

Aviation Human Factors Industry News

Volume VIII. Issue 08, February 24, 2012



From the sands of Kitty Hawk, the tradition lives on.

Hello all,

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★Pilots' psychological state: A review

★Decoding Color Blindness

★Working Long Hours Doubles Depression Risk, Study Says

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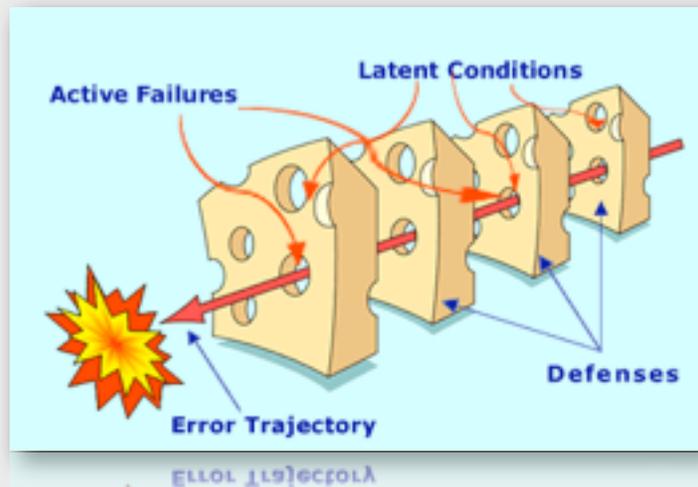
★Truck, Bus and Motorcycle Accident Fatalities Increase, Study Finds

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Phila. jury awards \$11.36 million in aviation negligence case

Two Ohio residents who had sued an aviation maintenance company in 2009 following a plane crash in which each suffered significant physical injuries were awarded a jury verdict of \$11,358,000 after a two-week trial at Philadelphia Common Pleas Court last week. Akron, Ohio residents Robert E. Marsico, Jr., a medical doctor, and co-plaintiff Heather Moran, an airline pilot by trade, had sued Sharon, Pa.-based Winner Aviation Corp. in August 2009 for negligence after the Cessna 337 Skymaster twin-engine aircraft they were flying crashed into a water treatment plant in Georgia shortly after takeoff.



Both plaintiffs suffered third-degree burns over 35 percent of their bodies as a result of the accident, according to a statement from The Wolk Law Firm, which represented the two at the trial before Common Pleas Court Judge Leon Tucker.

“We are thankful for our jury system because it allows a judgment of the most complicated and serious matters through the personal sacrifice of citizens willing to do their duty,” read a statement from the plaintiff’s firm.

Marsico, a doctor who has since been able to return to his work performing cancer dermatological surgeries, was awarded \$4.9 million, court records show.

Moran, whose injuries have prevented her from being able to return to her work as an airline pilot, was awarded \$6.458 million, but that figure was to be reduced by 20 percent because of her attributable negligence, according to the court docket sheet in the case.

The award to Moran includes \$4.9 million for lost future earnings.

The plaintiffs had alleged that the aircraft crashed after losing engine power shortly after takeoff. While the plane had two engines, it was alleged that the second was unable to sustain the plane because it, too, experienced problems.

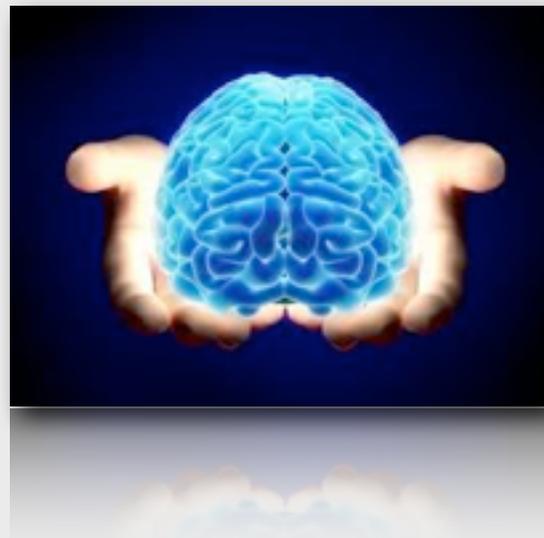
The plaintiffs had contended that **ineffective inspections and maintenance** were to be blamed for the power interruption, according to the statement from the plaintiff's law firm.

Marsico and Moran were represented by Wolk attorneys Arthur Alan Wolk, Cynthia Devers, Bradley Stoll and Cheryl DeLisle.

The trial garnered some brief media attention after an actual Cessna 337 Skymaster twin engine, used an exhibit in the case, was discovered parked outside of Philadelphia City Hall.

Pilots' psychological state: A review

Air passenger safety depends on many factors, such as aircraft technical state, air conditions, pilot qualification and experience as well as his **psychological readiness**. 70 per cent of aircraft accidents, however, are still attributed to **human error**, mainly due to tense and strenuous working conditions. Some pilots, when faced with a critical situation, tend to act spontaneously, while others fail to avoid panic and simply cease reacting to advice given by the remaining cabin crew members.



