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ABSTRACT

This paper adds to our understanding of how people's climate change
concern and norms influence their leisure air travel. It does so by exam-
ining the roles of Norwegians' beliefs about climate change and emis-
sions from air travel, their felt responsibility to limit emissions (personal
norm), and expectations and behaviors of friends and family (social
norms) in such travel. A representative sample of Norwegians was sur-
veyed in 2019 and 2020 (N = 2842), based on a framework combining
institutional and social-psychological perspectives. Structural equation
modeling of the data reveals that leisure air travel is habituated and
part of a lifestyle, supported by social norms, self-enhancement values
and urban residency. Personal norms for reducing greenhouse gas emis-
sions from flying are beginning to emerge in Norway, but their effect
on leisure air travel is small and only indirect. Our findings suggest the
need for interventions to complement and potentially amplify the
emerging moralization process and support an evolution of new habits
and travel lifestyle to limit the emissions from leisure air travel substan-
tially. The disruption of travel habits by the COVID-19 pandemic might
ease such a process.

Introduction

In recent years, there has been an increased focus on the climate impact of air travel and indi-
viduals' responsibility to limit such travel, including the establishment of the concept of "flight-
shame" (Becken et al., 2021; Mkono et al., 2020). In early 2018, "flight-shame" was one of the
novel words included in the Swedish dictionary (The Swedish Language Council, 2018). This may
have made the climate impact of leisure travel more salient for people and reduced their inclin-
ation to fly. This paper investigates what motivates leisure air travel and what roles climate
change concern and different types of norms play in Norway, one of the countries of the world
where people travel the most by air.[1]

Before the COVID-19 pandemic, emissions from air travel accounted for a substantial share of
the global carbon footprint (Lenzen et al., 2018). The number of international tourist arrivals
doubled from the beginning of this century, reaching over 1.3 billion in 2017 (STATISTA, 2022),

and emissions from international air travel rose rapidly until the outbreak of the pandemic (EASA et al., 2019; Lenzen et al., 2018). Emissions from air travel to destinations abroad dominate the personal travel emissions in several places, especially in wealthy nations, such as Germany (Aamaas et al., 2013), Finland (Czepkiewicz et al., 2018) and Iceland (Czepkiewicz et al., 2020). The growth in leisure travel accounts for a much higher share of the growth in international air travel over the past decades than does business travel (STATISTA, 2022). In 2017, less than 2% of international air travel by Norwegians was business or work related (Farstad et al., 2018).

The pandemic resulted in a considerable fall in global air traffic and CO_2 emissions in 2020 (Le Quéré et al., 2020). However, CO_2 emissions rebounded in 2021, with the largest rebounds occurring in the aviation sector (Liu et al., 2022). The industry projects continued slow growth in air travel post-pandemic (STATISTA, 2022). But even a slow growth rate is incompatible with the reductions needed to reach the global emission targets set by the Paris Agreement in 2015 and further strengthened in the Nationally Determined Contributions (NDCs) filed at the COP-26 round of negotiations in Glasgow in 2021. It is also incompatible with the industry's own goal of carbon neutral growth for international aviation from 2020 onwards (Lee, 2019). Technical and financial measures have been discussed to decarbonize air traffic, but none of them are likely to be implemented anytime soon (ICAO, 2016; Schäfer et al., 2019), making interventions on the demand side more urgent than ever (Creutzig et al., 2018). The industry has on the contrary sought to increase the demand for air travel, promoting lifestyles accelerating demand, and has failed in responding to the climate crises through their organization International Aviation Organization (ICAO) (Higham et al., 2021).

However, the increased awareness of climate effects from air travel in public media since 2016 may have spurred a bottom-up change of norms and behavior. Whereas prior *qualitative* research found that climate concerned people tend to fly frequently, more recent qualitative studies indicate an increasing influence of climate concern and norms on leisure air travel (e.g. Jacobson et al., 2020). However, the research aiming to *quantify* the influence of people's climate concern and norms on their leisure travel by air is sparse and it has so far failed to find any influence, with one exception (Gössling et al., 2020). Hence, more knowledge is needed about the influence of climate concern and climate norms on leisure air travel, and what may facilitate, obstruct, or change them. Such knowledge and understanding are an important basis for assessing consumers' and citizens' willingness to reduce leisure air travel and for the formulation of policies to promote self-reflection and action.

The key research question that this study aims to answer is: (1) What roles do climate change concern and norms play in the frequency of leisure air travel in Norway? This question needs to be answered in the context of a broader question: (2) What are the main factors explaining the frequency of such travel in Norway? We focus on international leisure travel by air, when—at least in principle—there are other travel options. Hence, our outcome variable is Norwegians' leisure air travel to Europe, where driving and other land and sea-based travel options are available, excluding the neighboring Scandinavian countries (which we consider "domestic" in this connection). In 2017, destinations in Europe outside Scandinavia accounted for 80% of all international flights from Norway (Farstad et al., 2018). We analyze survey data on leisure travel from a representative sample of 2842 Norwegians, using SEM methodology. Combining insights from institutional theory and social psychology, we emphasize both social and personal influences. We also contribute to the literature by developing and using measures of diverse types of norms to understand potential norm dynamics, to our knowledge not examined in quantitative analyses of air travel before.

The roles of climate concern and norms in leisure air travel

Most of the existing research, both qualitative and quantitative, finds leisure air travel to be unrelated or even positively related to pro-environmental attitudes and climate change concern.

Qualitative studies have found strong pro-environmental attitudes and high climate concern among people who travel for leisure by air, in Norway (Cohen et al., 2013; Higham et al., 2016; Higham & Cohen, 2011), Iceland (Árnadóttir et al., 2021), the UK (Barr et al., 2010; Higham et al., 2016; Mcdonald et al., 2015; Randles & Mander, 2009), the Netherlands (Kroesen, 2013), Australia and Germany (Higham et al., 2016). For example, based on individual interviews across contexts (UK, Norway and Australia), Cohen et al. (2013) find high frequency of air travel amongst those expressing strong pro-environmental attitudes and reporting engaging in pro-environmental behaviors in other domains. A likely reason is that both leisure air travel and pro-environmental attitudes and behavior relate positively to income and education (e.g. Alcock et al., 2017; Czepkiewicz et al., 2018; Falk & Hagsten, 2021; Gössling et al., 2020). Another possible reason proposed in these qualitative studies is that international travel is viewed as a symbol of social status and belonging or aspiring to a certain social class. It is suggested that the relative stability of such class cultures, social class identities and social norms related to symbolic consumption of leisure travel, creates a lifestyle lock-in (Barr et al., 2010, 2011; Becken; Cocolas et al., 2021; Cohen et al., 2013; Higham et al., 2016; Randles & Mander, 2009). In all cases, these studies suggest that if a pro-environmental attitude is necessary for limiting leisure air travel among those that have the means to travel, it is not sufficient. That a pro-environmental attitude is needed is supported by two qualitative studies of UK (Büchs, 2017) and Swedish (Jacobson et al., 2020) residents who have made a conscious decision not to travel by air. Both studies find that these people hold strong self-transcendence values and a strong personal norm for reducing greenhouse gas (GHG) emissions (Büchs, 2017) or negative emotions connected to flying (Jacobson et al., 2020).

