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Negative affectivity and people's return intentions to hospitality and tourism activities: The early stages of COVID-19

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ABSTRACT

The present study sought to analyze how hospitality service consumption changed during the COVID-19 pandemic. Following a national survey of U.S. consumers, the effects of customer affect were tested using regression analysis with squared values to ascertain their impact on consumer behavior. Results revealed the impact of negative customer affectivity on consumer's decisions to purchase hospitality and tourism services. More specifically, the timing, duration, and intensity of emotion affected consumer's willingness to purchase these services. Certain demographics, including age, gender, and income, impacted consumers' willingness to purchase services. The authors lay the groundwork for a behavioral-based segmentation, enabling marketers and managers to assess the consumers most likely to purchase following the pandemic and devise strategies to attract them. Finally, the authors suggest that crises can bring about temporary and permanent consumer purchase behavior changes.

1. Introduction

The world is being challenged by one of the biggest crises in the last one hundred years. The COVID-19 pandemic, which began in December 2019, has since spread exponentially to 216 countries, areas, and territories worldwide, resulting in more than 118 million confirmed cases and over 2.6 million deaths (https://coronavirus.jhu.edu/us-map). Besides a health crisis, the COVID-19 pandemic caused financial and economic predicaments attributed to internal lockdowns and border closures. The early effects of an economic slowdown made their way to the labor market. The International Labor Organization estimates a 14% decline in work hours globally in the second quarter of 2020, translating to 400 million full-time jobs.

The United States has been particularly challenged as it led the world in the number of confirmed cases (with approximately 20% of all global COVID-19 cases, according to Johns Hopkins, 2020). The stock market crashed in the February–March period (Giglio, Maggiori, Stroebel, & Utkus, 2020), and the economy contracted by 5% in the first quarter, with more than 20 million workers facing unemployment (BEA, 2020; BLS, 2020). The less-than-positive news further exacerbated consumer confidence, which dropped quickly, based on the index developed by the University of Michigan (UM, 2020).

Following the virus, governments took measures to limit exposure and spread. These restrictions on businesses and individuals came with a negative side effect: changes in consumer behavior which have negatively affected the service sector, especially travel, tourism, and hospitality; for example, the closure of many international routes to the U.S. negatively affected the airline sector with estimated loses around 118.5 billion dollars in 2020 (IATA, 2020). The U.S. restaurant industry stands to lose $270 billion during the first 12 months of the pandemic (NRA, 2021a). It is also expected that in 2021, almost half of all U.S. hotel rooms will sit empty (AH&LA, 2021).

Whereas the American consumer accounts for 70% of GDP (U.S. Bureau of Economic Analysis, 2020), their behavior is of utmost importance to the economy's overall health. Consequently, the present research aims to gain a deeper understanding of purchasing behavior in the hospitality and tourism industry, considering a national emergency. The industry statistics suggest that consumers are changing their consumption patterns. The question remains: What drives these changing patterns and how long will the changes last?

Consumers' purchasing decisions are affected by their feelings of trust and confidence. When consumers are confident, they are more likely to buy goods and services, and when confidence declines, they limit their participation in the economy (Akerlof & Shiller, 2009). Variations in consumer confidence are recorded in the well-known indexes of consumer confidence and sentiment published by the

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University of Michigan (UM, 2021). Therefore, both the academic and business communities recognize that consumer's moods and emotions are of consequence to their economic behavior. Although there is recognition of the impact of state affect on consumer decision-making, little is known about how their dispositions would impact how they process shocks to the economic system. The Schedule of Positive and Negative Affectivity (PANAS) by Watson, Clark, and Tellegen (1988) uses emotion-descriptors to measure an individual's tendency to experience positive or negative affect. Although emotions change with time, people who tend to experience more negative emotions (as opposed to positive ones) more frequently and consistently are high on Negative Affectivity (NA). Consequently, PANAS provides a backdrop to investigate consumer emotions during the crisis, which ensued from COVID-19 and their ultimate effects on their willingness to purchase hospitality and tourism-related services.

The literature has investigated the effect of affective influences (evaluations, moods, and emotions) on people's consumption behavior in general (Antonetti, Manika, & Katsikeas., 2019; Christensen & Brooks, 2006; Deleersnyder et al., 2014; Karimi & Liu, 2020) as well as the consumption of various services and travel-related experiences in particular (e.g., Ampountolas, 2019; Kim & Jang, 2017; Pappas, 2019). Researchers studied the role of affective influences during crises and disasters (e.g., Chen, Jang, & Kim, 2007; Ferrer-Rossell & Coenders, 2018; Kubickova, Kirimhan, & Li, 2019; Senbeto & Hon, 2020), but no crisis or disaster is the same (Claessens & Kose, 2013; Gundel, 2005; Quarantelly, Boin, & Lagadec, 2018). For example, Hall, Prayag, FIeger, and Dyason (2020) documented New Zealand purchasing behavior changes due to two crises: an earthquake and the COVID-19 pandemic. Each of these events created different types of displacement in consumer spending. The consequence of the mismatch is that, in all likelihood, the results of studies on consumer behavior during crises are contextual of nature, meaning that the effect of consumer behavior may depend on situational opportunities and constraints (Johns, 2006). National emergencies such as the one posed by a worldwide pandemic have the potential to affect consumer behavior. However, more research is needed to understand the changes in consumer behavior and how they will affect the hospitality and tourism industries. The impact of the overall sentiment on purchase behavior is widely accepted. However, the specific characteristics of consumers, which make them more or less prone to consume during a crisis, are less known. Consequently, the present study seeks to fill this gap by studying the effects of the duration and intensity of Negative affectivity and various demographic characteristics in shaping consumer sentiment and, ultimately, their behavior. The revelation of how individual consumer traits at a micro-level impact their decisions and ultimately the wider economic outlook at the macro level is important for the hospitality and tourism industries in particular and the greater business community in general. Considering the existing literature and seeking to expand upon scholarly thought as well as create new knowledge, the following research objectives are proposed:

- To assess the impact of a national emergency (COVID-19) on consumers' purchase behaviors, emphasizing hospitality and tourism services.
- To analyze the effects of negative affectivity (NA) and its various dimensions on the likelihood (or lack thereof) to purchase hospitality and tourism-related services.
- To understand how demographics impact the likelihood of a speedier return to consumption given a national emergency such as the one posed by COVID-19

The authors use cross-sectional data and regression analysis with nonlinear elements to determine the impact of negative affectivity on consumer spending on hospitality and tourism services during the early COVID-19 stage. The remainder of the paper is organized as follows. The next section will discuss the key relevant studies, followed by a discussion of the methodology, including the data collection procedure. Subsequently, the study presents the results, followed by a discussion of the findings, theoretical and practical implications, limitations, and future research.

2. Theory

2.1. The COVID-19 pandemic: global and US effects in brief

2.1.1. Global effects

At present, the COVID -19 virus has created a great deal of disruption in the markets for goods and services. Globally, governments took actions to prevent the further spread of infections by applying both external (border closings) and internal lockdowns (limiting residents' moves by closing businesses, schools and reduce government operations to the strict necessary). These measures had their financial tolls on economies around the world. The stability of the global financial system was challenged, with tightening financial conditions, spiking market volatilities, and increased borrowing costs, according to the International Monetary Fund (IMF) (IMF, 2020a). The IMF projected in April 2020 that there would be a sharp contraction of the global economy in 2020, which is more than during the global economic and financial crisis of 2008–2009 (IMF, 2020b). The lockdown measures also led to many people being laid off or furloughed, resulting in significant income losses.

2.1.2. The United States (US)

The COVID-19 pandemic has particularly hard hit the US. With more than almost three million cases, the country accounts for about one-fourth of all occurrences in the world (Johns Hopkins University, 2020). The stock markets crashed during the February–March period due to COVID-19 (Giglio et al., 2020), and the economic effects of the crisis are gradually becoming explicit. The Bureau of Economic Analysis (BEA) data suggests that the US economy contracted by 5% in the first quarter of 2020 (BEA, 2020a). The unemployment rate reached 14.3% in April 2020, with more than 23 million persons unemployed, but receded somewhat to 6.2% in February 2021, as economic activity resumed, albeit limitedly (BLS, 2020; 2021). Alongside lower employment numbers, there has also been a lower workforce participation rate, particularly in women who tend to be overrepresented in frontline jobs and often bear greater childcare responsibilities (Bateman & Ross, 2020).

Restrictions on businesses and individuals have partially caused consumption constraints, with profound impacts on the services industries, including airlines, restaurants, hotels, events, and attractions. Multiple attractions and (state) parks closed by mid-March, and some have remained closed since then. According to the US Travel Association (2021), the pandemic has caused $492 billion in cumulative losses for U. S. travel. The National Restaurant Association reported that the restaurant industry faced 2.5 million jobs less than pre- -COVID-19 levels (NRA, 2021b). According to the American Hotel and Lodging Association, hotels and lodging revenues dropped by nearly half in 2020, accompanied by a loss of 478,245 hotel employees from pre-pandemic levels (AH&LA, 2021).

