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TOURIST WELLBEING:

RETHINKING HEDONIC AND EUDAIMONIC DIMENSIONS

ABSTRACT

Research on tourists' eudaimonic and hedonic wellbeing has grown exponentially in the tourism literature. The paper re-examines the conceptualisation of psychological tourist wellbeing. While there is agreement that tourist wellbeing is multidimensional in nature, it is unclear what specific dimensions, or psychological domains, underpin tourists' hedonic and eudaimonic wellbeing. Models that summarise these domains seemingly overlap, notably PERMA (positive emotions, engagement, relationships, meaning and achievement) model and DRAMMA (detachmentrecovery, autonomy, mastery, meaning, and affiliation) model. Ideas on re-conceptualising tourist wellbeing are proposed. A new conceptual model re-organising hedonic and eudaimonic dimensions of tourists' psychological wellbeing is presented for consideration in future research. This new model is termed DREAMA. It consists of the following dimensions: detachmentrecovery (DR); engagement (E); affiliation (A); meaning (M); and achievement (A). The new affiliation dimension now includes both social connections and tourists' connections with the natural environments, thus reframing tourist wellbeing conceptualisation beyond human-tohuman contact.

KEYWORDS

DRAMMA, PERMA, tourist wellbeing, hedonic wellbeing, eudaimonic wellbeing

INTRODUCTION

Tourists' psychological wellbeing is a hot topic in tourism studies (Nikjoo, Zaman, Salehi & Hernández-Lara, 2021). Beyond the well-established fact that tourist wellbeing is a powerful theme in promotional materials geared toward attracting tourists (Vada, Prentice, Scott & Hsiao, 2020), wellbeing perception is critical to customer satisfaction with products and services in tourism (Hwang & Lee, 2019; Sirgy, Lee & Rahts, 2007). A recent thorough review of 82 peer-reviewed articles in English-language tourism journals shows that tourist wellbeing research has grown exponentially in recent years (Vada et al., 2020).

This exponential rise is a product of an increasing interest in slower, more mindful tourist experiences (Farkic, Filep & Taylor, 2020) and the development of the global wellness tourism industry in the last few decades (Smith & Puczkó, 2009). Discourses on wellbeing in tourism and conceptually related fields are also experiencing rapid growth due to the COVID-19 pandemic (Yang &Wong, 2020) and the aging populations across the globe. Despite the popularity of the topic, it is still unclear what distinct psychological domains or dimensions (e.g. achievement, autonomy, meaning, positive emotions) comprise multidimensional tourist wellbeing. This paper aims to re-examine hedonic and eudaimonic dimensions of wellbeing, proposing a new conceptual model of tourist wellbeing.

In particular, the paper aims to deepen knowledge on tourist wellbeing through the conceptual synthesis of existing well known models of tourist wellbeing. A new model is then conceptualised, re-organising the dimensions embedded in the existing models. Before the alternative conceptual model is presented, the paper defines wellbeing and examines two fundamental aspects of wellbeing (social connections and the connection with the natural environment). They have been singled out here as they are fundamental in the construction of the new conceptual model.

INTERPRETING WELLBEING

Despite the exponential growth on this topic, Goodman, Disabato, Kashdan and Kauffman (2018) convincingly demonstrated that researchers tend to disagree on what constitutes wellbeing. In their latest discussion of leisure and wellbeing, Mansfield, Daykin & Kay similarly point out: 'while most contemporary research claims wellbeing is multidimensional in character and associated with how well we feel we are doing as individuals, communities and societies, there is no single agreed definition' (2020, p.1).

For Carlisle & Hanlon (2008) psychological wellbeing is vague, poorly defined. It is linked, according to the authors, to questionable morally laden ideals of the good life and happiness (Carlisle & Hanlon, 2008). There is however some broad agreement about tourist wellbeing conceptualisation in the tourism literature (Nawijn & Filep, 2016). The concept of wellbeing is grounded in philosophical distinctions between pleasure (hedonia) and meaning or greater purpose in life (eudaimonia) (McCabe & Johnson, 2013). Hedonia is seen as happiness, generally defined as the presence of positive affect and the absence of negative affect (Deci & Ryan, 2008). Eudaimonia has been interpreted as a deeper state of wellbeing, one in which an individual flourishes. Eudaimonia is therefore about self-realisation or self-actualisation (Ryff and Singer 2008). Ryff and Singer see it as a state "of striving toward excellence based on one's unique potential" (2008, p. 14). Hedonic wellbeing has subsequently been interpreted as

subjective wellbeing (Deci & Ryan, 2008), while the eudaimonic interpretation is at least partially objective in its conception of wellbeing – it is about one's meaning and sense of purpose as opposed to positive or negative affect (Deci & Ryan, 2008).

