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TAFADZWA MATIZA[a], ELMARIE SLABBERT[b]

Travel Constraints and Willingness to Pay During a Global Crisis: Lessons from South African Domestic Tourism

Abstract. Academic inquiry into the impact of crises on the behaviour of domestic tourists is still relatively new, which justifies further research into the impact of the COVID-19 pandemic on domestic tourism. The following study explores the potential mediating effect of travel constraints experienced by South African tourists and their willingness to pay for tourism services on how pandemic-induced risks affect their tourism motivations. Data collected from 427 respondents indicate that the crisis caused by the pandemic has brought about a shift in the psychographic characteristics of South African domestic tourists, as evidenced by a statistically significant partial serial mediation of intrinsic constraints and willingness to pay in the relationship between pandemic-induced physical risk and outdoor recreational tourism motivations. The findings provide baseline data for a demand-driven domestic tourism policy and can be used to develop a strategy for the short-to-medium term.

Keywords: COVID-19, domestic tourism, serial mediation, perceived risk, psychographic factors

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1. Introduction

First reported in Wuhan, China, in 2019, the SARS-COV-2 virus infected an estimated 179 million people, resulting in 3.9 million deaths globally within the first 18 months of the outbreak (WHO, 2021). By March 2024, the virus had infected 775 million people, accounting for 7 million deaths worldwide (WHO, 2024). The total death toll of the COVID-19 pandemic is many times greater than the combined death toll caused by the Severe Acute Respiratory Syndrome (SARS in 2003), H1N1 (Swine flu in 2009), the Middle East respiratory syndrome (MERS in 2012)

[a] School for Tourism Management, North-West University, South Africa, tafadzwa.matiza@nwu.ac.za, https://orcid.org/0000-0003-4084-8906

[b] School for Tourism Management, North-West University, South Africa, elmarie.slabbert@nwu.ac.za, https://orcid.org/0000-0003-4311-6962

and the Ebola virus (2014–2016) outbreaks (Global Rescue & World Travel and Tourism Council, 2019). The body of knowledge related to COVID-19 and tourism suggests that the pervasiveness, duration, and severity of the pandemic induced a paradigm shift in the psyche of tourists (Armutlu et al., 2021; Hussain & Fusté-Forné, 2021; Ivanova et al., 2021; Matiza, 2020), which has been manifested in tourism-related behaviour and decision-making (DeMicco et al., 2021; Nunkoo, Daronkola, & Gholipour, 2021). What is evident from the literature is the "[…] uncertainty about the relationship between COVID-19 and domestic tourism and emerging avoidance behaviour" (Calderón et al., 2021, p. 1).

Before the pandemic, global tourism was dominated by domestic tourism (Li et al., 2015). Nonetheless, few studies have explored risk perceptions and behaviour of domestic tourists, especially in the context of the pandemic (Matiza & Slabbert, 2021). While there was an inevitable surge in the number of tourism studies related to COVID-19, few of them (Dube, 2021; Rogerson & Rogerson, 2020, 2021a; Rogerson & Baum, 2020) focused on South Africa, documenting the devastating effects of the pandemic on the country. While some of these South African studies proposed tourism 'localism' as a short-to medium-term strategy to the negative effects of the pandemic (Rogerson & Rogerson, 2021b) there is still an evident gap in demand-oriented studies about the role of psychographic aspects in consumption decisions made by domestic tourists (Armutlu et al., 2021; Zenker & Kock, 2020), particularly studies of crises that go beyond the problem of risk perception and the domestic tourist (Calderón et al., 2021). Moreover, there is still not enough research into the influence of psychographic factors such as travel constraints (Masiero & Nicolau, 2012;) and willingness to pay (WTP) (Doran et al., 2015; Stangl et al., 2020) as critical dimensions in the decision-making process of tourists during a crisis (Kumar et al., 2023), especially in the context of South African tourism. The following study was undertaken to address this gap in research by exploring the potential mediating effect of psychographic factors (tourist constraints and WTP) in the relationship between the COVID-19-induced perceived risk and travel motivations of South African domestic tourists.

The existing literature on crisis-induced behaviour tends to focus on the behaviour of international tourists (Adam et al., 2021). The present study investigates aspects of cognitive, affective, and conative behaviour of domestic tourist during the COVID-19 pandemic using empirical data and insights from crisis-oriented literature. From a practical perspective, the ability to predict travel behaviour based on tourist perceptions of destination attributes can be very useful to destination managers (Božić et al., 2017). Lessons drawn the study could inform tourism practitioners in South Africa and beyond with regard to crisis-induced behaviour of domestic tourists. Ideally, the findings could be used to improve marketing strategies

for domestic tourism and the management of risk perception, travel constraints and WTP, which affect tourist's extrinsic travel motivations.

2. Literature Review

2.1. Domestic Tourist's Travel Motivation

Crompton's (1979) Push-Pull Framework (PPF) of travel motivation is a central construct in the analysis of tourists' consumptive behaviour. Tourists are motivated to engage in travel and tourism by intrinsic (push) and extrinsic (pull) factors (Carvache-Franco et al., 2020). Intrinsic motivators, such as the pursuit of relaxation, new cultural experiences, adventures, social interactions, or the need to boost one's self-esteem push domestic tourists to engage in tourism (Duman, Erkaya & Topaloglu, 2020). Tourists are also pulled to specific tourism destinations/locations that possess extrinsic attributes such as outdoor activities, various natural attractions, unique food/cuisine experiences (Filistanova, 2017; Gautam, 2018; Mapingure, du Plessis & Saayman, 2019).