Prior research offered empirical support that consumers' purchase behaviors could differ before and after crises (e.g., Ahmend & Cassou, 2016; Sarmento et al., 2019). The examples discussed above imply people's inabilities to consume goods and services and their reluctance to do so in the context of COVID-19 compared to the pre-COVID-19 era. For instance, the University of Michigan's consumer sentiment survey relinquished rapidly to negative territory in April 2020 and remains negative compared to year over year (UM, 2020).

2.2. Affective influences and consumer behavior

In classical mainstream economics, humans are considered cold, rational, and calculating self-interested individuals (Cor & Plagnol,

2019) who make reasoned decisions based on budget constraints, available information on prices, and possible consumption bundles and their preferences (Frank, 2010). The rational decision-making approach fails to comprehend that people do not react to stimuli as automatons, as their behavior may be affected by intervening variables, such as attitudes, tastes, hopes, fears, etc. (Roos, 2008). Consequently, when people are confident, they buy goods and services, and conversely, when they are unconfident, they withdraw from economic activity (Akerlof & Shiller, 2009). When a larger population mimics individual consumer behavior, the result is a mass collapse in consumer expectations. When consumer evaluations, moods, and emotions are negative, the downfall can cause instability in the macroeconomic environment (Curtin, 2019). The theoretical framework proposed by Curtin (2019) argues that consumer expectations are formed by conscious and non-conscious processes and by passion and reason, public and private information, and social networks. The resulting consumer sentiment can then impact people's consumption behavior. Economic sectors of an experiential nature, such as hospitality and tourism, which are people-intensive, both on demand (i.e., customers) and supply sides (i.e., employees and future consumers), are particularly susceptible to changes in evaluations, moods, and emotions. Hall et al. (2020) documented that the pandemic caused temporary demand increases in certain industries (e.g., groceries and liquor), a sharp decline shortly afterward, and a return to normalcy in the long term. In contrast, the hospitality and tourism sectors faced sharp declines.

Studies on the effect of affective influences on people's consumption behavior have captured the attention of scholars. For example, Deleersnyder, Dekimpe, Sarvary, and Parker (2004) noted that sales in consumer durables in the US fell stronger during economic contractions than during periods of economic recovery, thus suggesting that consumers evaluate information on the state of the economy in their decision-making process. Christensen and Brooks (2006) discovered that people's moods mattered for the types of food they consumed. More recently, Karimi and Liu (2020) determined that consumers' affective states impacted their decision to adopt in-store mobile payment services. Antonetti, Manika, and Katsikeas (2019) demonstrated that international crises could affect consumers' animosity toward a hostile country, and these negative emotions could trigger an aversion to products from that country.

The literature has also emphasized the affective influences in times of crises and disasters (e.g., Chen et al., 2007; Ferrer-Rossell & Coenders, 2018; Kubickova et al., 2019; Senbeto & Hon, 2020). For instance, Penco, Profumo, Remondino, and Bruzzi (2019) found that the feeling of anger strengthened the impact of a critical event on people's intention to take a cruise in the future. However, no crisis or disaster is the same (Claessens & Kose, 2013; Gundel, 2005; Quarantelly et al., 2018), thus implying that the outcomes of studies on consumer behavior in crisis times and/or disasters are likely to be contextual of nature. The latter means that situational opportunities and constraints may affect behavior (Johns, 2006), in this case, consumption. The COVID-19 pandemic is on its way to becoming a crisis, "unlike the world has seen before." (Gopinath, 2020), which furthers the argument for the contextual nature of crises, which in turn necessitates researchers to analyze their distinct impact.

2.3. Hypothesis development

Climbing out of the economic toil depends on, among others, how fast consumers can turn around their feeling of distrust of the economy, considering the relevance of confidence for consumer behavior (Acuña et al., 2020; Dee, 2017; Lahiri et al., 2016). As established in the previous section, consumers' psychological circumstances matter for their confidence about macro-economic conditions and, ultimately, their spending behavior. A critical psychological influence on consumers is the intensity of their negative affectivity, the latter, which is a personality trait that reflects pervasive individual differences in negative emotionality and self-concept (Watson et al., 1988). Individuals with high negative affectivity (NA) traits are more likely to feel distressed and upset and negatively view themselves. In contrast, people with low negative affectivity (or high levels of positive affectivity) are relatively content, secure, and happy with themselves. Grafton, Watkins, and MacLeod (2012) concluded that individuals with higher NA levels tend to pay more attention to negative news than their peers with lower NA or higher PA levels. The hospitality and tourism literature has also revealed that emotions can change throughout a vacation experience (Najwin et al., 2013). Although NA is seen as a negative influence on commerce, research has also revealed that some discrete emotions highlighted in the scale, such as boredom, can positively influence retail purchases (Mano, 1999). Negative affectivity has also been found to (negatively) impact the willingness to travel among senior citizens (Jang, Bai, Hu, & Wu, 2009). It is noteworthy that such an effect has not been tested during a time of a national emergency. Consequently, the authors theorize that people with higher negative affectivity levels will be more cautious (slower) in returning to the marketplace for services, namely restaurants, lodging, air travel, and tourist attractions. (see hypotheses 1–3).

This study examines how the duration and intensity of NA impact the speed to return to various hospitality and tourism-related services. In prior studies, scholars have studied the duration of emotions (e.g., Oehlberg, Revelle, & Mineka, 2012) regarding anxiety and related outcomes. Furthermore, the duration of positive moods following positive news has been measured by prior studies. More specifically, individuals who are high in negative affectivity were less likely to sustain a positive mood over time despite receiving a positive performance appraisal (Lam, Yik, & Schaubroeck, 2002). Given the existing relationships between negative affectivity and the processing of positive and negative information, the present research argues that a longer duration of NA will negatively impact (slower) the return to commercial hospitality and tourism activities (see Hypothesis 4). Another relevant independent variable in this study is the intensity of Negative Affect. The intensity of negative affect has been associated with various physiological effects, such as hypertension (Jonas & Lando, 2000).

In the realm of consumer behavior, Cohen, Pham, and Andrade (2008) pinpoint the effects of consumer affect on purchase decisions. Furthermore, prior studies have uncovered the role of negative affect have on several behavioral outcomes, including brand switching, negative word-of-mouth, and complaining behaviors (Romani, Grappi, & Dalli, 2012). Given this backdrop, the researchers theorize that the intensity of negative affectivity, as measured by the PANAS scale, will reduce the speed to return to hospitality and tourism-related services (see hypothesis 5). Consumers are not a homogeneous group, as they often differ in various demographic characteristics, including gender, income, ethnicity, age, and many others. Such demographics have effects on online shopping patterns (Richa, 2012). Furthermore, consumer environmental attitudes can often be predicted using demographics (Fisher, Bashyal, & Bachman, 2012). Kattiyapornpong and Miller (2009) established that age, income, and life stage had significant influences on travel intentions in the travel context. Given the established relationships, the researchers hypothesized that individual consumer characteristics would have an influential role in determining the effect of negative affect on the speed to return to hospitality and tourism-related services (see hypothesis 6).

2.3.1. Customer emotions and COVID-19

Emotions can be triggered by a variety of daily events. In the workplace context, Affective Events Theory (Weiss & Cropanzano, 1996) describes how work events can trigger affective reactions, which in turn result in various attitudes and behaviors. In the context of consumer behavior, events such as the COVID-19 pandemic can trigger discrete emotions, which in turn result in changes in consumer attitudes and behaviors. Following survey research during the pandemic, Chua, Al-Ansi, Lee, and Han (2021) concluded that travelers, which had the

greatest degree of negative emotions, also had a higher perception of risk regarding travel-related activities. More specifically, the COVID-19 pandemic is likely to influence the perceived severity, susceptibility and risk perceptions among consumers. In the cruise ship setting, Radic et al. (2021) argued that given the realities of the virus, passengers would be more likely to avoid crowded spaces. Their study, which focused on female travelers, distinguished between those with higher and lower perceived risks, as the authors asserted "female cruise travelers with high perceived risk from COVID-19 experience intensified emotions compared to those with low perceived health risk" (Radic et al., 2021, p. 7).

Consumers are not a homogeneous group, thus their reactions to a global pandemic are likely to diverge. In a recent study, Neuburger and Egger (2021) segmented travelers based on their perceptions and travel behavior at two different points of the pandemic. Travelers were classified as "nervous, reserved, and relaxed" during the first period and "anxious, nervous, and reserved" during the second period (pp.1009-1011). Demographics such as gender, age, and travel experience were influential behavioral intentions. In a similar vein, Foroudi, Tabaghdehi, and Marvi (2021) theorized that consumer's beliefs influence anticipated emotions and in turn impact the consumer's choice to eat at a restaurant during the COVID-19 pandemic. In light of the present knowledge and seeking to contribute to the literature as well as to create new knowledge, the researchers propose the following hypotheses:

H1. Negative Affectivity (as reported on the day of the survey) reduces the speed to return to: a) restaurants, b) hotels, c) airlines, d) tourist attractions

H2. Negative Affectivity (as reported within the last week of the survey) reduces the speed to return to: a) restaurants, b) hotels, c) airlines, d) tourist attractions

H3. Negative Affectivity (as reported within the last year of the survey) reduces the speed to: a) restaurants, b, hotels, c) airlines, d) tourist attractions

H4. The NA's duration has an impact on the speed of return to: a) restaurants, a) restaurants, b) hotels, c) airlines, d) tourist attractions.

