



Behave Thyself: Tourists' Environmentally Responsible Behaviour in the Post-pandemic Era



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Received 8 June 2022; Revised 6 July 2022; Accepted 16 July 2022

ABSTRACT: The world is transitioning from the pandemic to post-pandemic era of COVID-19. Borders are now largely open, and the tourism sector is regaining its vigour. At the same time, concerns about tourism's impact on the planet have been rising because of the rapid rebound of tourism, with serious environmental catastrophes like climate change increasingly threatening the Earth. The pandemic has indeed magnified a dark side of human behaviour, namely humans' irresponsible behaviour towards the environment. In this editorial, we review the concept of environmentally responsible behaviour from the tourist's perspective. It is of utmost importance for all stakeholders in the tourism industry to join forces in cultivating responsible behaviour towards the environment and in doing so, co-create a better and more sustainable place for all life on Earth.

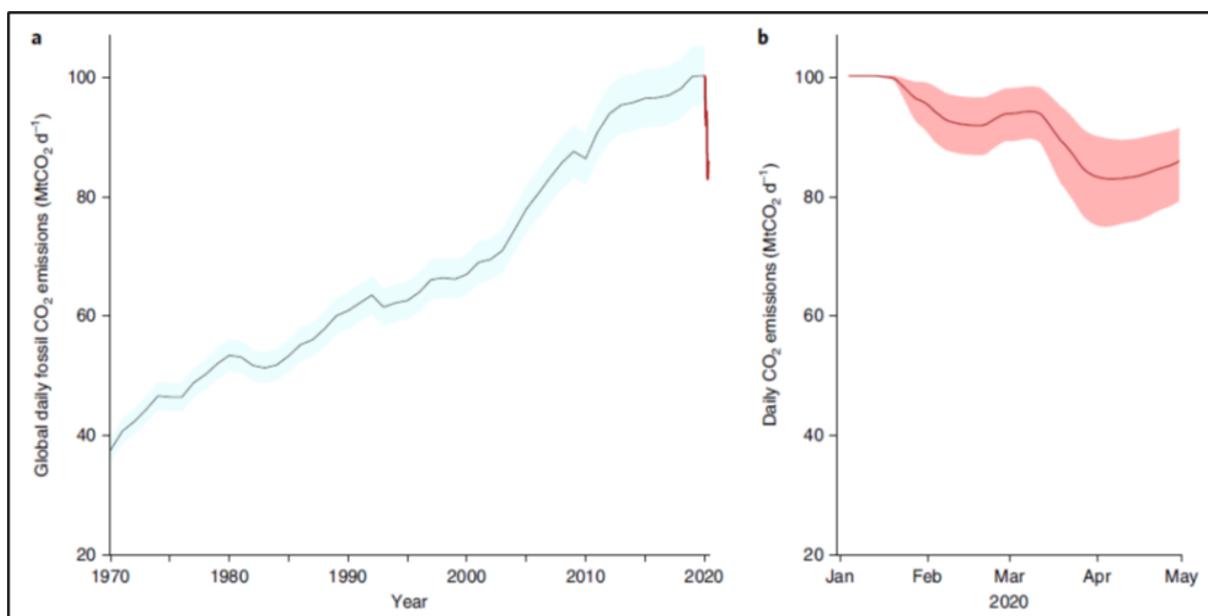
KEYWORDS: environmentally responsible behaviour; responsible tourism; sustainable tourism; pandemic