In contrast to the pattern of findings from qualitative studies, the smaller number of existing quantitative studies report varied relationships between climate concern and leisure air travel. Some studies report no correlation, others report a positive relationship, while still others report a negative relationship. Survey studies from Finland (Árnadóttir et al., 2019) and the UK (Alcock et al., 2017) find no relationship between pro-environmental attitudes and frequency of leisure air travel abroad. In Iceland, Czepkiewicz et al. (2020) find a positive correlation between climate concern and leisure air travel. In contrast, a study from Switzerland reports a negative relationship between general environmental concern and the frequency of leisure air travel (Bruderer-Enzler, 2017), and a study from Germany finds "only a small negative correlation of the general environmental attitude with total flight kilometers" (Oswald & Ernst, 2021, p. 81).

Some studies of behavioral *intentions* find that people are reluctant to take fewer holidays abroad in order to reduce personal carbon impacts (see for instance Mckercher and Prideaux 2011; Miller et al. 2010). Two more recent studies report a positive correlation between environmental concern and moral obligation to reduce emissions and intention to travel less by plane (Filimonau et al., 2018; O'Connor & Assaker, 2022).

The quantitative studies above did not investigate the possible transformation of social attention of climate change into personal responsibility to reduce emissions, nor the possible conversion of social norms regarding air travels into personal norms. To be able to analyze the normative influence from social surroundings on personal norms and further on leisure air travel, measures of diverse types of norms must be included in a study. With one exception (Gössling et al., 2020), quantitative studies of normative influences on leisure air travel are lacking. Gössling et al. (2020) analyzed the influence of "flight-shame" (e.g. whether people think members of their social environment are flight-shamed; whether people in their social surroundings report that they fly less due to flight-shame) on leisure air travel and support for policy measures to reduce air travel in Germany. They find these factors do not influence frequency of air travel but do have positive relationships with support for restrictive policy measures to reduce air travel (e.g. increasing the cost of flying).

The current study contributes to research on consumers' and citizens' willingness to reduce leisure air travel by analyzing the influence of climate change concern, climate norms and behavior specific norms (both personal and social) on leisure air travel.

Theoretical framework

We combine insights and concepts from institutional theory and social psychology, focusing on the relationship between individuals and society in addressing a common threat like climate change. Institutional theory focuses on how people construct institutions and how these institutions influence the way we act (Berger & Luckmann, 1967; March & Olsen, 1989). Institutions are typically categorized as conventions, norms, and legal rules beyond the individual. When internalized, they become important both for creating identity and for facilitating human interactions (Vatn, 2015). Institutionalists emphasize interdependencies between human actions. Climate change mitigation has the characteristics of a social dilemma, where what is individually preferable is collectively detrimental (Ostrom, 1990). Institutions may aggravate this problem, for example, when fossil fuel-based behavior like leisure air travel to distant destinations has become a socially desirable, high-status activity. However, if the collective problems related to extensive air travel are increasingly emphasized at the societal level—for example, through communication between people—new conventions and norms may develop and what is seen as socially desirable or even acceptable leisure activities may change.

When social psychologists study social dilemmas, the focus is on the individual. Well-known theories, like the Theory of Planned Behavior (Ajzen, 1991), Norm Activation theory (Schwartz, 1977), Value-Belief-Norm theory (Stern et al., 1999), and Subjective Culture theory (Triandis, 2002) emphasize how existing values, beliefs, attitudes, norms and personal capabilities influence behavior. These theories link individual behavior to society primarily through what in social psychology is termed "perceived social norms"—that is, what individuals think others expect them to do. The process of creating these norms is, however, not usually emphasized.

Based on an institutionalist perspective, we especially focus on possible social dynamics that may obstruct or facilitate changes in personal norms. Here, we specifically focus on the role of personal social networks, such as whether friends and family travel by air for leisure and whether they expect others to do so, whether climate change is a topic in conversations with friends and family and whether friends and family criticize behavior that is not climate friendly. We also include individual variation in value orientations, beliefs, personal norms, and individual characteristics like education, age, gender, etc.

Figure 1 illustrates an integrated framework developed for this purpose, with antecedents moving from the general to the specific. Level 1 includes characteristics of individuals (their basic values, age, gender, income, education etc.), their social contexts (household size and composition) and their physical contexts (urban or non-urban location of residence). These variables are assumed to potentially influence all choices and activities the individual undertakes, but influences are expected to be weak and mostly indirect, mediated through what are defined as issue- and behavior-specific factors on Levels 2 and 3.

Level 2 contains factors referring to climate change. The influences of these factors on climate-relevant behavior are again assumed to be mostly indirect. We emphasize both the societal and individual levels. For instance, the "Issue specific social context" refers to the importance of mitigating climate change among a person's friends and family, accounting for both social attention and pressure that may influence what values and norms are relevant (Gössling et al., 2020). "Issue specific beliefs" include the individual's concern about climate change, whether it is happening, is anthropogenic and a serious problem (here referred to as "climate change concern/climate concern," e.g. Alcock et al. 2017). "Issue specific personal norm" refers to a perceived personal responsibility to act in a climate friendly way. Here we use the social psychological
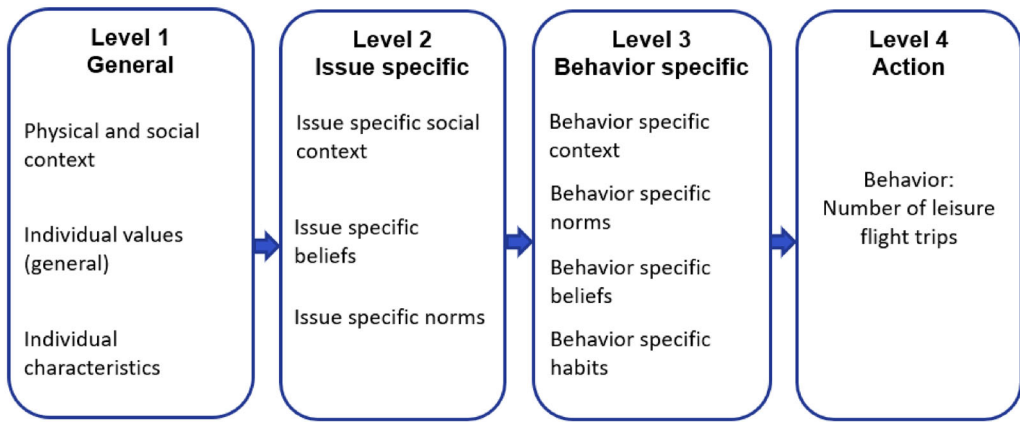
Figure 1. Framework.

term personal norm (Schwartz, 1977), noting that institutionalists would name these internalized norms to reflect that they are socially constructed. The norm may be developed or activated through communications with friends and family or other societal processes.

