



Everyday Cycling Mobilities and Tourist Behaviour: The Emergence of Cycle Tourism as COVID-Secure Activity



Eiji Ito^{a,b,*}; Joseph M. Cheer^b

^aSchool of Health and Sport Sciences, Chukyo University, Japan; ^bCenter for Tourism Research, Wakayama University, Japan

*Correspondence: eijito@sass.chukyo-u.ac.jp

Received 1 July 2021; Revised 26 October 2022; Accepted 3 January 2022

ABSTRACT: The extraordinary circumstances of the COVID-19 pandemic have evidently led to increased levels of cycle commuting and cycle tourism closer to and around the home (we refer to this as everyday cycling mobilities). Cycling is a popular tourism pursuit in Japan and in the pandemic era, is acknowledged to be a COVID-secure activity. In response to, and drawing from the theory of planned behaviour, examining the relationship between the COVID-secure perspective and the intention to perform tours via cycling mobilities in Japan is the underlying aim of this exploratory study. Further, analyses are informed by an online survey approach and contextualised with hierarchical multiple regression analyses. Findings emphasise that COVID-secure perspective is negatively associated with intention to tour as part of everyday cycling mobilities, whereas attitude, subjective norm, and perceived behavioural control show positive association. This has implications for everyday cycling mobilities and cycle tourism. COVID-related advice should be developed and disseminated not only to cycling enthusiasts but also to the general public in order to emphasise and reinforce the COVID-secure nature of this mode of tourism. Consequently, the rise in popularity of everyday cycling mobilities and touring, sounds a clarion call to ensure that any ensuing expansion pays heed to responsible tourism concerns.

KEYWORDS: everyday cycling mobilities; cycle tourism; COVID-19; COVID-secure; theory of planned behaviour

Introduction

The COVID-19 pandemic has had a large impact on sport participation and related assemblages across the globe, and the Japan context epitomises this. The Tokyo Summer Olympics and Paralympic Games, initially scheduled for August 2020, and subsequently rescheduled to August 2021 are examples. COVID-19 has evidently had a massive impact on non-elite participant sporting events in Japan—for example, the Tour de Okinawa 2020 was rescheduled from November 2020 to March 2021, and the number of courses reduced from 17 (2019) to four to comply with COVID-19 limitations. Notwithstanding, the Japan Sport Tourism Alliance (2020) projects cycle tourism to rebound and play a pivotal role in tourism recovery once the management of COVID-19 is more assured. Consequently, as tourism in

Japan shifts toward post-pandemic recovery, a renewed focus on responsible tourism is needed to optimise the positive economic, social and environmental impacts of cycle tourism in Japan.

Amidst the pandemic, Weed (2020) highlighted the importance of promoting everyday sport tourism closer to and around the home. den Hoed (2020) similarly acknowledged the convergence of tourism and everyday mobilities during the crisis by examining older cyclists, illustrating that various activities embedded in their everyday life and cycling mobilities helped them access local tourism activities. Accordingly, we place particular attention on everyday cycling mobilities, especially where it extends to everyday touring. The research question framed asks: “To what extent does everyday cycling as a COVID-secure activity influence the propensity to engage in cycling tours”?

During lockdown in the UK, increased levels of cycle commuting and cycle tourism was observed (Weed, 2020). A similar trend also emerged in Japan where 1 in 4 people took up cycle commuting in Tokyo, with a similar number reporting increased levels of cycling across the country (au Insurance Company, 2020a, 2020b). Cycling is evidently a popular tourist activity in Japan, for domestic and international tourists alike, especially in places like the Shimanami Kaido cycling routes (Powell, 2015). Taking into consideration the dispersed and community-based nature of sport infrastructure in Japan, everyday cycling mobilities are well positioned to contribute to pressing revitalisation and place-based community development initiatives that have emerged in response to COVID-19 disruptions.

We argue that developing more nuanced understandings of the intention to tour or take day trips via cycling mobilities is paramount given its heightened occurrence, and any expansion must align within a responsible tourism framework. As Cheer et al. (2021, p. 3) have highlighted, “responsible tourism as an umbrella term or nomenclature, is tied to responsible and mindful consumption and production of travel, and linked to wider consumption and production concerns”. Additionally, promoting greater engagement with everyday cycling mobilities and tourism associated with is, aligns with the broader tourism sector agenda to decarbonise (See Cheer et al., 2021).