The Pandemic and Tourists' Behaviour towards the Environment

Tourism is an important revenue generator for many countries. In creating economic value for a destination, tourism generally capitalises on manmade or natural resources, which can have direct and indirect adverse effects on the environment (Confente & Scarpi, 2022). Within the tourism sphere, multifaceted phenomena interact with the natural environment, such that the consequences of tourism activities can impact the economy, society, and environment (Confente & Scarpi, 2022). Rising concerns about tourism's impacts on the planet are evident among scholars and practitioners (Confente & Scarpi, 2021; Wu et al., 2022). As a major contributor to climate change, tourism as an industry needs to consider how it can mitigate its negative effects and enable a sustainable future. As an example, in 2021, 120 world leaders gathered at the 26th Conference of Parties to the United Nations Framework Convention on Climate Change in Glasgow to discuss environmental issues. At the conference, four overarching goals were established, as follows: 1) to achieve carbon neutrality by 2050 and keep global warming below +1.5 degrees Celsius; 2) to protect and restore the ecosystem; 3) to mobilise climate finance; and 4) to work together to overcome challenges (Carver, 2022).

The pandemic highlighted tourism's role in accelerating climate change and contributing to environmental issues. Pre-pandemic, the travel and tourism industry was responsible for 8% of global carbon production (Lenzen et al., 2018). However, during the global lockdown period, research conducted by Le Quéré et al. (2020) found that air quality had improved remarkably, with a significant drop in carbon emissions. The drastic change in transportation and population energy consumption patterns resulted in a sharp decrease of 17% in daily global CO₂ emissions as of April 2020 (Figure 1) (Le Quéré et al., 2020). In particular, surface transport and aviation were the sectors reported to have exhibited the most significant reduction in daily CO₂ emissions among the sectors investigated (i.e., power, industry, public, and residential). Apart from better air quality, litter in tourist spots also dramatically reduced during the lockdown period.

Unwillingly and unwittingly, we have lived with COVID-19 in our midst for over two years now. The prolonged pandemic restricted all kinds of leisure activities including concerts, sports events, and air travel (Asi, 2021). People all over the world have become increasingly anguished by this claustrophobic experience (Haugen, 2020) and are eager to break free of it. As such, the world is now looking forward to tourism recovery. The desire to travel again after being stuck at home for many months is seemingly intense (Haugen, 2020). To describe this phenomenon, the term 'revenge travel' has emerged as a prevailing tourist behaviour after experiencing pandemic fatigue (Zaman et al., 2021). Indeed, domestic tourism has witnessed a rapid recovery in many countries following the revocation of stay-at-home orders (Kasnoon, 2020; Shadel, 2020; Quy & Huong, 2021). Outdoor recreational activities, such as solo camping and glamorous camping (so-called 'glamping'), have also become more popular as people seek to avoid crowds and confined spaces (Martin, 2021). Travel demands have thus accelerated at an extraordinary rate (Haugen, 2020), with greater temptations for longer lengths of stay (Zaman et al., 2021). However, the crisis is still far from an end, with new variants of the virus being discovered by medical experts from time to time (Farge & Roy, 2022).



**Figure 1: Global daily fossil CO₂ emissions
(Le Quéré et al., 2020)**

Unfortunately, a study conducted by Nigam et al. (2021) reported that the lifting of travel bans and the resumption of tourism activities have negatively affected the environment. For example, the study found overabundant quantities of garbage at beaches in India after the reopening of the tourism sector. Their investigation further revealed an appalling increase (1032.60%) in garbage amounts at eight popular beaches sampled in the study in the post-lockdown period. It appears that while reopened destinations are enjoying the soaring revival of the tourism economy, they are in fact suffering from mounting litter and other environmental issues at the same time (Hilmy, 2021; Nigam et al., 2021; Phelan & Kent, 2022). It seems that the pandemic has shifted tourist mindsets towards a greater need for instant gratification and away from responsible forms of tourism.