Tourist wellbeing has therefore been defined as hedonic wellbeing and eudaimonic wellbeing of tourists (Smith & Diekmann, 2017). Subsequently, there has been an adoption of measures of meaning to capture the eudaimonic wellbeing of tourists (Lengieza, Hunt & Swim, 2019). In addition, there has been a proliferation of subjective wellbeing measures (SWB), including satisfaction with life scales designed to capture hedonic wellbeing or pleasure (Rahmani, Gnoth & Mather, 2018). Tourism researchers initially adopted the hedonic conceptualisation and subsequent measures (Nawijn, 2010); later on, however tourist wellbeing measures were expanded to incorporate both hedonic elements (e.g., measures of affect), and eudaimonic measures (Rahmani et al., 2018). Researchers in tourism studies now know much more about the nature and intensity of eudaimonic tourist experiences than previously. Studies demonstrate that eudaimonia, compared to hedonia, has a lower change intensity in tourist experiences and a delayed effect on wellbeing (Su, Tang & Nawijn, 2020). However, what remains unknown is what dimensions explain multidimensional tourists' hedonic and eudaimonic wellbeing?

It has been established emotions and meanings represent hedonic and eudaimonic tourist wellbeing (Filep, 2014a; Vada et al., 2020). These two dimensions are normally measured in empirical research (Nawijn & Filep, 2016), however should a key dimension, like relationships (social connections and connections with the natural environment), also explain tourist wellbeing and hence be separately appraised? In psychology, relationships are treated as a distinct, mutually exclusive dimensions of wellbeing and as such they represent an independent pillar of wellbeing as opposed to meaning and positive emotions (Seligman, 2011; Butler & Kern, 2016). Intuitively one can understand how this distinction may apply to tourist behaviour. For example, in visiting friends and relatives (VFR) tourism (Backer, 2019), physical contact with family or friends, or the love for the physical features of the destination (i.e. connection with nature) could be important to psychological wellbeing independent of whether this form of tourism may be perceived as meaningful, or whether it creates negative emotions (such as sadness) or positive emotions (like joy). With some notable exceptions however (Laing & Frost, 2017; Medeiros, Gonçalves, Veiga & Caraciolo, 2020; McCabe & Johnson, 2013), the role of relationships (both social connections and connection with nature), is typically not assessed when measuring tourist wellbeing.

THE ROLE OF SOCIAL CONNECTIONS

Butler and Kern (2016) argue for adoption of multidimensional models of wellbeing as there is seemingly meaningful variation amongst wellbeing dimensions. They single out human relationships as one of the core dimensions of psychological wellbeing which they regard as separate from emotions and meanings. They argue: '...if a person scores particularly low on relationships, interventions might target strategies for building social connections' (2016, p.22). So, there are practical benefits of the multidimensional conceptions of wellbeing that incorporate human relationships. Although social connections are rarely assessed in tourist wellbeing research (McCabe & Johnson, 2013), shared tourist experiences generate eudaimonic rewards as couple vacations enhance couples' cohesion and flexibility (Shahvali, Kerstetter & Townsend, 2019) and research also confirms that shared vacationing is hedonically rewarding and is

sometimes a vehicle for experiencing love (de Bloom, Geurts, & Lohmann, 2017; Matteucci, Volic & Filep, 2019), perhaps even more so than solo travel. So, ascertaining (and then measuring) the major underlying dimensions of tourist wellbeing is clearly required, and the social connection dimension is highly relevant, potentially overlooked, and thus conceptually underdeveloped. However, beyond the social connections, the connections with the natural environment are arguably an equally important dimension to consider.

