



smart. valid. **preferred.**

## Predicting who will be a **successful pilot**

*Reassuringly, airlines are now better equipped to recruit safe and professionally-competent pilots, says Nora Nienhaus.*



**cut-e Group**  
www.cut-e.com  
E-mail: info@cut-e.com

Version 1.0 October 2016

www.cut-e.com

## Predicting who will be a successful pilot

Pilot Chesley Sullenberger was hailed as a national hero in the United States when he landed his stricken plane on the Hudson River in 2009, saving the lives of all passengers and crew. In 2015, Andreas Lubitz was the co-pilot who deliberately crashed a plane into a mountain in the French Alps, killing everyone onboard. The challenge for those who recruit pilots is clearly to choose a Sullenberger, not a Lubitz, from the pool of potential applicants.

A new report\* from *cut-e*, based on a series of a studies, empirical findings and theoretical considerations, claims it's now possible to predict which candidates will make safe and successful pilots. The report identifies the specific abilities, competencies and personality characteristics that pilots need, to master the various tasks and challenges they'll face in the role. This means that psychometric tests can now be used at an early stage of the recruitment process, to assess for these attributes and to filter out unsuitable applicants.

*"It's now possible to predict which candidates will make safe and successful pilots."*

Importantly, the report emphasises that other determinants of behaviour, such as an individual's physical health and their mental state, must also be monitored. Andreas Lubitz had been declared 'unfit to work', after being treated for depression and suicidal tendencies, but he withheld this information from his employer. Airlines therefore need to appoint a clinical psychologist who can test – and regularly re-test – each pilot's ongoing health and well-being.

## Identifying the key competencies

As well as the practical skills required to fly an aircraft, pilots need three clusters of competencies. These are:

### ■ **Interactive competencies**

Leadership, teamwork and interpersonal skills to manage the crew and cooperate with control towers, ground crew, air traffic control and flight dispatchers; the ability to give clear guidelines, resolve conflict and take charge in the event of threat, error or misfortune

### ■ **Operational competencies**

Safety orientation; situational awareness; the ability to detect and manage errors; decision-making; planning and organising; the ability to manage the tasks required before, during and after each flight; customer and commercial orientation; monitoring gauges; collecting, analysing and evaluating information

### ■ **Motivational competencies**

Self discipline; self management; assertiveness; resilience; drive; stress resistance and self development

These competencies and abilities can be measured with a personality questionnaire and by assessing the mental ability and specific cognitive abilities of prospective candidates. Aptitude tests that measure aspects such as inductive and deductive reasoning, spatial orientation, precision and numerical reasoning should form part of pilot selection. Different tests will be required depending on the level of the pilots being assessed, for example captains or first officers.

\* *The predictive power of assessment for pilot selection can be freely downloaded from <http://www.cut-e.com/solutions/assessing-for-the-aviation-sector>*

## The impact of personality

Personality characteristics have become a valid predictor of performance for pilots. When a candidate's personality profile is combined with their simulator results and their flying experience prior to employment, the job success of pilots can be predicted with 79.3% accuracy.

A personality questionnaire can reveal whether or not a candidate has what it takes to succeed in the role. For example, pilots must be able to remain calm in monotonous and sometimes stressful situations. They also have to make quick and sound decisions under pressure, persist in the face of difficulty and keep control of their emotions. This demands certain qualities, such as tough-mindedness and independence.

As a pilot, with the inflexibility of long-haul flight schedules, it can be difficult to maintain a work-life balance and social contacts. Prospective candidates therefore need considerable psychological and personal resources if they are to function effectively in the role, sustain a high level of performance and cope with the demands of 'living out of a suitcase'. A 'honeymoon effect' exists, in which new pilots are highly motivated in their initial training but as they become more experienced or take on more responsibility, their enthusiasm can wane. Assessing the personality of aspiring pilots at the outset can help to reduce this phenomenon.

Research also shows that a captain's personality has a significant impact on the motivation and performance of the crew, even when all crew members are well-trained and highly experienced. A captain briefs, informs, directs and evaluates crew members; solves conflicts when necessary and ensures that all crew members comply with the rules for safe flying. This requires specific competencies but it is made far easier if the captain is decisive, enthusiastic and supportive. The best pilots have high achievement needs and strong interpersonal skills.

Training in aspects such as 'crew resource management' and 'threat and error management' will enhance an aspiring pilot's non-technical skills. However, their personality will remain constant over time, no matter how much training is undertaken. So, in addition to assessing the professional aviation knowledge and flying experience of potential pilots, airline recruiters should use a combination of ability tests – to check their 'technical' suitability for the role – and personality assessments to measure the interactive, operational and motivational attributes required for success. Doing this will help you to predict which candidates will perform best in the role.

When passengers board an aircraft, they entrust their lives to a uniformed stranger. Airlines have a duty to ensure that the trust and faith that passengers place in pilots is justified and defensible.

**For more information and related documents about how to get the most out of Online Assessment, and other related information, please refer to [www.cut-e.com](http://www.cut-e.com)**

### About the author Nora Nienhaus

Nora Nienhaus is a research consultant at global assessment specialist *cut-e*. She can be contacted at [Nora.Nienhaus@cut-e.com](mailto:Nora.Nienhaus@cut-e.com)

*cut-e* is a world leader in the design and implementation of innovative online tests and questionnaires for recruitment, selection and development. *cut-e* helps companies identify people with the right capabilities and cultural fit to deliver optimal business results. *cut-e* carries out over 12 million assessments per year in over 70 countries and 40 languages.