H5. The intensity of the effect of NA will determine the speed of return to: a) restaurants; b) hotels, c) airlines; d) tourist attractions.

H6. Individual characteristics have an influential role in the effect of NA on the speed of return to the four activities.

3. Materials and methods

3.1. Conceptual overview

The authors illustrate the conceptual development for the present research in Fig. 1. At the leftmost corner of this diagram, Negative affectivity is represented (and measured) by ten emotion descriptors following the Schedule of Positive and Negative Affectivity (PANAS) of Watson, Clarck, and Tellegen (1988). In this study, each descriptor of negative affectivity could individually affect people's return intention to restaurants, lodging, travel, and tourist attractions. The researchers measured the duration of negative affectivity using three different time frames: today, last few weeks, and a year. By asking consumers to answer the same question in three different time frames, the authors sought to understand the effects of the duration of negative affectivity on people's behavioral intentions. Furthermore, the study also considered gradation in the strength of negative affectivity in determining people's return intentions to the selected hospitality and tourism activities, i.e., by looking at whether there is nonlinearity in the effect of each dimension. The connections could be linear or nonlinear, while the possibility of a no effect was also considered. The approach described in Fig. 1 provides the opportunity to explore the effects of people's negative affectivity on their return (or, more precisely, how quickly they were willing to return) to hospitality and tourism activities from different contexts, thus adding further understanding on the workings of this emotion framework.

3.2. Data

The present research used a questionnaire to investigate the relationships described in the conceptual overview. The survey measured the respondent's state of emotion using a seven-point Liker-type scale for (i) the day of response (Strongly agree (1) … Strongly disagree (7)), (ii) over the past few weeks (Very frequently (1) … Seldom (5)), and (iii) over the past year (Very frequently (1) … Seldom (5)). Respondents were requested to state the extent of their emotional state, considering the ten emotion descriptors. Participants were also asked to indicate their return plan to restaurants, hotels, travel inside a plane, and visitation to tourist attractions (e.g., theme parks, museums, national parks, and monuments). The survey also featured questions on the respondents' characteristics (e.g., gender, age, income, employment status, marital status, education, and state of residence) and their affinity to risk (risk takers … risk avoiders). The collection period was in the last two weeks of May 2020.

The sampling frame consisted of adult consumers within the United States. Adults in the US are generally people who have reached the legal age of 18 years, a minimum norm considered by the study for participating in the survey. To gather a national panel of consumers of various services emphasizing experiential and travel-related services, the researchers contracted Qualtrics as a data collection consultant. Qualtrics software was also used to digitalize the survey. A total of 775 adult consumers responded to the survey. Out of these responses, the researchers scanned the data for missing responses, errors, or signs of fatigue among respondents. As a result of this effort, eight responses were deleted, resulting in 767 useable responses. Respondents were well distributed in terms of gender, the region of the country, socio-economic status, and other demographics. In a document aimed at clients, Qualtrics (2019a) explain their sampling process as follows:

"The majority of our samples come from traditional, actively managed, double-opt-in market research panels" (p. 2). Furthermore, with regards to participant selection, the Qualtrics report adds: "The

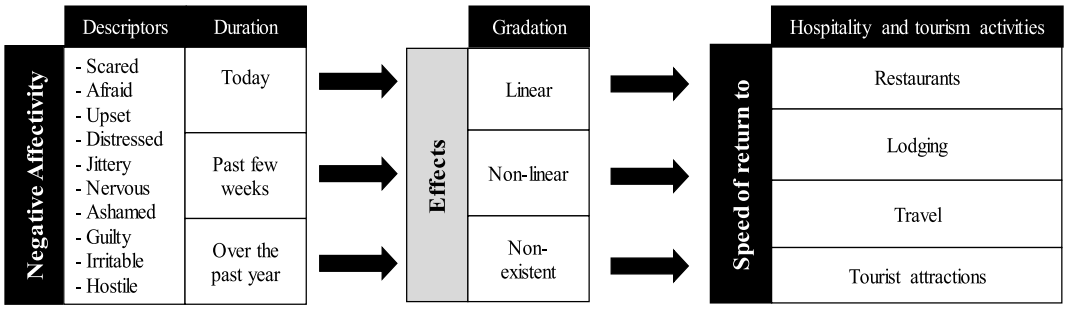

Fig. 1. Conceptual study scheme.

routers that Qualtrics leverages are randomized though sometimes with study prioritization weighting. However, randomization requirements are always prioritized and protected" (p. 3). "Qualtrics' sample partners maintain a wide variety of personal profiles on respondents including automotive, beauty, finance, home and family, internet, media, shopping, sports, travel, B2B, and so on. The panels in our network hold full psycho-demographic profiles, and each panelist can enter or update his or her information during registration and upon sign-in." (p. 4).

The company performs quality checks by verifying that the same IP address is not used twice to answer a survey. Furthermore, surveys are sent to those respondents who are likely to qualify based on the needs of each client (Qualtrics, 2019a). In this project, the researchers requested that Qualtrics assemble a panel with appropriate representation from different parts of the country and diverse in terms of gender, age, income, and other demographics. Qualtrics achieves this goal by performing quota-based sampling (Qualtrics, 2019b). In addition to the steps taken by Qualtrics, the researchers of this study used statistical software to re-weight the sample to ensure the closest fit to the U.S. population. Qualtrics (2019b) explains some added measures to ensure the quality of data, including "Qualtrics work with multiple panel sources to maximize feasibility and to mitigate single-source bias. Qualtrics will further employ proprietary product features and integration with Google reCAPTCHA and RelevantID, best-in-class industry solutions, to mitigate the threats of fraudulent responding behaviors such as trained bots and duplicate responses (p 4).

3.3. Analytical methods

Having received all relevant responses, the researchers proceeded to evaluate the data using Stata version 15. The study analyzed the survey data by first looking at the bivariate linear similarities between the dependent and independent variables. The dependent variables were the responses on the plan of return to the selected hospitality and tourism activities, while the independent variables were the respondents' state of emotion today, the past few weeks, and over the past year. The linear similarity method used here is Spearman's rank correlation, which measures the strength and direction of connection between two variables (Sedgwick, 2014). This approach follows in part the methodology applied by Kourtit, Nijkamp, and Wahlström (2020, p. 104734).

Next, the researchers continued the investigation by conducting regression analysis, again partially following Kourtit et al. (2020, p. 104734). The regression equation can be described as follows:

$$R_{i,A} = a_0 + a_1 T_{i,1} \cdots a_{10} T_{i,10} + b_1 T_{i,1}^2 \cdots b_{10} T_{i,10}^2 + c_1 W_{i,1} \cdots c_{10} W_{i,10} + d_1 W_{i,1}^2 \cdots d_{10} W_{i,10}^2 + e_1 Y_{i,1} \cdots e_{10} Y_{i,10} + f_1 Y_{i,1}^2 \cdots f_{10} Y_{i,10}^2 + \varepsilon_i \quad (1)$$

where.

R = Dependent variable (return to hospitality and tourism activities (restaurants, lodging, travel, and tourist attractions).
i Individual respondent.
A = Activity (return to hospitality and tourism activities (restaurants, lodging, travel, and tourist attractions).
a, b, c, d, e, f = Coefficients.
T = Independent variable (emotion descriptors today)
W = Independent variable (emotion descriptors over a week)
Y = Independent variable (emotion descriptors over a year)
Squared variables (^{2}) = Squared independent variables to test for nonlinearity in emotion descriptors.
ε Error term (residual of the regression)

The inclusion of squared variables in the model stem from the nonlinearity assumption of consumer behavior, the latter attributed to their changing levels of confidence and is in line with Renshaw (2009). The latter implies that there is likely no straightforward (or linear) relationship between emotion descriptors and consumer behavior. The results of the analysis will be presented in the next section.

4. Results

4.1. Descriptive statistics

The descriptive statistics are presented in Table 1. About 46.2% of the respondents were males, and 53.8% were females. According to the US Bureau of Census data, this outcome differed slightly from the actual gender ratios (50.8% females and 49.2% males). About 47.9% of the respondents were 45 years or younger, and 52.8% earned less than $70,000 per year. Some 43.3% either had a full-time or a part-time job that had not been affected by the COVID-19 outbreak. A total of 13.9% of all respondents were unemployed at the time of the survey. Overall, half (53.0%) were married, and about 42.2% of all respondents had some college degree or less in education. Close to half of the responders (47.5%) lived in the suburban area. According to the US Bureau of Census, the respondents' state of residence was also included in Table 1 and showed some differences with the actual population. Because of the latter differences and those in the gender responses, the researchers used the actual and survey data to create correction factors to adjust the survey responses to align with the actual population gender and state of residence data. After this correction, the researchers also proceeded to standardize the survey data for comparability. In a standardized environment, all data had a mean of zero and a standard deviation of one.

4.2. Association of the ranks

Subsequently, the researchers analyzed the bivariate correlations between the emotion descriptors (by duration) and the expected return to hospitality and tourism activities. The results are provided in Table 2 and indicate a statistically significant relationship in all the 120 possible bivariate combinations (30 emotion descriptors x four hospitality and tourism activities). These results indicate that each of the ranks of emotion descriptors and those of the return speed to the hospitality and tourism activities were associated to some degree.

