Practise what you teach

A practice-based approach to the transition towards low-carbon academic travel

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Practise what you teach: A practice-based approach to the transition towards low-carbon academic travel

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“We have learned, rather too late, that action comes, not from thought, but from a readiness for responsibility”

- Dietrich Bonhoeffer

Preface

"Tourism is like fire, you can cook your food on it, or it can burn your house down". I stumbled upon this Asian proverb whilst writing my bachelor thesis and it has been one of my favourite quotes ever since, because, well, the irony of the challenges of tourism... During the MTO programme, I was fortunate enough to receive several opportunities to explore these challenges of tourism further, which in turn have provided me with a significant amount of knowledge and skills that were essential to be able to bring this thesis project to a successful end. I would also not have been able to carry out this research without the help of certain other individuals.

First and foremost, my sincerest gratitude goes out to all my research participants. Our discussions, the provision of information but above all, your enthusiasm and genuine interest have been of great value, this thesis would certainly not be complete without your input.

I would also like to thank my supervisor, Edward Huijbens, for your feedback and suggestions, but mainly for trusting me enough, and challenging me, to carry out this research at my own terms. Also, a big thank you to Arjaan Pellis for our e-mail brainstorm sessions in the beginning stages of this thesis project, they were very helpful!

Last but certainly not least, I would also like to thank my family and friends. Your continuous support, encouragement, but mostly the 'COVID-proof activities' (which usually involved wine and pizza) that dragged me away from my laptop, have kept me sane and are very well appreciated.

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Abstract

As one of the quickest growing sources of greenhouse gas emissions, the challenge air travel poses to climate change mitigation strategies is worrisome. Despite these concerns, academics' carbon intensive travel practices remain and contribute significantly to travel's share in climate change. This thesis explores how the transition towards low-carbon academic travel can be accomplished by providing a detailed understanding of the performance of academic air mobility practices.

A qualitative single case study with a practice theory lens was carried out, which focussed on academics that have a research interest in (environmentally sustainable) tourism. Seven qualitative semi-structured interviews with purposively sampled tourism academics were conducted to give insights into academic travel behaviour. Documents such as organisational and institutional reports were further consulted to provide context and additional research data.

The findings show that air travel is seen a reward, perk of the job and means to career advancement by tourism academics. Contrary to surface transport, air travel is furthermore regarded as an efficient mode of transport in terms of time and money by universities as well as academics. Irrespective of the significant carbon footprint, tourism academics fly all around the globe to accompany their students on field trips and meet other academics in a range of settings.

I conclude that to accomplish low-carbon academic travel, the usage of air travel for academic purposes needs to be reduced. Reducing academic air travel can be realised through strict travel policies that do not reimburse the costs of air travel or ban air travel under +/- 700km when a suitable train alternative is available. Another option is nudging academics towards pro-environmental behaviour through e.g. decision trees.

In essence, the individual behaviour of (tourism) academics as well as the social structures that define current academic travel practices will have to transform. As such, the neoliberal academy needs to put an end to the promotion of aero hypermobility as essential for academic success. Additionally, academics need to stop regarding air travel as a perk of the job and find other ways to reward themselves. When aiming to teach tourism students about environmental sustainability, it further seems appropriate to start to 'practise what you teach' by opting for student field trips by surface transport.

Keywords: academic air travel, practice theory, climate change mitigation, tourism academics, carbon footprint

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Glossary

Carbon footprint	Total greenhouse gas emissions caused by an individual and/or organisation, expressed as CO_2e (equivalent).
Carbon offsetting	Offsetting carbon is a way for individuals or organisations to reduce their CO_2 emissions by directly or indirectly funding organisations that aim to help the environment.
Greenhouse gases	Gases (mainly water vapour, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and ozone) in the atmosphere that absorb and re-emit heat. Human activities such as burning fossil fuels increase the level of greenhouse gases (GHG) in the atmosphere, which causes climate change and global warming. The most common GHG emitted by human activities is CO_2.
Low-carbon	Releasing only a relatively small net amount of carbon dioxide into the atmosphere.
Post-carbon	The process of transformation that is necessary to respond to climate change challenges.

List of Abbreviations

CF	Carbon footprint
CO_2	Carbon dioxide
GHG	Greenhouse gases

1

Introduction

1. Introduction

The range of unsustainable human activity causing climate change is becoming increasingly evident and therefore requires large-scale changes to everyday life (Hargreaves, 2011). At the same time, people mostly go about their everyday life as nothing is out of kilter. This 'cold panic' (see Stengers, 2015) of awareness coupled with inaction can be exemplified in the continued growth of aviation posing a significant challenge to climate change mitigation strategies (Cohen et al., 2013; Higham et al., 2016; Higham et al., 2014; Peeters & Dubois, 2010).

Aviation is one of the quickest growing sources of emissions (Gössling et al., 2021). Air travel currently accounts for approximately 2%-3% of global carbon dioxide (CO_2) emissions, a percentage that is forecasted to rise to 22% in 2050 (Nursey-Bray et al., 2019), as the greening of other sectors of society picks up pace. Despite this, numerous discourses present flying as a social norm, for example through frequent flyer programmes, but also through broader issues such as economic development, employment, and intercultural understanding (Gössling et al., 2019).

However, the emissions of air travel are produced by only a small minority of the global population (Higham & Font, 2020; Hopkins et al., 2019). In particular academia is regarded as highly 'aeromobile' (Parker & Weik, 2014; Storme et al., 2013) and falls into the category of 'high aviation emitters' (Higham & Font, 2020). Irrespective of the negative environmental impacts, air travel is still deemed necessary by academics (Glover et al., 2019).

According to Glover et al. (2018, p. 766), academic travel[1] therefore needs to reimagined "by recognising that the purpose of air travel is not mobility in and of itself, but the collaborative interactions academics seek in the production of new knowledge and the advancement of their careers". The mobility practice of air travel in essence needs to be 'denormalised', which includes "the transition from air travel being a routine, frequent, normal part of academic life, to something less routine, less frequent and less normal" (Glover et al., 2018, p. 766).

[1] in this thesis, the term academic travel refers to travel undertaken by professors, lecturers, PhD students and researchers, employed at tertiary educational institutions for work activities. Personal travel and commuting to work are not included.

1.1. Research goal

This thesis responds to calls that in order to decarbonise academic travel, a "detailed understanding of how and why academic mobilities are preformed, the everyday experience and impacts of academic travel, and the mechanisms that support or prevent academic mobilities" is needed (Hopkins et al., 2019, p. 472). The objective of this thesis is therefore to explore how the transition towards low-carbon academic travel can be accomplished by providing a detailed understanding of how the academic mobility practice of air travel is performed. To fulfil this research objective, the following research questions have been formulated:

1. What factors enable the academic air travel practice?
2. What measures can be taken to mitigate the carbon footprint of academic air travel?
3. What are the barriers to limiting academic air travel?
4. What role can the COVID-19 pandemic play in the transition towards low-carbon academic travel?

1.2. Context

The COVID-19 pandemic has brought academic air travel nearly to a standstill. Which in turn, has given new encouragement to reflect on the central place of aero mobility in academic practices (Shelley-Egan, 2020). Academics with a research interest in tourism (hereafter 'tourism academics') are an interesting group to analyse in this regard, as the experts of the tourism industry and its detrimental impacts whilst themselves also responsible for carbon emissions through their air travel practices. Tourism academics can show leadership in the tourism sector by auditing their own impacts and reducing their carbon footprint by experimenting with, and promoting, low-carbon academic travel (Higham & Font, 2020).

1.3. Thesis outline

This thesis consists of six chapters, which are as followed:

Chapter 1 introduces the research by describing the background of the study and indicates the aims of this research and its context.

Chapter 2 presents the literature reviewed, as such it addresses the knowledge relevant to this thesis: academic air travel and the discrepancies between attitudes and behaviour related to climate change and air travel. It will then introduce practice theory, which is the theoretical lens used in this thesis to analyse academic air travel and the transition towards low-carbon academic travel. The chapter concludes with the conceptual model, which includes a summary of the literature reviewed.

Chapter 3 describes the research design employed to fulfil the research objective of this thesis. It further indicates which methods were used for data collection and analysis.

Chapter 4 presents the findings that derived from this study. These findings stem from a document analysis and interviews with tourism academics. The findings are presented in the five themes that emerged from the data collection and analysis.

Chapter 5 discusses the main findings presented in Chapter 4 in the context of the literature reviewed in Chapter 2. This chapter ends with considering the limitations of this study and provides suggestions for further research.

Chapter 6 concludes this study in light of the research objective and questions.

2

Literature Review

2. Literature Review

2.1. Academic air travel

Air travel has become an essential part of contemporary academic life (Glover et al., 2019; Hopkins et al., 2019; Urry, 2002). As such, air travel is normalised and undertaken regularly by academics to attend conferences, workshops, conduct field work, and have face-to-face meetings (Storme et al., 2013). These visits to conferences and seminars are welcomed and appreciated as they offer academics an escape from their daily routines and the opportunity to visit new destinations (Høyer & Naess, 2001).

However, academics' freedom to travel is not always voluntary (Parker & Weik, 2014). Especially as, over time, academic travel has become a requirement for academic success (Cohen et al., 2020; Glover et al., 2019; Glover et al., 2017; Hopkins et al., 2016; Nursey-Bray et al., 2019; Parker & Weik, 2014). Employment and promotion criteria frequently list the prerequisite of having an international standing and recognition, meaning that academic travel is subject to managerial evaluation (Hopkins et al., 2019; Parker & Weik, 2014). In other words, the ideas of what a successful academic should be doing, such as researching, publishing, teaching and serving the academic community often relies on mobility practices such as air travel (Hopkins et al., 2019).

Storme et al. (2013) even indicate that there is a certain travel 'threshold' (i.e. minimum amount of travel necessary) that determines academic success. This minimum amount of travel is necessary to "ensure the transfer of tacit knowledge or the know-how and know-who during informal meetings" (Storme et al., 2013, p. 16). The real compulsion to travel however, is indicated to stem from building and maintaining networks with potential future foreign project partners and international colleagues (Nursey-Bray et al., 2019; Storme et al., 2013). Non-travel behaviour is thus seen as problematic for academics, as they feel that they are seen as inferior when they travel little (Storme et al., 2013). Nevertheless, recent studies of Chalvatzis and Ormosi (2021) and Wynes et al. (2019) illustrate that air travel to e.g. conferences does actually not enhance academic outcomes.

There is also a 'darker side' to this academic hypermobility (cf. Cohen & Gössling, 2015). Competing obligations of family care duties and academic travel are for instance, indicated to lead to stress and guilt amongst academics (Cohen et al., 2020). These care duties for elderly parents or young children also seem to influence the duration of a trip and contribute to frequency (Storme et al., 2013). In addition, elder academics appear to struggle with the basic level of fitness required to travel frequently (e.g. the ability to cope with jetlag and sleeping difficulties) (Storme et al., 2013).

Even though virtual communication technologies are advancing, the demand for regular academic travel is still justified (Cohen et al., 2020). Virtual mobility (e.g. online lectures, conferences, etc.) is primarily used "when conflicting obligations or presence exist, and as a means of sustaining networks over time (...) rather than as a means to reduce levels of corporeal mobility" (Storme et al., 2017, p. 405). The COVID-19 pandemic, and the quick pace in which academics shifted towards using digital tools for academic exchange, was seen as a way to show that digital tools can replace several physical work interactions adequately (Schwarz et al., 2020).