2.2. Risk Perceptions and Travel Behaviour

Risk is a factor which affects tourists' willingness to engage in travel and tourism activity and their choices of tourism destinations (Cahyanto et al., 2016). Risk perception refers to the "[…] cognitive evaluation of the danger of a negative outcome occurring while travelling or visiting a destination" (Armutlu et al., 2021, p. 220). It is of particularly significant in the context of tourist behaviour during crises such as the COVID-19 pandemic (Ivanova et al., 2021). Perceived risk in tourism has been widely researched. It has been found to be a highly subjective and multi-dimensional construct comprising at least nine types of risk related to physical health, social and psychological aspects, financial concerns, equipment and satisfaction (Matiza, 2020).

Rogers' (1975) Protection Motivation Theory (PMT) explains the role of risk perceptions in tourists' consumptive decision-making. According to PMT, consumers' conative behaviour is adapted and potentially affected by measures aimed at either eliminating or mitigating risk, depending on their tolerance towards the perceived severity and their perceived susceptibility to risk (Boto-García & Leoni, 2021; Rogers, 1975; Wang et al., 2019). Several tourist behavioural studies (see Kim et al., 2021; Seow et al., 2021; Wang et al., 2019) have applied Protection Motivation

Theory to crisis-induced risk and tourists' travel intentions. For instance, Kim et al. (2021) applied PMT to examine the impact of the COVID-19 pandemic on the American hospitality industry. They found that consumers were more cautious in their decisions, paying more attention to hygienic conditions and prioritising local establishments they were most familiar with.

2.3. Travel Constraints and WTP in Tourism

The Theory of Planned Behaviour (TPB) proposed by Ajzen (1991) is one of the first hypotheses explaining behavioural intentions of consumers (tourists). According to TPB, human behaviour is shaped by "intentions, attitudes (beliefs about a behaviour), subjective norms (beliefs about others' attitudes toward a behaviour), and perceived behavioural control (beliefs about one's ability to perform a behaviour)" (Neighbors et al., 2013, p. 324). While a positive attitude towards a given behaviour and its acceptability within the individual's social reference group is crucial to tourist decision-making, the present study focuses on the predictive role of perceived behavioural control (Hasan et al., 2020). Perceived behavioural control in tourism refers to the perceived ease of engaging in a particular behaviour, mainly based on the resources and opportunities available (Ajzen, 1991; Bae & Chang, 2021). Within the context of the present study, perceived behavioural can be used to explain the influence of travel constraints and the willingness of domestic tourists to pay on tourists' decisions and behaviour.

Travel constraints in tourism refer to factors that inhibit a person's decision to engage in tourism activity (Božić et al., 2017). While the seminal model proposed by Crawford and Godbey (1987) categorises travel constraints into three types (structural, intrapersonal, and interpersonal), they can also be divided into internal and external (see Božić et al., 2017, p. 99). Internal constraints include intrinsic attributes, such as personal interest and in engaging in tourism and personal preferences in this regard, whereas external constraints include factors such as accessibility of tourism services, information, as well as safety and security considerations (Božić et al., 2017; Fourie, 2015; Li et al., 2015).

WTP denotes "[…] the maximum price the consumer agrees to pay for a given quantity of a product or service… and reflects the value that the consumer perceives" (Nieto-García, Muñoz-Gallego & González-Benito, 2017). Prior studies have evaluated tourists' willingness to pay for specific tourism products, perceived fairness of prices, environmental aspects, and heritage experiences (Stangl et al., 2020). The willingness of domestic tourists to pay for local travel and tourism services is depends primarily on socio-economic considerations, which include perceived affordability of tourism services, level of disposable income, tourists'

preferences, and perceived utility of purchasing domestic tourism services (Adamu et al., 2015; Doran et al., 2015; Li, Zhang & Goh, 2015; Mgxekwa, 2016). According to Ferreira, Perks, and Oosthuizen (2016), financial factors, such as the ability to pay for tourism services, moderates travel behaviour, travel motivations and tourism demand. As a result, in their study of domestic tourism in Costa Rica during the COVID-19 pandemic, Calderón et al. (2021) found the pricing of domestic tourism services to be the second most important factor, after sanitation and hygiene, in tourists' purchasing decisions.

2.4. Hypothesis Formulation

In a 2020 study, Matiza found that the impact of the COVID-19 pandemic extended beyond the typical physical health risk posed by the virus and included socio-psychological effects resulting from the hyper-transmissibility of the virus through human contact as well as a significant financial risk associated with the pandemic globally (see Adam et al., 2021; Bae & Chang, 2021). In the present study perceived risk included physical, social, psychological, and financial risk. Travel motivation was measured from an extrinsic perspective taking into account tourists' likelihood of engaging in specific domestic tourism activity in South Africa during the pandemic. Prior tourism studies have also established a link between perceived risk and travel intentions of domestic tourists (Armutlu et al., 2021; Adam et al., 2021; Cahyanto et al., 2016; Neuburger & Egger, 2021), particularly in the context of the COVID-19 pandemic.