While the level 1 and 2 variables are general for all climate-relevant behaviors, level 3 include behavior-specific factors assumed to be proximal antecedents of a specific behavior. These refer the behavior in question.[2] The key proximal antecedents, included at level 3, are travel habits and behavior specific social norms, as suggested by both social-psychological (e.g. Triandis, 2002) and institutionalist approaches (e.g. Vatn, 2015). Social norms can be internalized and transformed into a felt responsibility, in this case for minimizing one's own GHG emissions when traveling for leisure. The term "social norm" we thus reserve for perceived norms that may not be internalized, such as perceptions about how one's acquaintances travel and think one should travel, and how important it is to match expectations from family and friends regarding such travel. At this level, we also refer to "Behavior specific beliefs," which refer to a person's beliefs about air travel—regarding costs, efficiency, time, etc., as proposed by subjective expected utility (e.g. Mcfadden, 1974) and expectancy value theories.

The arrows in Figure 1 suggest the assumed main direction of effects. At the same time, we note that at least some of the implied causal links in Figure 1 can be reversed—e.g. issue-specific beliefs may be influenced by behavior-specific norms/social expectations (e.g. Schwanen et al., 2012). One would expect several feedback loops that a study based on cross-sectional data is not able to capture, but it is important to acknowledge the possibility when interpreting the results.

Methods

Sample

The data for this study come from a representative web-based survey managed by Kantar in Norway, who sampled participants from their ISO certified standing panel of 10.895 residents of Norway, 18 years old or older. The survey was first undertaken in March–May of 2019, when 4339 completed the survey, of which 258 were discarded due to incomplete answers. Those completing the survey were contacted again one year later and 2842 completed the second questionnaire. This study is based on respondents who participated in both surveys and who, in the 2020 survey, answered that they had traveled to Europe for leisure (defined in the survey as European countries outside Scandinavia) in the previous year (N = 1437).

Table 1. Demographic profile of our sample (N = 2842).

	Our sample	National statistics 2020[a]
Gender	F: 48.03%, M: 51.97%	F: 49.6%, M: 50.4%
Age	>45 years: 67%	>45 years: 53.2%
	(Above 18 years)	(Above 16 years)
Higher education (university degree)	42%	35.3%

[a]Data retrieved from Statistics Norway (2021).

Kantar used an interactive procedure for the sampling, stratifying invitations to participate to secure a best possible representative sample in terms of gender, age, geographical distribution, and education level. Table 1 reports the demographic profile and the national statistics for some variables. There is an over-representation of older age groups and of those with higher education in our sample, whereas gender and geographical distribution follow the population statistics (Statistics Norway, 2021).

Adhering to the requirement of the Norwegian center for research data, the invitation letter to the respondents mentioned that it was "about climate and the environment." This could have made "pro-environmental" panel members more inclined to participate. The sample from 2020 contains a small overrepresentation (1.1 percentage points) of voters for "green" parties compared to the local election in September 2019. However, an overrepresentation of "green" voters of at least this size is common in surveys in general and with other themes. More importantly, it does not seem to bias estimates of correlations between environmental beliefs and attitudes and other variables substantially (Hellevik, 2016).

Constructs

Our outcome variable is Norwegians' leisure air travel to Europe (outside of Scandinavia). This variable was measured with the item: "How many leisure trips (round trip) to Europe (outside of Scandinavia) did you make with the following means of transport in 2019?," with responses to the option "Airplane" serving as our measure of leisure air travel to Europe. Other travel mode options registered included private car and public (ground) transport (bus, train). Frequency categories for each travel mode were 0, 1–3, 4–6, 7–9, 10–15, 16–20, more than 20. For the analyses, we coded these categories as 0, 2, 5, 8, 12, 18 and 21 and as is customary with count data we used the natural logarithm of variables (+1) measured on this scale. The registration of other travel modes than air allows studying substitution between means of transportation for long leisure trips (negative relations between modes), as well as more general leisure travel lifestyles (positive relations between modes).

For most other measures, responses were taken on a 5-point scale, from "Does not match at all" = 1 to "Matches very well" = 5,[3] with the additional options "don't know" and "not relevant" registered as missing values. As some of the theoretical constructs were new or based on modifications of existing instruments, we first identified multi-item constructs from exploratory factor analysis and item analysis. Then we checked construct reliability, discriminant validity and criterion validity of the final versions by means of confirmatory factor analysis. All data except for the amount of leisure travel in 2019 come from the survey collected in 2019. In each survey, we asked questions about leisure travel the year before, which is why we use data from the 2020 survey on travel in 2019. The frequency of air travel to Europe in 2018, measured in the 2019 survey, is used as a measure of past behavior, which is often used as an indicator of habit or lifestyle (Capstick et al., 2014).

As Figure 1 shows, we assume that the most proximal antecedents of a specific behavior, such as flying on leisure trips, are specific habits, norms and beliefs related to leisure air travel. We also included climate change related beliefs, attitudes, and norms—referred to as "issue-specific" antecedents of behavior—in our analyses, as well as more general antecedents, such as

Table 2. Model validity measures and intercorrelations, multi-item constructs, 2019, N = 1437.[a]

	CR	AVE	(1) CCC	(2) PN	(3) IE	(4) Con	(5) SE	(6) ST	(7) SN
(1) Climate change concern	.80	.57	**.75**						
(2) Personal norm CC	.90	.66	.76	**.81**					
(3) Importance of efficiency	.81	.59	−.11	.21	**.77**				
(4) Conservation	.67	.41	−.00	.11	.26	**.64**			
(5) Self-enhancement	.74	.42	.13	.09	.13	.20	**.64**		
(6) Self-transcendence	.83	.55	.53	.69	−.13	.24	.11	**.74**	
(7) Social norms, flying	.72	.57	−.06	−.21	.42	.21	.03	−.18	**.75**

Note: Italic = not significant, $p > .05$. Numbers in the diagonal are the square root of the AVE.
[a]Specifications of the items in the multi-item constructs are found in Appendix A.

general value priorities and other background characteristics (Klöckner, 2013). The specific measures are presented in Appendix A.