As the theory of planned behaviour (TPB) holds, intention is a key factor in predicting actual behaviour (La Barbera & Ajzen, 2021). TPB postulates three conceptually independent determinants of intention: attitude (a positive or negative evaluation of the behaviour), subjective norm (the perceived social pressure to perform or not to perform the behaviour), and perceived behavioural control (the perceived ease or difficulty of performing the behaviour) (Ajzen & Driver, 1992; La Barbera & Ajzen, 2021). Ajzen and Driver (1992) determined that attitude and perceived behavioural control positively predicted intention of cycling. Much empirical research has confirmed efficacy of the TPB, including during the COVID-19 pandemic where integrated perceived risk of traveling negatively influences intention to travel regarding both attitudes and perceived behavioural control (Sánchez-Cañizares et al., 2020).

Given that cycling is regarded as a COVID-secure activity, and as “people simultaneously travel and socially distance” outdoors (Brooks et al., 2020, p. 1), this perspective may be integrated into TPB to predict intention of touring via cycling mobilities. The addition of COVID-secure perspective, much like perceived risk (Sánchez-Cañizares et al., 2020), could improve the TPB’s predictive ability during crises situations. Accordingly, we examine

whether COVID-secure perspectives can help predict intention to engage in tours via cycling mobilities.

La Barbera and Ajzen (2021) highlight that perceived behavioural control likely moderates the effects of attitude and subjective norm, rather than acting as a direct influence, on intention. They found that positive and negative moderating effects for attitude and subjective norm, respectively, in relation to intentions to conserve energy and undertake exercise. In this study, the COVID-secure perspective interacts with attitude, subjective norm, and perceived behavioural control because the perceived risks of traveling during the pandemic negatively relates to attitude to travel and perceived behavioural control of traveling (See Sánchez-Cañizares et al., 2020). Although Sánchez-Cañizares et al. (2020) did not examine the relationship between perceived risk and subjective norm during the pandemic, we assume that this relationship exists because COVID-19 prevention behaviours are largely associated to prosocial motivations (Jordan et al., 2020; Miyajima & Murakami, 2021). Therefore, we examined both the direct and interactive associations of attitude, subjective norm, perceived behavioural control, and the COVID-secure perspective on intention to engage in cycling tourism.

Research Methods

Study sample

Data were collected via an exploratory online survey in October 2020, and participants were recruited from a commercial research organisation's online panel. 700 Japanese adults residing in Wakayama City and neighbouring municipalities and located around a one-hour cycle trip from the city participated in the survey. The geographical focus on Wakayama City and the Wakayama Prefecture came about because both have deliberately oriented their combined resources (e.g., scenery, landscape, sightseeing spots) toward the promotion of cycling as a COVID-secure activity (Wakayama Prefecture, n.d.).

Study instruments

Study instruments included measures of TPB variables (i.e., attitude, subjective norms, perceived behavioural control, intention of touring via cycling), COVID-secure perspective, and demographic data. Accordingly, the TPB variables were developed adopting Ajzen and Driver's (1992) approach. Two items were used for attitude (cycling is interesting; cycling is fun), subjective norm (most people who are important to me approve of my engaging in cycling; most people who are important to me think I should engage in cycling), perceived behavioural control (for me to engage in cycling is easy; I have the resources [money, time, equipment, etc.] required to engage in cycling), and intention (I plan to engage in touring via cycling [including cycling at a destination] in the next month; I will try to engage in touring via cycling [including cycling at a destination] in the next month). Because these items were developed in English, the first author translated them into Japanese. Then, a Japanese-English bilingual researcher who holds a Ph.D. in leisure studies examined the translations, and recommended revisions were made (e.g., adding the examples of "the resources" in perceived behavioural control).