Although online conferences do not present a similar experience, they do offer a way through which academics can interact with each other from a distance (Glover et al., 2019). However, physical conferences are already announced to take place again when international travel bans are lifted (Schwarz et al., 2020).

Overall, this desire for 'co-presence' (i.e. meeting face-to-face) is said to remain, despite the increase in awareness of the contribution of academic air travel to greenhouse gas (GHG) emissions and requests that call for reducing air travel (Hopkins et al., 2019). And although, universities are increasingly flagging sustainability as a central issue, simultaneously they remain to normalise and promote hypermobility as essential to academic life (Glover et al., 2017). Paradoxes like these are common, this chapter will hence continue with a review of literature that aims to explain the inconsistencies between climate change concerns, air travel and pro-environmental behaviour.

2.2. Climate change and air travel: Introducing the discrepancies between attitudes and behaviour

As technological advances are not enough to mitigate the environmental harm caused by air travel, it is argued that encouraging behavioural change is needed (Cohen et al., 2013; Higham & Font, 2020). However, it also suggested that the attitudes and concerns towards the environment and/or climate change do not match with concrete action taken and personal engagement or result in pro-environmental behaviour (see e.g. Antimova et al., 2012; Han, 2015; Hibbert et al., 2013; Higham et al., 2016; Juvan & Dolnicar, 2014; Tölkes, 2020). In other terms, those who are concerned with the negative environmental impact of air travel are reluctant to change their travel behaviour for environmental reasons (Barr & Prillwitz, 2014; Cohen et al., 2013; Higham et al., 2014; Luzecka, 2016).

As the producers of climate knowledge, academics are argued to have the opportunity to model and encourage pro-environmental behaviour (Nursey-Bray et al., 2019). Yet, the tendency of academia to ignore the environmental impacts of air travel is strong, even when they accept the reality of anthropogenic climate change (Baer, 2018). This issue of undertaking air travel for academic purposes remains a dilemma, especially as the aforementioned international requirements of the academic field leads to academics justifying the gap between their attitudes and behaviour regarding their air travel practices (Nursey-Bray et al., 2019). This disparity between attitudes and behaviour is also referred to as the attitude-behaviour gap, or value-action gap. In this thesis the former term will be used.

A better understanding of the attitude-behaviour gap, and how to bridge this gap, is seen as relevant for tourism researchers as well as practitioners (Tölkes, 2020). Theories and concepts that aim to explain the attitude-behaviour gap therefore have a fundamental role in setting the context to explain what factors drive (unsustainable) travel behaviour (Nursey-Bray et al., 2019). Most of these theories developed to explore this gap stem from environmental psychology and examples include the theory of planned behaviour, cognitive dissonance theory, attribution theory, self-identity, and value-belief-norm theory of environmentalism.

Several of these theories have been applied to environmentally sustainable tourism: McDonald et al. (2015) employed cognitive dissonance theory for example to explore why green consumers persist in flying, whereas Hibbert et al. (2013) used self-identity as a theoretical framework.

These theories and concepts outlined above are mainly concerned with describing individual behaviour, also referred to as 'individual level theories' by Antimova et al. (2012). As such, these theories look into values, believes, attitudes, social norms and intentions as predictors of behaviour (Hargreaves, 2011). However, the limitations of these individual level theories have also become well-documented. While these studies on an individual level offer some explanation of the disparities between attitudes and behaviour, they do not explain everything (Nursey-Bray et al., 2019). Above all, climate change is a problem of scale and individual level theories are argued to be too simplistic to study the gap between climate change and travel behaviour (Anable et al., 2006). Especially as infrastructural/social-cultural contexts remain key barriers, as well as opportunities, for the commitment towards low-carbon behaviour such as less air travel (Nursey-Bray et al., 2019).

Thus, it can be debated to which extent pro-environmental behaviour change is within the capacity of individuals, or whether it calls for more fundamental changes in society (Hargreaves, 2011). Sharing similar thoughts, Antimova et al. (2012, p. 13) indicate that "change efforts are likely to be more effective and long lasting if they aim to influence individuals on a group level and stimulate common action". As a result, there is an increasing interest in practice theory as theoretical framework to study (un)sustainable tourism mobility by analysing the social and economic contexts that underlie these mobility practices (Barr & Prillwitz, 2014; Luzecka, 2016; Verbeek & Mommaas, 2008).

2.3. Practice theory

Practice theory has entered environmental social sciences to analyse and conceptualise environmental behaviour, in particular the dynamics of greening consumption and demand (Greene & Fahy, 2020; Spaargaren, 2011). Over time, practice theory has also gradually entered tourism studies and is argued to provide a new perspective on tourism (cf. Lamers et al., 2017). Practice theory is not, and does not stem from, a single unified theory (Nicolini, 2012; Schatzki, 2002), but has emerged from the works of numerous social theorists (Reckwitz, 2002).

The appeal of using the practice lens lies in its ability "to describe important features of the world we inhabit as something that is routinely made and re-made in practice in using tools, discourse, and our bodies" (Nicolini, 2012, p. 2). In this way, practice theory offers a solution for a number of issues left unsolved by other individual traditions, in particular the tendency to describe the world in terms of complicated dualisms between actor/system, social/material, body/mind and theory/action. The explanatory power of the practice approach is argued to dissolve (rather than resolve) these dualisms, as adopting a practice lens creates a drastic shift in our understanding of social, and organisational work matters (Nicolini, 2012).

2.3.2. Defining social practices

All practice theorists claim that studying social life should begin with social practices. There is, however, no consensus on what the best definition of a social practice is. Some even argue not to provide one, as this interferes with the style of thinking that is represented by the open-ended practices ontology (Nicolini, 2012; Spaargaren et al., 2016). Yet, most practice theorists use the definition provided by Reckwitz (2002) (see Box 2.1). Reckwitz further implies that the individual purely acts as the 'carrier' of the practice (Reckwitz, 2002).

Box 2.1 Reckwitz's definition of a social practice

> *"A 'practice' is a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge." (Reckwitz, 2002, p. 249)*

According to Schatzki (2002) a practice can be seen as a 'bundle of activities', or in other terms, an organised collection of actions. Schatzki (2002, p. 73) also defines practices as "a set of doings and sayings" that 'hang together'. More specifically, the doings and sayings that combine a certain practice are organised and linked through 'practical understanding', 'rules', 'teleoaffective structure' (TAS), and 'general understanding':

- *Practical understanding* - the certain abilities that affect the actions that establish a practice i.e. the skills or capacity that underlie the execution of the doings and sayings.
- *Rules* - clear formulations, principles, and instructions that direct people to perform specific actions.
- *Teleoaffective structure* - links the doings and sayings of a practice to ordered ends, projects and tasks that need to be accomplished by the carrier of the practice.
- *General understanding* - the overall understanding of a practice, including the mental image of the practice, which is expressed in doings and sayings (Schatzki, 2002).

Based on these earlier works of Schatzki and Reckwitz, Shove et al. (2012) defined a simple framework for organising social practices. According to them, social practices consist of three main elements: 'material', 'competence' and 'meaning':

- *Material* - bodies, things, technologies, objects needed to perform a practice.
- *Competence* - the practical knowledgeability and skills required to perform a practice (similar to Schatzki's practical understanding).
- *Meaning* - the social and symbolic significance of a practice (similar to Schatzki's general understanding).

Links between these three elements need to be made, for a practice to emerge. When these links break, a practice will disappear or potentially transform (Shove et al., 2012).

However, as Shove et al. also note, working with only three elements might simplify what social practices are about (Lamers et al., 2017; Shove et al., 2012). Although both the theories of Shove et al. and Schatzki are concerned with the role of material entities in practices, competences and meaning, Schatzki's concepts of rules and TAS are said to be of particular importance for explaining the coherence and consistency of social practices (Lamers et al., 2017). Thus, in order to gain an in-depth understanding of social change, it is argued that these elements and the ways in which social practices are part of broader bundles of practice all need to be considered (Spaargaren et al., 2016).

2.3.2. Analysing social practices

Contrary to the individual behaviour models outlined in section 2.2., modern day practice theorists seek a middle level between agency and structure (Hargreaves, 2011). Inspired by the works of sociologists such as Anthony Giddens (1984) and Pierre Bourdieu (1977), the claims that human activities cannot be accurately understood by considering human agency and social structure separately are used as a starting point.

As illustrated in Figure 2.1, (consumer) behaviour is connected to social structures that are involved in the reproduction of practices. When making decisions, human actors/agents are 'forced' to draw on existing rules and resources, whereas these structures are in turn reinforced by the actions of actors. When human actors (left side of the model) aim to reduce the environmental impacts of their lifestyle for example, they have to rely on the environmental innovations that have been made available through the socio-material systems of provision (right side of the model). Additionally, organisations, governmental agencies and public utilities depend on human actors, as environmental innovations have to suit their lifestyles and standards (Spaargaren & Van Vliet, 2000).

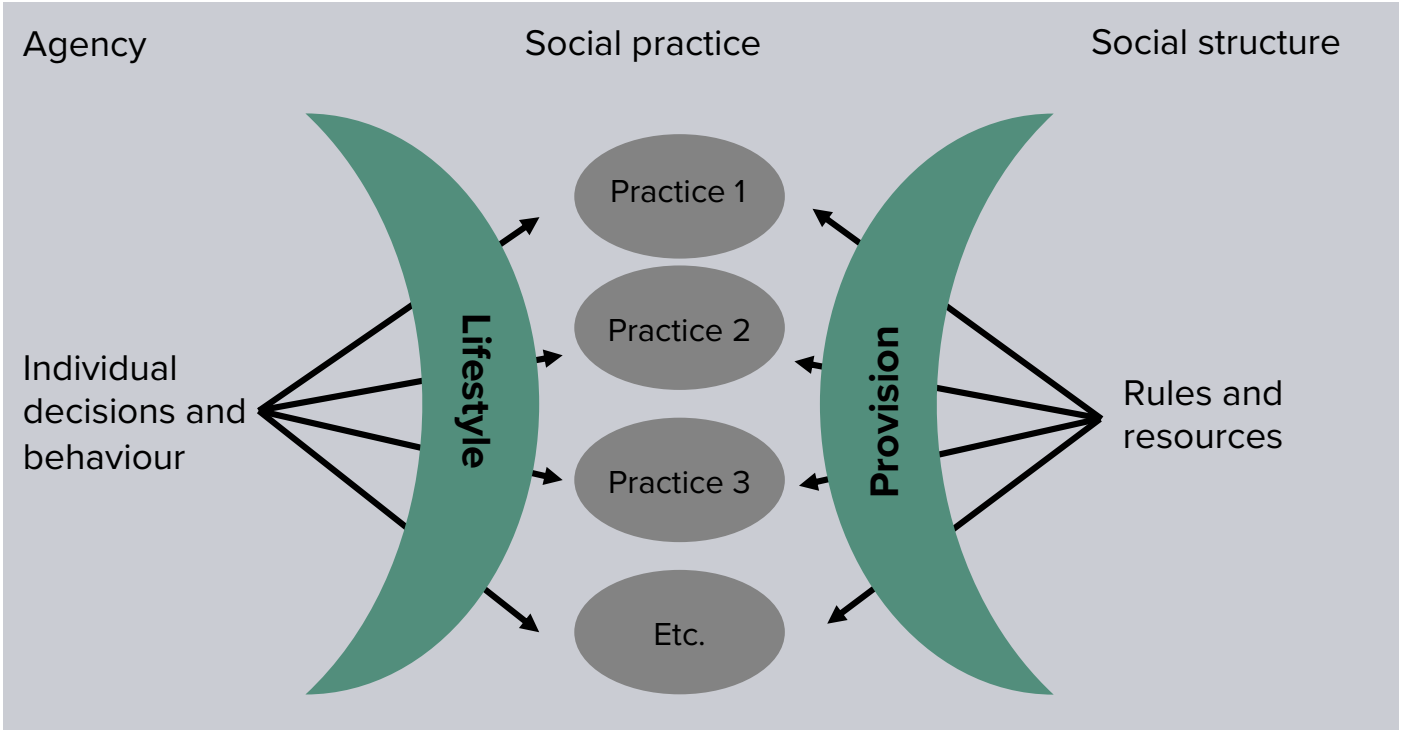

Figure 2.1 Spaargaren and Van Vliet's conceptual model for analysing social practices
Adapted from Spaargaren and Van Vliet (2000)

In other words, “agency ‘draws upon’ the structures of practices, thereby renewing these structures while participating in, enacting and reproducing, social practices” (Lamers et al., 2018, p. 264). Agents are thus involved in the reproduction of practices within certain areas of social life by “drawing upon the specific sets of rules and resources constitutive for those practices” (Spaargaren, 2011, p. 815). As such, the individual is no longer the centre of analysis, as the focus is on practices as shared routinised behaviour (Spaargaren, 2011).