Analysis method

We analyzed relationships between potential antecedents and flying for leisure in two steps: First, we developed a more parsimonious model without sacrificing its ability to predict responses of interest. We estimated bivariate relationships between potential antecedents and leisure flight trips to Europe using confirmatory factor analysis (CFA). We excluded antecedents that were not significantly related to flying from the subsequent multivariate analyses. The implicit assumption is that if an included predictor variable does *not* correlate significantly with an assumed dependent variable, it cannot be (or at least historically has not been) part of the explanation of that dependent variable, even if it is significantly correlated with variables that are significant predictors of the dependent variable.[4] Second, we estimated the structure of the relationships between all included antecedents and leisure flight trips to Europe (i.e. direct and indirect relationships) by Maximum Likelihood (ML) structural equation modeling (SEM). We handled missing values by means of full information ML.

Results

Among those participating in both surveys (N = 2842), leisure air travel to closer destinations (i.e. Scandinavia, the rest of Europe) are more common (56% and 51% report such travels, respectively) than more distant travels (i.e. 15% travel to the rest of the world, outside Europe). Our main analysis includes only respondents who travelled to Europe in 2018. One could imagine that they were less motivated by climate concern than those who chose *not* to travel to Europe at all for leisure. This does not appear to be the case. A multi-group CFA comparing the means of climate concern and personal norm regarding climate change (personal norm CC) between respondents who did and did *not* travel to Europe in 2018 revealed significant differences but indicating higher climate concern and stronger personal norm CC among the former (travelers minus non-travelers: $\Delta M_{concern} = .09$, $p = .013$; $\Delta M_{personal\ norm} = .11$, $p = .005$).

We first test the reliability and validity of multi-item constructs among these antecedents and then turn to analyses of potential direct and indirect antecedents of flying.

Reliability and validity test

We conducted a reliability and validity test of multi-item constructs by means of CFA. The composite reliabilities (CRs), average variances extracted (AVEs) and correlations between multi-item constructs are presented in Table 2. The diagonal of the correlation matrix contains the square root of the AVE.

Table 3. Bivariate correlations between possible antecedents and flying to Europe outside Scandinavia for leisure, N = 1437.

	Level	Correlations	t	p
Flying to Europe the year before	3	.58	17.329	<.001
Flying in Scandinavia	3	.28	1.095	<.001
Flying habit	3	.27	8.505	<.001
Flying to the rest of the World	3	.26	9.630	<.001
Social norms, flying	3	.19	5.094	<.001
Self-enhancement	1	.16	4.934	<.001
Non-urban residence	1	−.12	−4.433	<.001
No other options	3	.12	3.715	<.001
Traveling to Europe by train or bus	3	.11	3.627	<.001
Importance of efficiency of flying	3	.10	2.940	.003
Personal norm CC	2	−.08	−2.785	.005
Importance of climate impacts traveling	3	−.06	−2.014	.044
Education	1	.05	1.845	.065
Income	1	.05	1.668	.095
Self-transcendence	1	−.05	−1.670	.095
Social pressure, climate change	2	−.04	−1.517	.129
Conservation	1	.05	1.508	.132
Believe flying is cheap	3	.03	1.113	.266
Openness to change	1	.03	1.146	.252
Climate change concern	3	−.03	−.980	.327
Age	1	.03	1.078	.281
Supporter of an environmental NGO	3	.03	1.046	.296
Gender	1	−.02	−.837	.402
Climate impact of flying	3	−.02	−.676	.499
Importance of complying soc norm flying	3	.02	.578	.563
Household size	1	−.02	−.602	.547
Social attention to climate change	2	.01	.351	.726
Traveling to Europe by car	3	.01	.304	.761

Model fit: Chi-square = 2247.945, 603 df, $p < .05$. TLI = .85, CFI = .92, RMSEA = .044 (CI10 = .042–.046).

The generally accepted threshold for AVE is .50 and for CR .70, but a .60 threshold for CR is usually accepted in exploratory studies (Hair et al., 2010; Malhotra & Dash, 2011). Malhotra & Dash (2011, p. 702) also note that the convergent validity of a construct may be deemed adequate based on CR alone, even when more than 50% of the variance is due to error. In the present case, one multi-item construct (conservation) has a CR of .67 while the rest have CRs well above .70, suggesting that our constructs possess satisfactory construct reliability and convergent validity. The strongest correlation between constructs (climate concern and personal norm CC) is .76, which is well below 1. Further, this is the only correlation which is (marginally) bigger than the square root of the AVE of one of the variables. Given these results, we judge that our multi-item constructs possess sufficient discriminant validity (Fornell & Larcker, 1981).

Bivariate relationships between potential antecedents and behavior

We analyzed the bivariate relationships between leisure flight trips to Europe and included possible antecedents using CFA. Correlations are reported in Table 3.

Table 3 shows that 11 of the 28 included predictors are significantly correlated with flying to Europe outside Scandinavia for leisure, at the conventional level of significance ($p < .05$). Among the non-significant predictors are climate concern, three of the four included value constructs (self-transcendence, conservation and openness to change), the importance of complying with social norms regarding leisure travel modes, social attention to climate change and social pressure to behave climate friendly, beliefs about the costs of flying, support of an environmental NGO, and most of the demographic background characteristics (education, income, age, gender, and household size). Hence, we conclude that these factors cannot explain flying for leisure to European destinations and leave them out of the following SEM analyses.

Table 4. Structural model of flying to Europe outside Scandinavia for leisure and its antecedents, N = 1437.