According to Goodwin (2022), every individual is different in how they take responsibility of their actions towards the environment. A majority may behave responsibly due to legal compulsion or moral obligation (Wu et al., 2022), while others may willingly assume responsible actions due to their higher awareness of negative consequences (Goodwin & Francis, 2003). Despite increasing awareness of environmental issues (Carver, 2022; Goodwin, 2022), tourism activities are still an undeniable contributor to environmental problems (Su, Hsu & Boostrom, 2020). This suggests that tourists frequently fail to choose behaviours that have smaller impacts on the environment. The recent media reports of masses of garbage left behind by visitors, leaving destinations in danger and despair (Hilmy, 2021; Sreynoy, 2021; Chandran, 2021; Bechocha, 2022), bear witness to tourists' widespread failure to act responsibly. The connection between tourists' concern for the environment and their actual behaviour in the setting of tourism destinations is thus missing. Individuals may be practising green behaviour at home, but seldom bring along their sustainability behaviour on vacation, as the main aim is to have a good time and relax (Ramchurjee & Suresha, 2015; Juvan & Dolnicar, 2014).

Unsurprisingly, local authorities in destinations are now imposing sterner actions on individuals guilty of littering. Litterbugs in Malta may face a penalty of up to €500 if caught for the offence (Zammit, 2021), while in Cambodia, the Environment Ministry fines litterbugs 20,000 riel (Sreynoy, 2021). While this policy is good to deter the misbehaviour of individuals at tourist destinations, its procedural execution is tedious and bureaucratic. It takes much effort to prove an individual's misbehaviour. It also neglects contextual factors that might encourage littering, such as the lack of waste bins or the sale of over-packaged goods. In actuality, every stakeholder has a role to play in maintaining and sustaining a destination. The question is, what is the level of involved stakeholders' understanding and awareness of their role as key players contributing to responsible tourism management?

Recently, a hilarious signboard (Figure 2) in a famous tourist spot called Rosses Point in Ireland caught the public's attention. Instead of using a more common approach to remind tourists not to litter, the message was structured in an extreme manner using negative and offensive language. The image was posted by Twitter user Darren Purcell on 3rd April 2022 and gained several thousand 'likes' and 'retweets' (Pheland & Kent, 2022). At this juncture, it appears necessary to reflect on the term 'environmentally responsible behaviour' (ERB). We are quick to blame tourists, but how well do we understand what ERB is from the tourist perspective? In drawing attention to this issue, the aim of this editorial is to prompt scholars to rethink tourists'

ERB and identify ways we can uplift positive behaviour not only for the wider benefit of the planet but also specifically for a more sustainable tourism future.



**Figure 2: Signboard reminding tourist not to litter
(Phelan & Kent, 2022)**

Environmentally Responsible Behaviour and Tourism

Changes in the climate or ecosystem stemming from environmental consequences in destinations have always been linked to tourism activities (Su et al., 2018). While tourism is said to be one of the key culprits behind climate change, at a certain level, tourism is also a possible victim threatened by changes in the global climate (McKercher et al., 2010; Morrison & Pickering, 2013). Regardless of the hat tourism is wearing, tourists' behaviour while in a destination plays an important role in ensuring the sustainability of the destination for potential tourism continuity (Ting et al., 2021). Tourist consciousness or awareness of the consequences of their every single action is thus of great significance to a destination's wellbeing.

In the past, researchers have examined the issue of sustainable tourism from the perspective of a destination's tourists (Su & Swanson, 2017; He et al., 2018; Su et al., 2020; Confente & Scarpi, 2021; Gezhi & Xiang, 2022) and residents (Lee, 2013; Boley et al., 2017; Confente & Scarpi, 2021). Of the aforementioned perspectives, Su and Swanson (2017) propose that tourists' ERB warrants special attention as a critical area of study, considering that tourists

constitute the main stakeholder group that can endanger a destination's environment directly and substantially.

Tourists' ERB refers to tourists' adherence to responsible behaviour in a conscious manner to minimise damages to the local environment during their vacation (Lee et al., 2013). A number of different theoretical frameworks have been employed by past scholars to understand the mechanism of ERB, such as neutralization theory (Chang, 2010), theory of planned behaviour (Han, 2015), place attachment theory (Cheng & Wu, 2015), relationship quality theory (He et al., 2018), integrated stimuli-organism-response model and script theory (Su et al., 2020), and norm activation theory (Confente & Scarpi, 2021). Among the most recent investigations on ERB, Gezhi and Xiang (2022) adopted the broaden-and-build theory from the positive psychology field to study the impact of positive emotions on tourists' ERB.