In a study of Serbian domestic tourism, Božić et al. (2017) examined a probable relationship between travel constraints (financial, intrinsic, extrinsic) and domestic tourists' travel motivations (push and pull factors). Authors of a study of domestic tourism in Kenya (Kifworo, Okello & Mapelu, 2020) found a negative correlation between travel constraints and domestic tourists' behaviour and a positive correlation between travel constraints and travel behaviours of non-participatory domestic tourists (Kifworo, Okello & Mapelu, 2020). Stangl et al. (2020) identified a cognitive link between tourists' travel motivations, destination attributes (product offerings, destination image, value) and tourists' WTP for tourism products. In a study of domestic tourism in Indonesia, Angguni and Lenggogeni (2021) analysed anxiety as a psychographic constraint in the relationship between COVID-19-induced risk and travel intentions of domestic tourists. They established a link between pandemic-induced perceived risk and psychographic factors associated with travel constraints. A study of domestic tourism in China (Li, Meng & Zhang, 2016) examining factors inhibiting domestic tourism amongst non-tourists found that WTP (price and travel expenses) was a crucial determinant

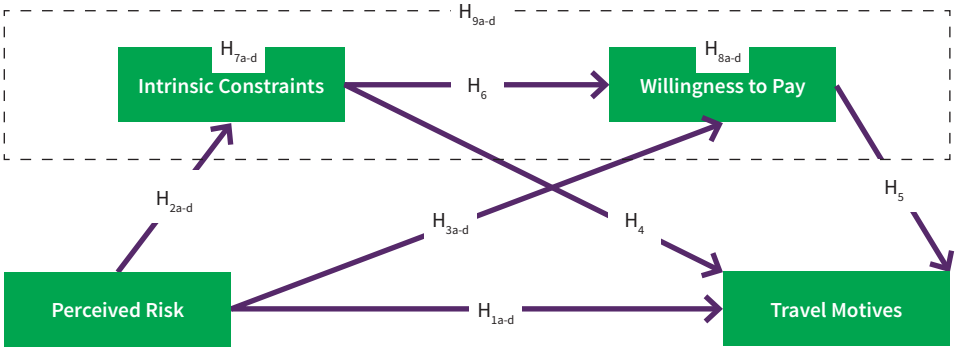
of Chinese tourists' travel behaviour, which means that economic considerations were regarded as a significant situational travel constraint. The above studies provide empirical evidence supporting the existence of a link between travel constraints and WTP in domestic tourism. In addition, insights from the Push Pull Framework, Protection Motivation Theory and Theory of Planned Behaviour, provide theoretical grounds to assume the existence of a *tripartite* relationship between the affective (perceived risk), cognitive (travel constraints and WTP), and conative (extrinsic travel motives) dimensions that affect the behaviour and decisions made by domestic tourists. These relationships are expressed in the following hypotheses and represented graphically in Figure 1.

2.5. Direct Hypotheses

The following direct hypotheses were formulated.

- H_1: Crisis-induced perceived [H_{1a}] physical, [H_{1b}] social, [H_{1c}] psychological, [H_{1d}] financial risks influence travel motivations of domestic tourists.
- H_2: Crisis-induced perceived [H_{2a}] physical, [H_{2b}] social, [H_{2c}] psychological, [H_{2d}] financial risks influence intrinsic travel constraints of domestic tourists.
- H_3: Crisis-induced perceived [H_{3a}] physical, [H_{3b}] social, [H_{3c}] psychological, [H_{3d}] financial risks influence domestic tourists' willingness to pay.
- H_4: Intrinsic travel constraints of domestic tourists influence their travel motivations.
- H_5: Domestic tourists' willingness to pay influences their travel motivations.
- H_6: Intrinsic travel constraints of domestic tourists influence their willingness to pay.

Figure 1. Conceptual framework



Source: Author's own construction

2.6. Mediation Hypotheses

The following mediation hypotheses were formulated.

H_7: Intrinsic travel constraints of domestic tourists mediate the effect of crisis-induced perceived [H_{7a}] physical, [H_{7b}] social, [H_{7c}] psychological, [H_{7d}] financial risks on tourists' travel motivations.

H_8: Domestic tourists' willingness to pay mediates the effect of crisis-induced perceived [H_{8a}] physical, [H_{8b}] social, [H_{8c}] psychological, [H_{8d}] financial risks on tourists' travel motivations.

2.7. Serial Mediation Hypothesis

The following serial mediation hypothesis was formulated.

H_9: South African tourists' travel constraints and willingness to pay have a serial mediating effect on the relationship between crisis-induced perceived [H_{9a}] physical, [H_{9b}] social, [H_{9c}] psychological, [H_{9d}] financial risks and tourists' extrinsic travel motivations.

3. Materials and Methods

The data for the study were collected during a self-selected online survey conducted between 18 December 2020 and 6 January 2021, the peak holiday period in South Africa, under conditions of an increased and less restrictive lockdown, when domestic travel and tourism was possible. The target population for the study were South Africans as potential domestic tourists. Data were generated from a pre-recruited panel of South African consumers via a reputable South African research company, iFeedback. The selected panel of consumers for the study consisted of 843 South African respondents (sampled from the panel). A total of 566 questionnaires were returned, representing a response rate of 67%. The final sample included 427 fully completed questionnaires.

3.1. Characteristics of Respondents

There was an even split between male and female respondents at 47% each, while 6% opted not to reveal their gender. 50% of the respondents were aged between 18 and 34 years and reported being single (50%) at the time of the survey, with 36% being married. 65% of the respondents possessed a formal qualification, with 30% indicating being employed in the private sector and 25% identified as employed.

31% of the sample earned much below the average monthly income in South Africa, which is R 22,500 (USD 1607), with 22% declining to disclose this information. 30% of the respondents travelled with their family (adults and children), their partners (24%), or alone (22%). At the time of the survey, 37% of the respondents had engaged in tourism activity more than once, or at least once (28%) prior to participating in the survey, while 35% said they had never engaged in tourism activity before the survey. Interestingly, 75% of the respondents indicated the intention to travel domestically during the following year (2021), while 54% intended to travel abroad.

