



## LSE STUDY SUMMARY

# Safety Culture in European aviation - A view from the cockpit -

In 2016, the London School of Economics and Political Science (LSE) carried out a study on European pilots' safety culture perceptions, i.e. the safety-related norms, values, and practices across the aviation industry. Safety culture is the cornerstone of an effective safety management system and ultimately a precondition to flight safety. The objective of the study is to evaluate the pilots' perceptions on safety culture, identify strengths and weaknesses in the industry and compare it with different sectors and organisations.

### Facts & Figures

The LSE developed this report on the basis of an online survey among more than 7000 pilots working in European aviation. This high number of respondents – constituting over 14% of the pilot population in Europe – makes this the largest safety culture survey of pilots by far, and is a credit to European pilots' commitment to safety.

Most participants are male (96%), aged between 31-50 (62%), with considerable flying experience (44% had more than 10,000 flight hours; 29% over 5001 flight hours). There is a near equal distribution of Captains (56%) and First Officers (43%), with Second Officers constituting 1%.

The number of responses greatly varies between the 33 companies. Over half of the sample (55%) works for a Network carrier and almost a quarter (25%) for a Low Cost airline.

The large majority of pilots (88%) has a typical (permanent) employment contract, while 11% were on atypical contracts i.e. self-employed or temporary contract. Of those on atypical contracts, over a third are pilots aged 30 or under. This group constitutes only 15% of the sample, which indicates that new pilots entering the industry are increasingly being employed on atypical contracts.

### Findings

Overall, participants tend to respond to survey items in a positive fashion. However there are groups of pilots showing more negative perceptions of safety culture – e.g. those on atypical contracts and those working on cargo or low cost carriers – and some survey items/dimensions were responded to in a consistently negative fashion (e.g. fatigue).

## › Just Culture living up to its reputation

Building a Just Culture – an atmosphere of trust, in which people are encouraged, even rewarded, for providing essential safety-related information – is crucial to aviation safety. Speaking up about perceived safety problems and building a trusted relationship with management are key ingredients of such a Just Culture environment. **The study shows that a majority of pilots (79%) do feel confident to speak to their manager if an unsafe situation develops and that they were encouraged to voice concerns on safety (79%).** Yet, the other spectrum of the Just Culture environment – the trust in the reporting system and the management commitment to safety – the survey reveals a far less positive picture – **only 38% of pilots have a high degree of trust in the management with regards to safety.** Half of the pilots are satisfied with the communication flow in the company with regards to safety and almost half receive timely feedback on safety issues they have raised. This however, leaves half of the pilots dissatisfied about communication and feedback. **Disturbingly, pilots also do not believe in the Nation Civil Aviation Authorities' commitment to safety - only half of the respondents express a positive view on this item.**

80% of pilots feel that their safety-related reports are treated in a just and fair manner. Overall, this is good news. But when broken down into segments, it appears that pilots flying for Low Cost and Cargo airlines are far less confident with the handling of safety reports. **Only 57% of Low Cost Pilots and 54% of Cargo pilots are positive and less than half of the pilots on atypical contracts consider that pilots that file safety-related reports are treated in a just and fair manner.** A pilot that fears unjust treatment will hesitate before reporting safety issues. This is a major flaw for aviation safety that requires urgent measures from European institutions.

This striking discrepancy between the views of Low Cost and Cargo pilots compared to the network carrier pilots, is a trend that was identified throughout the study.

## › European aviation is safe. But not all airlines are equally safe

Overall, the study indicates that pilots at Cargo & Low Cost Companies had more negative views on safety culture in their companies compared with those at Network airlines holding more positive views.

All in all, **Low Cost Carriers and Cargo airlines score worse on all 11 dimensions measured by the researchers:** management commitment to safety, collaboration and involvement, Just Culture & Reporting, Communication & Learning, Risk handling, Colleague Commitment to Safety, Staff Equipment, Procedures & training, Fatigue, Speaking up, Perceived Organisational Support. This indicates that safety practices in aviation companies may differ according to their business model..

**Between-group analysis also reveals that pilots on atypical contracts – e.g. self-employed, temporary contracts – report significantly lower safety culture scores than pilots on direct (typical) contracts.** This may be because those on an insecure contract are treated differently to those on a more secure contract, as found elsewhere, or that they perceive the organisation more negatively because of their lack of job security. These findings echo already existing scientific studies (cf. Study on Atypical Employment in Aviation, Ghent University, 2015) that identified atypical employment as an emerging trend and which could negatively impact safety. Over a third of the respondents on atypical contracts in the LSE Study were aged 30 or under. **This indicates that pilots entering the industry are increasingly being employed on atypical contracts with potential negative implications for safety culture.**

The study shows that on numerous items – e.g. Voicing concerns about safety, Just & Fair treatment of safety reports, Fatigue – **there is a 20% difference in views between pilots on typical and atypical contracts.**

## › “Superpilots” do not exist. Fatigue strikes 1 out of 6 of Europe’s pilots

One of the most striking survey finding is that pilot fatigue has reached a significant level across European aviation – in all airline types and contract types fatigue is a major concern. **58% of pilots are often tired at work. But only 52% of all respondents feel comfortable to complete a fatigue report. A mere 22% of pilots think that fatigue is taken seriously by their airline.**

The perception about fatigue is significantly **more unfavourable amongst pilots working in cargo (83%) and low cost companies (76%)** and among **pilots working on atypical contracts** (64.5% are often tired, 41.7% are comfortable to complete fatigue reports and 21.6% think that fatigue is taken seriously by their companies).

