

When, where, and with whom during crisis: The effect of risk perceptions and psychological distance on travel intentions

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ABSTRACT

We investigate how risk perceptions and psychological distance impacted people's travel intentions during Covid-19. Our findings reveal that traveling to a high-risk destination increased people's risk perceptions of Covid-19, and their risk perceptions at the destination, which, in turn, reduced people's travel intentions. We identify temporal, spatial, and social distance (the "when, where, and with whom" of traveling) as moderators of these effects; while social distance moderates the effect of risk, on risk perceptions, temporal and spatial distance moderate the effect of risk perceptions on travel intentions. We outline theoretical contributions and implications for tourism during crisis.

1. Introduction

Tourism is vulnerable to crises (Gössling et al., 2020), and, specifically during crises, perceiving high risk at a destination can impede travel decisions (Fuchs & Reichel, 2006; Kozak et al., 2007). Also during Covid-19, risk perceptions affected decision-making processes (Pappas, 2021; Villacé-Molinero et al., 2021), reducing positive attitudes toward traveling (Rather, 2021) and affecting the decision to travel and destination choice (Matsuura & Saito, 2022).

Risk perceptions of Covid-19 differ, resulting in variance in people's behavior. For example, people who perceive Covid-19 as more severe and believe they have a higher probability of being infected adopt preventative practices to reduce the risk (e.g., social distancing) (Adunlin et al., 2021) and postpone their travel. In contrast, those who perceive Covid-19 as less severe, are more likely to travel immediately (Zheng et al., 2021), even during the pandemic (Litvin & Guttentag, 2022).

Covid-19 spread quickly around the world. Still, different travel destinations experienced different phases of the pandemic simultaneously (WHO, 2020). As a result, people's pandemic-related risk perceptions varied with their geographical location (Zhang et al., 2020), time and stage of the pandemic (Litvin & Guttentag, 2022; Ren et al., 2022). In this study, we look at different risk perceptions involved in

travel-related decision making during the pandemic: *perceived risk of Covid-19* and *perceived risk at destination*. The question arises as to whether and how the time horizon of the trip ("when"), the distance of the destination ("where"), and the implementation of social distancing during the trip ("with whom") affect travel intentions. These are reflected in the "psychological distance" from the travel event.

Construal-level theory of psychological distance (CLT; Trope & Liberman, 2010) describes the relationship between psychological distance (PD) and people's tendency to think abstractly or concretely. PD represents the mental construing of events as being either psychologically close or psychologically distant in terms of time, space, and social interactions. Low PD increases risk perceptions (e.g. of disease, climate change), thereby reducing travel intentions while increasing sustainable and precautionary behavioral intentions (Chandran & Menon, 2004; Johnson, 2018; Spence et al., 2012). When encouraged to "fight the disease", low PD induces risk avoidance (Raue et al., 2015). In sum, research examined the effect of PD in general or of its dimensions (e.g., social, spatial, temporal, hypothetical) together. It remains unclear which dimension of PD matters the most in predicting people's risk perceptions and behavioral intentions. In this study, we examine three different PD dimensions for traveling during Covid-19.

High *social distance* refers to maintaining distance from strangers—i.e., having fewer interactions with locals, other tourists, and service

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providers. During the Covid-19 pandemic, people preferred to stick with the ingroup and avoid the outgroup (Gyimóthy et al., 2022). This is in line with evolutionary psychology; its concept of tourist xenophobia represents a negative out-group bias towards strangers when traveling (Kock et al., 2019). Besides xenophobic predispositions, a perceived threat elicits the preference for group (vs. individual) travel (Kock et al., 2018, 2020). Hence, we predict that social distance will moderate the effect of risk of Covid-19 on risk perceptions.

High *temporal distance* refers to traveling in the far future, and high *spatial distance* refers to traveling to a far location. We propose that these two PD dimensions do not necessarily reduce the perceived risk associated with Covid-19. Rather, they serve to distance the risk from the self. Indeed, people prefer to distance themselves from crisis in time (Chandran & Menon, 2004) and space (Johnson, 2018). Thus, we predict that temporal and spatial distance will moderate the effect of risk perceptions on travel intentions.