Dependent variables		Independent variables	B	S.E.	β	t	p	R^2	Total effect on flying Eur.	Std. total effect on flying Eur.
Flying to Europe	←	Flying to Europe the year before	.49	.03	.48	19.051	<.001	.39	.54	.54
	←	Flying to the rest of the World	.16	.03	.14	6.335	<.001		.16	.14
	←	Flying in Scandinavia	.08	.01	.13	5.922	<.001		.08	.13
	←	Habit	.05	.01	.09	3.423	<.001		.12	.22
	←	Traveling to Europe by train or bus	.07	.02	.08	3.669	<.001		.07	.08
Flying to Europe the year before	←	Habit	.15	.02	.27	8.593	<.001	.15		
	←	Self-enhancement	.11	.02	.16	−4.753	<.001		.09	.13
	←	Non-urban	−.05	.01	−.15	−5.287	<.001		−.03	−.08
	←	No other options	.03	.01	.08	2.401	.016		.03	.07
	←	Personal norm CC	−.04	.02	−.07	−2.451	.014		−.03	−.06
Flying to the rest of the World	←	Flying to Europe the year before	.15	.03	.16	5.518	<.001	.05		
	←	Self-enhancement	.08	.02	.12	3.779	<.001			
	←	Personal norm CC	−.03	.01	−.06	−2.062	.039			
Flying in Scandinavia	←	Flying to Europe the year before	.15	.03	.16	5.518	<.001	.05		
	←	Self-enhancement	.08	.02	.12	3.779	<.001			
	←	Social norm flying	.13	.06	.08	2.182	.029		.19	.19
Habit	←	Social norm flying	1.16	.08	.65	14.449	<.001	.53		
	←	No other options	.07	.02	.11	3.848	<.001			
	←	Importance of efficiency of flying	.15	.05	.09	2.841	.005		.02	.02
	←	Personal norm CC	.08	.03	.09	3.280	.001			
Traveling to Europe by train or bus	←	Flying to Europe the year before	.15	.04	.13	4.185	<.001	.04		
	←	Habit	−.08	.02	−.12	−3.689	<.001			
	←	Self-enhancement	.07	.03	.09	2.779	.005			
	←	Importance of climate impacts of traveling	.04	.02	.08	2.637	.008		.01	.02
No other options	←	Social norm flying	.98	.10	.37	9.602	<.001	.13		
	←	Importance of climate impacts of traveling	.10	.04	.08	2.476	.013			
Importance of efficiency of flying	←	Social norms. flying	.47	.05	.42	9.450	<.001	.23		
	←	Personal norm CC	−.11	.02	−.19	−4.789	<.001			
	←	Importance of climate impacts of traveling	.08	.02	.15	3.902	<.001			
	←	Self-enhancement	.11	.03	.13	3.477	<.001			
Importance of climate impacts of traveling	←	Personal norm CC	.43	.04	.40	12.007	<.001	.19		
	←	Social norm flying	−.26	.07	−.12	−3.517	<.001			
	←	Self-enhancement	−.10	.05	−.07	−1.976	.048			
Social norms flying	←	Personal norm CC	−.10	.02	−.19	−4.831	<.001	.03		
	←	Non-urban	−.05	.02	−.07	−2.568	.010	.01		

(continued)

Table 4. Continued.

Dependent variables		Independent variables	B	S.E.	β	t	p	R^2	Total effect on flying Eur.	Std. total effect on flying Eur.
Personal norm climate change	←	Self-enhancement	−.10	.05	−.07	−2.122	.034			

Note: B = Regression weights; β = standardized regression weights. The column named total effect shows the effect on the final dependent variable—flying to Europe—of increasing the level of an independent variable by one unit. The standardized total effect shows the total direct and indirect effects of a variable on such travel. Variable definitions are found in Appendix A. The measurement model is in Appendix B. Model fit: Chi-square = 876.014, 200 df, $p < .001$. TLI = .91, CFI = .93, RMSEA = .049 (CI10 = .045−.052).

Among the significant predictors, flying to European destinations in 2019 is most strongly correlated with flying to European destinations the year before (i.e. past behavior) and flying to other destinations. Flying to European destinations is also positively correlated with the perceived habit of flying and with travel by train or bus to European destinations. This suggests that these other means of travel are not substitutes for flying. Rather, all these behavioral indicators seem to be reflective of a leisure travel lifestyle. Flying is also positively correlated with perceived social norms supporting flying (construct consisting of descriptive and injunctive social norms, see Appendix A) and negatively correlated with believing that flying leads to GHG emissions and personal norm CC. Further, flying on leisure trips to Europe is positively correlated with the importance of flying being an efficient way of travel, that there are no other options for travel to the destination and self-enhancement values. Among the individual characteristics measured, flying is correlated only with place of residence, as people living in urban residence tend to fly more.

Structural equation modeling

We used a stepwise ML structural equation modeling (SEM) approach to model the relationships between all significant antecedents and flying to Europe for leisure, operationalizing the theoretical framework in Figure 1. For simplicity and for estimation purposes, we assumed that the model is recursive, meaning that we allowed no variable to influence itself via other variables. The potentially endogenous variables (that is, explained by other variables in the model) are alternative means of travel, the importance of flying being an efficient way of traveling, social norms supporting flying, and perceiving flying as a habit.

Variables that were not specific to flying (Level 1 or Level 2 in Figure 1) were modeled as exogenous. For simplicity, we did not attempt to model possible directions of influence between these variables. Instead, as is customary in SEM, all exogenous variables could correlate with one another.

We used a stepwise procedure to develop our model, first including all possible direct and indirect paths from variables further down the assumed causal paths to all endogenous variables. Next, we deleted all non-significant (i.e. $p > .05$) paths one at a time in the order of their p values to achieve a more parsimonious and less cluttered model. We generally assumed equation errors for endogenous variables to be uncorrelated. However, we allowed equation errors of flying to different other destinations than Europe to correlate to capture covariance between these constructs that is not fully accounted for by their joint antecedents.

We report the final structural model in Table 4. The model for direct influences on flying to European destinations for leisure is reported first, followed by the models for other endogenous variables in the order of their influence on flying to European destinations for leisure as reflected in the standardized regression weights. In the same way, we order antecedents of each

endogenous variable in terms of their influence on the variable, from strongest to weakest, as reflected in the standardized regression weights. We also report the total (direct + indirect) effect of predictor variables on flying to European destinations for leisure.

In the following sections, we comment on the main findings—emphasizing first the general findings (Research Question 2) and next the roles that climate change concern and norms more specifically seem to play (Research Question 1).

The most important general findings
Direct effects on leisure air travel to Europe. The five immediate, unmediated antecedents of flying to Europe for leisure all indicate a lifestyle of leisure traveling in general, to various destinations and by different modes. Flying to Europe for leisure the year before (in 2018), flying to the rest of the world (in 2019), and flying to destinations in Scandinavia (in 2019), perceiving flying as a habit, and traveling to Europe by train or bus (in 2019) all influence our dependent variable positively. Flying to Europe the year before is the strongest predictor, both according to the standardized regression weight (.48) and standardized total effect (.54) (last column of Table 4). The second strongest predictor in terms of standardized total effects (.22) is perceiving flying as a habit. This variable has a smaller regression weight (.09) than flying to the rest of the world (.14) and Scandinavia (.13), but these latter variables have lower standardized total effects (.14 and .13). Apparently, travel to Europe by bus or train does not substitute for air travel to Europe. That it is a positive—yet small—predictor of leisure air travel to Europe indicates that frequent travelers tend to do both, rather than choosing between the different travel modes.