These finding echo previous surveys on [pilot fatigue](#) but this is the first recent Europe-wide research that illustrates the scope of the problem. Pilot Fatigue may impair the pilots’ performance and is one of the twelve most common human error preconditions, to accidents or incidents (see [Skybrary](#)).

## › Is management ‘on board’?

**Only 48.81% of pilots have a favourable perception of their manager’s commitment to safety.** This comes as a surprise in an industry that claims that safety is the number one priority.

The fact that pilots do not see sufficient management efforts to improve or maintain safety in the airline is particularly worrying as it may be detrimental to a Just Culture environment, and ultimately to safety. Whether this is because there are not enough efforts, or because the efforts by management are not visible, is a guessing game. This aspect needs further investigation.

## › More warning signs

There are some specific questions – flagged by the LSE Study – which require further analysis:

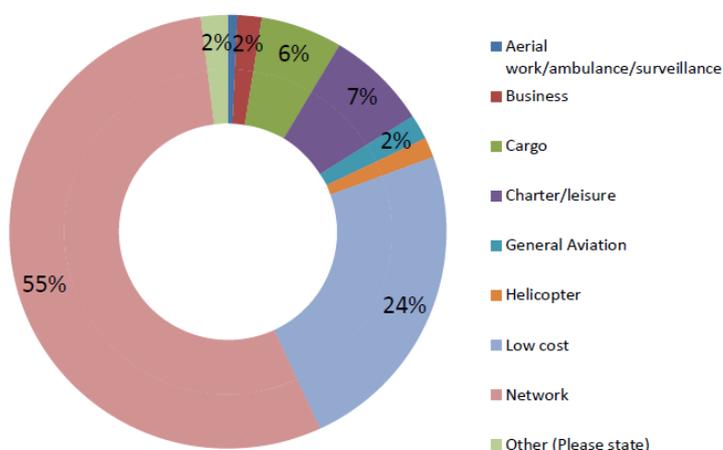
- a) Only 73% of first officers are willing to challenge captains on their decision making. This shows that CRM training is not sufficiently effective. The reasons for this score should be analysed further. Aviation safety is based on the principle of duplication of systems so if one system fails the other takes over. This is true also in the cockpit and the above response indicates that more than 20% of co-pilots are not being able to fulfil this role. This should be considered as a serious warning.
- b) Only 23% of pilots consider that National Authorities manage safety reports well and less than 50% think that aviation authorities take safety seriously. This shows that pilots do not believe in the ‘system’ in general and in particular, on the usefulness of writing safety reports. This poses a very big question mark upon the entire occurrence reporting system in Europe.

- c) 'Lack of staff to do work safely' is highlighted by a half of the pilots<sup>1</sup>, indicating that the recent trend to increase productivity of crews is having an impact on safety culture. The perception of lacking sufficient staff to carry out duties safely is two times bigger among pilots working in cargo and low cost companies.

## › The survey at a glance

7,239 valid responses (14% population response rate)

**Fig. 1 Company type**

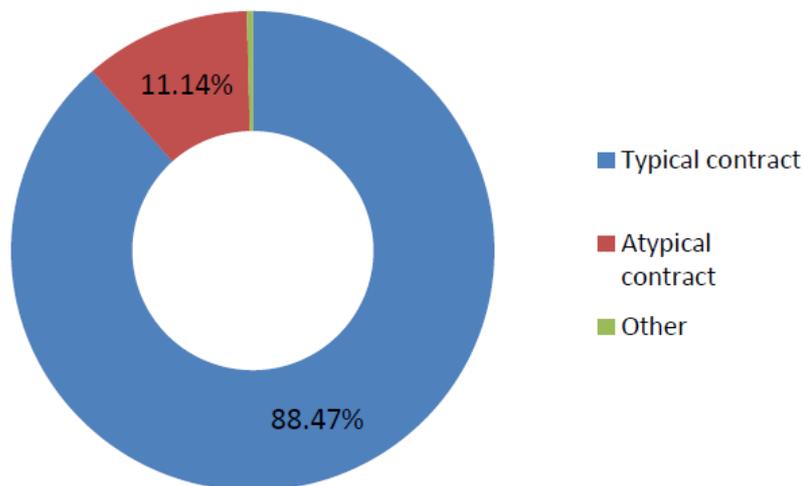


**Fig. 2 Nationality of respondents**

Nationality	n	%
Austrians	176	2.45
Belgians	204	2.84
Danes	263	3.66
Dutch	800	11.14
Finns	126	1.76
French citizens	607	8.46
Germans	1570	21.87
Icelanders	91	1.27
Irish	243	3.38
Italians	209	2.91
Norwegians	272	3.79
Portuguese	158	2.20
Spaniards	368	5.13
Swedes	539	7.51
Swiss	438	6.10
British)	770	10.73
<b>Total</b>	<b>6834</b>	<b>95.19</b>

