiety of COVID-19, FT: Fear of traveling, RT: Risk of traveling, TB: Travel behavior, IT: Intention to travel.^a t-value were obtained with bootstrapping procedure (5000 samples). *** p < 0.001. Source: Own elaboration.

Hypothesis 3 is empirically supported, and this refers to the fact that the perception of COVID-19 anxiety positively influences, with statistical evidence, the perception of fear of traveling ($\beta = 0.236$, t = 6.166, p < 0.001). Through the literature, it is possible to understand that fear is an emotion; it is an awareness of the danger that generates anxiety. If travel inevitably involves uncertainty, then a viral outbreak such as COVID-19 leads to fear of travel and other negative emotions toward your health [14,17,18]. Thus, it is concluded that the perception of anxiety about COVID-19 mediates the relationship between the perception of fear of the consequences of COVID-19 and the perception of fear of traveling (the indirect effect was 0.141). Thus, we have partial mediation, as the Variance Accounted For (VAF) was 20.6%, which means that the COVID-19 anxiety variable explains a significant part of the total effect. It is justified by the fact that anxiety is the physiological response when a person is afraid or triggered by danger, pain, or damage [26]. Therefore, albeit indirectly, COVID-19 anxiety influences the intentions to travel through fear of the consequences of COVID-19 and fear of traveling.

The perception of fear of traveling has a positive and significant influence on the perception of risk of traveling ($\beta = 0.429$, t = 10.027, p < 0.001) and on the perception of travel behavior ($\beta = 0.404$, t = 12.845, p < 0.001); and negative influence on the perception of intention to travel ($\beta = -0.195$, t = 4.348, p < 0.001), which empirically supports Hypotheses 5, 7 and 8, corroborating what is advocated in the literature; that is, people's perception of COVID-19 influences travel intentions and motivations, changing the behavior, way and frequency of travel [22]. The intention to travel can be influenced by several factors, including fear, anxiety, risk, and safety during a trip [14,15,44,47]. It should be noted that the variable perception of fear of traveling plays a mediating role in the relationship between the perception of fear of traveling variable explains a significant part of the total effect. Fear of travel is a key factor affecting travelers' perception of the risk associated with travel during the COVID-19 pandemic. Recognizing and addressing this fear can be crucial in restoring confidence and encouraging travel to restart.

Hypothesis 6 also has empirical support that the perception of risk of traveling positively influences, with statistical significance, the perception of travel behavior (β = 0.473, t = 15.859, p < 0.001), which is in line with what is recommended in the literature that the perception of risk is linked to the assessment of a situation in relation to risk in making a travel decision [29]. Tourism literature also shows a positive relationship between the perception of travel risk and travel-related behaviors [24]. Thus, if an individual perceives a high level of risk in relation to a certain destination, such as disease (as is the case with COVID-19), crime, or terrorism, he/she evaluates and, as a result, adopts consequent behaviors related to the perceived level of risk [6,8–10,19].

It is also emphasized that the variable perception of risk of traveling plays a mediating role in the relationship between the perception of fear of traveling and the perception of travel behavior (indirect effect is 0.203 and VAF = 33.4%, also considered partial mediation), which indirectly affects the intentions to travel, inferring that as the fear of traveling increases and the destination represents a high level of risk that forces more rigorous travel behaviors (due to health or safety issues, for example), the lower are the intentions to travel to that destination.

Finally, Hypothesis 9 is confirmed, which supports that the perception of travel behavior negatively and significantly influences the perception of intention to travel ($\beta = -0.306$, t = 6.502, p < 0.001). Justification can be found in the literature for such a result, as global travel patterns are undergoing a paradigm shift as a result of the global COVID-19 pandemic [41]. COVID-19 has influenced daily travel behavior around the world, especially in the way and frequency of travel [22]. Travel behavior is the whole set of actions and decisions that a person or group takes during the planning, organization, and carrying out of a trip [6,9,10,22,30]. Thus, it can be explained that the more demanding the travel process is, the lesser the interest in making that trip; that is, the intention to travel. Complexity decreases the predisposition, desire, or willingness to travel to a specific place in a certain period with a specific purpose [15,43,44]

It is also possible to identify one more mediating variable—the perception of travel behavior—which has the role of mediating the effect on the relationship between the perception of fear of traveling and the perception of intention to travel (the indirect effect is -0.123, and we have partial mediation, as VAF = 38.8%). Thus, the behaviors to be adopted during a trip are determinants of the intention to travel.