4.3. Analysis of regression results

4.3.1. Feelings at the time of response

The regression results of the speed of return to hospitality and tourism activities on the different dimensions of negative affectivity over time are provided in Table 3. Negative affectivity on the same day of response did not affect the respondents' decision to return to restaurants, lodging, travel, and tourism attractions, as the regression here did not show any statistically significant outcomes. However, when considering the squared values of the respondents' feelings, the "upset" feeling came out positive and statistically significant. While the non-squared variable outcome was statistically not significant, there is still evidence of an inverse U relationship, meaning that the "upset" feel will negatively affect respondents returning to restaurants after reaching a certain level of this emotion. Similar behavior is likely to occur for respondents' return to lodging, travel, and tourist attractions. The squared values of the other emotion feelings all showed inverse U relations with respondents' return to lodging, except for the "hostile" feeling, where the effect was a U-form, meaning that with increasing levels of "hostility," respondents were more likely to return to lodging, probably to blow out some steam. With respondents' return to travel, the results for the "distressed" feeling also indicated the presence of an inverse form of effect, whereas, for returns to tourist attractions, a similar relationship was found for "distressed" and "irritable" feelings of respondents.

4.3.2. Feelings over the past few weeks

When considering the respondents' feelings over the past week, such feelings did not affect their intentions to return to restaurants. This outcome may be explained by the availability of online ordering of

Table 1
Respondents' personal characteristics and state of residence.

	Numbers	%		Numbers	%
Gender	N = 768		U.S. state	N = 768	
Male	355	46.2%	Alabama	10	1.3%
Female	413	53.8%	Alaska	3	0.4%
			Arizona	21	2.7%
Age	N = 768		Arkansas	6	0.8%
18–35 years	238	31.0%	California	102	13.3%
36–45 years	130	16.9%	Colorado	10	1.3%
46–55 years	133	17.3%	Connecticut	17	2.2%
56–65 years	126	16.4%	Delaware	1	0.1%
66.74 years	112	14.6%	District of Columbia	1	0.1%
75 years or more	29	3.8%	Florida	46	6.0%
			Georgia	16	2.1%
Income	N = 768		Hawaii	1	0.1%
Less than $24,900	107	13.9%	Idaho	2	0.3%
Between $25,000 - $39,999	110	14.3%	Illinois	43	5.6%
Between $40,000 - $54,999	90	11.7%	Indiana	24	3.1%
Between $55,000 - $69,999	99	12.9%	Iowa	10	1.3%
Between $70,000 - $84,999	91	11.8%	Kansas	5	0.7%
Between $85,000 - $99,999	57	7.4%	Kentucky	9	1.2%
Between $100,000 - $114,999	51	6.6%	Louisiana	3	0.4%
Between $115,000 - $129,999	34	4.4%	Maine	6	0.8%
Between $130,000 - $144,999	29	3.8%	Maryland	14	1.8%
$145,000 or more	100	13.0%	Massachussets	15	2.0%
			Michigan	22	2.9%
Employment statust	N = 768		Minnesota	9	1.2%
Full time (without change)	282	36.7%	Mississippi	3	0.4%
Part time (without change)	51	6.6%	Missouri	17	2.2%
Working less hours	63	8.2%	Montana	1	0.1%
Self-employed (without change)	19	2.5%	Nebraska	3	0.4%
Self-employed (with change)	28	3.6%	Nevada	14	1.8%
Furloughed with pay	30	3.9%	New Hampshire	3	0.4%
Furloghed without pay	7	0.9%	New Jersey	37	4.8%
Unemployed	107	13.9%	New Mexico	3	0.4%
Student (full time)	16	2.1%	New York	86	11.2%
Not employed and not looking for work	165	21.5%	North Carolina	14	1.8%
			North Dakota	1	0.1%
Marital status	N = 768		Ohio	37	4.8%
Single	209	27.2%	Oklahoma	5	0.7%
Married	407	53.0%	Oregon	7	0.9%
vDivorced	91	11.8%	Pennsylvania	30	3.9%
Separated	18	2.3%	Rhode Island		
Widowed	42	5.5%	South Carolina	10	1.3%
			South Dakota	3	0.4%
Education	N = 768		Tennessee	7	0.9%
Less than high school	7	0.9%	Texas	26	3.4%
High school	154	20.1%	Utah	8	1.0%
Some college degree	163	21.2%	Vermont		
2-year degree	80	10.4%	Virginia	20	2.6%
4-year degree	198	25.8%	Washington	17	2.2%
Professional and Master of Science	147	19.1%	West Virginia	2	0.3%
Doctorate	19	2.5%	Wisconsin	17	2.2%
			Wyoming	1	0.1%
Residence	N = 768				
Rural	146	19.0%			
Suburban	364	47.5%			
Urban	251	33.5%			

restaurant food and pick-up and delivery of the meal by delivery services such as Doordash, Uber Eats, Zomato, Slice, GrubHub, etc. The meal delivery activity had expanded majorly, particularly when people had to shelter in their homes during the early stages of the COVID-19 pandemic (https://secondmeasure.com/datapoints/food-delivery-services-grubhub-uber-eats-doordash-postmates/). However, when considering the squared variable outcomes, the "afraid" feeling came out statistically significant. The latter suggests an inverse U-relationship, where respondents' "afraid" feelings will likely have a negative impact on their speed of return to restaurants after reaching a certain threshold level.

With the speed of return to lodging activities, the results indicated a negative impact of "afraid" feelings and a positive impact of "distressed" feelings. The negative impact of "afraid" feelings seems linear, considering that its squared value result came out statistically not significant. The squared variable of "distressed" feeling was statistically significant, suggesting a U-type of effect, where "distressed" feelings have a negative effect first on respondents' speed of return to lodging activities, becoming positive after a certain threshold of "distressed" feelings. The results for the squared variables of "upset," "jittery," "nervous," and "guilty" feelings were negative and statistically significant, indicating an inverse U-relationship, whereas those of "ashamed," "irritable," and "hostile" feelings suggested a U-type of impact relationship.

In the case of respondents' speed of return to travel activities, the results indicated a negative and statistically significant outcome for "afraid" feelings, while those of "upset" and "distressed" feelings were positive and statistically significant. All three of these results indicated a linear impact on respondents' speed of return to travel activities. The squared variable analysis indicated a positive and statistically significant outcome for "irritable" feelings, suggesting a U-type effect (initially negative and subsequently becoming positive).

With respondents' speed of return to tourist attractions, the results indicated a positive and statistically significant outcome for "irritable" feelings. However, the squared variables of "afraid" and "distressed" feelings showed, respectively, a negative and positive statistically significant outcome, indicating an inverse U-impact ("afraid") and a U-impact ("distressed"). The latter outcome seems structural, as the respective squared value came out statistically insignificant.

4.3.3. Feelings over the past year

The restaurant consumption levels go up to 2.10, and by the year 2021, the mean goes to 2.35. Note that the mean value does not recover until the year 2021, and even, so it is slightly below the levels for 2018 and 2019. The latter would suggest a gradual or "U-shape" recovery instead of the quick "V-shape" recovery expected by many investment and economic communities. More recently, some suggest that a "k-shape" recovery might be closer to the present reality (this phenomenon occurs when some economic sectors recover quickly and others do not).

Table 2
Spearman's correlation.