Flying to Europe the year before. The strongest predictor of flying to Europe the year before is habit, with a standardized regression weight of .27. Second comes self-enhancement values, with a regression weight of .16. Through flying to Europe the year before and three other predictors, the value priority of self-enhancement has a substantial indirect effect on leisure air travel to Europe (.13). Living area of the country is the third strongest antecedent of flying to Europe the year before ($\beta = -.16$, total effect $-.08$). Other, weaker but significant, effects come from the perception that there are no alternatives to flying to the destination ($\beta = .08$, and total effect .07), and personal norm CC ($\beta = -.07$, and total effect $-.06$).

Other relations. Flying to destinations in the rest of the world (outside Europe): Flying (to Europe) the year before is the strongest antecedent of flying outside Europe, with a regression weight of 0.16. Second comes self-enhancement ($\beta = .12$). In addition, for these travels, personal norm CC influences negatively ($\beta = -.06$).

Flying to destinations in Scandinavia: The two strongest influences on flying to destinations in Scandinavia are flying (to Europe) the year before, and self-enhancement ($\beta = .16$ and $\beta = .12$, respectively). Social norms also influence flying within Scandinavia ($\beta = .08$). This variable is ranked third strongest in terms of standardized total effects (0.19), and influences the dependent variable indirectly, most importantly via habits and travels in Scandinavia by air.

Habits: Social norms supporting flying are the strongest predictor of habits ($\beta = .65$). Next comes the perception that there are no alternatives to flying to destinations in Europe ($\beta = .11$). The importance of flying being efficient also influences flying habits ($\beta = .09$, standardized total effects .02). Finally, personal norm CC is a positive antecedent of perceiving flying as a habit, with $\beta = .09$.

Climate change concern and personal norm CC
As noted earlier, the bivariate correlation between climate concern and flying to Europe for leisure is not significant, but climate concern is strongly and positively correlated with personal

norm CC (i.e. feeling responsibility for reducing one's GHG emissions). Hence, it appears that any influence of climate concern on leisure traveling by air is captured by personal norm CC. The negative total effect of the latter variable on leisure air travel to Europe is $-.06$ and is mediated through air travel to Europe the year before and air travel to the rest of the world (outside Europe). Hence, it appears that when climate concern transforms into a personal norm CC, it has a negative effect on leisure air travel. Note that the apparent positive direct effect of personal norm CC on flying habits is balanced by negative indirect effects through all the other significant antecedents of flying habits. Also, the bivariate correlation between these two constructs (not reported in Table 3 but calculated in the same CFA) is $-.07$ ($p < .05$). Hence, this sign reversal is most likely a statistical artifact resulting from the intercorrelations between independent variables being stronger than the correlation between the personal norm CC and flying habits (Bagozzi & Yi, 2012). Personal norm CC is furthermore negatively associated with non-urban residence and self-enhancement. Finally, the "importance of climate impacts when traveling," which is negatively correlated with flying to Europe ($-.06$, see Table 3), has a positive influence on travel to Europe by bus or train ($\beta = .08$), which suggests that bus or train actually substitutes for flying for some, despite the overall positive relationship between the two modes of transport (correlation $= .11$, $\beta = .08$).

Discussion

Our results suggest that as of 2019, climate concern and personal norm CC mitigation played only a marginal role in Norwegians' leisure air travel. It appears that climate concern has started to manifest in a personal norm CC (i.e. feeling responsibility for reducing one's GHG emissions), which had the expected negative (though weak) effect on leisure traveling lifestyles, and a mediated effect on air travel to Europe in 2019. We also note a significant positive (but weak) effect on travel by bus or train of the importance of the climate impact of travel modes, which indicates that for some using these travel modes is a substitute for air travel. However, we cannot know whether these bus and train trips replace trips that would otherwise have been made by air.

The variables capturing the issue-specific social context—social attention to climate change and social pressure to behave in a climate conscious manner—were not significantly related to flying to Europe (Table 3). Hence, we find no indication of a social process challenging flying behavior. In this way, leisure air travel differs from other climate-related behaviors we have studied—commuting by fossil fuel-based travel modes (Authors, 2021) and consumption of red meat (Authors, 2022)—where we found an effect of social pressure limiting the behavior via personal norms. Also unique to the present study, we observe that self-transcendent values are not related to leisure air travel, though it is negatively related to fossil fuel-based commuting and red meat consumption (Authors, 2021, 2022). Hence, of the results of this study suggest that leisure travel by air is not (at least currently) socially "moralized" with respect to climate change.

The "other side of the coin" is the observation that social norms supportive of leisure air travel have a strong positive influence on this behavior. We find that the incidence of leisure air travel is primarily determined by established habits and lifestyles, which reflect self-enhancement values (including valuing indulgence and stimulating experiences) together with urban residence and the perceived "normality" of air travel. Leisure air travel is also boosted by the perceived superiority of flying (i.e. the perception that air travel is fast, convenient, and easy to organize, compared to the alternatives) and the belief that there are no alternatives. Some of these findings echo previous research, including the importance of urban residence and of how significant others travel (Gössling & Humpe, 2020), and that travel by air reflects self-enhancement value priorities (Czepkiewicz et al., 2020).

By distinguishing between alternative modes for travel to Europe, we can also investigate whether ground transport (private car, bus and train) functions as a substitute for air travel. However, our results suggest the opposite. It seems that some people travel more for leisure than others by all means available, which appears to reflect a travel-related lifestyle (Thøgersen, 2018), rather than a choice among travel modes.

There is wide agreement that the current growing trend in leisure air travel, which was dented only temporarily by the COVID-19 pandemic, cannot continue. To reach the goals of the Paris agreement and the more recent NDCs, the stated ambitions of the industry are not sufficient (Lee, 2019), and neither are the foreseeable technological improvements (Lee, 2019; Staples et al., 2018). Moreover, those flying on holiday are mostly unwilling to change their flying behavior voluntarily for the sake of the environment (Árnadóttir et al., 2021; Barr et al., 2010; Cohen et al., 2013; Hares et al., 2010; Kroesen, 2013). Climate concern seems to be translating into a broad personal norm, but not yet into action on leisure travel. The weak effect of climate concern and norms suggests the need for interventions to limit the emissions from leisure air travel substantially and permanently. These may include norm-directed interventions directed against social norms supporting a lifestyle of unsustainable air travel like restrictions on, for example, tobacco advertising. Such restrictions should be combined with the facilitation of public debate on the issue, supporting the climate change mitigation norms that may be emerging.