According to the neutralization theory by Sykes and Matza (1957), there is a direct relationship between unfitting behaviour (or misbehaviour) and self-justifications or responsibility denial, such that people tend to justify their inappropriate behaviour as an accident. Chang's (2010) study extended the neutralization theory to investigate visitors' intention to pick flowers when visiting the Kenting National Forest Recreation Area in Taiwan. The author found confirmation for the neutralization theory, with results indicating that visitors with higher self-justification for the act of picking flowers have a higher intention to pick flowers. Confente and Scarpi (2021) further revealed that individuals' ascription of responsibility for the environment stems from their self-awareness of possible negative consequences and subsequently develops their ERB. Most recently, Gezhi and Xiang (2022) added to the literature by confirming that tourists' ERB is driven by their positive emotions towards a destination through self-efficacy and place identity.

Notwithstanding the fact that various theories and models have provided insights regarding the probability of people conforming to ERB, environmental issues continue to prevail all around the world. For example, an environmental issue repeatedly reported by the media in the aftermath of the pandemic is the inappropriate disposal of single-use face masks (Mayers, 2021; Parker, 2021; Salleh, 2021; Somos, 2021). Scholars from the University of Portsmouth found that the amount of face masks disposed in the environment rose by nearly 9,000% from March to October 2020 due to the COVID-19 outbreak (Somos, 2021). The face mask is now an 'environment-disturbing' item in many destinations as it takes up to 450 years to decompose on Earth (Mayers, 2021). The concern, in fact, is not only about the disposable face masks turning into trash per se, but more towards the calamitous larger global problem that the microplastics in the face mask may cause in the food chain system (Rosane, 2021). This issue takes us several steps back in terms of contemplating the gap that must be filled to achieve ERB in the pragmatic realm.

Rethinking Environmentally Responsible Behaviour for the Future

The literature on ERB within the tourism setting is extant; nevertheless, much remains to be explored with regards to its theoretical grounding to provide practical insights towards creating a culture of ERB for a more sustainable ecosystem. The term 'environmentally responsible behaviour' is not a tagline per se for a one-off event or a stipulated timeframe; instead, it should

be an awareness budding from the inner self to behave responsibly in a conscious manner to cause minimal or no harm to the environment (Ting et al., 2021). Budeanu (2007) surmised that many studies have reported tourists to be positively inclined towards sustainable tourism, but in reality, there may only be a small fraction who convert their beliefs into action and behave responsibly. Situational disinhibition, such as social norm violation, is easily activated in tourists who are temporarily enjoying time off from their comfort zone of daily acquainted routines, tasks, and boundaries (Sönmez et al., 2006). This advocates the argument that tourists are more likely to misbehave on vacations than at home, as they are not worried about future punishment or social disapproval (Fennell, 2006).

A review of the literature points to Maloney and Ward's (1973) early observation that environmental crisis stems from maladaptive behaviour within the environmental sphere where the human race is racing for resources. Nearly five decades later, the issue still exists today and has even swelled to a point where we worry if our planet Earth will still be safe to inhabit in the decades to come. Echoing this sentiment, the theme of the recent 2022 World Environment Day (5th of June) was "Only One Earth", a statement that unostentatiously underscores this planet as our only home. At the event, the United Nations Secretary-General António Guterres warned the general public that the Earth's natural systems cannot keep up with our demands any longer to maintain our unsustainable ways of life. Humans are just asking too much from the planet.

The pandemic has taught the world an expensive yet valuable lesson — ad hoc crisis is the new normal for tourism. For a limited time, we got to experience a world without tourism. The red code wakeup call has rung, yet the lesson was quickly forgotten. Instead of seeing tourism activity as an extremely costly activity to the environment and therefore a privilege that must not be abused, tourists around the world were quick to re-engage in the selfish exploitation of tourism destinations and of the planet. Their desires were eagerly supported by an industry that continues to self-destruct by spoiling the environments it depends on for attracting future tourists.