	Correlation with							
Negative affectivity and speed of return	restaurants		lodging		travel		tourist attractions	
	Spearman's rho	Significance	Spearman's rho	Significance	Spearman's rho	Significance	Spearman's rho	Significance
Today								
scared	0.2747	0.0000	0.2485	0.0000	0.2786	0.0000	0.2385	0.0000
afraid	0.2658	0.0000	0.2381	0.0000	0.2544	0.0000	0.2179	0.0000
upset	0.3130	0.0000	0.2946	0.0000	0.3246	0.0000	0.2962	0.0000
distressed	0.3235	0.0000	0.3063	0.0000	0.3268	0.0000	0.2927	0.0000
jittery	0.2790	0.0000	0.2686	0.0000	0.2660	0.0000	0.2563	0.0000
nervous	0.2877	0.0000	0.2691	0.0000	0.2850	0.0000	0.2552	0.0000
ashamed	0.3509	0.0000	0.3984	0.0000	0.4008	0.0000	0.3583	0.0000
guilty	0.3360	0.0000	0.3739	0.0000	0.3927	0.0000	0.3451	0.0000
irritable	0.3235	0.0000	0.3225	0.0000	0.3223	0.0000	0.3023	0.0000
hostile	0.3423	0.0000	0.3301	0.0000	0.3592	0.0000	0.3282	0.0000
Feelings over the past few weeks								
scared	0.2860	0.0000	0.2679	0.0000	0.2744	0.0000	0.2364	0.0000
afraid	0.2827	0.0000	0.2489	0.0000	0.2570	0.0000	0.2145	0.0000
upset	0.3297	0.0000	0.3216	0.0000	0.3413	0.0000	0.3132	0.0000
distressed	0.3198	0.0000	0.3146	0.0000	0.3297	0.0000	0.3122	0.0000
jittery	0.3157	0.0000	0.2943	0.0000	0.2930	0.0000	0.2755	0.0000
nervous	0.2948	0.0000	0.2912	0.0000	0.2726	0.0000	0.2493	0.0000
ashamed	0.3758	0.0000	0.3921	0.0000	0.4154	0.0000	0.3505	0.0000
guilty	0.3621	0.0000	0.3789	0.0000	0.3926	0.0000	0.3509	0.0000
irritable	0.3419	0.0000	0.3465	0.0000	0.3365	0.0000	0.3193	0.0000
hostile	0.3523	0.0000	0.3445	0.0000	0.3394	0.0000	0.3213	0.0000
Feelings over the past year								
scared	0.3183	0.0000	0.3079	0.0000	0.2969	0.0000	0.2593	0.0000
afraid	0.3287	0.0000	0.3046	0.0000	0.3051	0.0000	0.2700	0.0000
upset	0.3490	0.0000	0.3234	0.0000	0.3246	0.0000	0.3033	0.0000
distressed	0.3381	0.0000	0.3066	0.0000	0.3445	0.0000	0.3224	0.0000
jittery	0.3069	0.0000	0.3322	0.0000	0.3279	0.0000	0.2834	0.0000
nervous	0.3191	0.0000	0.3299	0.0000	0.3016	0.0000	0.2891	0.0000
ashamed	0.3789	0.0000	0.3960	0.0000	0.4123	0.0000	0.3667	0.0000
guilty	0.3594	0.0000	0.3792	0.0000	0.3920	0.0000	0.3303	0.0000
irritable	0.3338	0.0000	0.3846	0.0000	0.3465	0.0000	0.3207	0.0000
hostile	0.3221	0.0000	0.3308	0.0000	0.3420	0.0000	0.3249	0.0000

In the case of hotels, a similar pattern is observed: the two years pre-COVID feature a mean of 2.64, which declines significantly during the period of social isolation (1.52), increases for the summer, fall, and winter of 2020 (mean = 2.00) though not yet at the previous year's level. By 2021, consumers expect their usage of hotels to increase (mean = 2.40), though the number is still below consumption for 2018 and 2019. Airlines and tourism attractions demonstrate similar patterns, with sharp declines during the social isolation period marked by a gradual increase in 2020 and immediate restoration to pre-COVID levels in 2021. Table 4 explains the hypotheses in light of the results.

4.4. Effects of demographic characteristics on consumption behavior

Beyond the stated hypotheses, the researchers also tested for the effects of certain demographics in the speed to consumption. More specifically, the effects of age, income, education, gender, and population density on the speed to return to consumption were analyzed. *Age* had a negative relationship with the speed to return to all four focal services. Therefore, it is possible that younger consumers return to consumption of services more quickly as compared to their seniors [restaurants (r-square = .01, F = 13.33, p-value = .00); b); hotels (r-square = 0.030, F = 24.44, p-value = .00); c) air travel (r-square = 0.061, F = 45.06, p-value = .00); d) tourist attractions (r-square = 0.034, F = 26.44, P-value = .00)]. *Income* also proved to be significantly related with the speed to return, with those individuals in higher income brackets more likely to return to consumption promptly [a) restaurant (r-square = 0.006, F = 4.82, p-value = .028); b) hotel (r-square = 0.039, F = 30.91, p-value = .00); c) air travel (r-square = 0.036, F = 27.48, p-value = .00); d) tourist attractions (r-square = 0.021, F = 16.79, p-value = .00)].

Educational attainment, for the most part, was not significantly associated with a speedy return to consumption [a) restaurant (r-square = 0.001); b) hotel (r-square = 0.003, p-value = .15); c) air travel (r-square = 0.015, F = 11.11, p-value = .00); d) tourist attractions (r-square = 0.003, p-value = .13)]. *Gender* had also a significant effect on consumer's speed to return to market (such relationship was tested using one-way ANOVA). A significant difference was noted in the case of restaurants (Mean square = 43.28, F = 22.17, p-value = .00) hotels (Mean square = 56.87, F = 18.21, p-value = .00), airlines (Mean square = 90.71, F = 28.76, p-value = .00), and tourist attractions (mean square = 57.29, F = 17.99, p-value = .00). In all cases, men were more likely to return quicker to the consumption of services. Interestingly, *population density* also had a significant and positive relationship to the quick return to consumption [a) restaurant (r-square = .007, F = 5.04, p-value = .025; b) hotel (r-square = 0.004, F = 3.07, p-value = .00); c) air travel (r-square = 0.021; F- 15.68, p-value = .00); d) tourist attraction (r-square = 0.010, F = 7.23, p-value = .007)]. This is an interesting finding, as urban populations have faced the strongest impact of COVID-19 and had the most stringent measures to prevent the spread. Nevertheless, this population demonstrated the desire to return to consumption quickly.

5. Discussion

5.1. Discussion of results and scholarly work

This research addressed the role of negative affectivity and demographics in driving consumer purchasing behavior during the global COVID-19 pandemic. Based on a survey of 767 respondents nationwide,

Table 3
Regression results.

	Speed of return to							
Negative affectivity and speed of return	restaurants		lodging		travel		tourist attractions	
Today								
scared	0.1001		0.0324		0.1059		0.1245	
afraid	−0.2073		−0.1035		−0.1857		−0.2126	
upset	−0.0993		−0.0176		−0.0589		−0.0230	
distressed	0.0827		0.0315		0.0773		0.0091	
jittery	−0.0553		0.0323		−0.1381		−0.0647	
nervous	0.0480		−0.0869		0.0315		0.0008	
ashamed	0.0041		0.1534		0.1127		0.0899	
guilty	−0.0566		−0.0495		−0.0695		−0.0257	
irritable	0.0348		−0.0298		0.0514		0.0129	
hostile	0.0685		0.0281		0.1362		0.1044	
Feelings over the past few weeks								
scared	−0.0999		−0.0682		−0.0450		−0.0255	
afraid	−0.0893		−0.2939	***	−0.2844	**	−0.3750	***
upset	0.0262		0.0011		0.1791	**	0.1084	
distressed	0.0491		0.1986	**	0.1847	**	0.2065	**
jittery	0.0705		−0.0578		−0.0896		0.0779	
nervous	−0.0585		0.0696		−0.0889		−0.0564	
ashamed	0.0663		0.0260		0.0358		−0.0131	
guilty	−0.0162		0.0526		0.0712		0.0976	
irritable	0.0460		−0.0656		−0.0564		−0.0223	
hostile	−0.0389		−0.0579		−0.0838		−0.0679	
Feelings over the past year								
scared	−0.0904		−0.0472		−0.0779		−0.1366	
afraid	0.1397		0.1572		0.1105		0.1332	
upset	−0.0373		−0.1418		−0.1268		−0.0487	
distressed	0.0645		−0.0090		0.1530		0.1991	**
jittery	−0.1149		−0.0193		0.0398		−0.1353	
nervous	0.0168		0.0632		−0.0888		−0.0317	
ashamed	0.2166	***	0.1313		0.2383	***	0.2253	**
guilty	0.0550		0.0145		−0.0288		−0.0672	
irritable	0.0457		0.2581	***	0.0683		0.0289	
hostile	−0.1050		−0.0615		−0.0804		−0.0772	
Risk consideration	0.1630	***	0.1421	**	0.2103	***	0.1911	**
Gender	−0.0075		0.0341	**	−0.0829		−0.0919	
Income	0.1333	***	0.1842	**	0.0762		0.0443	
Age	0.1772	***	0.1278		−0.0429		0.0244	
Employment	−0.0555		−0.0843	**	−0.0978	**	−0.1000	**
Marital status	0.0992	**	0.0375	**	0.1860	***	0.1443	***
Education	−0.0786		−0.0112		0.0575		0.0325	
Area of residence	0.2161	***	0.0945	**	0.1974	***	0.1906	***
Household size	0.0332		0.0520	**	−0.0205		0.0799	
State of residence	0.1362	***	0.0859		0.1043	**	0.1419	***

	Speed of return to							
Negative affectivity and speed of return	restaurants		lodging		travel		tourist attractions	
Squared values (nonlinearity of effects)								
Today								
scared	0.0279		0.1205		0.0717		0.0493	
afraid	−0.0075		−0.0894		−0.0195		−0.0788	
Upset	0.1077	***	0.0372	**	0.0841	**	0.0908	**
Distressed	0.0004		−0.0403	**	−0.0690		−0.1139	**
jittery	−0.0794		−0.0094	**	−0.0083		0.0034	
nervous	−0.0838		−0.0067	**	0.0094		0.0340	
ashamed	0.0375		−0.0234	**	−0.0035		−0.0287	
guilty	−0.0250		−0.0021	**	−0.0345		−0.0567	
irritable	−0.0062		−0.0179	**	−0.1374	***	−0.0752	**
hostile	−0.0047		0.0137	**	−0.0324		−0.0077	
Feelings over the past few weeks								
scared	0.0631		0.0336		0.0270		0.0725	
afraid	−0.1056	**	−0.0355		−0.0299		0.0417	
upset	0.0148		−0.0355	**	−0.0466		−0.0493	
distressed	−0.0562		0.0074	**	−0.0654		−0.0075	
jittery	0.0365		−0.0220	**	0.0481		−0.0822	
nervous	0.0254		−0.0121	**	0.0260		0.0698	
ashamed	0.0298		0.0003	**	0.0005		0.0206	

