



## Research note

## When and why do people experience flight shame?

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## Introduction

The past few years have witnessed the emergence of flight shame<sup>1</sup>, a phenomenon characterised by feelings of shame or embarrassment about the environmental impacts from travelling by aeroplane (Henley, 2019). Ever since this phenomenon started to gain international traction, public debate on whether individual consumers should be held personally and/or morally accountable for their carbon footprints has significantly spurred. This can be observed in particular on social media platforms such as Facebook and Twitter, where discussions about the legitimacy of air travel in the face of climate change have been proliferating (Becken et al., 2021; Mkono et al., 2020).

A recent study by Gössling et al. (2020) concluded that having a bad conscience about flying – and feelings of flight shame – can be partly explained by prior encounters with social norms. This may be manifested in terms of other people in one's social environment being requested to justify their travelling by aeroplane, reducing their flying for climate-protection reasons, or seeing one's own children attend a school strike for climate. These or similar encounters were also shown to predict opinions about current attempts to curb aviation emissions as well as individual flight activity (Gössling et al., 2020). The latter is in line with another empirical study in which it was indicated that related discussions, for instance within families or among friends, featured

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<sup>1</sup> For a further discussion on the phenomenon of 'flight shame', which first originated in Sweden under the name of 'flygskam', see Mkono (2020).

prominently in explanations provided by people who stopped flying due to climate concerns (Wolrath Söderberg & Wormbs, 2019).

The present study explores the prevalence of flight shame in different travel situations that may involve flying, and their respective associations with perceived norms. A particular focus will be on how flight shame might be shaped by expectations regarding social approval from others and by observing how others typically behave, known as injunctive and descriptive norms, respectively (Cialdini et al., 1990). The explanatory value of these social norms will be contrasted with personal (moral) norms, which reflect self-oriented expectations regarding how to behave in a specific situation and are typically experienced as a sense of moral obligation (Schwartz, 1977).

## Method

This study analysed data from a nationally representative sample of residents in Norway, ( $N = 1015$ ,  $M_{\text{age}} = 47.74$ ,  $SD_{\text{age}} = 17.42$ ,  $n_{\text{male}} = 509$ ,  $n_{\text{female}} = 506$ ; adjusted for sample weights, see further below). The sample was approached between April and May 2020 and was drawn from a nationwide online panel (Norstatpanel Norway). Random stratified quota sampling was used to ensure population representativeness.

Flight shame was measured as follows: 'There has been a number of media reports about negative feelings associated with the climate impact of air travel, often referred to as 'flight shame'. To what extent, if at all, do you feel ashamed or embarrassed concerning your own flying in each of the following situations?' (response: 1 = *Not at all*, 2 = *Somewhat*, 3 = *Moderately*, 4 = *Very much*, 5 = *Extremely*, 6 = *I don't fly*; the latter response option was set as missing values). Participants provided separate answers for three types of situation: visit family and friends ( $M = 1.36$ ,  $SD = 0.78$ ,  $n = 775$ ), work-related travels ( $M = 1.38$ ,  $SD = 0.78$ ,  $n = 608$ ), and going on holiday ( $M = 1.58$ ,  $SD = 0.91$ ,  $n = 890$ ).

Other items measured personal norm ('To what extent, if at all, do you experience a moral obligation to avoid flying in an attempt to tackle climate change?', response: 1 = *Not at all*, 2 = *Somewhat*, 3 = *Moderately*, 4 = *Very much*, 5 = *Extremely*;  $M = 2.09$ ,  $SD = 1.11$ ,  $n = 1015$ ), injunctive norm ('How many of the people that are important to you think that flying is something that one ought to be ashamed or embarrassed about?', response: 1 = *None*, 2 = *Few*, 3 = *Some*, 4 = *Most*, 5 = *All*;  $M = 1.81$ ,  $SD = 0.80$ ,  $n = 1015$ ), and descriptive norm ('How many of the people that are close to you have actually stopped flying in order to help mitigate climate change?', response: 1 = *None*, 2 = *Few*, 3 = *Some*, 4 = *Most*, 5 = *All*;  $M = 1.44$ ,  $SD = 0.68$ ,  $n = 1015$ ).

Socio-demographics such as gender (1 = Male, 2 = Female) and age (in years) were included as covariates. Sample weights were included throughout the analyses to adjust for potential sampling biases in terms of gender, age cohort, and geographic region.

## Results

A substantial proportion of the respondents reported that they did not at all feel any shame or embarrassment in consideration of their flying (see Table 1). A repeated measures ANOVA (Huynh-Feldt corrected) comparing the three travel situations revealed significant mean differences,  $F(1.98, 1192.99) = 33.96$ ,  $p < .001$ ,  $\eta^2_{\text{partial}} = 0.05$ . Post hoc comparisons (Bonferroni corrected) showed that flight shame tended to be lower for family and friends visits compared to work trips ( $p = .022$ ), both of which were in turn significantly lower than when participants considered holidays (each  $p < .001$ ).