It must be acknowledged that the environment and human wellbeing have an extraordinary reciprocal relationship, wherein one can affect and be affected by the other. Accordingly, Maloney and Ward (1973) said that environmental crisis can only be solved through the "alteration of human behaviour" (p. 583), but human behaviour is a complex and dynamic component. We should not assume that ERB comes natural to tourists and requires only awareness. To influence or modify inappropriate behaviours, the authors said "We must go to the people in an attempt to understand these behaviours. We must determine what the population "knows" regarding ecology, the environment, and pollution; how they feel about it; what commitments they are willing to make; and what commitments they do make." (p. 584). We also need to understand how tourism settings impact tourists' perspectives on ERB. Hence, until we know more about how to convince tourists to consistently behave in a responsible manner that is congruent with their inner self-beliefs or interests, and how to connect cross-sector organizations with tourists (and residents) to form strategic partnerships with trust and the will to cooperate, the environmental problem will inevitably continue to confront us.

References

- Asi, Y. M. (2021, March 12). Vaccine passports may be on the way – but are they a reason for hope or a cause for concern? Retrieved from: <https://theconversation.com/vaccine-passports-may-be-on-the-way-but-are-they-a-reason-for-hope-or-a-cause-for-concern-156534>
- Bechocha, J. (2022). Littering: the downside to Newroz picnics. Retrieved from: <https://www.rudaw.net/english/kurdistan/23032022>
- Boley, B. B., McGehee, N. G., & Hammett, A. T. (2017). Importance-performance analysis (IPA) of sustainable tourism initiatives: The resident perspective. *Tourism Management*, 58, 66-77.
- Budeanu, A. (2007). Sustainable tourist behaviour—a discussion of opportunities for change. *International Journal of Consumer Studies*, 31(5), 499-508.
- Carver, D. (2022). What were the outcomes of COP26? Retrieved from: <https://commonslibrary.parliament.uk/what-were-the-outcomes-of-cop26/#:~:text=190%20countries%20agreed%20to%20phase,to%20clean%20power%20transition%20statement>
- Chandran, P. (2021). How can India move towards more sustainable waste management in tourist cities? Retrieved from: <https://citizenmatters.in/sustainable-waste-management-in-tourist-cities-26170>
- Chang, L. C. (2010). The effects of moral emotions and justifications on visitors' intention to pick flowers in a forest recreation area in Taiwan. *Journal of Sustainable Tourism*, 18(1), 137-150.
- Cheng, T. M., & Wu, H. C. (2015). How do environmental knowledge, environmental sensitivity, and place attachment affect environmentally responsible behavior? An integrated approach for sustainable island tourism. *Journal of Sustainable Tourism*, 23(4), 557-576.
- Confente, I., & Scarpi, D. (2021). Achieving environmentally responsible behavior for tourists and residents: A norm activation theory perspective. *Journal of Travel Research*, 60(6), 1196-1212.
- Farge, E. & Roy, M. (2022). Do not assume COVID pandemic reaching 'end game', warns WHO. Retrieved from: <https://www.reuters.com/business/healthcare-pharmaceuticals/who-chief-says-world-critical-juncture-covid-pandemic-2022-01-24/>
- Fennell, D. A. (2006). Evolution in tourism: The theory of reciprocal altruism and tourist–host interactions. *Current Issues in Tourism*, 9(2), 105-124.
- Gezhi, C., & Xiang, H. (2022). From good feelings to good behavior: Exploring the impacts of positive emotions on tourist environmentally responsible behavior. *Journal of Hospitality and Tourism Management*, 50, 1-9.
- Goodwin, H. (2022). Responsible tourism enters its 3rd decade. Retrieved from: <https://responsibletourismpartnership.org/platform-for-change/responsible-tourism-enters-its-3rd-decade/>
- Goodwin, H., & Francis, J. (2003). Ethical and responsible tourism: Consumer trends in the UK. *Journal of Vacation Marketing*, 9(3), 271-284.