(*continued on next page*)

Table 3 (*continued*)

Negative affectivity and speed of return	Speed of return to restaurants		lodging		travel		tourist attractions	
guilty	−0.0028		−0.0301	**	0.0521		−0.0075	
irritable	−0.0427		0.0720	**	0.0923	**	0.0920	**
hostile	0.0474		0.0581	**	0.0492		−0.0129	
Feelings over the past year								
scared	0.053		0.0667		0.0714		−0.0103	
afraid	0.049		−0.0210		−0.0362		−0.0214	
upset	−0.056		−0.1032	**	−0.0558		−0.0779	**
distressed	0.070		0.0071	**	−0.0348		0.1050	**
jittery	−0.023		0.0373	**	0.0769		0.1017	**
nervous	0.060		0.0359	**	0.0122		−0.0603	
ashamed	−0.100	***	0.0210	**	−0.0900	***	−0.0631	
guilty	−0.094	***	−0.0125	**	−0.0081		0.0470	
irritable	0.056		0.0312	**	0.1203	***	0.0215	
hostile	−0.015		−0.0796	**	−0.0657		−0.0078	
F-statistic	16.69	(p = .0000)	8.88	(p = .0000)	11.86	(p = .0000)	8.08	(p = .0000)
Adj, R2	0.4576		0.4269		0.5055		0.4046	

Note: ** and *** indicate, respectively the 5% and 1% significance levels.

Table 4
Test of hypotheses.

Hypothesis	Results
H1 – NA (daily) reduced the speed to return to: a) restaurants, b) lodging, c) air travel, d) tourist attractions	Not supported
H2- NA (weekly) reduced the speed to return to: a) restaurants, b) lodging, c) air travel, d) tourist attractions	Only partially supported for the speed of return to lodging, travel, and tourist attractions, only for the dimension "afraid." The effect of the dimensions "distressed" and "upset" was positive.
H3- NA (yearly) reduced the speed to return to: a) restaurants, b) lodging, c) air travel, d) tourist attractions	Not supported. All statistically significant effects were positive.
H4: The duration of the NA has an impact on the speed of return to: a) restaurants, b) lodging, c) air travel, d) tourist attractions.	Supported. The study showed that daily NA has no statistically significant impact on the speed of return to the four activities. NA feelings that have lasted over a week were only statistically significant for the speed of return to lodging, travel, and tourist attractions. NA feelings that have lasted over a year were statistically influential for the speed of return to all four categories of activities.
H5: The intensity of the effect of NA will determine the speed of return to: a) restaurants, b) lodging, c) air travel, d) tourist attractions.	Supported. The study found nonlinear relationships, indicating that specific NA dimensions' intensity mattered for the effect on the speed of return to the four activities.
H6: Individual characteristics have an influential role on the effect of NA on the speed of return to the four activities.	Partially supported. The personal characteristics were not statistically significant for the speed of return to all four categories of activities.

the researchers examined the predictors of consumers' speed to return to four hospitality and tourism services. The results indicate that the timing, frequency, and intensity of emotions are influential towards consumer behavior. Negative affectivity predicted the return to tourist attractions, lodging, and air travel. This supports the literature which indicates that NA has significant effects on word-of-mouth communications, complaining, and brand switching behaviors (Romani et al., 2012). It is noteworthy that some emotions were more critical than others when it comes to predicting consumer's willingness to purchase hospitality and tourism-related services during the COVID-19 pandemic. The PANAS scale assigns different degrees of intensity to each negative emotion, thus not all negative emotion-descriptors reflect the same level of negativity. In the case of this study, being "afraid" was shown to reduce the speed to return to most hospitality-related services. In contrast, being "upset" or "distressed" speedup consumption of services. Prior studies demonstrated that a person's mood influences the types of food they're likely to consume (Christensen & Brooks, 2006). The literature also supports the notion that negative emotions and in particular "anger" increase the likelihood of consumers to take a cruise (Penco et al., 2019). It is possible that consumers engage in this hedonic type of consumption as a reprieve for the negative emotions they're experiencing. Being in a state of boredom affects the willingness of a consumer to engage in online retailing (Romani et al., 2012). Consequently, the COVID-19 pandemic can trigger this state and intensify the desire for consumers to engage in travel-related activities.

The personal characteristics of consumers were influential towards their willingness to return to the consumption of hospitality and travel-related services during the COVID-19 pandemic. More specifically being male, younger, and higher income increased the desire to engage in travel-related activities. In contrast, being female, older, and lower income seemed to account for a more cautious consumer given the global pandemic. This supports the literature which indicates that demographics are likely to affect consumer behavior (Richa, 2012). Recent studies related to the effects of COVID-19 pandemic in hospitality consumers reflect that their patterns of behavior diverge, with some travelers being more cautious and others more willing to consume (Foroudi, 2021). The virus is also likely to impact the perceived severity, susceptibility and risk perceptions among consumers (Chua et al., 2021). The present study confirms this assertion and goes step further by indicating that risk perceptions are likely colored by the individual's dispositional affect (e.g. degrees of NA) and their individual characteristics or demographic traits. The present research also extends the literature as far as to point out that nonlinear relationships do exists between these variables. Finally, the present research goes beyond analyzing the overall impact of affect and examines the effects of discrete emotions in the purchase patterns of consumers and how a crisis situation such as the one presented by the pandemic can alter consumer's affect, attitudes, and behaviors.

A salient predictor at the intrapersonal level denotes one's emotional state during the COVID-19. Consumers' psychological circumstances were recognized to influence their confidence in macro-economic conditions and, ultimately, their spending behavior. This result is congruent with previous literature supporting the role of emotions in crises (e.g., Penco et al., 2019). This research also provides empirical evidence that significant differences exist in consumers' purchase behaviors before and after the COVID-19 pandemic, lending support for prior research, which advised that consumer behavior may differ before and after crises

(Ahmend & Cassou, 2016; Sarmento et al., 2019). The difference was further catalyzed by people's negative emotions like nervousness and distress, which cause delays in the recovery process.

5.2. Theoretical implications

The study provides an empirical analysis of consumer behavior in human-intensive sectors during one of the most challenging pandemics experienced in the last one hundred years. Considering that no crisis or disaster is the same, the study's importance is contextual, making it an empirical question to be answered by analyzing observations. More specifically, the study contributes to the relevant literature in the following three aspects. First, this study advances consumer behavior theories/models by hinting at the key role of past purchase habits (pre-COVID consumption levels) in future consumption intention in crises. While individual habits have been widely discussed in prior literature as one of the key factors predicting people's behavioral intentions in classic models like the Unified Theory of Acceptance and Use of Technology Model (UTAUT2; Venkatesh, Thong, & Xu, 2012), the literature is virtually silent about whether pre-consumption behavior affects consumers' speed of return to "business as usual" in the context of crises. The latter is particularly important considering the high level of fear and uncertainty consumers go through in a worldwide crisis. This research offered empirical support that in the face of a catastrophic event like the COVID-19 pandemic, despite a sharp decline in consumption levels during the social isolation period, consumers reported a gradual increase in 2020 and immediate restoration of pre-COVID levels in 2021. This research indicates that loyalty toward businesses and/or products and services may be leveraged as an important factor in stimulating the speed of return in hospitality and tourism consumption post-COVID-19.

This research also contributes to the literature on customer emotions. Whereas theories of consumer behavior often assume that consumers are rational agents making reasoned and conscious decisions about what branded products and services to purchase and use (Cor & Plagnol, 2019; Martin & Morich, 2011); in more recent decades, various studies on consumer decision-making behaviors reveal that emotions play an integral part in how they consume (Antonetti et al., 2019; Christensen & Brooks, 2006; Karimi & Liu, 2020). However, the majority of literature focuses on the impacts of positive emotions on satisfaction (Jai & Han, 2011), willingness to pay premium price (Bigné & Andreau, 2004), and other behavioral intentions (Jani & Han, 2013; Prayag, Khoo-Lattimore, & Sitruk, 2015) in hospitality and tourism settings. The role of the psychological health of consumers as a driving factor is less understood, especially on the individual level (Giesen & Pieters, 2019). One such psychological influence is the intensity of people's negative affectivity. To fill such gaps, this study points to the power of negative emotions. In particular, the present research provides empirical support that consumers' negative emotions act as a salient catalyst to purchase decision-making during catastrophic events, calling for more research on consumers' psychological health in crises.