CONNECTIONS WITH THE NATURAL ENVIRONMENT

Research has long established the critical importance of connection with the natural environment for physical and mental health (Thomsen, Powell & Monz, 2018). Indeed, studies on naturebased tourism and mental health are growing in prominence, with recent emprical work focused on casual relationships between national parks and happiness (Buckley, 2020). Yet, in the tourism field, connection with the natural environment is not normally part of tourist wellbeing conceptualisations (Nawijn & Filep, 2016). Recent discourse has focused on the critical importance of utilising the restorative power of nature to recover from the COVID-19 pandemic, outlining the critical role of travel in hedonic and eudaimonic wellbeing (Geary et al., 2021). However, existing studies on human-nature relationships have a tendency to apply the term wellbeing synonymously with related concepts such as resilience, mental health and self-esteem (Richardson et al., 2021). Such definitional contests have led to conceptual ambiguity surrounding connection with nature as an explicit dimension of wellbeing measured in existing studies on tourist wellbeing. In addition, diverse disciplinary perspectives, combined with an evolving theoretical landscape, have led to a range of tools and approaches for measuring the nature-wellbeing relationship (Richardson et al., 2021), with empirical work dominated by scales which seek to examine specific parts of the multi-dimensional conceptual model (Pritchard, et al., 2020). Consequently, clarifying (and then measuring) the major underlying dimensions of tourist wellbeing is clearly required, and the connection to nature dimension seems crucial but neglected.

PERMA, DRAMMA OR DREAMA?

AN ALTERNATIVE CONCEPTUAL MODEL

By and large, the conceptualisation of tourist wellbeing is complicated by the fact that currently accepted, hedonic and eudaimonic summative models that summarise psychological wellbeing dimensions in tourist experiences seemingly overlap. A few researchers have adopted PERMA (positive emotions, engagement, relationships, meaning and achievement) summative model to conceptualise wellbeing, using a survey measure of PERMA Profiler (Butler & Kern, 2016; Dillette, Douglas & Martin, 2018; Pourfakhimi, Nadim, Prayag & Mulcahy, 2020). Positive emotions represent an entirely hedonic dimension while the rest are at least partially eudaimonic dimensions (Butler & Kern, 2016). Positive emotions (P) include emotions of joy, interest, contentment; engagement (E) refers to heightened feeling of absorption and a sense of greater awareness in an activity, relationships (R) in PERMA is the perception of quality and quantity of social connections, meaning (M) is a sense of purpose in life and achievement (A) is a state of accomplishment (Seligman, 2011). Despite PERMA being a generic lifestyle model that was not initially designed for tourism research, PERMA remains popular in conceptualising tourist wellbeing (Pourfakhimi et al, 2020; Dillette et al, 2018). There is nevertheless another wellestablished summative model that proposes five wellbeing dimensions of leisure experiences (including tourist experiences): detachment-recovery, autonomy, mastery, meaning, and affiliation (DRAMMA) (Newman, Tay & Diener, 2014). According to the creators of

DRAMMA (Newman et al., 2014), detachment recovery (DR) is a hedonic sense of separation from work and relaxation. As with PERMA the remaining pillars of wellbeing are at least partially eudaimonic. Autonomy (A) is a sense of willing engagement in an activity, mastery (M) is about honing one's skills to achieve success, meaning (M) is a sense of purpose, while affiliation (A), as in PERMA, is defined as social connection.

A close look at DRAMMA however suggests that DRAMMA dimensions overlap with PERMA dimensions. The R (relationships) dimension in PERMA resembles the last A (affiliation) of DRAMMA; the M (meaning) of PERMA resembles the M (meaning) in DRAMMA. Achievement in PERMA (A) appears to include mastery (M) of DRAMMA. Pleasure is identified in the detachment-recovery (DR) category (Newman et al., 2014), which would make this dimension similar to P of PERMA. Further, as Laing & Frost (2017) highlight, the DRAMMA element of autonomy (A) could be understood as an aspect of engagement (E) in PERMA considering 'the engagement in new leisure activities requires independence and self-direction' (Newman et al., 2014, p. 565). Once the possibly duplicate dimensions are deleted, another acronym can be devised – DREAMA as presented on Figure 1.

Figure 1: DREAMA: A hedonic-eudaimonic conceptual model of tourists' psychological wellbeing