Taken together, we propose that.

- (1) Risk perceptions (i.e., perceived risk of Covid-19 and perceived risk at destination) mediate the effect of risk of Covid-19 on travel intentions. Specifically, with increasing risk of Covid-19, the perceived risk increases and travel intentions decrease.
- (2) The different dimensions of PD moderate different parts of the effect of risk of Covid-19 on travel intentions (moderated mediation). Specifically, social distance moderates the effect of risk of COVID-19 on risk perceptions; temporal and spatial distance moderate the effect of risk perceptions on travel intentions, such that:
 - (2a) Social distance moderates the effect of risk of Covid-19 on risk perceptions: when social distance is high, the effect of risk of Covid-19 on risk perceptions is weaker than when social distance is low.
 - (2b,c) Temporal and spatial distance moderate the effect of risk perceptions on travel intentions: when temporal or spatial distance is high, the effect of risk perceptions on travel intentions is weaker than when temporal or spatial distance is low.

To the best of our knowledge, we are the first to apply CLT (Trope & Liberman, 2010) empirically to the context of traveling during a crisis, such as the Covid-19 pandemic, thereby creating opportunities for future research in tourism. Fig. 1 shows the proposed theoretical model.

2. Methodology

2.1. Participants

Data were collected in Israel during the Covid-19 pandemic (04–07/2021, when the infection rate was low, and citizens had just exited a strict lockdown and were able to travel internationally, see WHO (2020)). Undergraduate students received course credit for participating in a study ($N = 450$, $M_{age} = 25.87$, 69.2% female; 95.5% vaccinated against Covid-19, 6.3% recovered from Covid-19, 84.2% knew someone who had recovered). Five participants were excluded for not understanding the study instructions.

2.2. Procedure

Participants were asked to imagine booking a vacation to a destination of their choice. They were assigned to a low or high risk of Covid-19 at destination condition, and to one of six PD dimensions (see Table 1). Hence, the study had a 2 (low vs. high risk) by 6 (low vs. high temporal/spatial/social) between-subjects design, resulting in 12 experimental conditions.

Next, participants indicated their risk perceptions and travel intentions (see Appendix 2), and reported their demographics and experience with Covid-19.

3. Results

3.1. Descriptive statistics

Exploratory factor analysis with Varimax rotation confirmed the internal reliability of the measures. Most items loaded onto separate factors, in line with our theory (see Fig. 1), $KMO = 0.93$ (two items from the *Perceived risk of Covid-19* scale were excluded from the analysis since

Table 1
Experimental conditions.

Level	Risk of Covid-19 at destination	Psychological distance dimensions:		
		Temporal	Spatial	Social
Low	Currently low infection rate at travel destination.	<i>in near future</i>	<i>domestically</i>	<i>alone or with partner (more interactions with others)^a</i>
High	Currently high infection rate at travel destination.	<i>in distant future</i>	<i>internationally</i>	<i>in a closed group (less interactions with others)^a</i>

^a For manipulation check results, see Appendix 1.

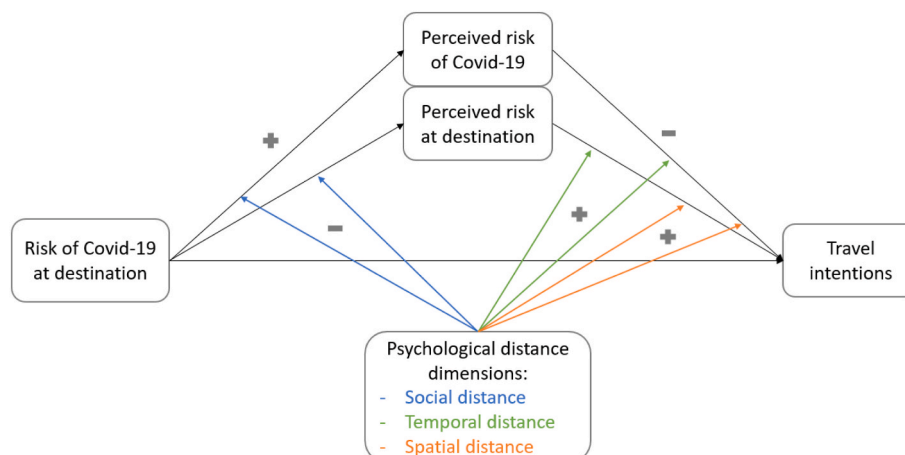


Fig. 1. Theoretical model.