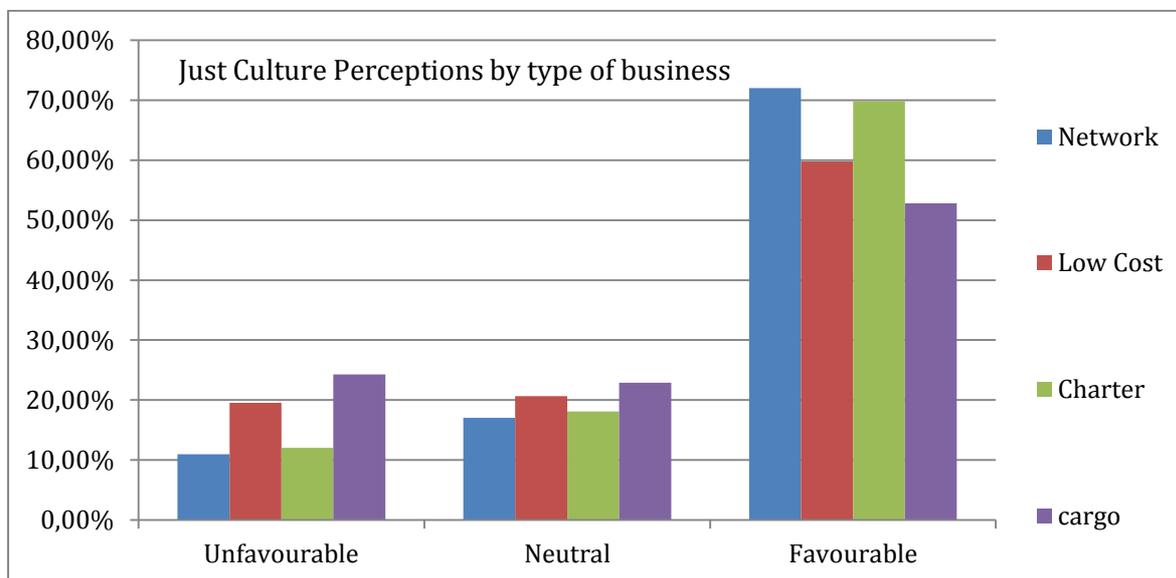
<sup>1</sup> 28% unfavourable, 22% neutral, 50% favourable

**Fig. 3 Type of contract**

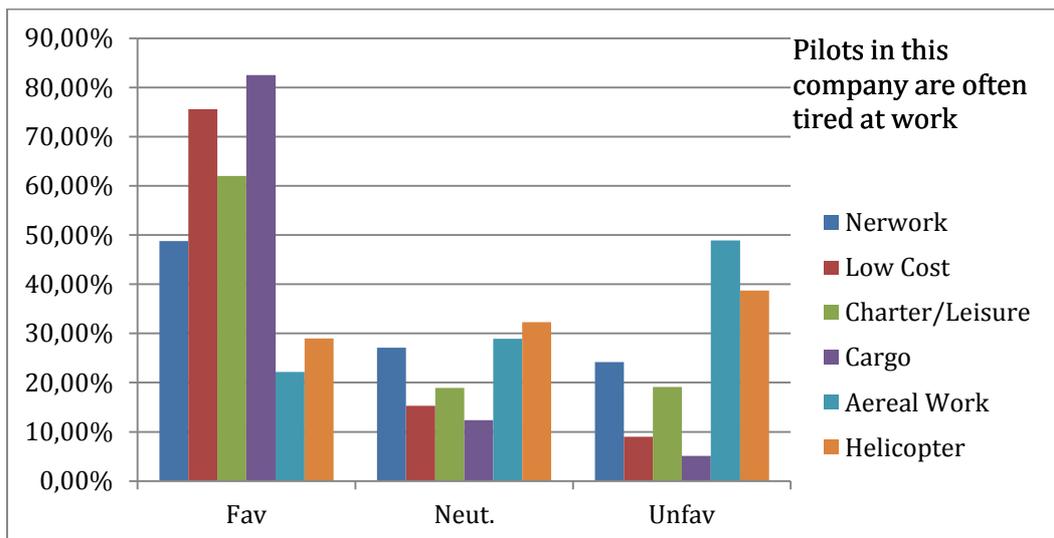


**Note:** Typical contract = permanent contract; Atypical contract = self-employed, zero-hours, fixed-term, Pay-to-Fly

**Fig. 4 Just Culture perception by type of business**



**Fig. 5 Fatigue**



**Fig. 6 Filing a fatigue report**