3.2. Survey Questionnaire

The survey questionnaire, specially developed for the study, was approved and administered under the ethical clearance number NWU-00883-20-A4. It consisted of the following sections:

- Questions to elicit socio-demographic information about respondents, including age, income level, marital status, and travel companionship.
- 16 statements about perceived risk associated with domestic tourism in South Africa adapted from the literature (Adam, 2015; Deng & Ritchie, 2018; Fuchs & Reichel, 2006, 2011; Olya & Al-ansi, 2018). Respondents were asked to indicate to what extent the statements reflected their views on domestic travel and tourism in the next year. The level of agreement was indicated on a 5-point Likert scale [1 = 'Strongly disagree' and 5 = 'Strongly agree'].
- 10 statements, adapted from the literature, concerned travel constraints and WTP. 5 statements were designed to identify perceived travel constraints (see Božić et al., 2017; Fourie, 2015; Li et al., 2015) to domestic tourism and another five — tourists' WTP (see Adamu et al., 2015; Doran et al., 2015; Mgxekwa, 2016). Respondents were asked to what extent they agreed with the statements about constraining factors and their WTP for domestic tourism in South Africa. The level of agreement was indicated on a 5-point Likert scale [1 = 'Strongly disagree' and 5 = 'Strongly agree'].
- 10 statements, based on previously used empirical scales, about the extrinsic (pull) travel motivations (see Filistanova, 2017; Gautam, 2018; Mapingure et al., 2019; Pesonen et al., 2011; Seyidov & Adomaitienė, 2016) were intended to measure how likely tourists were to engage in outdoor recreation activities or leisure-oriented domestic tourism in the coming year. The likelihood of participation was indicated on a 5-point Likert scale [1 = 'Extremely unlikely' and 5 = 'Extremely likely'].

3.3. Data Analysis

To explore the potential mediating effect of travel constraints and WTP on the relationship between COVID-19 perceived risk and travel motivations of domestic tourists, the survey data were processed and analysed using the Statistical Package for Social Sciences (IBM SPSS) and IBM's AMOS. Exploratory Factor Analysis (EFA) reduced the data into discernible and reliable scale factors for further analysis, followed by Confirmatory Factor Analysis (CFA), which was employed to validate the scale constructs established by EFA (Chen et al., 2008). Direct effect testing via linear and multiple regressions confirmed data normality and the vialidity of mediation analysis based on predictive relationships between the dimensions being measured. PROCESS Macro in SPSS was then utilised to undertake the serial mediation analysis (Kane & Ashbaugh, 2017).

4. Results

4.1. Validation of the Measuring Instrument

The KMO (>.50) and Bartlett's Test of Sphericity (p = .000) statistics (Table 1) confirmed that the data were suitable for factor analysis. The PCA (EV > 1) and EFA (> .50) (Oblimin with Kaizer Normalisation rotation) extracted the respective factors that the CFA further analysed. The EFA extracted three perceived risk factors (Table 1): Social-Financial (eight items, α = .895); Physical (four items, α = .854); and Psychological (three items, α = .888) risk, respectively, accounting for a cumulative 67% of the variance in the data. Three travel constraint/WTP factors were also extracted using EFA (Annexure 1): *Intrinsic travel constraints* (four items, α = .738); *Extrinsic travel constraints* (four items, α = .749); and *WTP* (two items, α = .653), respectively, accounting for 63% of the variance in the data. Domestic travel motivations were represented by two factors (Table 1): Outdoor recreation (five items, α = .906); and Leisure activity (five items, α = .887), accounting for 72% of the variance in the data.

CFA established the validity and reliability of the measurement instrument scale factors. The physical risk, intrinsic and extrinsic constraints construct each shed one item, while the remainder of the constructs retained all the items identified by the EFA. Based on the model maximum likelihood estimation, all three constructs: *Perceived risk* [χ^2 = 343.725, χ^2/DF = 69, p = .000; CMIN/DF = 4.982; CFI = .924; SRMR = .067; RMSEA = .097]; *Travel constraints* [χ^2 = 128.231, χ^2/DF = 31, p = .000;

Table 1. Exploratory Factor Analysis and Confirmatory Factor Analysis results

Dimension	Items	EFA						CFA						
		Factor loading		Mean value ($\bar{x}$)	Eigenvalue (EV)	Variance (%)	Cronbach alpha (α)	Items	Std. Est		CR	AVE	MSV	√ AVE
		Min	Max						Min	Max				
[1]Percieved risk														
Social-financial risk	8	.520	.835	2.39	7.502	46.89	.895	8	.644	.808	.891	.506	.419	.711
Physical risk	4	.588	.911	3.29	1.839	11.49	.854	3	.625	.955	.806	.589	.284	.767
Psychological risk	3	.838	.924	2.48	1.371	8.57	.888	3	.776	.914	.893	.736	.419	.858
[2]Constraints														
Intrinsic constraints	4	.564	.800	2.29	3.74	37.40	.738	3	.582	.776	.747	.520	.435	.707
Extrinsic constraints	4	.597	.799	2.83	1.458	14.58	.749	3	.649	.835	.782	.547	.435	.740
Willingness to Pay	2	.824	.844	3.29	1.058	10.58	.653	2	.785	2.669	2.725	3.578	.009	1.892
[3]Travel motives														
Outdoor recreation	5	.692	.922	3.43	6.008	60.08	.906	5	.730	.895	.912	.675	.587	.821
Leisure activity	5	.542	.941	2.92	1.209	12.09	.887	5	.698	.858	.885	.607	.587	.779

Notes: [1]KMO = .908 and Bartlett's test of Sphericity of (χ^2 (120) = 4312.454, p = .000)
[2]KMO = .799 and Bartlett's test of Sphericity of (χ^2 (45) = 1233.704, p = .000)
[3]KMO = .929 and Bartlett's test of Sphericity of (χ^2 (45) = 2888.750, p = .000)