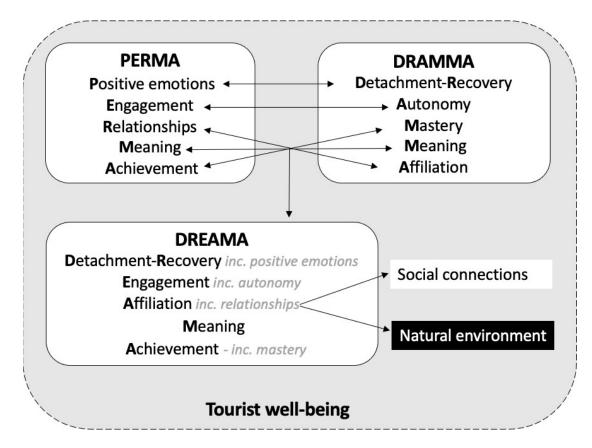


Figure 1 presents a hedonic and eudaimonic dimensions of tourist psychological wellbeing by summarising the overlapping dimensions in PERMA and DRAMMA models and proposing a new DREAMA conceptual model of tourist wellbeing. According to DREAMA, tourist wellbeing may actually be comprised of the hedonic dimensions of detachment-recovery (DR) including positive emotions; and at least partially eudaimonic dimensions of: engagement (E) including autonomy; affiliation (A) including relationships; meaning (M); and achievement (A), including mastery. If so, a measure of DREAMA would now be required.

CONCLUSION

Beyond integrating different dimensions of PERMA and DRAMMA, the contribution of DREAMA is twofold. Firstly, DREAMA singles out social connections as part of affiliation (A) - in doing so it puts emphasis on the social nature of most tourist experiences. This singling out is important as social connections include fundamental human emotions of love and kindness (Singh, 2019) and experiences of friendship (Matteucci, Volic & Filep, 2019). These emotions and experiences help build wellbeing and are widely prevalent in tourist experiences (Berdychevsky, Gibson & Bell, 2013). Yet they are not typically assessed in tourist wellbeing research – for instance, measures of love do not typically feature in tourist wellbeing surveys. Secondly, the proposed model suggests the relationships with other people are equally as important to tourist wellbeing as the affiliation with the natural environment (another singled out aspect of DREAMA). The basis for this point is the well-established positive link between tourists and the natural environment (Huang, Pearce, Wu & Wang, 2019). Tourism takes place in natural settings (forests, mountains, seaside) and connection to nature (a sense of positive attachment to the ecosystem) is well established (Whittem et al, 2018). Research has repeatedly shown that connection to nature is positively associated with both higher hedonic and higher eudaimonic wellbeing (Mayer, Frantz, Bruehlman-Senecal, & Dolliver, 2009; Cervinka, Roderer, & Hefler, 2011; White, Alcock, Wheeler & Depledge, 2013). Hence the novelty of DREAMA is in the expansion of tourist wellbeing conceptualisation, beyond human-to-human contact. In particular, the affiliation dimension in both DRAMMA and PERMA has been understood too narrowly as a human relationship with other people (Newman et al, 2014; Seligman, 2011). DREAMA better identifies the central elements for tourists' psychological

wellbeing by acknowledging that the relationships with then natural environment are equally important to tourists' wellbeing.

Positive tourism literature is characterised by studies of wellbeing (Houge Mackenzie and Raymond, 2020; Mkono, 2019) so it is imperative to better understand tourist wellbeing. The psychological wellbeing dimensions are crucial in re-defining and re-appraising tourist wellbeing. A future perspective that puts emphasis on the role of the body and senses (Matteucci, 2021) in experiencing wellbeing (i.e. not exclusively relying on cognitive appraisals) may enhance these analyses of multidimensional tourist wellbeing dimensions. Furthermore, future research should not only focus on the underlying dimensions of wellbeing in the DREAMA model, but should direct attention towards the different prerequisites for hedonic and eudaimonic tourist wellbeing. New studies will benefit from investigating the impact of duration, frequency, and intensity of relationships with natural environment on wellbeing (Hunter, Gillespie & Chen, 2019), through the utilisation of DREAMA. Application of core concepts to emerging areas, such as digital wellbeing in tourism, would also be beneficial. Overall, an exploration of the underlying dimensions of tourist wellbeing, potentially through case scenarios approaches, is required to advance discourses on the DREAMA model. One limitation of this analysis is that it provides a broad conceptual overview of the underlying dimensions of wellbeing. In-depth conceptual work is now required to enhance understanding and measurement of each of the underlying DREAMA dimensions of tourist wellbeing and we encourage considered discourse on this subject in the future.

REFERENCES

Backer, E. (2019). VFR travel: Do visits improve or reduce our quality of life?. *Journal of Hospitality and Tourism Management*, *38*, 161-167.

Berdychevsky, L., Gibson, H. J., & Bell, H. L. (2013). Girlfriend getaways and women's wellbeing. *Journal of Leisure Research*, *45*(5), 602-623.