As practice theories see practices as the central element in the creation of social phenomena, practice ontologies are flat (Schatzki, 2016). Implementing a flat ontology assumes that “no distinction is made between different social levels or realms with distinct characteristics, as for example suggested by micro-versus macro-analyses and by the agency structure dualism” (Lamers et al., 2017, p. 57). Traditional sociological classifications such as macro and micro therefore lose their analytical meaning and importance (Ren et al., 2019; Schatzki, 2016).

As it is ontologically inadequate to differentiate between various levels or layers of the social, practice theorists have come up with other ways to identify what is ‘large’ and what is ‘small’ (Lamers et al., 2017). In particular Schatzki’s concept of ‘practice-arrangement bundles’ (Schatzki, 2016) is argued to be suitable for analysing large social phenomena such as tourism (Lamers et al., 2017). These practice-arrangement bundles suggest that “sets of social practices and material arrangements hang together and are interconnected in more or less strong and enduring ways” (Spaargaren et al., 2016, p. 13).

Nicolini (2012) further suggest two ways of looking at and investigating practices: via a ‘zoomed-in’ and ‘zoomed-out’ perspective. Zooming in on a practice provides insights into the accomplishments of a practice in a specific place (Nicolini, 2012). As such, the focus is on the practice itself and its historical development (Spaargaren et al., 2016). Zooming out studies the networks of practices. By interchangeably zooming in on a certain social practice and zooming out “on the plenum of practices, larger practice-arrangement bundles can be analysed effectively” (Lamers et al., 2017, p. 58).

2.4. Conceptual model

Considering the limitations of individual behaviour theories, in this thesis a practice-based approach will be taken to analyse academic air travel. The conceptual model (Figure 2.2) demonstrates that human agency (individual behaviour of academics, left side of the model) and social structures (rules and resources, right side of the model) influence each other in a reciprocal way and are involved in the reproduction of social practices (Lamers et al., 2018; Spaargaren & Van Vliet, 2000). This means that, when academics make a decision in relation to academic air travel they rely on existing rules and resources, whilst on the other hand these structures are also reinforced by the actions of academics (Spaargaren & Van Vliet, 2000). This relationship is related to the following research questions:

1. What factors enable the academic air travel practice?
2. What measures can be taken to mitigate the carbon footprint of academic air travel?
3. What are the barriers to limiting academic air travel?

Academic air travel is also referred to in the conceptual model as a social practice that links to other practices such as teaching, researching, network building and maintenance and other form practice-arrangement bundles. The practice lens will therefore be alternated between 'zooming in' and 'zooming out' as suggested by Nicolini (2012) and Lamers et al. (2017). Zooming in will be used to analyse academic air travel as a social practice and zooming out will identify how academic air travel links to these other practices and form practice-arrangement bundles. As this will overall contribute to a better understanding of how different interactions integrate into the academic air travel practice, this linkage is therefore also connected to RQ1. The travel ban that resulted from the COVID-19 pandemic had academics shift to other practices such as virtual mobility, (temporarily) transforming the academic air travel practice. This transformation is linked to the fourth research question:

4. What role can the COVID-19 pandemic play in the transition towards low-carbon academic travel?

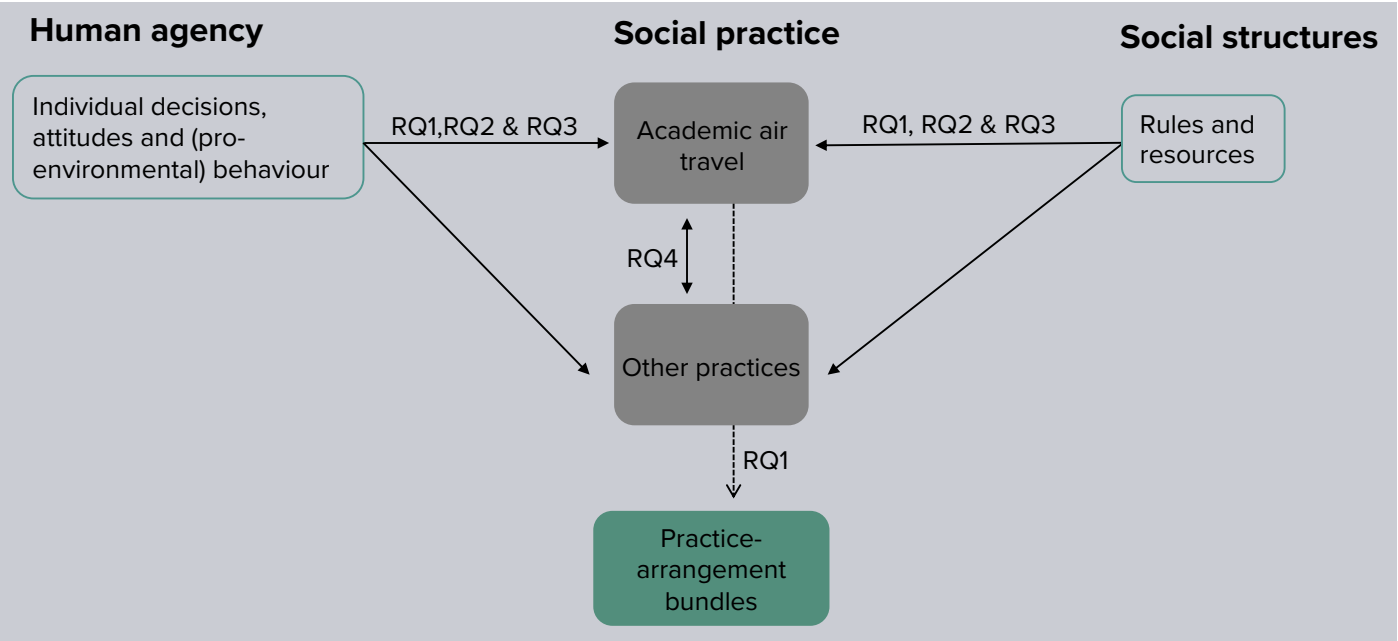

Figure 2.2 Conceptual model

3

Methodology

3. Methodology

3.1. Research design

Gaining a better understanding of how the transition towards low-carbon academic travel can be accomplished requires a methodology that provides an in-depth understanding of the dynamics and rationale of the academic air travel practice. In order to gain these, a case study is proposed, which can be defined as "the detailed and intensive analysis of a single case" (Bryman, 2016, p. 60). The emphasis of the case study for this thesis was on academics who study tourism related topics. These academics, in particular those with an interest in environmentally sustainable tourism, are increasingly under scrutiny for their carbon-intensive mobility practices, principally due to their knowledge of the tourism industry and its (detrimental) impacts on climate change (cf. Higham & Font, 2020). Studying the practices of this group of academics therefore provides an interesting case as these academics themselves might also have ideas on how to mitigate the carbon footprint (CF) of academic travel. The key to studying a case is that it should be bounded, which means that it can be described within several parameters (Creswell & Poth, 2018). To keep this case study feasible, only two Dutch and two British universities that offer tourism programmes are included (see Table 3.1). The timeframe of the case study was 'pre-COVID' (2019) till mid-2021.

Table 3.1 Overview of universities included in case study

University	Location
Breda University of Applied Sciences (BUas)	The Netherlands
Leeds Beckett University (LBU)	United Kingdom
University of Central Lancashire (UCLan)	United Kingdom
Wageningen University and Research (WUR)	The Netherlands

Social constructivism, also occasionally described as interpretivism, is the research paradigm adopted to guide this case study. In this approach, individuals develop subjective meanings of their experiences, and the aim is to understand the world in which they live and work. There are multiple realities, as meanings are considered varied, which means that the researcher must search for the complexity of views rather than restricting the meanings into a few ideas. The research goal therefore relies as much as possible on the participants' perspective of the situation (Creswell & Poth, 2018).

Concerning research strategy, generally a distinction is made between quantitative and qualitative research. During the collection of data and analysis, quantitative research overall emphasises the quantification of data, whereas qualitative research in general emphasises words and their meaning in contexts (Bryman, 2016). In relation to the case study design of this thesis, solely qualitative research – and its corresponding methods – were used as research strategy. The justification for qualitative research is also linked to the usage of the practice theory framework (Chapter 2). Within this framework, the overall consensus seems to insist on using qualitative research as these can reveal the "rich details of practices and the way they unfold" (Lamers et al., 2017, p. 59).

Additional justifications are provided by Boeije (2010) who indicates that the methods used within qualitative research have a significant exploratory power due to their flexible approach. This flexibility is useful when following-up on fast developments (e.g. impacts related to the COVID-19 pandemic) in the studied area (Boeije, 2010).

3.2. Data collection

A characteristic of a good qualitative case study is that it shows an in-depth understanding of the case. In order to do so, it is argued that multiple forms of qualitative data need to be collected and integrated, which can range from participant observation to interviews, to documents, to audio-visual materials (Creswell & Poth, 2018). In this case study, data was collected through interviews and the analysis of existing documents. Table 3.2 illustrates how the data collection methods link to the research questions and the corresponding theoretical concept(s).

Table 3.2 Data collection method used per research question

Research question	Theoretical concept(s)	Method(s)
What factors enable the academic air travel practice?	Human agency ↔ social structures Practice-arrangement bundles	Interviews
What measures can be taken to mitigate the carbon footprint of academic air travel?	Human agency ↔ social structures	Documents & interviews
What are the barriers to limiting academic air travel?	Human agency ↔ social structures	Interviews
What role can the COVID-19 pandemic play in the transition towards low-carbon academic travel?	Academic air travel ↔ other practices	Interviews

3.2.1. Interviews

Qualitative interviews "provide an opportunity for researchers to learn about social life through the perspective, experience and language of those living it" (Boeije, 2010, p. 62). The aim of the interviews for this case study was to understand academic travel behaviour, tourism academics' perspective on climate change, and the impact of COVID-19 on academic travel practices.

All individuals for study were purposively selected – also known as purposive sampling – as they can provide an understanding of the research problem of the study, as opposed to the random sampling of participants (Creswell & Poth, 2018). The participants for this case study were first purposively sampled within the selected universities in this case study. A second important selection criterion was that all participants should have a research interest in tourism.