Source: Survey data

CMIN/DF=3.122; CFI=.965; SRMR=.027; RMSEA=.071]; and *Travel motives* [χ^2= 113.774, χ^2/DF = 31, p = .000; CMIN/DF = 3.670; CFI = .971; SRMR = .051; RMSEA =. 079] reported statistics within the acceptable parameters for the goodness of fit of the respective models (Chen et al., 2008; Hu & Bentler, 1999). The CR statistics for all the constructs (Table 1) were significant at > .70, indicating good internal consistency (Nunnally, 1978), while AVE statistics above the recommended .50 thresholds indicated acceptable convergent validity (Hu & Bentler, 1999). The Square root of AVEs for all the constructs was greater than inter-construct correlations; additionally, the MSVs < AVEs, thus indicative of discriminate validity (Hair et al., 2010).

4.2. Direct Effect Testing

Direct effect testing (Table 2) verified the reformulated (post-EFA) direct relationships between the variables for inclusion in the mediation analysis. The independent variable(s) (IV) were: X_1 is *Social-financial risk*; X_2 is *Physical risk*; X_3 is *Psychological risk*. Mediators (M) were: M_1 is *Intrinsic constraints*; M_2 is *Extrinsic constraints*; M_3 is WTP. Dependent variable(s) (DV) were: Y_1 is *Outdoor recreation*; Y_2 is *Leisure activities*.

Table 2. Direct effect verification

	Unstandardised coefficients		Standardised coefficients	t-value	Sig.	VIF	Tol.
	B	Std. Error	β				
Perceived risk (X_{1-3}) — Outdoor recreation (Y_1)							
R^2 = .042, F(3,423)7.235, p = .000							
X − Y: Path c_1							
$X_1 - Y_1$	−.108	.080	−.091	−1.344	.180	2.038	.491
$X_2 - Y_1$	.296	.065	.278	4.531	.000***	1.676	.597
$X_3 - Y_1$	−.089	.058	−.092	−1.547	.123	1.577	.634
Perceived risk (X_{1-3}) — Leisure activities (Y_2)							
R^2 = .009, F(3,423)2.344, p = .072							
X − Y: Path c_2							
$X_1 - Y_2$	.132	.082	.110	1.605	.109	2.038	.491
$X_2 - Y_2$	.062	.067	.058	.931	.353	1.676	.597
$X_3 - Y_2$	−.055	.059	−.057	−.934	.351	1.577	.643
Perceived risk (X_{1-3}) — Intrinsic constraints (M_1)							
R^2 = .244, F(3,423)46,724, p = .000							
X − M: Path a_1							
$X_1 - M_1$	.551	.062	.530	3.815	.000***	2.038	.491
$X_2 - M_1$	−.211	.051	−.226	−4.149	.000***	1.676	.597
$X_3 - M_1$	.104	.045	.122	2.313	.021*	1.577	.634
Perceived risk (X_{1-3}) — Extrinsic constraints (M_2)							
R^2 = .201, F(3,423)36,373, p = .000							
X − M: Path a_2							
$X_1 - M_2$	.292	.067	.267	4.324	.000***	2.038	.491
$X_2 - M_2$	.128	.055	.130	2.323	.021*	1.676	.597
$X_3 - M_2$	.117	.049	.131	2.415	.016*	1.577	.634
Perceived risk (X_{1-3}) — WTP (M_3)							
R^2 = .060, F(3,423)10.063, p =. 000							
X − M: Path a_3							
$X_1 - M_3$	.015	.076	−.013	−.200	.842	2.032	.491
$X_2 - M_3$	.289	.062	.284	4.622	.000***	1.676	.597
$X_3 - M_3$	−.043	.055	−.046	−.781	.435	1.577	.634
Constraints/ WTP (M_{1-3}) — Outdoor recreation (Y_1)							
R^2 = .128, F(3,423)21.868, p = .000							
M − Y: Path b							
$M_1 - Y_1$	−.205	.048	.351	7.593	.000***	1.045	.957
$M_2 - Y_1$	.058	.058	.054	.997	.319	1.419	.705
$M_3 - Y_1$	.367	.061	−.180	−3.348	.001**	1.406	.711
Intrinsic constraints (M_1) — WTP (M_3)							
R^2 = .026, F(1,425)12.347, p = .000							
$M_1 - M_3$: Path d	.183	.052	.168	3.514	.000***	1.000	1.000

Statistically significant at *p < .05, **p < .01, ***p < .001. Source: Survey data

No statistically significant relationships (Table 2) could be established between the IV *Perceived risk* (X_{1-3}) dimensions and the DV *Leisure activities* (Path c_2); hence all potential mediation involving *Leisure activities* (Y_2) was excluded from mediation analysis. No statistically significant relationships (Table 1) could also be established between the IVs *Social-financial* (X_1), *Psychological risk* (X_3) and the DV *Outdoor recreation* (Y_1) on Path c_1, hence all potential mediation associated with *Social-financial* (X_1), and *Psychological* (X_3) *risk* variables were excluded from further analysis. All *Perceived risk* dimensions (X_{1-3}) reported statistically significant relationships with the *Intrinsic constraints* (M_1) and *Extrinsic constraints* (M_2), while only *Physical risk* (X_2) was statistically related to WTP (M_3). *Intrinsic constraints* (M_1) and WTP (M_3) reported statistically significant relationships between each other and with *Outdoor recreation* (Y_1), respectively. Thus, *Physical risk* (X_2), *Intrinsic constraints* (M_1), WTP (M_3) and *Outdoor recreation* (Y_1) were viable for mediation analysis. Notably, the statistically significant predictive relationship between *Intrinsic constraints* (M_1) and WTP (M_3) suggested a potential *causal chain linking* the mediators, hence the viability of serial mediation (Kane & Ashbaugh, 2017). Table 3 summarises the constructs and the items deemed viable for serial mediation analysis post-the-EFA and direct effect testing. Hence, based on the direct effect testing, the original hypotheses were reformulated.