The increasing attention to climate change and acceptance of a personal responsibility to contribute to limiting it may increase support for mitigation policies, as suggested by studies of the relationship between climate related personal norms and policy support (Gössling et al., 2020; Larsson et al., 2020). Such public support seems necessary for politicians to implement policies that slow down demand for air travel. Given the commercial character of the business, being dependent on demand for its survival, it is unlikely that the suppliers of air travel will contribute to a slow-down of demand (Higham et al., 2021; Young et al., 2015).

Price elasticities for leisure air travel are generally higher than for business travel (Smyth & Pearce, 2008), so increasing taxes (and, hence, prices) on air travel is likely to be an effective means to reduce demand, and hence emissions, especially for leisure air travel. Improving alternative travel modes might also reduce leisure flying. The destinations studied here, in Europe, can be reached by train and bus from Norway, but it appears that most people do not consider these options as real alternatives. Better alternatives may also increase the support for flight taxes among the public (Kantenbacher et al., 2018; Larsson et al., 2020). Two recent studies give some reason for optimism, although taxes were not mentioned explicitly. Kallbekken and Saelen (2021) report support of policies restricting leisure air travel in Norway and Gössling et al. (2020) find a positive effect of "flight-shame" on attitudes to policies restricting air travel in Germany.

The COVID-19 pandemic has shown that behavior patterns, including air travel, can be disrupted by external shocks (Gössling et al., 2021), although the impact may be temporary (Fisher, in press; Liu et al., 2022). The disruption of travel habits and lifestyle by the pandemic may provide an opportunity for promoting more climate friendly leisure travel practices. When employing such promotions, it is important to monitor their effects carefully to inform policy decisions.

We acknowledge that direction of causality cannot be determined in survey studies based on cross-sectional data. Yet, it is important to note that our panel members reported their travels in 2019 in a survey they answered in 2020, while the assumed antecedents were reported in a survey answered in 2019, a year earlier, which increases our confidence in the causal direction of influences. However, it is likely that there are important feedback mechanisms in the system, which we cannot capture with the data available. To do so, future studies would need a longer chain of repeated studies or carefully designed experiments.

Also note that our main analysis includes only respondents who travelled to Europe in 2018 via various modes including flying. In principle, climate concern might motivate some to *not* travel to Europe at all for leisure, but we do not find that to be the case.

Conclusion

The objective of this study was to increase understanding of what motivates leisure air travel and especially whether climate change concern and norms presently play a role. We analyzed Norwegian survey data from 2019 and 2020, using a framework combining perspectives from social psychology and institutional theory to develop a more comprehensive understanding of normative influences than achieved in prior research (e.g. Gössling et al., 2020).

Except for Gössling et al. (2020), who found no influence of climate norms on air travel, no prior study has attempted to estimate this relationship quantitatively. Regarding research question 1, on influences of climate change concern and norms, we conclude that some Norwegians have established a personal norm for reducing GHG emissions, which seems to have an influence on their leisure air travel. But the effect is indirect and small, ranked only 10th among the included antecedents of variation in leisure air travel to Europe (outside Scandinavia). It appears, moreover, that participants for whom it is important that the travel mode is climate friendly are more inclined to use ground transport (bus or train) for traveling to Europe outside Scandinavia, which suggests that climate norms can lead to changes in the travel mode. However, climate change concern does not seem to influence Norwegians' inclination to travel abroad on vacation. Regarding research question 2, on main factors driving leisure air travel, our findings corroborate and extend prior research, showing that leisure air travel is part of a leisure travel lifestyle, which is habituated and supported by social norms, self-enhancement values and urban residency.

Our study indicates that some individuals have developed a personal norm of reducing their own emissions by taking responsibility to limit leisure air travel. However, we do not observe a societal-level normative influence promoting climate conscious leisure travel behavior. This may be an indication of Norway being at an early stage in a moralization process "pioneered" by very engaged individuals, or, that leisure travel is less prone to such changes than other behaviors (Thøgersen et al., 2021; Vatn et al., 2022).

If our findings are indications of the beginning of a moralization process, policies should be designed to complement and potentially amplify such a process, for example restricting advertisements supporting social norms of leisure air travel. Such measures are also likely to increase public support for "harder" policy instruments restricting leisure air travel or making it markedly more expensive (Kallbekken & Saelen, 2021), which are also needed in combination with better alternative travel modes (Kantenbacher et al., 2018; Larsson et al., 2020).

Future studies should utilize experiments combining social norms and restrictive instruments and the impact on motivations for leisure air travel. Moreover, research is needed to track these relationships over a longer period to understand whether the effects on leisure air travel of the recent COVID lockdown were only temporary, as suggested by Liu and colleagues (2022), or are leaving more permanent traces. Future research should also include more nuanced measures of normative influences, to enable identification of such influences on air travel. For example, will the indications of individual climate engagement regarding air travel found in the present study transform into a social process of more substantial changes in norms and behaviors, and under what conditions may that happen? Finally, future studies should enable identification of potential substitution to other travel modes.

Notes

1. In 2019, Norway was the fifth most air-traveling country in the world, cf.
2. Thøgersen et al (2021) and Vatn et al (2022) applied this framework to conventional car driving and red meat consumption.
3. The traditional Likert agree-disagree format has well-known problems with "yea-saying," and therefore we used a tested alternative showing a reduced amount of compliance bias compared to the agree-disagree scale (Hellevik, 2020).

4. We note, though, the possibility of a hidden effect, if a third variable Z is related to an independent variable X in such a way that the spurious or indirect effect Z produces between X and the dependent variable Y is of a similar size and opposite sign as the direct effect of X on Y. This could render their bivariate correlation insignificant even if the direct effect of X on Y is significant. We find it very unlikely that this is the case for any of the variables we discard based on the bivariate correlations. The possibility should, however, be kept in mind.