they did not load on the latent variable; see [Supplementary Material 1](#)). The three study variables were significantly correlated: perceived risk of Covid-19 was correlated with both perceived risk at destination, $r = .25$, and with travel intentions, $r = -.16$, and perceived risk at destination was correlated with intentions, $r = -.44$.

3.2. Hypothesis testing

Data were analyzed using PROCESS (Hayes, 2017). Model 4 tested Hypothesis 1; the mediation of Covid-19 and destination-related risk perceptions in the effect of risk of Covid-19 at destination on travel intentions. Model 59 tested Hypothesis 2; the moderation of social, temporal, and spatial distances (in the indirect effect of risk perceptions).

The mediation model was significant, $F(3, 440) = 38.816, R^2 = 0.209, p = 0.001$, supporting Hypothesis 1. Traveling to a high (vs. low) risk destination increased participants perceived risk (of Covid-19, and at destination) ($M = 3.18, SD = 0.75$ vs. $M = 2.93, SD = 0.82; p < 0.001$; $M = 3.36, SD = 0.90$ vs. $M = 2.27, SD = 0.66; p < 0.001$, respectively). Increased perceived risk at destination reduced travel intentions ($p < 0.001$). While the mediation model was overall significant, only perceived risk at destination mediated the effect ($b = -0.38, SE = 0.07, 95\% CI [0.52; 0.25]$) (see [Fig. 2](#)).

The three moderated-mediation models were also significant, supporting Hypotheses 2a, 2b, and 2c. Social distance moderated the effect of risk of Covid-19 at destination on participants' perceived risk of Covid-19 ($F(7, 154) = 9.856, R^2 = 0.309, p < 0.001$), while temporal and spatial distances moderated the effect of participants risk perceptions on their travel intentions ($F(7, 131) = 17.132, R^2 = 0.478, p < 0.001$; $F(7, 128) = 5.106, R^2 = 0.218, p < 0.001$, respectively) (see [Fig. 3](#)).

Social distance – When social distance was high, the effect of risk of Covid-19 on risk perceptions was weaker than when social distance was low. When traveling to a high-risk destination, participants perceived the risk of Covid-19 as lower when traveling in a closed group, compared with traveling alone or with a partner ($M = 3.37$ vs. $M = 2.97, p < 0.05$, respectively; see [Fig. 4](#)).

Temporal distance – When temporal distance was high, the effect of risk perceptions on travel intentions was weaker than when temporal distance was low. When participants perceived the risk (of Covid-19, and at destination) as high, they intended to travel less in the near future than in the distant future ($M = 3.17$ vs. $M = 3.91, p < 0.001$; $M = 2.81$ vs. $M = 3.52, p < 0.001$, respectively; see [Fig. 5](#)).

Spatial distance – When spatial distance was high, the effect of risk perceptions on travel intentions was weaker than when spatial distance was low. When participants perceived the risk at destination as high, they intended to travel less domestically than internationally ($M = 3.60$ vs. $M = 4.22, p < 0.001$, respectively; see [Fig. 6](#)).

4. Conclusions

This study lays the foundations for theoretical integration of CLT into tourism research, and especially into research on traveling during crises. We respond to the call for more rigorous research examining changes in people's perceptions of destinations and behavior during Covid-19 while building on existing theories (Zenker & Kock, 2020).

Our study offers the following insights: First, increases in risk perceptions explain why people intend to travel less to high-risk destinations. This is in line with previous research on traveling during Covid-19 (e.g., Adunlin et al., 2021; Zheng et al., 2021). Second, we identified three dimensions of psychological distance associated with traveling as moderators to this effect. Third, we identified the optimal level of distance (i.e., high), that reduces perceived risk and increases travel intentions.