Table 3. Direct effect dimensions and item summary (Based on the CFA)

Factor	Item	Statement
Physical Risk	PHR2	Proper sanitation and hygiene in the tourist destination are now more important than ever
	PHR3	I would not travel to a domestic tourism destination if one of its neighbouring provinces was facing a health-related crisis
	PHR4	The risk of infectious diseases could influence my decision to travel in South Africa
Intrinsic Constraints	CNST1	I am not interested in the type of tourism products offered, I'd rather visit family and friends than going on holiday
	CNST2	I am not interested in travelling in South Africa in general
	CNST3	It is not accessible to travel within South Africa
Willingness To Pay	WTP5	Is not expensive, I can afford it.
	WTP4	As a tourist I am willing to pay for a local holiday
Outdoor Recreation	DAI9	Enjoy various natural attractions (mountains, lakes, rivers)
	DAI7	Travel to places that offer a variety of unique of flora and fauna
	DAI8	Visit national parks, conservancies, and nature reserves
	DAI5	Engage in outdoor activities (Quad-biking, hiking, bungee jumping, rafting)
	DAI10	Experience great weather in the region

Source: Survey

4.3. Direct Hypotheses

H_{1a}: Crisis-induced physical risk influences outdoor recreation-oriented travel motivations of domestic tourists.

H_{2a}: Crisis-induced physical risk influences domestic tourists' intrinsic travel constraints.

H_{3a}: Crisis-induced physical risk influences domestic tourists' willingness to pay.

H_{4a}: Domestic tourists' intrinsic travel constraints influence their outdoor recreation-oriented travel motivations.

H_{5a}: Domestic tourists' willingness to pay influences their outdoor recreation-oriented travel motivations.

H_{6a}: Domestic tourists' intrinsic travel constraints influence their willingness to pay

4.4. Mediation Hypotheses

H_{7a}: Domestic tourists' intrinsic travel constraints mediate the effect of crisis-induced physical risk on tourists' outdoor recreation-oriented travel motivations.

H_{8a}: Domestic tourists' willingness to pay mediates the effect of crisis-induced physical risk on tourists' outdoor recreation-oriented travel motivations.

4.5. Serial Mediation Hypothesis

H_{9a}: South African tourists' travel constraints and willingness to pay have a serial mediating effect on the relationship between crisis-induced physical risk and tourists' extrinsic, recreation-oriented travel motivations.

4.6. Serial Mediation Analysis

The serial mediation hypothesis explains the relationship between COVID-19-induced *Physical* risk and travel (*Outdoor recreation*) motivations of potential South African domestic tourists as serially mediated via a causal chain of mediators (*Intrinsic constraints* and WTP). Using PROCESS macro for SPSS [Model 6], 5000 bootstrap samples were generated to estimate the effects based on unstandardized beta statistics (b), standard error (s.e.) and 95% bias-corrected confidence intervals (CI) using the Lower Limit (LL) and Upper Limit (UL), respectively (Kane & Ashbaugh, 2017). Table 4 summarises the results for the serial medial model(s).

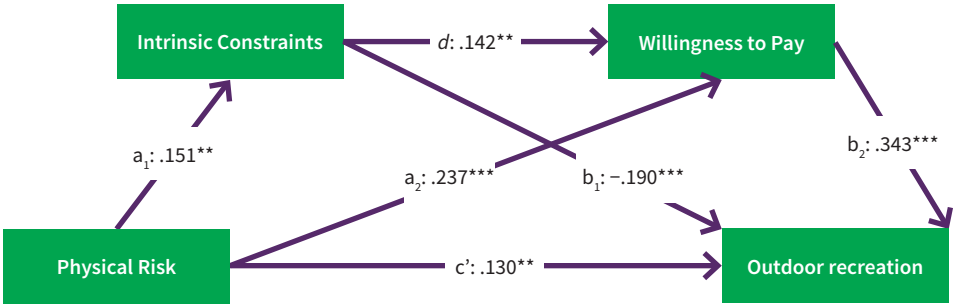
Table 4. Serial mediation model summary

*Dependent Variable	*Independent Variable	R	R^2	F	B	t-value	Sig
Intrinsic constraints	Physical risk	.162	.026	11.406	.151	3.377	.001**
Willingness to Pay (WTP)	Physical risk	.285	.081	18.689	.237	4.935	.000***
	Intrinsic constraints						.006**
Outdoor recreation	Physical risk	.382	.146	24.112	.130	2.615	.009**
	Intrinsic constraints				−.190	−3.633	.000***
	Willingness to Pay (WTP)				.343	7.005	.000***

Statistically significant at *p < .05, **p < .01, ***p < .001
*Variable statements are outlined in Annexure 2

Source: Survey data

The serial mediation model(s) summarised in Table 4 and illustrated in Figure 2 represent the serial mediating effect of domestic tourists' *Intrinsic constraints* and WTP on the relationship between COVID-19-induced physical risk and *Outdoor recreational-oriented* travel motivation. As it emerged, *Physical risk* had a positive direct effect on *Outdoor recreational-oriented* travel motivations (c': b = .130, s.e = .050, p = .009); *Intrinsic constraints* (a_1: b =.151, s.e = .045, p = .001); and WTP (a_2: b =.237, s.e = .048, p = .001). Hence, hypotheses H_{1a}, H_{2a} and H_{3a} were accepted. Hypotheses H_{4a} and H_{5a} were accepted as *Intrinsic constraints* had a negative direct effect (b_1: b = −.190, s.e = .052, p = .000), whereas WTP had a positive direct effect (b_2: b = .343, s.e = .049, p = .000) on *Outdoor recreational-oriented* travel motivations. Domestic tourist's *Intrinsic constraints* reported a positive direct effect on their WTP (*d:* b = .142, s.e = .051, p = .006), therefore hypothesis H_{6a} was accepted.