Most interviewees sampled have a research interest in environmentally sustainable tourism, which means that their areas of expertise and research publications have been searched through beforehand for one of the following keywords (or similar key word variant) that can be linked to an increased concern and knowledge of the impacts of air travel on climate change, namely: sustainable tourism, carbon footprint, tourism and climate change, climate change mitigation, climate change adaption, environmental impacts of tourism, conservation, biodiversity, environmental policy (Wynes et al., 2019). The academics were lastly selected based on their gender, age, and academic rank. The characteristics of the participants can be found in Table 3.3.

Table 3.3 Overview of interview participants

Code	Gender	Age group	Academic rank
P1	Female	66+	Senior Lecturer/Research Fellow
P2	Male	36-45	Lecturer
P3	Male	56-65	Professor
P4	Male	36-45	Associate Professor
P5	Female	46-55	Senior Lecturer/Research Fellow
P6	Male	56-65	Lecturer
P7	Male	36-45	PhD Student/Lecturer

Theoretical saturation was reached after 7 interviews. The interviews were conducted in Dutch and English, and the mean duration was 34 minutes. All interviews were recorded and fully transcribed. The conducted interviews were semi-structured and held online via Microsoft Teams. The interviews were guided by an interview guide, which can be found in Appendix A. Several questions and probing keywords in the interview guide were based on the surveys and interviews conducted by Glover et al. (2019), Nursey-Bray et al. (2019), and Storme et al. (2013), as these studies had a similar aim as this case study. The interview questions that resulted from this deductive approach can be found in Table 3.4. TRINET e-mail threads (see also 'Documents', section 3.2.2.) formed the input for the fourth topic of the interview guide (i.e. impact of COVID-19). Even though the set of questions was drawn up a priori, all the interviewees were questioned equivalent to their experience. This meant that when the interviewees mentioned that they do not undertake air travel for academic purposes, the focus of the interview slightly shifted to the mitigation of air travel practices of their colleagues.

Table 3.4 Interview questions derived from literature

Topic	Key word(s)/question	As suggested in
Academic travel behaviour		
Purpose of the trip	Research, data collection, conferences, network building	Storme et al. (2013)
Alternatives	Online/virtual	Glover et al. (2019) Storme et al. (2013)
Employer encouragement	Networking, career opportunities	Glover et al. (2019) Nursey-Bray et al. (2019)
	Internationalisation	Storme et al. (2013)
Necessity of air travel	Is air travel necessary for you to be able to do your job effectively?	Nursey-Bray et al. (2019)
	Travel threshold	Storme et al. (2013)
Climate change/sustainable academic travel		
Climate change concerns	Are you concerned with academic air travel's impact on climate change?	Nursey-Bray et al. (2019)
Restricted from implementing climate proof options	Location	Glover et al. (2019)
	Travel threshold	Storme et al. (2013)
Sustainable travel options encouragement	Incentives, carbon off-setting, policies	Nursey-Bray et al. (2019)

3.2.2. Documents

For many years, organisational and institutional documents have been essential in qualitative research (Bowen, 2009). Collecting documents for analysis does not refer to a general review of literature, but rather the "collection, review, interrogation, and analysis of various forms of text as primary form of research data" (O'Leary, 2004, p. 177). These documents can take many forms such as background papers, minutes of meetings, newspaper articles, program proposals, webpages, organisational and institutional reports and so on (Bowen, 2009). In this case study, the documents reviewed included TRINET e-mail threads, websites, and organisational and institutional reports.

The TRINET (e-mail distribution list for tourism academics) e-mail threads were collected during my internship at the Breda University of Applied Sciences Centre for Sustainability, Tourism and Transport (CSTT) from September to October 2020. A total number of 400 e-mails, with a time frame of between the 17th of March and 7th of August 2020, were sorted and organised during my internship and analysed during the time frame of this thesis. As indicated earlier, these threads were used to shape the COVID-19 section the interview guide.

Additionally, several organisational and institutional reports were reviewed (Table 3.5). The documents were either found via the internet, or recommended by interviewees. Overall, the rationale for using organisational and institutional reports such as research reports, strategy documents and policies as secondary research method is its power to provide context and supplementary research data (Bowen, 2009). In this case study, documents were reviewed with the purpose of:

- Providing general background information regarding academic air travel and the mitigation of the carbon footprint of academic air travel.
- Indicating if university policies/strategy reports include measurements to reduce academic air travel.

It should be noted however that not every document reviewed has been included in the findings due to the boundaries of this case study.

Table 3.5 Documents reviewed

University/Organisation	Title document(s)
Breda University of Applied Sciences	Jaarverslag 2019 *Annual report 2019* Creating Professional Value: Strategy 2018-2021
Bournemouth University	Climate and Ecological Crisis Action Plan (CECAP): For a vibrant, transformative and resilient university
De Jonge Akademie	Flying high but flying less: An overview study of Dutch university policies to reduce carbon emissions from research related air travel
ETH Zürich	Measures for Academic Air Travel Reduction The attitudes of professors toward professional air travel at ETH Zürich, 2020
Leeds Beckett University	Carbon management strategy 2016-2021 Transport strategy 2016-2021
NHL Stenden University of Applied Sciences	Internationalisation Policy 2019-2024
Saxion University of Applied Sciences	Op weg naar een duurzame organisatie: Het kompas voor een duurzame bedrijfsvoering bij Saxion: Saxion Roadmap 2020-2024 *Towards a sustainable organisation: The compass for sustainable operations at Saxion: Saxion Roadmap 2020-2024*
Tyndall Centre for Climate Change Research (University of East Anglia)	Tyndall Travel strategy
University of Central Lancashire	Carbon management plan 2018/2019 Update Travel Plan: Preston Campus 2019-2024: 'Supporting Sustainable & Active Travel'
Wageningen University and Research	Mobility Plan 2030 WUR Reischeck (internal document) *WUR Travel check*

3.3. Data analysis

The data analysis for a qualitative case study mainly consists of creating a detailed description of the case and its setting (Creswell & Poth, 2018). A first categorisation of the data consisted of browsing through the documents collected. MAXQDA was further used to support the interview data analysis. The usage of MAXQDA made it easier to manage, retrieve, locate and visualise the interview data (Creswell & Poth, 2018). To identify themes, the interview transcripts were coded in MAXQDA, followed by condensing these codes into a code scheme (see Appendix B). The codes were both deductive and inductive as they were derived from the participants' terminology and from literature (Boeije, 2010). To compare the data, both quotes from the interviews and the information derived from the document analysis were summarised within distinct categories. The five main themes that resulted from this summary served as a starting point for the findings, which are described in the fourth chapter.

3.4. Ethical considerations

Regarding ethical considerations, the nature of this research is confidential. As such, the names and characteristics that can identify the respondent are known to the researcher. To ensure confidentially, the interviewees are in-text referenced to by the means of a code with P as prefix, followed by their participant number (see also Table 3.3). In several cases, quotes have further been made ambiguous by taking out the names of universities, departments, places, and colleagues. However, as there are not that many tourism academics, it may not be possible to preserve this confidentially to other tourism academics when this thesis report is published. During the interview, the participants were also informed that they do not have to answer questions if this makes them feel uncomfortable and that they could leave the interview at any time without consequences.

3.5. Positionality

When conducting qualitative research, researchers have to 'position themselves' by indicating their 'positionality' related to the context and setting of the research (Creswell & Poth, 2018). As I am not an academic, I have no personal experience with academic air travel. On the positive side, this meant that I kept an open mind and attitude towards academic air travel throughout the entire thesis process, genuinely interested how the transition towards low-carbon academic travel can be accomplished. However, it also meant that I lacked familiarity with the research context and thus had limited insider advantages, making it at times difficult to find respondents.

Whilst conducting this research, I also incorporated the knowledge I gained during my internship at CSTT. Without doubt, my internship and my research interest in environmentally sustainable tourism have led to (negative) preconceptions about academic air travel. Nonetheless, these preconceptions and my personal experiences have been separated from this research.

3.6. Methodological limitations

The methodological design of this research demonstrated several shortcomings. One limitation of employing a qualitative single case study is that the differences between tourism academics at Dutch universities and those at British universities are not compared. This case study further used a purposive sampling method and as the sample size is relatively small, the results are not representative for the entire population of tourism academics and those within the British and Dutch universities studied (Bryman, 2016). They do however represent the 'neoliberal academy' (i.e. viewing academics as human capital), which is predominant in a Northern European context (cf. Berg et al., 2016).

The tourism academics sampled also mainly consist of academics in the environmentally sustainable tourism field. This has led to every sampled academic feeling concerned about their impact on climate change, albeit this has also resulted in interesting insights that can contribute to the debate whether commitments towards low-carbon academic travel are within the capacity of individuals or requires fundamental changes to the academic society. The total number of participants of this study is also relatively small, due to time constraints and a lack of response from tourism academics.

4

Findings

4. Findings

The following chapter describes the findings from the document analysis and the interviews with tourism academics. The findings are presented in the five themes that emerged from the data collection and analysis.

4.1. Academic travel and climate change concerns

Overall, most interviewees (57%) undertake approximately between one to two trips (all modes of transport included) abroad every year for academic purposes (Figure 4.1). On average, (associate) professors undertake more trips than lectures and PhD students annually.

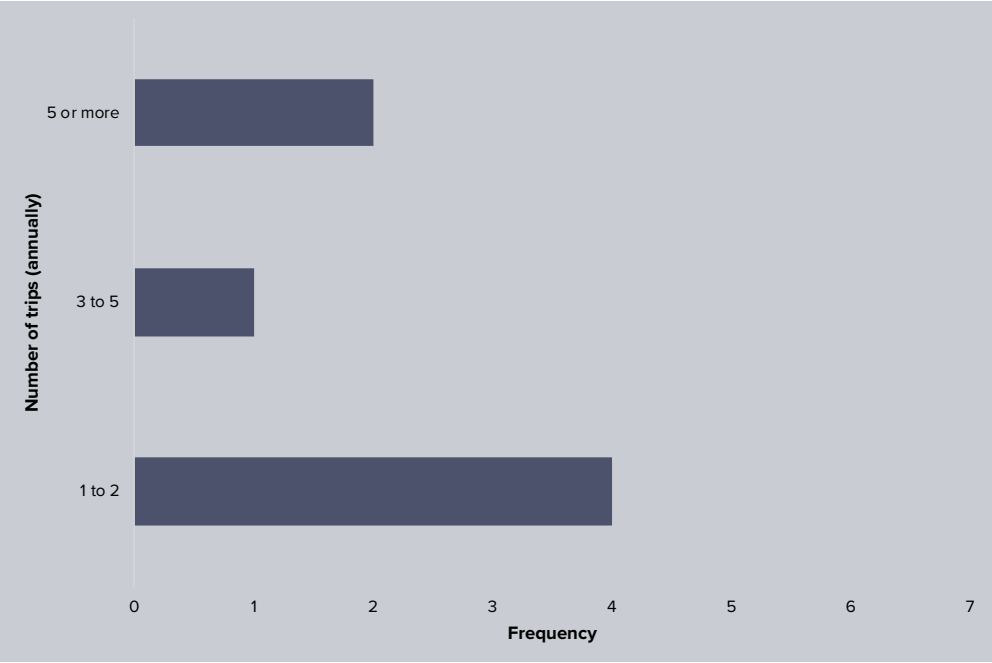

Figure 4.1. Number of trips undertaken annually (N=7)

Not all trips presented in Figure 4.1 involve a flight, as the decision to use air travel as mode of transport generally depends on the location (see Box 4.1) or the purpose of the trip. This inconsistency does make it difficult to pinpoint exactly how many flights are undertaken by the respondents on average per year. Out of the all the respondents, two try to not undertake air travel at all, of which one has never travelled by air for academic purposes. The purpose of travelling abroad for academic purposes varies. The five main purposes that were indicated by the respondents can be found in Figure 4.2, it should however be noted that in some cases multiple purposes are combined in one trip.