We find that, when planning trips to high-risk destinations, high social distance decreased people's perceived risk of Covid-19. Similarly, when at risk, people become more collectivistic (Gyimóthy et al., 2022) and prefer to interact with their in-group. This gives them a feeling of security (Kock et al., 2020), and thus reduces perceived risk (Kim & Liu, 2022).

Further, when people perceived the risk of both Covid-19 and at the destination as high, high temporal and spatial distance increased travel intentions. We conclude that people prefer to avoid the risky situation at hand by distancing themselves in time and space (Chandran & Menon, 2004; Johnson, 2018). Prior research suggests that people prefer domestic travel over international travel following a pandemic threat (Gyimóthy et al., 2022). Though these studies seemingly contradict our findings, they actually measure spatial distance as an outcome, while we primed participants with a travel plan – to a low (or high)-risk domestic (or international) travel destination. We conclude that when people have the choice, they prefer to travel domestically during a pandemic threat. However, when they already chose a high-risk travel destination, their travel intentions are higher for international destinations.

In summary, our study shows that people prefer to “play it safe” during summer 2021 of the Covid-19 pandemic; they do not want to travel in the here and now, nor to meet strangers on the way. Future research should examine the mechanism to our findings. An increased sense of control, for example, might explain the benefit of high psychological distance when traveling to high-risk destinations – by enabling people to actively postpone the planned trip to some other time and place.

Participants in the current study represented a specific part of the population in terms of Covid-19: young, vaccinated students, who generally perceive lower risk (Iorfa et al., 2020; Shah et al., 2020). We can conclude that our findings are quite robust, as even they “tried to play it safe”. Still, future research should look at time periods where people might not “play safe” anymore, e.g., when travel restrictions are imposed, and include more heterogeneous and representative samples of the population.

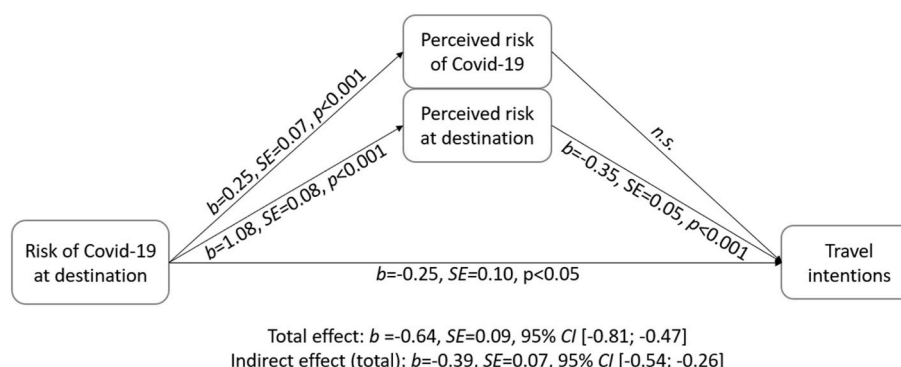


Fig. 2. Mediation results.

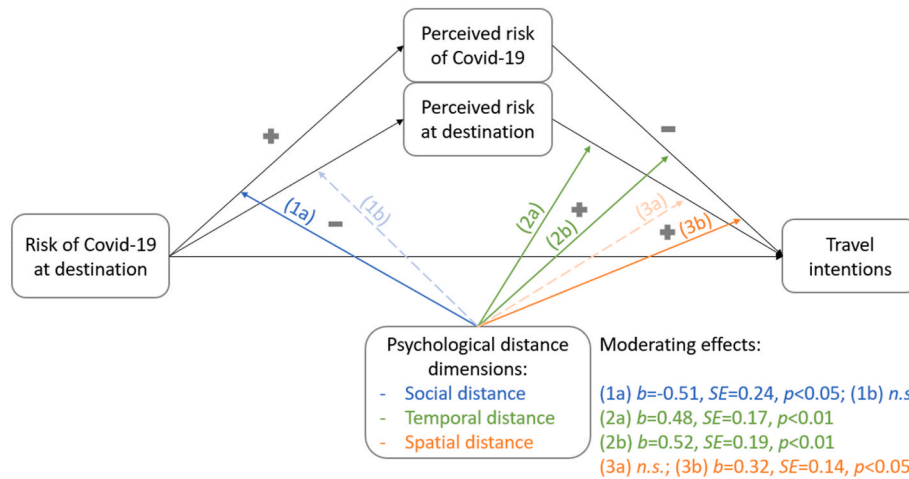


Fig. 3. Moderation results.