Notes: *p < :05, **p < :01, ***p < :001. Effects are unstandardized: an = effect of physical risk on mediators; bn = effect of mediators on outdoor recreation motives; c' = the direct effect of physical risk on outdoor recreational tourism motives; *d* = effect of intrinsic constraints on willingness to pay.

Figure 2. Final serial mediation model

Source: Survey data

A statistically significant negative indirect effect (a_1b_1: b = −.029, 95% CI [LL = −.058, UL = −.007]) was found to exist in the relationship between *Physical risk* and *Outdoor recreation-oriented* travel motivations via tourists' *Intrinsic constraints*. Additionally, a statistically significant positive indirect effect (a_2b_2: b = .081, 95% CI [LL = .035, UL = .140]) was also established in the relationship between *Physical risk* and *Outdoor recreation-oriented* travel motivations via tourists' WTP; as a result, hypotheses H_{7a} and H_{8a} were accepted. Significantly, hypothesis H_{9a} was accepted - there was a discernible positive indirect effect (a_1db_2: b = .007, 95% CI (LL = .001, UL = .017) via both mediators - *Intrinsic constraints* and *WTP*, respectively. None of the modelled effects included zero between the LL and UL; therefore, all the effects were significant (Preacher & Hayes, 2004).

5. Discussion

The study provides three key findings. First, in line with the existing literature on domestic tourism (Angembani et al., 2022; Ibrahim et al., 2021; Joo et al., 2021; Matiza & Slabbert, 2021), a relationship was found to exist between perceived risk and travel motivations of domestic tourists: more specifically, perceived physical risk induced by the COVID-19 pandemic positively was found to affect domestic tourists outdoor recreation-oriented travel motivations. The finding suggests that despite sanitation and hygiene concerns during the pandemic and the risk of infection, people were willing to engage in domestic outdoor recreational tourism. This means that even faced with health-related risk, tourists may not necessarily avoid or reduce tourism activity but are more likely to adopt mitigating behaviours, such as changing their preferences (Zenker & Kock, 2020) and opting for familiar domestic tourism destinations (ethnocentrism) that are perceived to be safer than international destinations (Nunkoo et al., 2021; Wolff et al., 2019). Furthermore, the finding is consistent with the Push-Pull Framework in that South Africa's natural assets were attractive to domestic tourists despite the pandemic. In terms of the Theory of Planned Behaviour, owing to subjective bias and ethnocentrism (subjective norms) and possible diminished perceived risk, tourists' attitudes became more positive towards nature-based outdoor domestic tourism as a safer and more socially distanced form of tourism (Spalding et al., 2021). Second, domestic tourists' intrinsic constraints and perceived physical risk associated with the COVID-19 pandemic were found to negatively affect tourists' outdoor recreation-oriented travel motivations. In other words, physical risks and intrinsic constraints discourage potential domestic tourists from travelling. Perceived risk,

when compounded by tourists' lack of interest in domestic tourism products and travelling in South Africa in general, together with perceived inaccessibility of domestic travel negatively influenced tourists' extrinsic travel motivations. This finding is consistent with the Protection Motivation Theory, since the pandemic made domestic tourists to be aware of the risk associated with local tourism (Kim et al., 2021; Seow et al., 2021), but more importantly, it shows the positive influence of risk on any perceived intrinsic rewards of engaging in domestic tourism during the pandemic (Hayamizu, 1997; Rippetoe & Rogers, 1987).

The third and most significant finding of the study is that COVID-19-induced perceived physical risk had a positive effect on domestic outdoor recreational tourism motivations, which was mediated through intrinsic travel constraints and their WTP. Initially, an intriguing positive relationship between perceived physical risk and WTP. The finding contradicts the growing body of evidence from contemporary COVID-19-related tourism studies, which suggests an inverse relationship between perceived risk associated with the pandemic and tourist behaviour such as WTP and travel motivations (Sánchez-Cañizares et al., 2021). Although respondents in the survey indicated a general lack of interest in domestic tourism and the available offering of tourism products, they also perceived the inaccessibility of domestic tourism in South Africa as a constraint. However, in spite of the escalation of these intrinsic constraints during the pandemic, they appeared to have a positive effect on tourists' WTP for domestic tourism products, which were perceived as affordable. This means that the pandemic changed people's preferences and patterns of domestic tourism activity, a process facilitated by (1) their familiarity with domestic tourism products (Guan et al., 2022); (2) a subjective bias of safety (Agius, 2022) resulting from increased risk awareness, tolerance and acknowledged inaccessibility of domestic tourism, which made it much less likely for tourist destinations to be overcrowded; and (3) *involuntary* product substitution (domestic for international) to satisfy the pent-up demand for tourism (Jeon & Yang, 2021; Sharpley & Telfer, 2023).