Among the limited research on negative emotions in crisis (e.g., Grafton et al., 2012; Mason, 2019; Sommer, Howell, & Hadley, 2016)., there is a gap regarding how different negative emotions work relative to one another and whether the timing and the intensity that consumers experience a particular emotion could change its impact on consumers' purchase decisions. While previous research tended to treat negative emotions as a homogenous group compared to positive emotions, this research points to a need to differentiate negative emotions since the valence of their impact on consumer behaviors could be the opposite depending on the specific emotion and its timing. For example, regarding consumers' speed to return to lodging services, "distressed," "ashamed," "irritable," and "hostile" feelings had a negative effect first but then became positive after a certain threshold (U-shape). In contrast, the feelings of "upset," "jittery," "nervous," and "guilty" had a positive effect first but then became negative after a certain threshold (inverse U-shape). In addition, even for the same type of negative affectivity, their impact can be the opposite depending on their duration. For example, as the level of "hostility" that respondents felt at the study time increased, respondents were more likely to return to lodging, probably to blow out some steam. On the contrary, the same feeling they experienced a few weeks earlier suggested a U-type impact relationship, indicating the opposite. Such interesting findings suggest that future research treats negative affectivity with much carefulness, in that as their timing and intensity change, the valence of their impact on consumption behaviors could turn around. In other words, for research on consumer emotions, negative affectivity should be viewed as a multi-dimensional construct encompassing their timing, duration, and intensity, rather than a one-dimensional concept where researchers often only consider its intensity.

5.3. Practical implications

This study yields timely and important implications for the service industry practitioners as well as policymakers. The recovery speed of consumer confidence has been recognized as important in the economic regaining process, given the relevance of consumption for economies (Achmet & Cassou, 2016; Kaytaz & Gul, 2014). Consumers may help with the recovery process by way of returning to their pre-crisis consumption behavior. Despite that NA was found to cause a potential delay in people's speed to return to experiential, travel, and tourism businesses, this study revealed a gradual recovery pattern. That is, in the case of hotels, restaurants, airlines, and tourist attractions, post a significant drop in consumption during the period of social isolation, the level of consumption will go up slowly for the summer, fall, and winter of 2020 after stay-at-home orders are lifted. Consumers expect to restore their consumption behaviors to happen by 2021, although still a bit below pre-COVID levels. It is noteworthy that many unknowns remain: for example, fears of a second wave of contagion exist, which could set further delays to consumer purchases. While some consumers might be more afraid of making travel-related decisions, some of them might see travel (and the travel planning process) as a means of anxiety reduction (Schnalzer, 2020). Given the social isolation and restrictions faced by many during initial periods of the COVID-19 pandemic, some believe that a new trend of "revenge" travel is emerging and might last a few years (Bologna, 2021). While travelers continue to make plans, several segments of the traveling public, especially business and convention travel, have not gone back their pre-pandemic levels. Recent industry surveys indicate that consumer confidence in traveling is suffering because of the delta variant (Destination Analysts, 2021).

Second, the present study's findings advocate behavioral-based consumer segmentation, which will ultimately allow researchers, business leaders, and government policymakers to prescribe more targeted solutions in their recovery process. This study's findings indicate that segmentation based on consumers' socio-demographic variables provides interesting implications. As compared to their counterparts, consumers who are younger, male, in higher income brackets, and reside in urban areas demonstrated a greater desire to return to the consumption of services quickly. Government policymakers and businesses, especially small- and medium-sized ones with fewer resources, are recommended to strategize their COVID-related marketing efforts to target these populations. For example, The CDC is considering tapping a popular social media platform TikTok to revamp coronavirus messaging for more young Americans to practice precautions. The pandemic has altered travel patterns with a greater emphasis on domestic tourism, nature-based destinations, and a hospitality experience which is higher on the use of technology and more transparent about their sanitation efforts (OECD, 2020). As the industry continues to adapt, it faces the challenges of labor shortages and reduced investment in the sector (OECD, 2020). Therefore, hospitality companies and tourism organizations need to be more proactive about communicating to a new group of consumers in a way that will appear to their travel desires and virus-related hesitations.

Finally, this study offers some implications for the impacts of news

media in a crisis. The study findings imply that modern technology and media play a crucial role in stimulating consumers' emotions during a crisis. They increase consumers' negative affectivity and reluctance to return to service-related businesses. It is thus important for news media to consider, in addition to covering the rapid evolvement of COVID-19, instilling positive emotions and attitudes into the already anxious and isolated populations. For instance, during COVID-19, various retail stores, lodging businesses, restaurants, and airline lounges have utilized diverse social media platforms and other communication channels (e.g., Facebook, Instagram, E-mails, etc.) to manage consumer relationship management to maintain consumers' confidence in restoration. Their messages focus on the proactive measures they take to safeguard consumers' and employees' safety and health and draw consumers' attention to their exciting new, underway products/services. By doing this, they dilute consumers' anxiety and distract them from the overly reported news and remind consumers of the relaxation and fun the consumption may bring.

5.4. Limitations and future research

The present research has some limitations which need to be considered. First, the data were collected once during the COVID-19, and the results of future consumption behaviors are generated from participants' predictions rather than their actual behaviors. While this approach was deemed most appropriate and feasible at the time of the study, the authors believe there are values for this study to be replicated after COVID-19 cools down and the situation becomes clearer, based on which a comparison can be drawn between the two studies. Second, this study was conducted in a typical individualistic culture – the U.S., where all authors reside at the study time. Future research will replicate the study approach in different cultural backgrounds to test its findings' stability. Third, while watching news was discussed as a potential influencer for consumers' negative affectivity, this study did not consider and test the impact of different news framing techniques where only certain aspects of perceived reality are embedded into message content. Future research is encouraged to look into news framing effects, especially in the context of crisis communication.

References

AH and LA -American Hotel and Lodging Association. (2021, January 23). *Hotels To Be Half-Filled This Year, AHLA Predicts*. Retrieved electronically on March 18, 2021, from: https://www.travelpulse.com/news/hotels-and-resorts/hotels-to-be-half-filled-this-year-ahla-predicts.html.

Akerlof, G., & Shiller, R. (2009). *Animal spirits: How human psychology drives the economy, and why it matters for global capitalism*. New Jersey: Princeton University Press.

Ampountolas, A. (2019). Peer-to-peer marketplaces: A study on consumer purchase behavior. *Journal of Hospitality and Tourism Insights, 2*(1), 37–54.

Antonetti, P., Manika, D., & Katsikeas, C. (2019). Why consumer animosity reduces product quality perceptions: The role of extreme emotions in international crises. *International Business Review, 28*(4), 739–753.

Association, U. T. (2020). *U.S. Travel and tourism overview (2019)*. Retrieved electronically on June 18, 2020, from https://www.ustravel.org/system/files/media_root/document/Research_Fact-Sheet_US-Travel-and-Tourism-Overview.pdf.

Bateman, N., & Ross, M. (2020). *Why has COVID-19 been particularly harmful for working women?* The Brookings Institute. Retrieved electronically on March 12, 2021, from: https://www.brookings.edu/essay/why-has-covid-19-been-especially-harmful-for-working-women/.

BEA. (2020). *Gross domestic product, first quarter 2020 (second estimate), Corporate Profits, first quarter 2020 (Preliminary estimate)*. BEA 20-23 . (Accessed 28 May 2020).

Bigné, E., & Andreau, L. (2004). Emotions in segmentation: An empirical study. *Annals of Tourism Research, 31*(3), 682–696.

BLS. (2020). *The employment situation–May 2020. June 2020*. Washington: Bureau of Labor Statistics.

Bologna, C. (2021, March 19). *Revenge travel will be all the rage over the next few years*. Huffington Post. Retrieved electronically on August 12, 2021 from: https://www.huffpost.com/entry/revenge-travel-future_l_6052b724c5b638881d29a416.

Chen, M., Jang, S., & Kim, W. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach. *International Journal of Hospitality Management, 26*(1), 200–212.

Christensen, L., & Brooks, A. (2006). Changing food preference as a function of mood. *Journal of Psychology, 140*(4), 293–306.

Chua, B. L., Al-Ansi, A., Lee, M. J., & Han, H. (2021). Impact of health risk perception on avoidance of international travel in the wake of a pandemic. *Current Issues in Tourism, 24*(7), 985–1002.

Claessens, S., & Kose, M. M. A. (2013). Financial crises explanations, types, and implications (No. 13-28). *International Monetary Fund*. ISBN/ISS number: 9781475561005/1018-5941.

Cohen, J. B., Pham, M. T., & Andrade, E. B. (2008). The nature and role of affect in consumer behavior. In C. P. H. P. M. Herr, & F. R. Kardes (Eds.), *Marketing and consumer psychology series, 9, Handbook of Consumer Psychology* (pp. 297–348). Taylor and Francis Group.

Cor, P., & Plagnol, A. (2019). *Behavioral economics, the basics*. New York: Routledge.

Curtin, R. (2019). *Consumer expectations: Micro Foundations and macro impact*. Retrieved from https://academic.microsoft.com/paper/2920376164.

Deleersnyder, B., Dekimpe, M., Sarvary, M., & Parker, P. (2004). Weathering tight economic times: The sales evolution of consumer durables over the business cycle. *Qme-Quantitative Marketing and Economics, 2*(4), 347–383.

Destination Analysts. (2021, August 9). *Update on American trends and sentiment - week of August 9th*. Retrieved electronically on August 12, 2021 from: https://www.destinationanalysts.com/insights-updates/.

Ferrer-Rosell, B., & Coenders, G. (2016). Destinations and crisis. Profiling tourists' budget share from 2006 to 2012. *Journal of Destination Marketing and Management, 7*, 26–35.