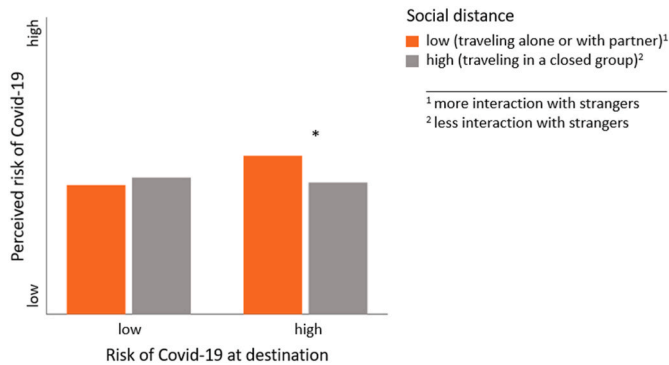


Fig. 4. Moderation of social distance.

We suggest examining whether our findings are stable across cultures and contexts. Culture determines attitudes toward risk and the meaning of spatial and social distance (low-vs. high-context cultures) (Koc, 2021). Other contexts, such as terror attacks or natural disasters, are not as dynamic and global as Covid-19; people from different places likely perceive risks differently. Lastly, future studies should include other methodologies such as big data to see if effects replicate (Gallego & Font, 2021).

This work has important practical implications for crisis management communication, to overcome declines in travel and restore

people’s confidence to resume traveling (Park et al., 2021; Shin et al., 2022). People need to feel safe again to travel (Pappas, 2021; Vil-lacé-Molinero et al., 2021), and hence should be encouraged to book group vacations in far places and times.

Impact statement

“The tourism industry is among the most vulnerable industries to crises such as the COVID-19 pandemic. We integrate literature on

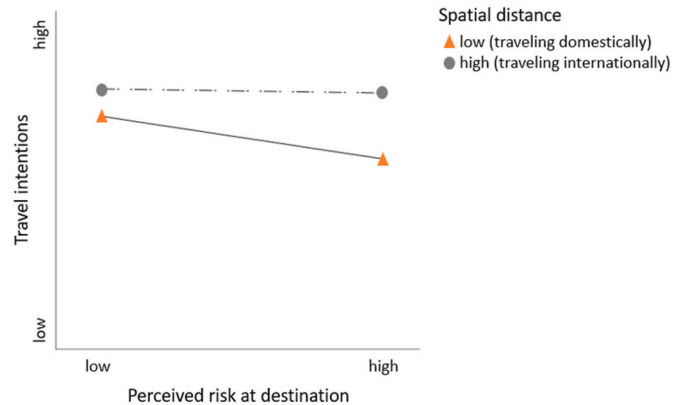


Fig. 6. Moderation of spatial distance.