Moreover, while previous studies (Ferreira et al., 2016; Chang et al., 2015; Li et al., 2016) generally report an inverse relationship between constraints and WTP, this pattern was not observed for domestic tourism in South Africa during the pandemic. A positive causal relationship between intrinsic constraints and tourists' willingness of to pay, which act as mediators of the effect of COVID-19-induced perceived risk on outdoor tourism-related travel motivations of South African domestic tourists, is a novel phenomenon. Further, when the serial mediation effect of WTP is considered, it appears to reverse the negative mediating effect of intrinsic travel constraints on the relationship between perceived physical risk and domestic tourist travel motivations. Recent tourism studies (Calderón et al., 2021;

Kim et al., 2021; Hussain & Fusté-Forné, 2021; Nunkoo et al., 2021) only corroborate some of the direct relationships, albeit subjectively, but not the indirect serial mediation effect established by the present study. From a TPB perspective, due to heightened perceptions of physical (health-related) risk, increased restrictions and numerous suspensions of international travel and tourism during the pandemic, it is reasonable to assume that many tourists' attitude to domestic tourism was shaped by the belief that 'home is safer than abroad' (Nunkoo et al., 2021; Matiza, 2020; Wolff et al., 2019). The effect is enabled by perceived behavioural control, which can explain why WTP for local tourism products may be linked to pent up demand and opportunities for product substitution (Hussain & Fusté-Forné, 2021; Ono, 2010). Thus, it stimulates outdoor recreational domestic tourism by counteracting the established indirect negative effect of perceived physical risk and intrinsic travel constraints.

6. Conclusions

While South African domestic tourists in the survey accounted for physical health-related risks and travel constraints in their travel plans, the lack of international tourism options and affordability of domestic tourism products could have contributed to their willingness of participating in more affordable forms of outdoor recreation. The following conclusions could be drawn from the study:

- The success of domestic tourism recovery in South Africa depended on the perceived efficacy of government and non-governmental efforts to mitigate the spread of the COVID-19 virus (see Nunkoo et al., 2021). However, the study provides empirical evidence of a continued mediating impact of psychographic factors such as travel constraints and WTP on travel decisions made by domestic tourists during the pandemic.
- Domestic tourism, supported by safety measures undertaken by local authorities and later on by vaccination programmes, catalysed the development of local *travel bubbles* (see DeMicco et al., 2021). The study offers evidence of a tripartite relationship between cognitive [intrinsic travel constraints and WTP], and conative [extrinsic travel motivations] aspects of domestic tourists' behaviour during the COVID-19 pandemic.
- Policy-driven restrictions and international travel moratoriums had the unintended effect of strengthening tourists' belief that staying in the country was safer than traveling abroad, which was manifested by a sustained pref-

erence for domestic tourism to accommodate pent-up demand in the short term. The study found that, contrary to what could be expected, respondents' desire to travel increased in spite of the perceived physical risk associated with the COVID-19 pandemic causing domestic tourists to be more open the prospect of engaging in outdoor recreation to mitigate the effects of lockdowns (see Calderón et al., 2021).

In summary, the study shows that a thorough understanding of tourist behaviour is fundamental to the recovery of domestic tourism. The study provides baseline data for both South African and African governments and tourism practitioners to develop and implement a demand-driven recovery for domestic tourism and resilience strategies to mitigate future crises. In the event of similar 'glocal' crises, it is imperative that in the immediate post-crisis period, the South Africa government should aggressively market domestic tourism, especially nature-based tourism, which is South Africa's main asset, as a safer form of tourism and as the best value-for-money tourism offering. Domestic tourism can be promoted by enhancing the country's value-proposition to locals in the *new normal* by exploiting existing biases and WTP through product innovations such as bespoke outdoor recreation package holidays, longer-stay discounts, and more flexible booking and cancellation policies.

Limitations

Given the constraints associated with the pandemic, the main limitation of the study is the fact that it is based on data collected from a self-selected sample of respondents. While it was not random, the pre-recruited sample did represent the South African population in terms of geographic coverage and socio-demographic variables.

CRediT Authorship Contribution Statement

Tafadzwa Matiza: conceptualization, data curation, formal analysis, investigation, methodology, software, supervision, draft writing — original. **Elmarie Slabbert:** conceptualization, project administration, funding acquisition, resources, validation, visualization, writing — review & editing.

Declaration of Competing Interest

Authors have no competing interest to declare. This work is based on the research supported by the National Research Foundation (NRF). Any opinion, finding and conclusion or recommendation expressed in this material is that of the authors and the NRF does not accept any liability in this regard.

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Ograniczenia w podróżowaniu i chęć nabywania krajowych usług turystycznych podczas pandemii COVID-19 w RPA

Streszczenie. Badania dotyczące wpływu sytuacji kryzysowych na zachowania turystów to wciąż stosunkowo młoda dziedzina, co uzasadnia potrzebę ich kontynuowania. Autorzy zbadali wpływ percepcji ryzyka i ograniczeń w podróżowaniu doświadczanych przez obywateli RPA podczas pandemii COVID-19, na gotowość zakupu usług turystycznych i motywację aktywności turystycznej. Dane zebrane wśród 427 respondentów wskazują, że kryzys wywołany pandemią spowodował zmianę zachowań turystów, o czym świadczy statystycznie istotny cząstkowy seryjny efekt pośredniczący

ograniczeń wynikających z pandemii oraz chęci zakupu usług turystycznych, które modyfikują wpływ wywierany przez percepcję ryzyka na motywację aktywności turystycznej. Wyniki badań dostarczają danych, które mogą być wykorzystane do kształtowania krajowej polityki turystycznej opartej na popycie oraz do tworzenia strategii krótko- i średnioterminowych.

Słowa kluczowe: COVID-19, turystyka krajowa, mediacja seryjna, ryzyko subiektywne, czynniki psychograficzne

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