Buckley, R. (2020). Nature tourism and mental health: Parks, happiness, and causation. *Journal* of Sustainable Tourism, 28 (9), 1409-1424.

Butler, J., & Kern, M. L. (2016). The PERMA Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1-48.

Carlisle S. & Hanlon P. (2008). Commentary: "Well-being" as a focus for public health? A critique and defence. *Critical Public Health* 18: 263–270.

Cervinka, R., Roderer, K., & Hefler, E. (2011). Are nature lovers happy? On various indicators of wellbeing and connectedness with nature. Journal of Health Psychology, 17 (3), 379-388 deBloom, J., Geurts, S., & Lohmann, M. (2017). Tourism and love: How do tourist experiences affect romantic relationships? In S. Filep, J. Laing & M. Csikszentmihalyi (Eds), *Positive tourism* (pp. 35-53). New York, NY: Routledge.

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and wellbeing: An introduction. *Journal of happiness studies*, 9(1), 1-11.

Dillette, A., Douglas, A., & Martin, D. (2018). Do vacations really make us happier? Exploring the relationships between wellness tourism, happiness and quality of life. *Journal of Tourism & Hospitality*, 7(3). https://doi.org/10.4172/2167-0269.1000355.

Farkić, J., Filep, S., & Taylor, S. (2020). Shaping tourists' wellbeing through guided slow adventures. *Journal of Sustainable Tourism*, *28*(12), 2064-2080.

Filep, S. (2014a). Consider prescribing tourism. *Journal of Travel Medicine*, 21 (3):150-152.
Filep, S. (2014b). Moving beyond subjective wellbeing: a tourism critique. *Journal of Hospitality and Tourism Research*, 33:161-192.

Geary, R. S., Wheeler, B., Lovell, R., Jepson, R., Hunter, R., & Rodgers, S. (2021). A call to action: Improving urban green spaces to reduce health inequalities exacerbated by COVID-19. *Preventive medicine*, 145, 106425.

Goodman, F., Disabato, D., Kashdan, T. & Kauffman, S. (2018) Measuring wellbeing: A comparison of subjective wellbeing and PERMA. *The Journal of Positive Psychology*, 13 (4): 321-332.

Houge Mackenzie, S. & Raymond, E. (2020). A conceptual model of adventure tour guide wellbeing. *Annals of Tourism Research*. 10.1016/j.annals.2020.102977.

Huang, K., Pearce, P. L., Wu, M. Y., & Wang, X. Z. (2019). Tourists and Buddhist heritage sites: An integrative analysis of visitors' experience and happiness through positive psychology constructs. *Tourist Studies*, *19*(4), 549-568.

Hunter, M. R., Gillespie, B. W., & Chen, S. Y. P. (2019). Urban nature experiences reduce stress in the context of daily life based on salivary biomarkers. *Frontiers in Psychology*, 10, 722.

Hwang, J., & Lee, J. (2019). A strategy for enhancing senior tourists' wellbeing perception:

Focusing on the experience economy. Journal of Travel & Tourism Marketing, 36(3), 314-329.

Laing, J. & Frost, W. (2017). Journeys of wellbeing: Women's travel narratives of transformation and self-discovery in Italy. *Tourism Management*, 62: 110-119.

Lengieza, M., Hunt, C. & Swim J. (2019). Measuring eudaimonic travel experiences. *Annals of Tourism Research*, 74: 195-197.

Mansfield, L., Daykin, N., & Kay, T. (2020). Leisure and wellbeing. *Leisure Studies*, 39 (1): 1–10.

Matteucci (2021). Existential hapax as tourist embodied transformation. *Tourism Recreation Research*. 10.1080/02508281.2021.1934330 Matteucci, M., Volić, I. & Filep S. (2019). Dimensions of friendship in shared travel experiences. *Leisure Sciences*. 10.1080/01490400.2019.1656121.

McCabe, S. & Johnson, S. (2013). The happiness factor in tourism: Subjective wellbeing and social tourism. *Annals of Tourism Research*, 41: 42-65.

Medeiros, S., Gonçalves, M., Veiga, R. & Caraciolo, G. (2020). The most important trip for who I am: Exploring the dimensions of the Eudaimonic Tourist Experience. *Revista Brasileira de Pesquisa em Turismo*, 14 (1): 14-33. http://dx.doi.org/10.7784/rbtur.v14i1.1599.