Fisher, C., Bashyal, S., & Bachman, B. (2012). Demographic impacts on environmentally friendly purchase behaviors. *Journal of Targeting, Measurement and Analysis for Marketing, 20*(3), 172–184.

Foroudi, P., Tabaghdehi, S. A. H., & Marvi, R. (2021). The gloom of the COVID-19 shock in the hospitality industry: A study of consumer risk perception and adaptive belief in the dark cloud of a pandemic. *International Journal of Hospitality Management, 92*, Article 102717.

Frank, R. (2010). *Microeconomic and behavior*. New York: McGraw-Hill Irwin.

Giglio, S., Maggiori, M., Stroebel, J., & Utkus, S. (2020). *Inside the mind of a stock market crash*. National Bureau of Economic Research Working. Paper 27272.

Gopinath, G. (2020). *The great lockdown through a global lens*. Retrieved electronically on June 16, 2020, from: https://blogs.imf.org/2020/06/16/the-great-lockdown-through-a-global-lens/.

Grafton, B., Watkins, E., & MacLeod, C. (2012). The ups and downs of cognitive bias: Dissociating the attentional characteristics of positive and negative affectivity. *Journal of Cognitive Psychology, 24*(1), 33–53.

Gundel, S. (2005). Towards a new typology of crises. *Journal of Contingencies and Crisis Management, 13*(3), 106–115.

Hall, M. C., Prayag, G., FIeger, P., & Dyason, D. (2020). Beyond panic buying: Consumption displacement and COVID-19. *Journal of Service Management* (just-accepted).

IMF. (2020a). *Global financial stability report: Markets in the time of COVID-19*. Washington: International Monetary Fund.

IMF. (2020b). *World economic outlook, April 2020: The great lockdown*. Washington: IMF.

International Air Transport Association. (2020, November 24). *Deep losses continue into 2021*. Retrieved electronically on March 18, 2021, from: https://www.iata.org/en/pressroom/pr/2020-11-24-01/.

Jang, S., Bai, B., Hu, C., & Wu, C. M. E. (2009). Affect, travel motivation, and travel intention: A senior market. *Journal of Hospitality & Tourism Research, 33*(1), 51–73.

Jani, D., & Han, H. (2013). Personality, social comparison, consumption, emotions, satisfaction, and behavioral intentions. *International Journal of Contemporary Hospitality Management, 25*(7), 970–993.

Johns, G. (2006). The Essential impact of context on organizational behavior. *Academy of Management Review, 31*(2), 386–408.

Jonas, B. S., & Lando, J. F. (2000). Negative affect as a prospective risk factor for hypertension. *Psychosomatic Medicine, 62*(2), 188–196.

Karimi, S., & Liu, Y. (2020). The differential impact of "mood" on consumers' decisions, a case of mobile payment adoption. *Computers in Human Behavior, 102*, 132–143.

Kattiyapornpong, U., & Miller, K. E. (2009). Socio-demographic constraints to travel behavior. *International Journal of Culture, Tourism and Hospitality Research, 3*(1), 81–94.

Kaytaz, M., & Gul, M. C. (2014). Consumer response to economic crisis and lessons for marketers: The Turkish experience. *Journal of Business Research, 67*(1), 2701–2706.

Kim, D., & Jang, S. (2017). Therapeutic benefits of dining out, traveling, and drinking: Coping strategies for lonely consumers to improve their mood. *International Journal of Hospitality Management, 67*, 106–114.

Kourtit, K., Nijkamp, P., & Wahlström, M. H. (2020). How to make cities the home of people–a 'soul and body' analysis of urban attractiveness. *Land Use Policy*, Article 104734.

Kubickova, M., Kirimhan, D., & Li, H. (2019). The impact of crises on hotel rooms' demand in developing economies: The case of terrorist attacks of 9/11 and the global financial crisis of 2008. *Journal of Hospitality and Tourism Management, 38*, 27–38.

Lam, S. S., Yik, M. S., & Schaubroeck, J. (2002). Responses to formal performance appraisal feedback: The role of negative affectivity. *Journal of Applied Psychology, 87*(1), 192.

Martin, N., & Morich, K. (2011). Unconscious mental processes in consumer choice: Toward a new model of consumer behavior. *Journal of Brand Management, 18*(7), 483–505.

Mason, A. (2019). Media frames and crisis events: Understanding the impact on corporate reputations, responsibility attributions, and negative affect. *International Journal of Business Communication, 56*(3), 414–431.

National Restaurant Association. (2021, January 8). *Nearly 400k restaurant jobs were lost in December*. Retrieved electronically on March 18, 2021, from: https://www.restaurant.org/articles/news/nearly-400k-restaurant-jobs-were-lost-in-december.

National Restaurant Association. (2021, March 16). *The shortfall in restaurant and foodservice sales totaled $270 billion during the first 12 months of the pandemic*. Retrieved electronically on March 18, 2021, from: https://restaurant.org/articles/news/restaurant-sales-pulled-back-from-january.

Nawijn, J., Mitas, O., Lin, Y., & Kerstetter, D. (2013). How do we feel on vacation? A closer look at how emotions change over the course of a trip. *Journal of Travel Research, 52*(2), 265–274.

Neuburger, L., & Egger, R. (2021). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: A case study of the DACH region. *Current Issues in Tourism, 24*(7), 1003–1016.

OECD. (2020, December 14). *Rebuilding tourism for the future: COVID-19 policy responses and recovery*. Retrieved electronically on August 12, 2021 from: https://www.oecd.org/coronavirus/policy-responses/rebuilding-tourism-for-the-future-covid-19-policy-responses-and-recovery-bced9859/.

Oehlberg, K. A., Revelle, W., & Mineka, S. (2012). Time-course of attention to negative stimuli: Negative affectivity, anxiety, or dysphoria? *Emotion, 12*(5), 943.

Pappas, N. (2019). The complexity of consumer experience formulation in the sharing economy. *International Journal of Hospitality Management, 77*, 415–424.

Penco, L., Profumo, G., Remondino, M., & Bruzzi, C. (2019). Critical events in the tourism industry: Factors affecting the future intention to take a cruise. *International Journal of Contemporary Hospitality Management, 31*(9), 3547–3566.

Prayag, G., Khoo-Lattimore, C., & Sitruk, J. (2015). Casual dining on the French Riviera: Examining the relationship between perceived quality, positive emotions, and behavioral intentions. *Journal of Hospitality Marketing and Management, 24*(1), 24–46.

Qualtrics. (2019a). *ESOMAR 28: 28 questions to help buyers of online samples*.

Qualtrics. (2019b). *Nationally representative sample: Understanding, methodology, and ability to meet project requirements*.

Quarantelli, E., Boin, A., & Lagadec, P. (2018). Studying future disasters and crises: A heuristic approach. In H. Rodriguez, E. Quarantelli, & R. Dynes (Eds.), *Handbook of disaster research* (pp. 61–83).

Radic, A., Lück, M., Al-Ansi, A., Chua, B. L., Seeler, S., & Han, H. (2021). Cruise ship dining experiencescape: The perspective of female cruise travelers in the midst of the COVID-19 pandemic. *International Journal of Hospitality Management, 95*, Article 102923.

Renshaw, G. (2009). *Maths for economics*. Oxford University Press.

Richa, D. (2012). Impact of demographic factors of consumers on online shopping behaviour: A study of consumers in India. *International Journal of Engineering and Management Sciences, 3*(1), 43–52.

Romani, S., Grappi, S., & Dalli, D. (2012). Emotions that drive consumers away from brands: Measuring negative emotions toward brands and their behavioral effects. *International Journal of Research in Marketing, 29*(1), 55–67.

Roos, M. (2008). Willingness to consume and ability to consume. *Journal of Economic Behavior & Organization, 66*(2), 387–402. Retrieved from https://academic.microsoft.com/paper/2059473645.

Schnalzer, R. (2020, September 16). *Vacation anticipation is a real thing: It helps your brain and now it's gone*. Los Angeles Times. Retrieved electronically on August 12, 2021 from: https://www.latimes.com/travel/story/2020-09-16/travel-excitement-provide-covid-19-stress-relief.

Sedgwick, P. (2014). Spearman's rank correlation coefficient. *British Medical Journal, 349*, 1–3.

Senbeto, D., & Hon, A. (2020). The impacts of social and economic crises on tourist behaviour and expenditure: An evolutionary approach. *Current Issues in Tourism, 23*(6), 740–755.

Sommer, S. A., Howell, J. M., & Hadley, C. N. (2016). Keeping positive and building strength: The role of affect and team leadership in developing resilience during an organizational crisis. *Group & Organization Management, 41*(2), 172–202.

UM. (2020). *Preliminary results from the May 2020 survey*. Retrieved electronically from on June 20, 2020, from. University of Michigan https://data.sca.isr.umich.edu/.

U.S. Bureau of Economic Analysis. (2020). *Shares of gross domestic product: Personal consumption expenditures*. Retrieved electronically from on April 2, 2020, from. FRED, Federal Reserve Bank of St. Louis https://fred.stlouisfed.org/series/DPCERE1Q156NBEA.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157–178.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory. *Research in Organizational Behavior, 18*(1), 1–74.