- Han, H. (2015). Travelers' pro-environmental behavior in a green lodging context: Converging value-belief-norm theory and the theory of planned behavior. *Tourism Management, 47*, 164-177.
- Haugen, J. (2020, August 4). Why sustainable tourism is more important than ever. Retrieved from: https://rootedstorytelling.com/rethinking-tourism/restarting-travel-sustainable-tourism/?fbclid=IwAR23JvMoxs6ZXDq83Tk7r1bT7Ug0Qe_6i0Doi6mIaY2QzJZ80mRJO7y_Ys
- He, X., Hu, D., Swanson, S. R., Su, L., & Chen, X. (2018). Destination perceptions, relationship quality, and tourist environmentally responsible behavior. *Tourism Management Perspectives, 28*, 93-104.
- Hilmy, I. (2021, September 21). Dirty tourists theory rubbished. Retrieved from: <https://www.thestar.com.my/news/nation/2021/09/21/dirty-tourists-theory-rubbished>
- Juvan, E., & Dolnicar, S. (2014). The attitude-behaviour gap in sustainable tourism. *Annals of Tourism Research, 48*, 76-95.
- Kasnoon, K. (2022, January 3). Record of sorts: Hotels in Langkawi receive 1,000 bookings in an hour. Retrieved from: <https://www.astroawani.com/berita-malaysia/record-sorts-hotels-langkawi-receive-1000-bookings-hour-246121>
- Lee, T. H. (2013). Influence analysis of community resident support for sustainable tourism development. *Tourism Management, 34*, 37-46.
- Lee, T. H., Jan, F. H., & Yang, C. C. (2013). Conceptualizing and measuring environmentally responsible behaviors from the perspective of community-based tourists. *Tourism Management, 36*, 454-468.
- Le Quéré, C., Jones, M. W., Jones, M. W., Smith, A. J., Abernethy, S., Andrew, R. M., . . . Peters, G. P. (2020). Temporary reduction in daily CO₂ emissions during the COVID-19 forced confinement. *Nature Climate Change, 10*(July), 647-653.
- Lenzen, M., Sun, Y. Y., Faturay, F., Ting, Y. P., Geschke, A., & Malik, A. (2018). The carbon footprint of global tourism. *Nature Climate Change, 8*(6), 522-528.
- Maloney, M. P., & Ward, M. P. (1973). Ecology: Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist, 28*(7), 583-586.
- Martin, A.K.T. (2021, May 3). New frontier: The future of tourism. Retrieved from: <https://www.japantimes.co.jp/life/2021/05/03/travel/future-tourism-japan-covid-19/>
- Mayers, L. (2021, August 9). Disposable face masks prompt anti-waste campaigners to call for sustainable alternatives. Retrieved from: <https://www.abc.net.au/news/2021-08-09/cloth-masks-vs-disposable-face-masks/100361114>
- McKercher, B., Prideaux, B., Cheung, C., & Law, R. (2010). Achieving voluntary reductions in the carbon footprint of tourism and climate change. *Journal of Sustainable Tourism, 18*(3), 297-317.
- Morrison, C., & Pickering, C. M. (2013). Perceptions of climate change impacts, adaptation and limits to adaption in the Australian Alps: the ski-tourism industry and key stakeholders. *Journal of Sustainable Tourism, 21*(2), 173-191.
- Nigam, R., Luis, A. J., Prasad, P., Kuttikar, S., Yadav, R., Vaz, E., & Kotha, M. (2022). Spatio-temporal assessment of COVID-19 lockdown impact on beach litter status and