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Appendix A:

Behavioral antecedents and their operationalization

The table below offers an overview of all variables included (cf. Table 2 in the main text) organized per Level (as defined in the framework; Figure 1 in the main text). A few comments on the multi-item constructs are in order:

- *Values:* We used a selection of portraits from Schwartz et al. (2001) PVQ instrument—one item per underlying value. Because of our emphasis on motivation to act in a climate-friendly way, we added 3 portraits emphasizing environmental values to these 10 items, following De Groot and Steg (2008). Respondents rated the gender-adapted portrait value items on a scale from 1 (not like me at all) to 6 (very much like me). An exploratory principal components analysis with promax rotation revealed that 56 percent of the variance in the 13 items could be captured by three factors with an eigenvalue larger than 1 (the Kaiser criterion). However, one item loading on the 1st and one on the 2nd factor had substantially lower factor loadings than the others and reduced the reliability of the constructs reflected in the factors and were therefore dropped. The three emergent factors reflect three of Schwartz (1994) four main value dimensions, *Self-transcendence* (the original item from *Universalism* and the three additional environmental values loaded on this dimension)*, Self-enhancement,* and *Conservation*. However, one of the dropped items is usually found in the fourth main value dimension, *Openness to change*. Hence, for completeness' sake, we decided to treat that item as a separate, *Openness to change* construct, leaving us with four general values constructs.
- *Beliefs about leisure air traveling to European destinations outside Scandinavia* were measured with a battery of 6 items extracted from extant research.
- *Climate change concern* was measured with a selection of three (adapted) items from Alcock et al. (2017). Some prior studies have termed this construct (or constructs based on similar items) "climate change awareness" (Árnadóttir et al., 2021; Czepkiewicz et al., 2020) or (using reversed items) "climate change skepticism" (Thøgersen et al., 2021; Vatn et al., 2022).

Level	Variable name	Item(s)	Response format
Level 1	Non-urban place of residence	Statistics Norway's index of urbanity based on postal codes	1 = urban to 6 = non-urban
	Values - Self transcendence - Self enhancement - Conservation - Openness to change	1) 'She strongly believes that people should care for nature. It is important for her to ensure sustainability for future generations', 2) 'She strongly believes that people should respect the earth. Humans should live in harmony with other species', 3) 'She thinks it is important that every person in the world should be treated equally. She believes everyone should have equal opportunities in life', 4) 'Preventing pollution is very important to her. She strongly believes that people should protect natural resources' 1) 'It's important for her to be rich. She wants a lot of money and expensive things', 2) 'Being successful is important to her. She hopes that people will recognize her achievements', 3) 'Having a good time is important to her. She likes to spoil herself', 4) 'She looks for adventure and likes to take risks. She wants to have an exciting life' 1) 'It is important for her to always behave properly. She wants to avoid doing anything that people would say is wrong', 2) 'Tradition is important to her. She tries to follow the customs handed down by her religion or her family', 3)'It is important for her to live in secure surroundings. She avoids anything that can might endanger her safety' 1) 'Thinking up new ideas and being creative is important to her. She likes to do things in her own original way.	A scale from 1 (not like me at all) to 6 (very much like me)
	Age		In years
	Gender		0 = male, 1 = female
	Education - basic edu. - practical edu. - long univ. edu.		All variables are dummies
	Household income		Eight income classes
	Household size/composition		Number of people
	Member ENGO		0 = no, 1 = yes
Level 2	Social pressure regarding climate change	'If a person in your social circle behaves environmentally unfriendly, to what extent will it be commented upon?'	From 1='Not at all' to 5='To a very high degree'
	Social attention to climate change	'How often do you talk to friends and others about climate change?'	From 1='Practically every day' to 5= "Never"
	Climate change concern	1) 'Climate change is happening', 2) 'Climate change has no negative consequences' [reversed], 3) 'Human activity does not affect the climate' [reversed].	From 1='Does not match at all' to 5= 'Matches very well'
	Personal norm regarding climate change (Personal norm CC)	1) 'I have a responsibility to reduce my greenhouse gas emissions', 2) 'I have a responsibility to support policies that reduce greenhouse gas emissions', 3) 'Reducing greenhouse gas emissions is a responsibility for all Norwegians'	From 1='Does not match at all' to 5= 'Matches very well'
Level 3	Behavior specific beliefs and priorities: - Perceived control	"To what extent do the statements below match with your opinions?" - 'There are no other ways to travel	From 1='Does not match at all' to 5= 'Matches very well'

(continued)

Continued.

Level	Variable name	Item(s)	Response format
	- Climate impact belief Important for travel mode choice on leisure travel to Europa - that it is cheap - efficiency - low climate impact - that it matches social expectations	where I want to go.' - 'Flying creates climate gas emissions.' 'How important is it that the travel mode to Europa …' - '… is cheap.' - 1) '… comfortable.' 2) '… quick.' 3) '… easy to organize' - '… gives low climate gas emissions' - '… matches expectation from friends and family'	
	Habit Past behavior Leisure travel lifestyle	- 'I am used to travel by air on trips like these.' - Frequency of leisure air travel to Europe the year before (in 2018, reported in 2019 survey) - Frequency of leisure travel to Europe by other means -Frequency leisure air travel to other destinations	
	Social norm leisure air travel to Europe	1) 'Most people I know travel by air on trips like these.' 2) 'People I know think it's completely okay that I travel by air on trips like these.'	From 1='Does not match at all' to 5= 'Matches very well'

Appendix B: Measurement model for the structural model in Table 4.

Dependent variables		Independent variables	B	S.E.	b	t	p
SE1	←	Self-enhancement	1.00		.48		
SE2	←	Self-enhancement	1.09	0.06	.53	17.169	<.001
SE3	←	Self-enhancement	1.51	0.11	.75	14.272	<.001
SE4	←	Self-enhancement	1.31	0.09	.75	14.277	<.001
SN1	←	Social norms. flying	1.00		.70		
SN2	←	Social norms. flying	1.27	0.07	.80	18.489	<.001
IEF1	←	Importance of efficiency of flying	1.00		.71		
IEF2	←	Importance of efficiency of flying	1.12	0.05	.83	21.077	<.001
IEF3	←	Importance of efficiency of flying	0.96	0.05	.77	20.665	<.001
PNCC1	←	Personal norms climate change	1.00		.73		
PNCC2	←	Personal norms climate change	1.09	0.04	.78	28.404	<.001
PNCC3	←	Personal norms climate change	1.13	0.03	.90	32.816	<.001
PNCC4	←	Personal norms climate change	1.01	0.03	.88	32.065	<.001
PNCC5	←	Personal norms climate change	0.99	0.03	.81	29.550	<.001
ln(FlyingE)	←	Flying Europe	1.00		1.00		
ln(FlyingE-lagged)	←	Flying Europe the year before	1.00		1.00		
ln(FlyingRW)	←	Flying to the rest of the World	1.00		1.00		
ln(FlyingS)	←	Flying in Scandinavia	1.00		1.00		
ln(Pttrips)	←	Traveling Europe by train or bus	1.00		1.00		
Habit1	←	Habit	1.00		1.00		
Non-urban1	←	Non-urban	1.00		1.00		
NOO1	←	No other options	1.00		1.00		
ICIT1	←	Importance of climate impacts of travelling	1.00		1.00		