Box 4.1. Influence of location on mode of transport

"They [the trips] involve flying, let's say when it is further than the circle Copenhagen, Alpine countries, France, inside this circle I use the train or the car." (P4)

"[...] trips in Europe, [...], never involved a flight." (P7)

"I have been to conferences and if they're in Europe, I made the case to travel by train." (P5)

Figure 4.2. Trip purposes
(N=7)

In general, all interviewees are concerned with their impact on climate change, and feel responsible for their behaviour:

> *"If we would all be doing what I'm doing [flying for academic purposes], then I'm sure the world would look different already, I think that is something you need to realise every now and then. With every trip that you do you need to realise that." (P4)*

> *"Well, it is easy to say: 'there are six billion people in the world, so one person's behaviour does not make a lot of difference', but in the end, it does to some extent." (P6)*

The interviewees that do not fly for academic purposes are primarily motivated by climate change concerns, but remain pragmatic:

> *"I don't think me not flying will save the world, but at least I'm acting with it in my conscience a bit." (P1)*

When it comes to climate change mitigation, most interviewees seem to focus on transport, which is according to one interviewee the issue he is sensitive to (P7). The lack of action of others leads to (ethical) dilemmas for one interviewee:

> *"The more and more you work on tourism itself, then you realise that we are in a very luxurious position, but that there are serious climate issues happening already. So yeah, I feel responsible for that and so I try to limit what I can, but at the same time, it is difficult because you don't want to punish yourself too much, because the rest of the world is not complying to this idea that the climate is affecting us. And that is for me the most difficult dilemma, I think, how far should you go in limiting your behaviour, if the rest of society is not doing much different, they just continue business as usual." (P2)*

In numerous cases, climate change concerns also impact the interviewees' personal lives as measurements taken on this level include: considering better house insultation (P3), turning off the electricity or lights at home (P1), buying fewer plastic items (P6), not buying items in the supermarket that have been flown in from outside of Europe (P7), and limited air travel for leisure purposes (P2, P3, P4, P7). What is interesting in these cases, is that often the interviewees use the pronouns 'we' rather than 'I', meaning that the interviewees' decision to limit the usage of air travel for leisure purposes might have also impacted their partners/families:

> *"We are already planning a trip to Italy, and we said well if we go, we should not go by air although it is fast and convenient". (P2)*

> *"We used to travel by train a lot, well, not today [due to COVID-19], but let's say a year ago, up until a year ago, I did everything by train". (P7)*

> *"What I try to do, is to not do a double burden, in the sense that - and my kids don't like that - for example for our own holidays, we go to Ameland [Dutch island]. So that is, in a way to compensate. But maybe it's also hypocritical, I don't know, for the person who has seen the whole world, for work, I've been to places that most people are dreaming of really, that you can then say: 'okay, for my own holiday, I pat myself on the back, because I go to Ameland, I don't need to go to the Caribbean anymore, I was there last week for work' " (P4).*

Hypocrisy is according to another interviewee also related to practicing what you preach:

> *"I think you have to practice what you preach, so a big part of our course is looking at environmental impacts and I think it would be hypocritical to sort of teach one thing and in practice to be doing another." (P5)*

Thus, despite several interviewees persist in travelling by air for academic purposes, they are also concerned about the impact of their (air travel) practices on climate change and the hypocrisy of these practices.

4.2. Justifications for undertaking air travel

The interviewees that undertake air travel provided several justifications for their air travel behaviour, the two main factors that emerged are ‘career development’ and ‘efficiency’.

4.2.1. Career development

Overall, most interviewees state that undertaking air travel is not necessary for career development or to do their job effectively. According to one interviewee, not undertaking air travel does not take away opportunities (P2). Air travel is however, indicated to be necessary for early career researchers to be able to establish a network and contacts (P4). Although undertaking air travel for academic purposes is not encouraged directly by universities (P4, P7), they do encourage it indirectly as having an international standing, receiving invitations for keynote presentations and involvement in international programmes is regarded as important by the interviewees’ employers, which often requires international travel (P4). However, the interviewees that rarely or do not undertake air travel, indicate that this in essence limited air travel did not hinder, but could have enhanced, their career development:

> *“I can’t say it’s hindered it. But, you know, if I had been to some more high-powered conferences, it might have enhanced my career.” (P1)*

> *“I don’t think so, I mean, I am not dissatisfied with my career.” (P3)*

> *“I mean, I don’t feel that my career is being disadvantaged because of that, particularly.”. (P5)*

Overall, creating a network is of importance for career development. A few interviewees indicate that establishing a more local network seems to make it easier to limit undertaking air travel, however it does have implications:

> *“It [my network] could have been more local. I think that I also could have done similar research within the Netherlands or closer to the Netherlands. I mean, I could have still created a career. But yeah, I find it hard to say because you don’t know exactly. This was an important agenda that I wanted to contribute to, but if that agenda was located elsewhere then I would have just as easily gone to South America or the Antarctic, or the Netherlands, it also depends on who your supervisor is and when you get started you want to contribute to projects that are ongoing.” (P2)*

> *“The contacts that I have there [far way location] are because they travel to Europe. So, you could say, what have you achieved then, as they travel [to Europe].” (P3).*

4.2.2. Efficiency

The universities studied in general perceive air travel as a more efficient mode of transport. This is both in terms of time and economics, as travelling by surface transport is seen as more expensive and time consuming (P5). As a result, travelling by surface transport is tolerated, but not encouraged by universities (P1), unless the costs are proportionate:

> *"If you want to go to a conference, in our case, you have to explain first to the employer why it is a good idea to go there. so how that should justify the resources of the employer. And then when you say that you prefer not to use air transport, they are quite open on that. So, they support that and provide that if the costs are proportionate." (P7)*

As the following quotes emphasise, participants that have family care duties back home, undertake air travel as it is seen as a mode of transport that saves time:

> *"I love to travel by train or boat, but also have a family back home that also needs attention, I mean I also need to play my role there. And if it takes days, or a day, yeah then I have to double check if it is really worth the extra time, because it's a lot of extra pressure at home." (P2)*

> *"[...] it [travelling by surface transport] takes too much time, you know, and then weighing that against the family situation, that's the thing about an aeroplane you're home in a couple of hours. And if you have to spend another two days travelling home, that's a little bit too much of an impact. The family situation is considered in that sense, more important than the environmental impact." (P4)*

However, air travel is also claimed by some of the interviewees to be an uncomfortable mode of transport, so limiting air travel is not always linked to climate change concerns: *"I can't really say it was motivated primarily by climate issues, because it's just that flying is so unpleasant that the train is more pleasant, it was a nicer journey." (P6).*

In another case, this unpleasantness of flying is also associated with lower productivity levels and feeling tired:

> *"[...] you can also do work whilst you are sitting in the train. You can read a couple of papers, write a bit, or just enjoy the journey and that's not the case when you're in a tight aeroplane, that goes really fast, but it also makes me feel more tired." (P2)*

Space, or rather said lack thereof, during flights within Europe also leads to lower productivity according to one interviewee:

> "I can't work [on a short-haul flight] at all, even if I wanted to, to sit folded like that, is really madness for an hour, it makes no sense at all. Whereas when I get on a train, within five minutes I have an office set up and then I'm occupied with work." (P3)

Travelling by train therefore might be a more comfortable experience for academics, despite the efficiency of air travel.

4.3. Mitigating the carbon footprint of academic air travel

Air travel undertaken by academics has a significant impact on the total carbon footprint of universities. At Wageningen University and Research (WUR) for example, the CO_2 emissions from flying accounted for 23% of the university's total CF in 2018 (Wageningen University and Research, 2021b). Despite this, the documents reviewed show that the travel related carbon management of the universities studied mostly focusses on (sustainable) transport to campus. Ambitions to reduce air travel seem rarely addressed in the reports, apart from WUR, who have a well-defined mobility policy.

Nevertheless, throughout the document analysis numerous measures were identified that can assist in reducing the impact of academic air travel emissions. These findings are triangulated with the outcomes of the interviews and are described in sections below. It should be noted however, most of these measures have not been implemented yet, are in the process of implementation, have been implemented relatively recently, or are not monitored. It is therefore, at the moment, too early to determine the effectiveness of these measures in mitigating the CF of academic air travel.

4.3.1. Setting up an inventory

The first, and perhaps the most important step, is setting up an inventory of all the air travel undertaken by academics per university. Such an inventory allows universities to keep track of the number of flights undertaken and the total distance travelled by academics (De Jonge Akademie, 2020). As such, universities also have a clear overview of the contribution of air travel to their total CF.

This inventory can be set-up by working either with a central booking system or a specific (sustainable) travel agency, which also makes it easier to book more eco-friendly travel options (De Jonge Akademie, 2020). As the following quotes indicate, several interviewees are critical of the current system:

> *"[...] we don't even have a proper inventory of how much travel is actually undertaken." (P3)*

> *"When we ask our travel office to get us train bookings, they're out of their depth." (P1)*

> *"The only barrier that is important to mention are the booking systems, also of the University, they are not geared towards this kind of thing at all. So, if I want book a trip somewhere, and I do it in the booking system that we have - and we can all do that ourselves - when I put a destination in there, let's say Copenhagen, then I don't get a train option at all, I only get flights for example. And then when you want to do it differently, you need to basically, take that hassle yourself. "(P4)*

Another point worth noting is that the bookings for international meetings are not always booked by the academic themselves or the university, but by the organisation the meeting is for:

> *"[...] last year, in February, I had a meeting in [place] and that was for the [name organisation]. And if you have to go there for them, then they book a trip for you. So, I said, I have to go to [place] and they just book a flight for you. I said, I don't want to go by plane. And it was very difficult, they needed to go to another travel agency." (P4)*

Another possibility is to connect the inventory to a scoring tool, which provides a score for an academic's travel per year (Tyndall Centre for Climate Change Research, 2014). This can be achieved through an annual survey that records travel in which academics need to report where they have been and a justification of the trip. To illustrate this, an example of a potential scoring tool, which is based on the scoring tool of the Tyndall travel strategy can be found in Box 4.2.

Box 4.2 Example of a scoring tool

Scoring tool equation:
Score = Weight * $Emission_{factor}$ * (distance travelled[1] * 2)

Weight (rationale of travel)
Weight 1 = Justified emissions
Travelling for field work, contractual agreements (research funds), student field trips, etc.
For early career researchers and PhD students: present and promote own research, networking, etc.

Weight 2 = Potential for using alternative options
Travelling for conferences that are not directly related to own research, PhD supervisory visits, international meetings.

Weight 3 = Poorly justified emissions
Travelling for the 'fun' of going abroad or to reconnect with colleagues. Little arrangements are made to optimise the usefulness of the trip abroad.

Cap and Commit
The final step is to cap the score and set goals to reduce the score by X in the upcoming year by not travelling by plane <700km for example.

Example
A lecturer travelled in 2019 to Berlin and to Thailand by air. The justification for the Berlin trip was to attend the ITB (large travel fair) and to reconnect with colleagues. The justification for the trip to Thailand was to accompany students on a field trip, the score is then as followed:

Berlin (AMS-BER): Score = Weight (3) * $Emission_{factor}$ (0.154)[2] * distance (588*2) = 543
Thailand (AMS-BKK): Score = Weight (1) * $Emission_{factor}$ (0.111) * distance (9217*2) = 2058

Total score = 2596
Cap for 2020[3]: 2200, will travel to Berlin by train in the upcoming years as this will decrease the score of the ITB trip to 113.