5. Conclusions

The intention to travel, that is, the predisposition, desire, or willingness to travel to a specific place in a certain period with a specific purpose, can be influenced by several factors. The objective of this investigation was to examine the role of fear of traveling, anxiety and the consequences of COVID-19, the perception of risk of traveling, and travel behavior in the Portuguese's intention to travel in the context of a declared pandemic. For this purpose, a quantitative study was carried out based on a questionnaire survey, allowing the perception of 762 respondents to be assessed. Structural equation modeling with partial least squares showed that all the constructs used in this study can be used with confidence in future studies, as they showed adequate reliability and convergent and discriminant validity.

The empirical results allow us to state that fear of the consequences of COVID-19 (awareness of the danger due to the potential transmission of the contagious disease) and anxiety (physiological response manifested by a person when they are afraid) determine the fear of traveling (triggered emotion) and the perception of risk of traveling (risk associated with making a travel decision) of people to a given destination. In turn, the fear and perception of the risk of traveling determine the travel behaviors to be adopted; that is, the entire set of actions, decisions, and processes of planning, organizing, and carrying out a trip. Consequently, travel behavior and fear of traveling negatively influence the travel intentions of those who need to move. It seems to be evident that as the fear of traveling to a certain destination increases and forces demanding travel behaviors for the most diverse reasons, the intention of travelers to travel to that same destination decreases. In view of these facts, objectively, it is clear that all these variables under study, directly or indirectly, influence the intentions to travel to a given destination, responding to the formulated research question in a pandemic Portuguese context, being in line with the evidence in the literature.

In short, fear of travel and travel behaviors directly influence travel intentions, while other variables such as fear of the consequences of COVID-19, anxiety related to COVID-19, fear and risk of traveling also play an important role in the construction and analysis of the model, indirectly influencing travel intentions and allowing a better understanding of causal relationships.

It is clear that travel consumers are looking for safe destinations that do not cause fear or anxiety and where travel behaviors are undemanding and uncomplicated. The desire and predisposition to undertake a trip are determined by the complexity of the travel process, fear, anxiety, and the perception of associated risk. Thus, there is sufficient statistical evidence to state that the most significant variable for the model is travel behavior. This is yet another important contribution of this study, showing that this pandemic has created changes in travelers' ways of thinking and feelings, starting to influence travel behavior. These results are particularly relevant, providing valuable insights for entities that manage and monitor consumers' travel intentions, especially in the travel and tourism sector. This helps respond to the industry's recovery and customer needs and wants. This study allows for an improved understanding of how individuals make travel decisions under the negative impacts of COVID-19, deepening knowledge about travel behaviors and offering crucial information for communication and marketing strategies of entities that monitor travel intentions, facilitating post-pandemic tourism recovery.

Based on the above, we hope to stimulate future research in this field, especially in the business context in Portugal. To this date, there have been no empirical studies involving, in a single model, the variables proposed in this study and the relationships established between them, which gives this research a distinctive character. The use of non-probabilistic convenience sampling may be a limitation of this study, as it may not adequately represent the general population. However, results of this nature are important for decision-making in the context of pandemics or other transmissible diseases during travel.

The need for future studies to expand knowledge and improve this field of study is justified. Specifically, it would be interesting to assess the evolution of travel intentions and

behaviors over time and compare these behaviors and intentions for different destinations, classifying them in terms of high, medium, and low safety in relation to disease contagion.

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