Whereas personal norms showed a strong positive association with flight shame in respect to all three travel situations, associations with social norms were less consistent (see Table 2). Injunctive norms were positively associated with flight shame when applied to holidays, visiting family and friends, and travelling for work. Descriptive norms did not show a significant association with flight shame in any of these situations; the same was the case for age and gender.

## Discussion

The reason for which a person chooses to travel has been identified as one (albeit not exclusive) aspect linked to individual perceptions of the necessity of undertaking these trips; for instance, leisure-related trips tend to be perceived as being less important than flying due to other purposes, such as business travel and family visits (Gössling et al., 2019). While many respondents did not report shame or embarrassment in relation to their flying, these feelings were most pronounced in the context of holidays.

**Table 1**

Prevalence of flight shame in different travel situations.

	Visit family and friends		Work-related travels		Going on holiday	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Not at all	607	78.3	466	76.6	581	65.3
Somewhat	81	10.4	74	12.2	147	16.6
Moderately	67	8.7	52	8.6	122	13.8
Very much	14	1.9	12	2.0	33	3.7
Extremely	6	0.7	4	0.7	6	0.6
I don't fly	240		407		125	

Note: Percentages refer to valid responses that were used in the reported analyses.

**Table 2**  
Perceived norms towards flight shame in different travel situations.

	Visit family and friends		Work-related travels		Going on holiday	
	B (SE)	b	B (SE)	b	B (SE)	b
Constant	0.43 (0.11)		0.36 (0.13)		0.25 (0.12)	
Injunctive norm	0.08 (0.04)	0.08*	0.12 (0.04)	0.12**	0.17 (0.04)	0.14***
Descriptive norm	0.01 (0.04)	0.01	0.06 (0.05)	0.05	0.02 (0.04)	0.01
Personal norm	0.34 (0.03)	0.45***	0.33 (0.03)	0.43***	0.44 (0.03)	0.50***
Gender (Female)	0.01 (0.05)	0.01	0.06 (0.06)	0.04	0.09 (0.05)	0.05
Age	0.00 (0.00)	0.04	0.00 (0.00)	0.00	0.00 (0.00)	0.00
R <sup>2</sup>	0.25		0.28		0.36	
R <sup>2</sup> adjusted	0.25		0.28		0.36	
F	(5, 769) = 51.34***		(5, 602) = 47.77***		(5, 884) = 100.52***	

Note: Weighted by gender, age cohort, and geographic region.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

An interpretation of this finding is that holiday trips probably are deemed as comparatively unimportant compared to other types of travel, resulting in a greater sense of personal accountability, which by extension could trigger stronger emotional reactions when people think about the possible climate impacts attached to these trips.

It has been suggested that the phenomenon of flight shame cannot be fully understood without taking the social environment into account (Gössling et al., 2020; Wolrath Söderberg & Wormbs, 2019). The current study set out to distinguish different aspects of social normative perceptions and compares their explanatory value across a selection of travel situations. Flight shame was found to be positively associated with perceptions of whether important others consider shame and embarrassment appropriate emotional reactions towards air travel (injunctive norm) but not with perceptions of normative behaviour among important social referents (descriptive norm). This could mean that the extent to which the respondents expressed feelings of shame or embarrassment regarding their flying depended to some, albeit small, degree on perceived social expectations to show such an emotional reaction.

To feel morally obligated to avoid flying for reducing climate impacts (personal norm) was the strongest predictor in the reported analyses. This matches findings from interview studies in which individuals stated that their decision to reduce flying arises in part from feeling a moral obligation to act (Büchs, 2017; Jacobson et al., 2020). It is noteworthy that although such a personal norm accounted for the largest amount of variance in individual reports of flight shame, injunctive norms also contributed consistently to flight shame in all three travel situations. This allows for the conclusion that in addition to being driven by moral views concerning taking a personal stance against climate change, subjective experiences of flight shame might also be shaped by the perceived social acceptance of carbon-intensive activities such as flying (see also Gössling, 2019).

The approach to measuring flight shame was informed by the way the phenomenon has been reported on in the media, focusing on shame and embarrassment (e.g., Henley, 2019). By prefacing questionnaire items with a reference to the popular discourse regarding the topic, we attempted to ensure that people were reminded about the meaning of the term in common parlance and that this general meaning framed their subsequent response. Future studies could differentiate these emotions based on separate scales to compare their respective intensity when people think about the climate impacts from flying. Replication of the identified associations using multiple rather than single items, the latter encompassing more measurement error than scales with several items, is furthermore needed to provide a more robust assessment for perceived norms. This may include covering a broader range of possible behaviours, such as for instance observing other people reducing instead of stopping their flights altogether<sup>2</sup>.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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<sup>2</sup> We thank an anonymous reviewer for bringing this to our attention.

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