COVID-secure perspective is an original variable that measures two aspects: spread and infection of the virus. These two aspects were developed based on Jordan et al. (2020) who examined effects of COVID-19 prevention messaging, applying self-interested (don't get it) vs. prosocial (don't spread it) approaches. Miyajima and Murakami (2021) confirmed both approaches, as well as confirming that the combination of the two were effective in motivating prevention behaviours in Japan. Similarly, the Japan Cycle Tourism Association (n.d.) promotions convey to cycling enthusiasts: "Don't get infected and don't infect others through cycling (*kansen shinai/sasenai saikuringu*)." Therefore, we deemed that these two aspects (i.e., spread [there is a small chance that COVID-19 spreads through cycling] and infection [there is a small chance that people may become infected with COVID-19 through cycling]) are suitable for the measurement of COVID-secure perspective in the context of cycle tourism. The independent and dependent variables were measured on a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*).

Data analysis

Data analysis consisted of four steps. Firstly, following Leiner (2019), 63 participants who completed the survey twice as fast as the typical respondent were removed (i.e., the relative speed index was above 2.0). The means and standard deviations of completion speed (seconds) were 231.08 (min = 39.00, max = 5193.00) and 254.12, respectively. Secondly, in line with Tabachnick and Fidell (2007), univariate outliers were identified and replaced with missing values. Additionally, multivariate outliers ($n = 3$) were removed from the data set. The final sample comprised 634 respondents, of which 38.6% ($n = 245$) were females and 61.4% ($n = 389$) males, with a mean age of 52.47 years ($SD = 13.04$). Thirdly, intention, attitude, subjective norm, perceived behavioural control, and COVID-secure perspective were computed by averaging the two corresponding items and then standard deviations and Spearman-Brown coefficients were calculated. Lastly, hierarchical multiple regression analyses were conducted on intention by using sex and age as control variables (step 1), attitude, subjective norm, perceived behavioural control, and COVID-secure perspective as independent variables (step 2), and the five interaction terms (ATT*PBC, SN*PBC, ATT*COVID, SN*COVID, PBC*COVID: step 3). All variables were mean-centred before calculating the five interaction terms (La Barbera & Ajzen, 2021).

Findings and Recommendations

Table 1 reports the means, standard deviations, and Spearman-Brown coefficients for the independent and dependent variables. Table 2 reports the results of hierarchical multiple regression analyses. The regression results of all steps were significant: step 1 $F(2, 619) = 4.26, p < .05$, step 2 $F(6, 615) = 44.32, p < .01$, and step 3 $F(11, 610) = 24.81, p < .01$. The three TPB variables and COVID-secure perspective were positively and negatively associated, respectively, with intention of touring via cycling mobilities. The more participants demonstrated positive attitude, perceived their significant others' encouragement, and perceived ease of performing in terms of cycling, the higher their likelihood of engaging in touring via cycling mobilities. Conversely, those who perceived that cycling is less COVID-secure, were more likely to engage in touring via cycling mobilities. This unexpected result suggests that respondents who are acutely cautious about COVID-19 might try not to take any risks during the pandemic because cycling mobilities are embedded in everyday life (den Hoed, 2020). In contrast, those that are not overly concerned about COVID-19, might

have a greater tendency to engage in leisure activities, including partaking in cycling tours. This aligns with Böselmann et al.'s (2021) finding that German adolescents who reported more fear of COVID-19 were physically less active. In terms of tourism behaviours, this is also unsurprising given the negative relationships of perceived risk arising as a result of COVID-19 and in relation to perceived behavioural control over traveling (Sánchez-Cañizares et al., 2020).

All interaction terms were not significant, suggesting that the moderating effects of perceived behavioural control and COVID-secure perspective were not identified. Adding the five interaction terms did not significantly improve the explained variance of intention as well. These results contrast with La Barbera and Ajzen's (2021) findings and the contradictory result might be because scores were concentrated on one side of the intention scale (min = 1.00, max = 4.00, Skewness = 1.08: La Barbera & Ajzen, 2021). Because touring via cycling mobilities is still a less frequent activity than everyday cycling mobilities (e.g., commuting), it might not be an appropriate activity to examine the moderating effect of perceived behavioural control and COVID-secure perspective.