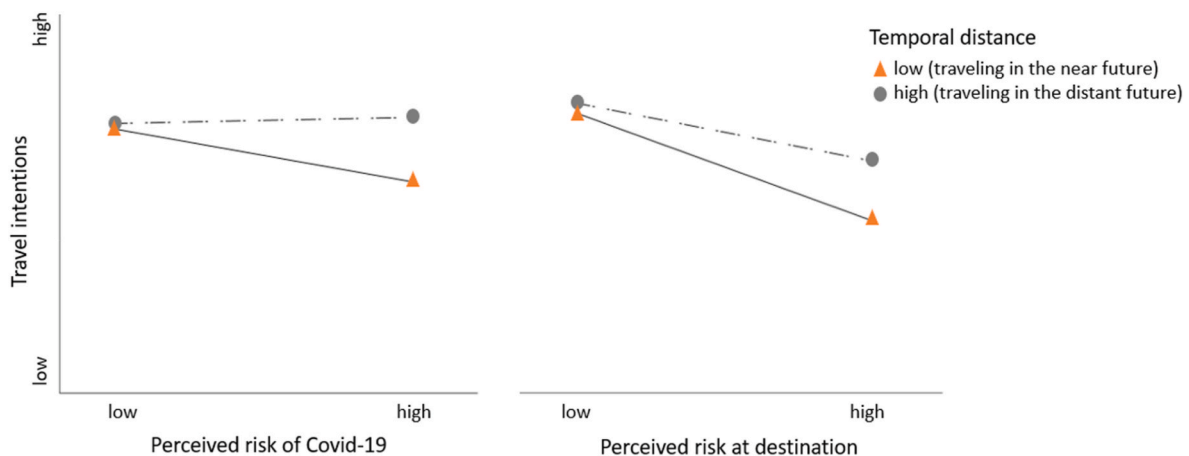


Fig. 5. Moderation of temporal distance.

traveling during crisis and construal level theory (of psychological distance), contributing to the understanding of changes in people's perceptions of risks and travel behavior during COVID-19.

When planning trips to high-risk destinations, people likely experience the risk as high and prefer not to travel. Still, this negative effect can be buffered: People manage to avoid the risky situation at hand by distancing themselves—not only from (strange) others, but also in time and space.

We propose theory-based guidelines for DMOs that hold promise to considerably reduce the otherwise devastating effects of crises such as COVID-19 on the tourism industry. This work has important practical implications for crisis management communications, to overcome the

decrease in travel and restart tourism. Destination initiatives can encourage people to travel in the distant future, to farther destinations, and in closed groups, thus restoring people's confidence to travel."

Declaration of interest

None.

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None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.tourman.2023.104809>.

Appendix 1. Manipulation check - social distance

We ran a manipulation check ($N = 92$) to make sure that people in the low social distance condition indeed thought they would interact more with other people (i.e., when traveling alone or with a partner), compared to people in the high social distance condition (i.e., traveling in a closed group).

We asked the following questions: During this vacation (1) 'with how many people are you traveling (not including yourself)'; (2) 'How often do you think you will have interactions with (a) service providers? (b) other tourists? (c) locals?'

The first question served as a manipulation check to see if they followed the instructions (of imagining going on vacation alone or with a partner vs. in a closed group). The second question tested if people perceive going on vacation alone or with a partner (compared to in a closed group) as keeping a lower social distance. As expected, we found that people in the low social distance condition expected significantly more interactions with other people ($p = 0.03$) compared to people in the high social distance condition.

Appendix 2. Measures

Variable	Items	Source	Cronbach's alpha
Perceived risk of COVID-19	To what extent do you agree with the following statements regarding Covid-19: (1- not at all; 5- very much) 1. Covid-19 is a dangerous disease for me. 2. Covid-19 is a dangerous disease for my family. 3. Covid-19 may be an easy disease for me. (R) 4. I fear getting sick with Covid-19. 5. Covid-19 may be a difficult disease for me.	Han et al. (2022); Bae and Chang (2021)	.83
Perceived risk at destination	To what extent do you agree with the following statements regarding the vacation you imagined: (1- not at all; 5- very much) 1. The travel destination is safe in terms of Covid-19. (R) 2. The travel destination is safer than other destinations, in terms of Covid-19. (R) 3. The travel destination is more dangerous than other destinations, in terms of Covid-19. 4. My friends view this destination as dangerous in terms of Covid-19. 5. My family views this destination as dangerous in terms of Covid-19. 6. My friends view this destination as safe in terms of Covid-19. (R) 7. My family views this destination as safe in terms of Covid-19. (R)	Fuchs and Reichel (2006)	.92
Travel intentions	To what extent do you agree with the following statements regarding the vacation you imagined: (1- not likely at all; 5- very likely) 1. To what extent do you want to visit this destination in reality? 2. In reality, how likely are you to choose this tourist destination, for your next trip? 3. To what extent will you save money to travel to this destination, in reality? 4. In reality, to what extent is this destination a desired tourist destination for you (compared to other destinations)?	Han et al. (2022); Bae and Chang (2021)	.88

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