- composition in Goa, India. *Marine pollution bulletin*, 174, 113293. <https://doi.org/10.1016/j.marpolbul.2021.113293>
- Parker, L. (2021, April 15). How to stop discarded face masks from polluting the planet. Retrieved from: <https://www.nationalgeographic.com/environment/article/how-to-stop-discarded-face-masks-from-polluting-the-planet>
- Phelan, C. & Kent, D. (2022, April 5). Popular Irish tourist spot goes viral after brilliant sign reminding public of basic rule while visiting. Retrieved from: <https://www.irishmirror.ie/news/irish-news/popular-irish-tourist-spot-goes-26640223>
- Quy, N. & Huong, L. (2021, April 28). Top tourist destinations near fully booked despite Covid-19 menace. Retrieved from: <https://e.vnexpress.net/news/travel/places/top-tourist-destinations-near-fully-booked-despite-covid-19-menace-4269613.html>
- Ramchurjee, N. A., & Suresha, S. (2015). Are tourists' environmental behavior affected by their environmental perceptions and beliefs?. *Journal of Environmental and Tourism Analyses*, 3(1), 26-44.
- Rosane, O. (2021, December 14). Face Mask Litter Increased Almost 9,000% During First 7 Months of Pandemic, Study Finds. Retrieved from: <https://www.ecowatch.com/face-mask-litter-covid-2656020815.html>
- Salleh, A. (2021, December 10). Global face mask pollution jumped nearly 9,000 per cent due to COVID mandates, study finds. Retrieved from: <https://www.abc.net.au/news/science/2021-12-10/covid-face-mask-pollution-has-jumped-by-nearly-9000-per-cent/100685986>
- Shadel, J.D. (2021, July 30). 'Revenge travel' is the phenomenon that could bring back tourism with a bang. *The Washington Post*. Retrieved from: <https://www.washingtonpost.com/travel/2020/07/29/revenge-travel-is-phenomenon-that-could-bring-back-tourism-with-bang/>
- Sönmez, S., Apostolopoulos, Y., Yu, C. H., Yang, S., Mattila, A., & Lucy, C. Y. (2006). Binge drinking and casual sex on spring break. *Annals of Tourism Research*, 33(4), 895-917.
- Sreynoy, C. (2021, September 7). Tourism Area Litterbugs Face Fines. Retrieved from: <https://cambodianess.com/article/tourism-area-litterbugs-face-fines>
- Su, L., Hsu, M. K., & Boostrom Jr, R. E. (2020). From recreation to responsibility: Increasing environmentally responsible behavior in tourism. *Journal of Business Research*, 109(March), 557-573.
- Su, L., Huang, S. S., & Pearce, J. (2018). How does destination social responsibility contribute to environmentally responsible behaviour? A destination resident perspective. *Journal of Business Research*, 86, 179-189.
- Su, L., & Swanson, S. R. (2017). The effect of destination social responsibility on tourist environmentally responsible behavior: Compared analysis of first-time and repeat tourists. *Tourism Management*, 60, 308-321.
- Somos, C. (2021, December 10). 'Environmental disaster' looming as face-mask litter sharply increases in Canada, other countries: study. Retrieved from: <https://www.ctvnews.ca/climate-and-environment/environmental-disaster-looming-as-face-mask-litter-sharply-increases-in-canada-other-countries-study-1.5701925>
- Sykes, G.M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, 22, 664-670.

- Ting, H., Morrison, A. M., Leong, C. M., Kumarusamy, R., & Leong, Q. L. (2021). Responsibility, Responsible Tourism and Our Response. *Journal of Responsible Tourism Management*, 1(2), 1-9.
- Zaman, U., Raza, S. H., Abbasi, S., Aktan, M., & Farías, P. (2021). Sustainable or a butterfly effect in global tourism? Nexus of pandemic fatigue, covid-19-branded destination safety, travel stimulus incentives, and post-pandemic revenge travel. *Sustainability*, 13(22), 12834.
- Zammit, M. L. (2021). Litterbugs, beware: littering fines up by 150% this year. Retrieved from: <https://timesofmalta.com/articles/view/littering-fines-increase-waste-collection-responsibility.901760>



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