[1]Great-circle distance for air travel.
[2]Emission factor and distance travelled can in essence be retrieved from the inventory, but for the sake of this example I have used the emission factors used in the Environment & Tourism course of the BSc Tourism programme of Wageningen University and Breda University of Applied Sciences (cf. Amelung & Eijgelaar, 2020).
[3]Without considering the 'COVID situation'.

Adapted from Tyndall Centre for Climate Change Research (2014)

4.3.2. Nudging

The idea of 'nudging' relates to subtly nudging people towards altering their behaviour (in this case pro-environmental behaviour) without forbidding other options (Baldwin, 2014). An example of a nudging policy tool is a decision tree, also referred to as 'travel check scheme' by WUR (see Figure #). These schemes can assist academics in making a low-carbon travel alternative before booking a trip (Tyndall Centre for Climate Change Research, 2014) and provide insights into more sustainable travel options like travelling by train.

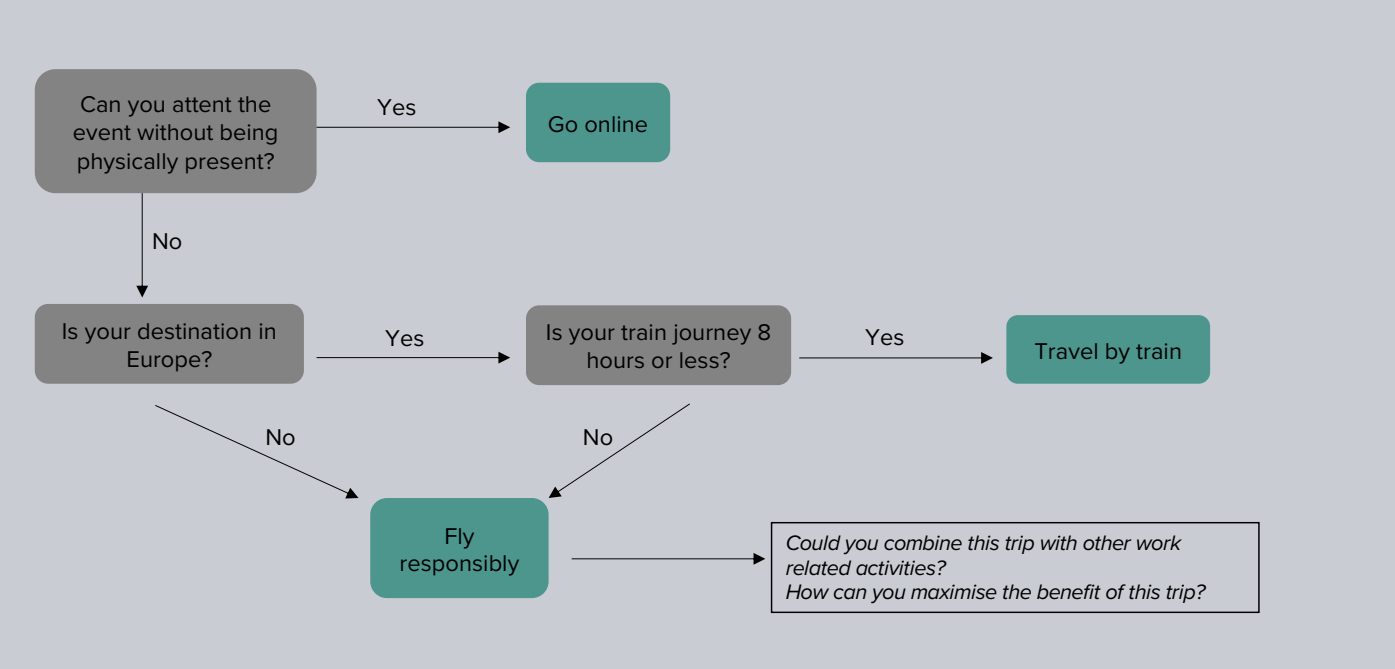

Figure 4.3 Example of a decision tree
Adapted from Tyndall Centre for Climate Change Research (2014) and Wageningen University and Research (2020)

Two interviewees discussed reflection on one own's behaviour, which is regarded as important by one interviewee: *"We are not thinking about it [impact of emissions related to academic air travel] enough or reflecting about it enough. Maybe we don't want to worry, it's kind of a painful subject"* (P4). The other interviewee is however critical of asking academics to reflect upon their behaviour:

> *"I think it depends on the organisation. Every organisation has a different context. Within our organisation, I think, you know, asking people to reflect on their behaviour, so taking this hippie approach kind of thing, I don't think it works, it may work in [name other university], but we have a lot of really industry business focused lecturers that are not thinking about sustainability. It's not part of their courses, so maybe it is also not part of their ideas." (P7)*

In line with the former view, another interviewee indicates that nudge policies are not effective enough:

> *"I think the more I look at it, the nudge policies, you know, telling people you really should do a bit less and dadada don't work" (P1).*

4.3.3. Policies

Contrary to nudging policies, strict travel/mobility policies that provide clear guidelines regarding air travel are seen by several interviewees as a good strategy to mitigate the carbon footprint of academic air travel:

> *"The best thing to manage it would be to have a clear guideline. Basically, saying it would be one of the rules that we propose trips under 700 kilometres distance that have a viable train alternative: you don't fly." (P7)*

Several respondents also discussed the potential of not reimbursing the costs of air travel and thus let academics pay for their own flights (P1, P3, P7). According to one interviewee, not reimbursing plane tickets might increase the possibility that academics will start making different decisions and might result in academiacs partly giving up travelling by air as it might not be worth it anymore (P3). Essentially, policies should *"make it more difficult to fly and support other forms of transport more"* (P2) and *"[...] it just needs to say, you know, we understand that it [academic travel] is important for your career, but actually, the world is more important than your career."* (P1).

4.3.4. Carbon budgets and offsetting

Another tool to reduce the CF of academic air travel could be carbon budgets (can also be referred to as: cap-and-trade, carbon allowances, or flying credits). In essence, each academic gets a certain carbon budget or travel rights per year, which can be traded with colleagues or exchanged for days off, tax benefits or other kinds of benefits (P2, P4). The effectiveness of carbon budgets is however indicated to depend on the institution:

> *"I think that you can think of all kinds of clever ways and sophisticated schemes and say, listen, you know, you can save carbon credits or whatever, but I think that's too complicated for an institution like [name university], which is very efficiency driven". (P7)*

When reducing air travel is not sufficient in decreasing the CF, the remaining CO_2 emissions can be compensated through carbon offsetting. However, several interviewees are relatively critical of carbon offsetting:

> *"[...] I don't think it's really the solution because you still put you know [the emissions in the atmosphere]. I think those schemes are, you know, they're not as great as we think they might be. It depends on which scheme and how they're administered, how they're implemented, whether or not they really have an impact. And, of course, the better option would be to just not put the carbon in the atmosphere in the first place rather than then have to backtrack and do something about it." (P5)*

> *"[...] I just know that [carbon offsetting] doesn't work. So, I would consider that a waste of money." (P3)*

When questioned if one would offset their flights booked, one interviewee indicates he would probably not:

> *"I am lazy, I just go for whatever easiest booking option is. I mean it is also deeply unpleasant, booking a trip, you know, entering all these details and things. So, whatever would be quickest I would do it, but it is not something I would make a lot of effort to do now." (P6)*

Mitigating the CF of academic travel by decreasing the amount of air travel undertaken might therefore be a more suitable strategy than reducing it through carbon budgets and offsetting.

4.4. Barriers to limiting academic air travel

When aiming to mitigate the carbon footprint of academic air travel, various obstacles were identified by the interviewees.

4.4.1. Lack of commitment

Lack of commitment, whether it stems from the university or academics themselves can be seen as a barrier:

> *"[...] we're basically going to burn the planet and people are more worried about their international standing at a conference" (P1).*

Travelling abroad for academic purposes is also seen as a reward according to one interviewee:

> *"I think it's true what they say about binge flying or whatever, you know, that in those first days when I was not really thinking about this, it just it feels like that you were on a high or I also feel better when I have a have a ticket for my next trip on my desk, basically, so that sounds a little bit addictive. Not that, then you can do your work, but it feels better when your next trip is booked already. So you kind of really reward yourself then in that way, and that should not be the case. You should reward yourself as an academic not by your trips, but in other ways." (P4)*

Several interviewees further indicate that most tourism academics are aware of the impact of their air travel behaviour on climate change, but rather see travelling as a perk of the job, which is indicated to have a higher personal benefit than 'saving the planet':

> *"I don't think they [academics] are unaware, but they well, when I put it in a class, you know, so tell me the reasons why you fly and it's well, everybody flies. If I didn't, somebody else would. And I think you'd get exactly the same from the academics and the personal prestige and the fun of going to another country. And it feels much more persuasive than a very general saving the planet." (P1)*

> *"[...] very interestingly, with tourism researchers particularly, is that they are doing research on these issues, but they are not necessarily, you know, consistent, they kind of have this cognitive dissonance. I do research on climate change, mostly climate adaptation, I'm not really in the mitigation field as a field, but then you do that by flying around the whole world. So somehow in our brains, both of these things are possible" (P4)*

"[...] certainly my colleagues, at the [name tourism institute], they're not there for nothing, it was already a hobby of theirs to travel. There is actually no one amongst them who hates to travel, and of course that doesn't help." (P3)

"[...] it's not just about the conferences and sort of excitement of going. And most of these things, they're voluntary, so no one's forcing you to go to a conference overseas, so, you know, the fact that you maybe choose a conference overseas indicates that you're interested in going to that place." (P5)

The contemporary neoliberal culture of universities is also regarded as problematic by the interviewees. Due to this business structure, it is argued by one interviewee that universities will not voluntarily consider CF mitigation, unless they are forced to think about carbon (P1). This neoliberal mindset is also apparent in the demand for internationalisation, or in the words of Breda University of Applied Sciences (2020, p. 3): *"[...] internationalisation has been hardwired into the DNA of our organisation".*

This demand for internationalisation hinders according to several interviewees, the mitigation of (academic) air travel:

"[internationalisation] plays a big role. The consideration from where exactly you are internationalising, I mean Belgium can also be seen as internationalisation, does not play any role as far as I know". (P3)

"[...] it [academic travel] is part of globalisation. And, you know, somehow, it's the same in tourism [...], it's crazy, but it just feels like you're not a proper tourist destination unless you've got international visitors and you're not a proper academic conference if you haven't got international visitors. In Europe, we are fortunate because you can easily get together with people from different countries and different viewpoints without having to fly. But I can see that if you live in the States, that's harder." (P1)

The lack of commitment stemming from universities is also apparent in the current absence of strict travel policies. Even though one interviewee indicates that they have been lobbying for a comprehensive travel policy, they are still regarded by the university as politically sensitive. As a result, the policies have never been formalised:

"At this point, the policy is that there is no policy and that everybody can decide for him or herself based on consultation with the management, what's reasonable and acceptable. So that means that you still have people flying, for example, to the ITB [large travel fair] in Berlin, which is bullshit to take an airplane, because you have a five, six hour train trip and you're basically in Berlin. So, there's a great alternative just by train, you know, that works." (P7)

4.4.2. Tourism education

There are also conflicts between the tourism education academics are expected to deliver and the mitigation of academic air travel (P5). Essentially, most – if not all – tourism study programmes are built on the idea of travelling abroad (see also Appendix C), which in turn has created certain student expectations regarding field trips:

> *"You know, they [tourism programmes] were built on this idea of going far away to exotic places to show students all kinds of different cultures. They're also built on the idea that, that helps the marketing, you know, the student recruitment aspect. When you offer an exotic field trip for weeks in the tropics as part of your studies, you know, that will make students enthusiastic." (P7)*

This incongruity between going on field trips to far-away destinations by air and offering (sustainable) tourism education leads to tensions, and even a debate within a university:

> *"We have been involved in this debate for a very long time within the academy and also outside of the academy to within a year to two, change the fieldwork destination. So, move it to a place so that we can travel without using air transportation, so that we could travel by train or maybe by coach or any other way, so that we could organize an international field project that didn't involve aviation" (P7)*

> *"It's difficult because we, I mean, our focus is responsible tourism, but we still teach tourism which is an international activity. Yeah so, I'm aware, I'm very much aware that, you know, that there's a tension there. But I think it's really difficult to avoid some forms of travel." (P5)*

Students are also indicated to feel troubled about this inconsistency between their (sustainable) tourism education and going on these field trips by air:

> *"[...] what you get is a very mixed view. So a lot of them say, no, we are very troubled by the fact that we have to fly there. So, we want to go, we want to have the experience, but we are troubled by the fact that we have to fly there, we don't like that so much. Some are quite radical, but then still they sign up, so they still go. So basically, you know, they invent their own reason why it's OK to go, you know, but we have this ambiguous position. So, people want to go, but there's still a few who do not feel good about it." (P7)*

Depending on the purpose of the field trip, travelling to a destination within Europe can be seen as a feasible strategy to avoid air travel. However, one interviewee argues that going to Asia is still relevant, as it is still a good destination to study tourism development:

> *"I mean in the [name tourism programmes] the thing about Asia was that it is the big growth area, you know, it is the kind of area that is really expanding much faster than other places and maybe more innovation is going on there. So, it is you know, in that sense, regarded as a good destination both for studying tourism, but also for future developments in the industry." (P6)*

Another interviewee is however critical of this necessity of travelling to (Southeast) Asia, and calls for cross-cultural experiences that do not require air travel:

> *"You can create an international learning environment, or cross-cultural learning environment, without traveling by plane. I mean, the original arguments for going to, for example, Southeast Asia has always been the cross-cultural argument. [...] But I think nowadays it's possible to create a same cross-cultural experience closer to home. I mean, if we would do a field research project in Northern Poland or in the Balkans, we wouldn't have to fly. But the cross-cultural experience is the same, you know, so you don't have to go to exotic tropical Asian cultures to experience that cross-cultural dimension. I think that's a dated argument." (P7)*

Choosing a different mode of transport than air travel is also argued by one interviewee to change the mindset of students:

> *"Previous years we were involved with some European projects and we do take groups of students by train and they were like 'woooew', you know, it's outside their comfort zone. But if we can put it into that comfort zone, hopefully then when they become managers, they be aware of it." (P1)*

Along these lines, opting for low-carbon transport modes when going on field trips with tourism students can also set a positive example for students.

4.5. Post-COVID versus post-carbon: the future of academic air travel

The COVID-19 pandemic has significantly influenced the (air) travel practices of the interviewees, as none of the interviewees travelled abroad for academic purposes. As a result, a few interviewees started to reflect on the necessity of academic (air) travel:

> *"My last trip by plane was January last year to Indonesia. And, yeah, based on the that trip, we now got a big international project funded, so without that trip, that would not have happened. So, in that sense, you could say on the on the one hand, yes, air travel is needed, because we have to work in Indonesia, in the Caribbean, in the polar regions, you cannot go there without air travel. On the other hand, we are now working for more than a year without air travel and life goes on. And in a way, it's nice, I mean in my case, I have enough work to keep me busy for a couple of years. (P4)*

> *"I also think that nowadays now the entire planet is working on Zoom or Microsoft Teams, you know, you can also reassess the urgency to really travel to another place to do some business." (P7)*

The pandemic has according to numerous interviewees also demonstrated that numerous practices, like meetings, giving guest lectures abroad and conferences, can be done online, which was pre-covid often met with resistance (P5). However, further developments that stimulate viewing online mobility as a suitable alternative are still needed according to one interviewee:

> *"And yeah, and if there's more stimulation for being a little bit more picky, you know, where you go to, and where not and having that it is also very acceptable to do a presentation from a distance, online or whatever, those developments would be really good." (P4)*

However, other interviewees are critical of doing certain practices online and worry about the effects on the long run:

> *"I think with corona we realise that it [air travel] is not necessary, a lot of things can be done online, it is not fun, definitely not, and I think for the long run it is not sustainable in terms of you know, people might lose their interest in their work, if it remains like this. So, I do think we need this ability to travel as scholars, especially as geographers, because we need to map the world. And that's in the essence of geographers, I think. So, if you cannot do that and only do that on a distance then it gets too boring, then a lot of us will probably change their jobs." (P2)*

> *"[...] of the things that I think is really good for teachers about field work, is talking to people in the business in these places and you ask: 'well, what are they thinking about what's happening?' That really helps your understanding of tourism, and you can use it in teaching and thinking about things. I think that would really be something that we would miss. I mean, I think if you don't do it for a year or two, that it's not a big issue. But I think in the long term, it's important to also get out there and see places and meet people and talk to people." (P6)*

Several interviewees are further critical to having conferences online and indicate that there are certain benefits of travelling abroad for conferences:

> *"[...] I think for staff development, even conferences, they're all online and it's not the same as going somewhere and meeting people physically and being in a different place. So, I think there's probably some pressure from academics to restart conferencing." (P6)*

> *"I was at a conference in Trondheim two years ago, and it just it was lovely to be mixing with lots of academics from different places and hearing different views. It was just, you know, out of the routine, and I really, really enjoyed it. I felt a kind of had intellectual feast from being there and I cannot imagine feeling quite the same form of virtue of sitting in my room." (P1)*

At last, numerous interviewees are discouraged to whether COVID-19 provides an opportunity to transition towards 'post-carbon' academic travel:

> *"I think what people want is to go back to where we came from, and not to a new way of thinking about travel, about work, about the balance. So, we are not going to post COVID, new normal, or whatever." (P4)*

> *"I'm also a bit dismayed by some conversations I've had recently, which have just seemed that everyone was just going to go back to, you know, insisting on face-to-face meetings in the future, whether we need them or not." (P5)*

> *"Some people say 'yeah people have become more reflective', [...] but I think that's a lot of crap. I think it is just going to burst, and people are going to recover from their loss. And that's what I find so stupid, that we think that we've lost something, that we have lost a year, and we are not thinking about it differently, that we actually maybe started to appreciate life differently, more local, but I think we are still addicted to what is possible." (P2)*

Thus, whilst the COVID-19 pandemic has shown that various academic practices can be done online, it remains uncertain whether these online practices will continue to replace air travel after the travel bans are lifted.

In sum, despite concerned about the impact of air travel on climate change, several tourism academics persist to fly for academic purposes. Numerous justifications were provided by the interviewees for their travel behaviour, the leading factors being career development and the efficiency of air travel. Numerous measures can be taken to mitigate the carbon footprint of academic air travel, however the respondents also identified various obstacles to this mitigation, for instance lack of commitment and tourism education. The COVID-19 pandemic has further significantly influenced the academic practices of the interviewees and has led to reflections on the necessity of air travel for academic purposes.

5

Discussion

5. Discussion

The objective of this thesis was to explore how the transition towards low-carbon academic travel can be accomplished by providing a detailed understanding of the performance of academic air travel practices. Moving away from individual behaviour theories, in this thesis a practice theory framework was employed to analyse academic air travel. As such, I argue that the individual behaviour of academics and social structures (rules and resources) effect each other in a reciprocal manner and reproduce the academic air travel practice (Lamers et al., 2018; Spaargaren & Van Vliet, 2000).

Concerning individual behaviour, a finding that emerged from zooming in on the academic air travel practice is that not all respondents undertake air travel for academic purposes. As the respondents that do not undertake air travel are mainly motivated by climate change concerns, this could suggest that in some cases, adequate knowledge of the negative environmental impacts of air travel leads to a limited use of air travel for academic purposes. Although the other respondents are also concerned about the impact of their practices on climate change, they do persist in undertaking air travel for academic purposes such as education, PhD supervision, research, international meetings and to visit conferences.

Contrary to the findings of Baer (2018), most interviewees in this study do not seem to have the tendency to sweep the environmental impacts of their air travel practices under the carpet by suggesting that they need air travel to be able to 'improve' the tourism industry. A few respondents do however demonstrate cognitive dissonance when it comes to their air travel practices, as travelling abroad is seen as a perk of the job whilst fully recognising the climate impacts. Tourism academic's (research) interest in tourism might also make it more difficult to get them 'off the plane', as academic air travel provides them with the opportunity to visit (new) destinations across the globe and experience tourism and travel first hand (Høyer & Naess, 2001).

The conflict between climate change and academic air travel leads to various other discrepancies. For example, one respondent argued that he tries to limit travelling by air, yet does not want to punish himself too much. Another respondent further mentioned that he used to feel better when he had an airplane ticket for the next trip on his desk, in a way indicating that academic air travel is addictive. This suggests that, although academics are concerned with the negative impacts of (academic) air travel, they are reluctant towards altering their travel behaviour for climate reasons (Barr & Prillwitz, 2014; Cohen et al., 2013; Higham et al., 2014; Luzecka, 2016).

Some scholars refer to these incongruences as 'climate hypocrisy' (Higham & Font, 2020; Hopkins et al., 2019). Although I do not like to use this term and therefore also have not used it in the interviews, a few respondents did mention the hypocrisy of 'teaching one thing and then doing the other' (i.e. teaching students about climate impacts whilst flying around the globe). Revealing thoughts about one's hypocrisy without being probed to do so, might suggest that some respondents feel a sense of guilt regarding the climate impact of their air travel practices.

In line with the findings of Luzecka (2016), the results of this study show that when air travel is positioned as an essential part of travel practices, mobility decisions are not truly 'individual'. Indeed, the findings of this study demonstrate that when the interviewees make a decision about academic travel, they have to rely on existing rules and resources (social structures).

A factor that is of particular cause for concern is the perceived necessity of air travel for academic success (Glover et al., 2019). Although the interviewees that undertake air travel did not directly admit that this is currently necessary for their career development, indirectly several signs do point towards perceived (past) necessity. Having an international standing, or being internationally recognised for example, is regarded as important by their employers, implying that academic travel undertaken by the respondents is also subject to managerial evaluation (Parker & Weik, 2014).

Air travel is also regarded as an efficient mode of transport by both academics and universities. In particular academics with family care duties, prefer undertaking air travel over travelling by surface transport. In essence, these care duties influence the time academics can be away from their family (Storme et al., 2013). The results of this study do not confirm whether the competing obligations of family care duties and academic travel lead to stress or guilt amongst the interviewees (Cohen et al., 2020).

Whereas universities undoubtedly perceive air travel as an efficient mode of transport, several interviewees view air travel as an unpleasant mode of transport. In turn, this unpleasantness is indicated to result in lower productivity, whereas travelling by train is indicated to increase productivity. Due to this lower productivity, air travel might not be such an efficient mode of transport in terms of economics and time for employers after all.

So, one could without doubt argue that when it comes to academic air travel, these abovementioned social structures make it difficult for academics to make pro-environmental individual decisions. On the other hand, the COVID-19 pandemic, that resulted in a sudden shift to 'virtual mobilities' has illustrated that adjusting academic practices is not only possible, but relatively easy, if needed. It can therefore be assumed that social structures can both serve as barriers, but also as opportunities, for the transition towards low-carbon behaviour, such as lesser academic air travel (Nursey-Bray et al., 2019).