Table 1: A List of Study Instruments and Results of Descriptive Analyses

	<i>M</i>	<i>SD</i>	ρ
Attitude	3.09	0.95	.93
Cycling is interesting			
Cycling is fun			
Subjective Norm	2.19	0.81	.74
Most people who are important to me approve of my engaging in cycling			
Most people who are important to me think I should engage in cycling			
Perceived Behavioural Control	2.50	0.91	.70
For me to engage in cycling is easy			
I have the resources (money, time, equipment, etc.) required to engage in cycling			
COVID-Secure Perspective	3.49	0.79	.85
There is a small chance that COVID-19 spreads through cycling			
There is a small chance that people may become infected with COVID-19 through cycling			
Intention	1.59	0.75	.84
I plan to engage in touring via cycling (including cycling at a destination) in the next month			
I will try to engage in touring via cycling (including cycling at a destination) in the next month			

Note. ρ = Spearman-Brown coefficient. The items were scored on a five-point scale.

Table 2: Results of Hierarchical Multiple Regression Analyses

	Step 1		Step 2		Step 3		VIF
	β	<i>t-values</i>	β	<i>t-values</i>	β	<i>t-values</i>	
Control Var.							
Sex	0.12	2.91**	0.13	3.53**	0.13	3.52**	1.14
Age	-0.03	-0.66	-0.04	-1.00	-0.04	-1.01	1.12
Independent Var.							
ATT			0.13	2.93**	0.15	3.26**	1.81
SN			0.36	8.27**	0.36	8.32**	1.64
PBC			0.17	3.67**	0.16	3.35**	1.97
COVID			-0.09	-2.38*	-0.10	-2.57*	1.23
Interaction Terms							
ATT*PBC					0.08	1.77	1.86
SN*PBC					0.03	0.67	1.51
ATT*COVID					0.00	-0.08	1.97
SN*COVID					-0.01	-0.32	1.67
PBC*COVID					-0.06	-1.22	2.18
	$R^2 = .01^*$		$R^2 = .30^{**}$, $\Delta R^2 = .29^{**}$		$R^2 = .30^{**}$, $\Delta R^2 = .01$		

Note. Sex: 0 = females, 1 = males. ATT = attitude. SN = subjective norm. PBC = perceived behavioural control. COVID = COVID-secure perspective.

* $p < .05$, ** $p < .01$

The three TPB variables and COVID-19 secure perspective together, explains 29% of the overserved variation, indicating a large effect size (Cohen, 1992). Among these, subjective norm appears to have a prominent association with intention ($\beta = .36$) and this is consistent with interdependent cultural values in Japan (Markus & Kitayama, 1991). Cycling is not a panacea to mitigating COVID-19 risk, as group cycling activities hold some infection potential (Cuppleditch, 2020). Therefore, COVID-related advice (e.g., guidelines of individual/group cycling activities) should be developed and disseminated not only to cycling enthusiasts but also to the general public. Establishing a positive atmosphere seems key to promoting tours via cycling mobilities as the post-pandemic recovery gains momentum. The Japanese government (e.g., Japan Sports Agency, Japan Tourism Agency) and other related organisations (e.g., Japan Sport Tourism Alliance, Japan Cycle Tourism Association) play a pivotal role in addressing concerns over the expansion of sustainable cycle tourism development.

Conclusion

The COVID-19 pandemic has led to a sustained increase in everyday cycling mobilities in Japan, which incidentally, are a sustainable form of daily travel (Weed, 2020), and beneficial for older people in particular (den Hoed, 2020). It is also of immense relevance to Japan given the growing cohorts of aged citizens. Moreover, TPB plays a pivotal role in contributing to advancing links between everyday cycling mobilities and tourism, with the implication that responsible tourism concerns should be central to the expansion of cycle tourism, as post pandemic recovery efforts gain momentum. We acknowledge the limitations of employing a cross-sectional study design and the information gaps concerning actual tourism behaviours via cycling mobilities. Additionally, future research should further examine our original item, COVID-secure perspective. In addressing these limitations, future research should explore the role of everyday cycling mobilities and its links to responsible tourism development within and beyond the Japan context. Finally, we argue that the implications for policy makers

suggest that encouraging and building capacity for increasing the uptake of everyday cycling mobilities can have a two-fold effect—improving public health and pandemic management outcomes, as well as fostering the establishment of cycling tourism, a sustainable and responsible approach to tourism expansion.