Mayer, S. F., Frantz, C. M., Bruehlman-Senecal, E., & Dolliver, K. (2009). Why is Nature

Beneficial? The Role of Connectedness to Nature. Environment and Behavior, 41 (5), 607-643.

Mkono M. (2019) (Ed). Positive Tourism in Africa. London: Routledge.

Nawijn, J. (2010). The Holiday Happiness Curve: A Preliminary Investigation into Mood during a Holiday Abroad. *International Journal of Tourism Research*, 12 (3): 281-90.

Nawijn, J. & Filep, S. (2016). Two Directions for Future Tourist Wellbeing Research. *Annals of Tourism Research*, 61: 221–223.

Newman, D., Tay, L. & Diener, E. (2014). Leisure and subjective wellbeing: A model of psychological mechanisms as mediating factors. *Journal of Happiness Studies*, 15(3): 555–578. Nikjoo, A., Mustafeed, Z., Salehi, S. & Hernández-Lara, A. (2021) The contribution of all-women tours to wellbeing in middle-aged Muslim women. *Journal of Sustainable Tourism*. 10.1080/09669582.2021.1879820.

Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2020). The relationship between nature connectedness and eudaimonic wellbeing: A meta-analysis. *Journal of Happiness Studies*, 21(3), 1145-1167.

Pourfakhimi, S., Nadim, Z., Prayag, G. & Mulcahy, R. (2020). The influence of neophobia and enduring food involvement on travelers' perceptions of wellbeing: evidence from international visitors to Iran. *International Journal of Tourism Research*. http://doi/full/10.1002/jtr.2391.

Rahmani, K., Gnoth, J. & Mather, D. (2018). Hedonic and eudaimonic wellbeing: A psycholinguistic view. *Tourism Management*, 69 (12): 155-166.

Richardson, M., Passmore, H. A., Lumber, R., Thomas, R., & Hunt, A. (2021). Moments, not minutes: The nature-wellbeing relationship. *International Journal of Wellbeing*, 11(1).

Ruiz, R. P., & García, J. R. (2022). Stages of Travel. In *Encyclopedia of Tourism Management and Marketing* (pp. 1-3). Edward Elgar Publishing.

Ryff, C. D., Singer, B. H. 2008. "Know Thyself and Become What You Are: A Eudaimonic Approach to Psychological Wellbeing." Journal of Happiness Studies 9 (1): 13–39.

Seligman, M. (2011). Flourish. Sydney, NSW: Random House.

Shahvali, M., Kerstetter, D. & Townsend, J. (2021). The Contribution of Vacationing Together to Couple Functioning. *Journal of Travel Research*, 60 (1): 133-148.

Singh, S. (2019). *Rethinking the anthropology of love and tourism*. Lanham, MD: Lexington Books.

Sirgy, J., Lee, D. & Rahtz, D. (2007). Research in Consumer Wellbeing (CWB): An overview of the field and introduction to the special issue. *Journal of Macromarketing*, 27(4): 341–348.

Smith, M. & Diekmann, A. (2017). Tourism and wellbeing. *Annals of Tourism Research*, 66: 1-13.

Smith, M. & Puczkó, L. (Eds) (2009). Health and Wellness Tourism. Oxford, UK: Elsevier.

Su, L., Tang B. & Nawijn, J. (2020). Eudaimonic and hedonic wellbeing pattern changes: Intensity and activity. *Annals of Tourism Research*, 84.

https://doi.org/10.1016/j.annals.2020.103008

Thomas, P., Liu, H. & Umberson, D. (2017). Family relationships and wellbeing. *Innovation in Aging*, 1: 1-11.

Vada, S., Prentice, C., Scott, N. & Hsiao, A. (2020). Positive psychology and tourist wellbeing:A systematic literature review. *Tourism Management Perspectives*, 33.

https://doi.org/10.1016/j.tmp.2019.100631

White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. G. (2013). Would You Be Happier

Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data. Psychological Science, 24 (6), 920-928

Whitten, T., Stevens, R., Ructtinger, L., Tzoumakis, S., Green, M. J., Laurens, K. R., ... & Carr,

V. J. (2018). Connection to the natural environment and wellbeing in middle

childhood. Ecopsychology, 10(4), 270-279.

Yang, F. & Wong, I. (2020) The social crisis aftermath: tourist wellbeing during the COVID-19 outbreak. *Journal of Sustainable Tourism*, 10.1080/09669582.2020.1843047