Essentially, these social structures are also reinforced by the actions of academics. Universities depend on academics, meaning that their environmental innovations have to fit with the lifestyles and standards of academics (Spaargaren & Van Vliet, 2000). This could mean that if academics persist in flying for academic purposes, universities might be reluctant to come up with measures to reduce air travel. Thus, to transition towards low-carbon academic travel, responsibility need to be taken, whether that is through universities setting stricter policies, or academics refusing to fly, or both.

Zooming out demonstrates that the academic air travel practice is also part of a broader network of practices, otherwise known as a 'practice-arrangement bundle' (Schatzki, 2016). Other practices such as networking, educating, and researching, are not only interconnected to academic air travel, but also serve as justifications for undertaking air travel. Especially 'tourism education' comes to the foreground as a significant barrier to the mitigation of academic air travel. Studying tourism has created certain expectations regarding field trips abroad (by air) not only by students, but also by tourism academics, who view these trips as indispensable and relevant for tourism education. Thus, having academics accompany tourism students on their international field trip or field work to destinations all around the globe is rather common in tourism (bachelor) programmes, regardless of the significant CF of these trips. With climate change looming, it is questionable whether normalising air travel in the undergraduate phase is sensible. Especially when aiming to educate students about sustainable tourism, it seems fitting to start to 'practise what you teach' by opting for student field trips or field work by surface transport.

Numerous interviewees further pointed out the necessity of air travel for early career researchers for networking opportunities. This could imply that several interviewees felt more pressured to fly as early career researchers than they do in senior positions. Thus, to decrease academics' air travel carbon footprint, early career academics need to be allowed a successful career and promotion opportunities without having to be hypermobile (Glover et al., 2019). However, similar to the findings of Schrems and Upham (2020) and Wynes et al. (2019), the findings of this study also show that the number of trips undertaken by the respondents differs per career stage. On average, PhD students and lecturers undertake lesser trips than (associate) professors annually. This could imply, albeit not confirmed in this study, that a higher salary can be related to higher emissions (Wynes et al., 2019).

Eventually, the elements that establish current academic air travel practices need to break, so that the practice can either disappear or transform (Shove et al., 2012). Ultimately, climate change is a problem of scale and change efforts need to stimulate common action (Anable et al., 2006). As such, academic air travel needs to be 'denormalised' (Glover et al., 2018) and the perception that aero hypermobility is a perk of the job and necessary for academic success needs to come to an end. As such, the entire practice-arrangement bundle will slowly transform, and low-carbon academic travel can be accomplished.

5.1. Limitations and further research

Whilst conducting this research various limitations became evident. Concerning the theoretical framework, the focus within practice theory is on the practice, not human agency. As such, employing a practice theory framework makes it difficult to determine the individual factors that underlie academic air travel. However, as encouraging behavioural change towards mitigating air travel is proven difficult, I do find practice theory certainly a suitable framework to study tourism mobility. Especially as researching climate change mitigation calls for a deeper understanding of air travel practices, that goes beyond the attitude-behaviour gap often explored in individual level theories.

The impact of the COVID-19 pandemic on the findings of this thesis is also worrisome to an extent. Currently no air travel is undertaken by academics, which led to numerous respondents of this research indicating that currently air travel is not necessary. This might mean that if this thesis research was conducted in 'normal' circumstances, the outcomes regarding the necessity of air travel might have been different.

For further research I would recommend conducting a quantitative survey first, to gain insights into the individual behaviour of tourism academics. Combining this with a qualitative case study, a comprehensive overview of the academic travel practices of tourism academics can be provided. I also advice to conduct interviews with policy officers of universities to gain better insights into why policies that prohibit air travel under <700km are not implemented (yet).

As the demand for air travel will remain a barrier to the transition towards low-carbon travel in general, another recommendation can be to conduct research that explores these matters further in a 'wider sense'. In essence, I would advise conducting a multi-case study research design that investigates the complex interplays and perspectives of (business/academic) travellers, airlines, governments, and the tourism industry. I would then also recommend employing different theories, such as practice theory and actor-network theory for example, to determine which socio-material structures pose a challenge, or opportunity, towards the transition to low-carbon travel. These recommendations will however require a longer time frame than a master thesis, implementing these suggestions in a PhD project is therefore advised.

6

Conclusion

6. Conclusion

In this thesis the transition towards low-carbon academic travel was analysed, by answering the following research questions:

1. What factors enable the academic air travel practice?
2. What measures can be taken to mitigate the carbon footprint of academic air travel?
3. What are the barriers to limiting academic air travel?
4. What role can the COVID-19 pandemic play in the transition towards low-carbon academic travel?

The results from this study indicate that numerous factors enable the academic air travel practice of tourism academics. The decision to undertake air travel instead of surface transport often depends on the location of the trip. Other justifications include career development, as travelling abroad provides career and networking opportunities, especially for early career researchers. Both universities and academics further regard air travel as a more efficient mode of transport in terms of time and money, compared to surface transport.

Several measurements can be taken to mitigate the carbon footprint of academic air travel. First, setting up an inventory of the number of flights undertaken by using a central booking system can help determine how much air travel contributes to the carbon footprint of universities. After setting up an inventory, nudging through e.g. 'decision trees' can assist in academics altering their behaviour towards low-carbon travel options, such as train travel. If nudging does not appear to be beneficial, the foremost measure are strict travel polies that prohibit air travel under +/- 700km when a suitable train alternative is available, or not reimbursing the cost of air travel.

However, there are also various barriers that hinder the implementation of low-carbon academic travel options. Numerous interviewees indicated that travelling abroad for academic purposes is seen as a reward and as a perk of the job, which have higher personal benefits than 'saving the planet'. Moreover, the current lack of mobility policies that aim to limit air travel of academics, the neoliberal mindset of universities, and the demand for internationalisation also make it difficult to steer universities towards voluntarily mitigating academic air travel.

Whether the COVID-19 pandemic could play a transformative role in the transition towards low-carbon academic travel remains uncertain. On the one hand, as several practices such as conferencing and meetings were moved to an online environment, the respondents of this study did start to reflect on the necessity of air travel. On the other hand, pressure from academics to restart conferencing and 'to go back to where we came from' also began to surface. Meaning that, the possibility that the demand for meeting face-to-face will remain to persist among academics is high.

It can overall be concluded that to realise low-carbon academic travel, the usage of air travel for academic purposes needs to be reduced. Essentially, to produce a low-carbon academic travel practice, both the individual behaviour of (tourism) academics and social structures that establish the current academic air travel practice need to transform. Generally, as academics rely on the socio-material resources of universities, stricter policies that halt air travel need to be established. The booking systems of universities also need to facilitate straightforward options for academics to book train tickets. However, academics should also stop justifying their (frequent) flying behaviour with the international requirements of the academic field and stop regarding air travel as a reward/perk of the job.

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Appendix A

Interview guide

Topic 1: Introduction

- Introduction of the interviewer
- Research is for master thesis
- Ensuring that the participation is voluntary
- Asking permission for recording and transcribing the interview
- Purpose of the interview
- Duration of the interview (+-30 minutes)
- Short introduction of the interviewee

Topic 2 Academic travel behaviour

- How many trips do you undertake approximately for work annualy?
- What are the main purposes of these trips?

Key words: data collection, research, teaching, conference, student field trips, network building

- How many of these trips involve a flight?

Key words: transatlantic, intercontinental, Europe

- How could you have done these trips differently?

Key words: train, online/virtual

- How does your employer encourage air travel?

Key words: career opportunities, lack of passion/commitment towards the environment, networks, internationalisation

- Is air travel necessary for you to do your job effectively?

Probe: why or why not?

Key words: networking, in person attendance, field research, travel threshold, success

Topic 3: Climate change/sustainable academic travel

- Are you concerned with academic air travel‘s impact on climate change?

Probe: why/why not?

- How are you restricted from implementing more climate proof travel options?

Key words: location, employer, priorities, funds, policies, travel threshold

- How can you be motivated to implement more sustainable travel options?

Key words: incentives, toolkits, compensation for using sustainable alternatives (or higher travel costs for using air travel) reflection on own role, responsibility, awareness/ confrontation, virtual conferences, cap and trade (emissions trading), carbon offsetting

Topic 4: COVID-19

- How has the COVID-19 pandemic impacted your air travel practices?

Key words: opportunity to bend carbon emissions, more eager for face-to-face contact (counterproductive), virtual

Topic 5: Closing

- Thank the interviewee
- Do you have anything to add?

Appendix B

Code system

Code and subcodes
1. Changing practices
1.1. Associations
1.2. COVID-19
1.2.1. Back to normal
1.2.2. Online conferences
1.2.3. Online meetings
1.3. Carbon mitigation
1.3.1. Cap and trade
1.3.2. Carbon budgets
1.3.3. Carbon offsetting
1.4. Climate change concerns
1.4.1. Awareness
1.4.1.1. Cognitive dissonance
1.4.2. CC crisis vs cov crisis
1.5. Discussions
1.6. Location
1.7. Motivation
1.8. Policies
1.8.1. Costs / justification
1.8.2. Governmental / international action
1.9. Reflection on own role
1.9.1. Social pressure

Code and subcodes
2. Travel behaviour
2.1. Mode of transport
2.1.1. Flying
2.1.1.1. Advantages
2.1.1.2. Displeasure of flying
2.1.1.3. Motivation
2.1.1.4. Necessity
2.1.1.5. Non-flyer
2.1.1.6. Perception
2.1.2. Productivity
2.2. Personal travel behaviour
2.3. Trip purposes
2.3.1. Career development
2.3.2. Conferences
2.3.3. Meetings
2.3.4. Networking
2.3.5 Research

Code and subcodes
3. Barriers
3.1. Personal barriers
3.1.1. Work life balance
3.1.2. Social pressure
3.1.3. Time
3.2. Organisational/structural barriers
3.2.1. Location
3.2.2. Time
3.2.3. Cost
3.2.4. Internationalisation
3.2.5. Role of universities
3.2.5.1. Inventory
3.2.5.2. Encouragement

3. Barriers (cont.)
3.2.5.3. Awareness
3.2.5.3.1. Lack of commitment
3.2.5.3.2. Lack of understanding
3.2.5.4. Employees
3.2.5.4.1. Interest in tourism
3.2.5.4.2. International standing
3.2.5.5. Role of students
3.2.5.5.1. Student fieldtrips
3.2.5.6. Booking systems

Appendix C

Promotion of travelling abroad in tourism programmes

Box C.1 Overview of the promotion of travelling abroad in tourism programmes

The examples listed are of the promotion of travelling abroad in the description of several tourism programmes. These points can be found on the degree programmes' website and are presented under the heading 'why choose [name university]' or '[name programme]'.

Breda University of Applied Sciences

- Combination of theory and practice, including three months of field research in Southeast Asia and Australia.

Leeds Beckett University

- Explore domestic and international tourism - and understand that the principles of responsible tourism are as applicable to the Yorkshire Dales as they are to The Gambia

University of Central Lancashire

- Our course has a global span with opportunities to take part in local, national, and international field visits to destinations such as Cyprus, Iceland, and Cambodia to name a few.

Wageningen University and Research

- Conclusion of the second year with an international field project in South-East Asia, Africa or Latin America.

Information derived from: Breda University of Applied Sciences (2021), Leeds Beckett University (2021), University of Central Lancashire (2021) & Wageningen and University (2021a)