References

- Ajzen, I., & Driver, B. L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of Leisure Research*, 24(3), 207-224.
- au Insurance Company. (2020a). Toukyouto no “jitensha tsuukin” ni shingata korona uirsu ga ataeta eikyou wo chousa [Reports of COVID-19’s effects on cycle commuting in Tokyo]. Retrieved from <https://www.au-sonpo.co.jp/corporate/news/detail-240.html>
- au Insurance Company. (2020b). Shingata koronaka niokeru jitensha riyou nitsuiteno chousa [Reports of COVID-19’s effects on cycling]. Retrieved from <https://www.au-sonpo.co.jp/corporate/news/detail-248.html>
- Bösselmann, V., Amatriain-Fernández, S., Gronwald, T., Murillo-Rodríguez, E., Machado, S., & Budde, H. (2021). Physical activity, boredom and fear of COVID-19 among adolescents in Germany. *Frontiers in Psychology*, 12, 624206. <https://doi.org/10.3389/fpsyg.2021.624206>
- Brooks, J. H., Tingay, R., & Varney, J. (2020). Social distancing and COVID-19: An unprecedented active transport public health opportunity. *British Journal of Sports Medicine*. Advance online publication. <https://doi.org/10.1136/bjsports-2020-102856>
- Cheer, J. M., Ting, H., & Leong, C. M. (2021). Responsible tourism: A new era of responsibility?. *Journal of Responsible Tourism Management*, 1(1), 1-17. <https://doi.org/10.47263/JRTM.01-01-01>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159.
- Cuppleditch, A. (2020). Coronavirus: Advice and guidance for Cycling UK member and affiliate groups. Retrieved from <https://www.cyclinguk.org/news/coronavirus-advice-and-guidance-cycling-uk-member-and-affiliate-groups>
- den Hoed, W. (2020). Where everyday mobility meets tourism: An age-friendly perspective on cycling in the Netherlands and the UK. *Journal of Sustainable Tourism*, 28(2), 185-203.
- Japan Cycle Tourism Association. (n.d.). Shingata korona tokushu: Kansen shinai/sasenai saikuringu [Special issue on COVID-19: Do not get infected and do not infect others]. Retrieved from <https://cycletourismjp.org/corona-top/>
- Japan Sport Tourism Alliance. (2020). Dai 3 kai JSTA webinar [The 3rd JSTA webinar]. Retrieved from https://sporttourism.or.jp/articles/organizedbusiness/seminar/20201110_10657.html
- Jordan, J., Yoeli, E., & Rand, D. G. (2020). Don’t get it or don’t spread it: Comparing self-interested versus prosocial motivations for COVID-19 prevention behaviors. <https://doi.org/10.31234/osf.io/youq7x>

- La Barbera, F., & Ajzen, I. (2021). Moderating role of perceived behavioral control in the theory of planned behavior: A preregistered study. *Journal of Theoretical Social Psychology*, 5(1), 35–45.
- Leiner, D. J. (2019). Too fast, too straight, too weird: Non-reactive indicators for meaningless data in internet surveys. *Survey Research Methods*, 13(3), 229–248.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224–253.
- Miyajima, T., & Murakami, F. (2021). Self-Interested Framed and Prosocially Framed Messaging Can Equally Promote COVID-19 Prevention Intention: A Replication and Extension of Jordan et al.'s Study (2020) in the Japanese Context. *Frontiers in Psychology*, 12, 605059.
- Powell, S. J. (2015). Japan's Shimanami Kaido: One of the world's most incredible bike routes. *CNN travel*. Retrieved from <https://edition.cnn.com/travel/article/hiroshima-shimanami-kaido-cycling/index.html>
- Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2020). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*. Advance online publication. <https://doi.org/10.1080/13683500.2020.1829571>
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed). Boston, MA: Allyn and Bacon.
- Wakayama Prefecture. (n.d.). Ride on Wakayama. Retrieved from <https://wave.pref.wakayama.lg.jp/cycling/index.php>
- Weed, M. (2020). The role of the interface of sport and tourism in the response to the COVID-19 pandemic. *Journal of Sport & Tourism*, 24(2), 79–92.



All papers are published under the Creative Commons Attribution 4.0 International (CC BY 4.0). For more details, visit <https://creativecommons.org/licenses/by-nc/4.0/>.