One of the key reasons for such an unfortunate scenario is the fact that most pilot training institutions, airlines and medical boards see pilots as humans who **implicitly follow all given instructions and commands while ignoring their emotional state**.

In the meantime, in the particular line of work **psychological readiness** is no less important.

Sometimes strict logic and nerves of steel are overcome by emotions, fear or even rage and pilot behavior becomes highly unpredictable.

However, according to AviationCV.com, these are exceptional cases as people, who are unreliable and easily overcome by emotions are 'discarded' during practical training. Still, the possible reasons for emotional breakdowns and inadequate on-board reactions can result from overwork or illness.

It begs the question whether preventing psychological and emotional problems is still the sole responsibility of a pilot himself.

“It is practically impossible to predict whether a person will be a good pilot. The key factor when selecting candidates is their motivation.

An immediate motivation can be measured; however, the long-run one, unfortunately, can't be. A good pilot **must be emotionally stable, blessed with fast reaction and a keen team player,**” - says the CEO of AviationCV.com S. Knyzaite.

The airmen themselves tend to keep the concerns about their psychological vulnerabilities private as they fear appearing weak and losing their jobs.

In the meantime, airlines pay much more attention to aircraft technical state and pilot qualifications whilst ignoring the issue of emotional stability.

S. Knyzaite maintains that it is a very important factor that must be addressed when considering the actual abilities of any candidate pilot. The pilot himself must also be able to assess his own psychological readiness.

Prior to operating flights, pilots must undergo a number of complex psychological testing. The IQ of candidates also very important and must be no lower than 95.

In the meantime, the general health of pilots is checked before entering aviation studies. An airman must be healthy.

The airman must not be prone to conditions that could result in sudden health problems and diminished abilities during a flight.

All health checks are performed by specially trained medical staff in accordance with the JAR FCL 3 standards (Joint Aviation Requirements - Flight Crew Licensing, Part 3, Medical) applicable across the entire Europe.

However, although **psychological examination is optional**, the aforementioned standards indicate that if an aviation practitioner or a psychiatrist has any suspicions regarding the pilot's emotional state or behavior, he must receive a psychological consultation.

Candidates applying to training institutions and choosing aircraft pilot studies must also pass a professional aptitude test that addresses spatial awareness, memory, team-work skills as well as personal characteristics.

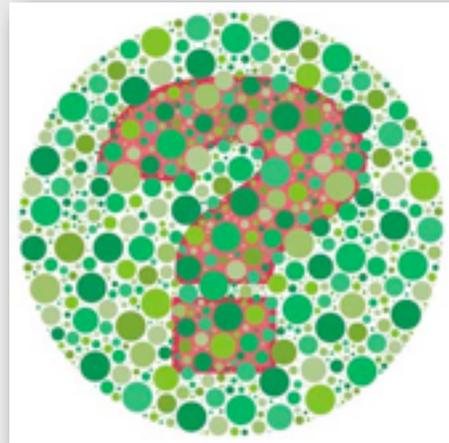
According to the psychiatrist and aviation medicine specialist Darius Ereminas, sometimes candidates must be rejected due to being supreme introverts who are incapable or, in some cases, even [unwilling to work in a team](#).

“As in the history of evolution a human being has not learnt to fly, pilots must know the specifics of human functioning and physiologic peculiarities in the air as well as the [psychology of working within a team](#),” explained D.Ereminas.

Decoding Color Blindness

Learn the fact and fiction behind this vision deficiency.

Color vision deficiency, often referred to as color blindness, is often a misunderstood condition. This is partially because there are [several different causes of color blindness](#), as well as a variety of ways the condition develops. Is it true that only males are at risk? Are people born with color blindness? Read on to find out what is fact and what is fiction:



According to the U.S. National Library of Medicine (NLM) and the National Institutes of Health (NIH), color blindness occurs when there is a problem with the [color-sensing pigments](#) in certain nerve cells, or cones, within the eye.

The cones are found in the retina, the light-sensitive layer of tissue that lines the back of the eye. Even if just one pigment is missing, you may have trouble telling the difference between certain colors or shades.

Symptoms include not only an inability to identify colors, but also trouble seeing the difference between shades and brightness.

Red-green deficiency is the most common type of color blindness, followed by blue-yellow. People with blue-yellow color blindness usually have problems identifying reds and greens, too. The NLM and NIH also report that the most severe form of color blindness is achromatopsia. People with this rare condition cannot distinguish any color and see everything in shades of gray.

Achromatopsia can be associated with a number of different conditions such as lazy eye and nystagmus (jerky eye movements).

The Mayo Clinic lists multiple causes of color blindness:

- **Genetics:** Approximately one in 12 males of Northern European descent is born with some degree of red-green color deficiency. Most females possess genes that counteract the deficiency, so less than one percent of females of Northern European descent have this type of color deficiency. In other populations, the prevalence of red-green color deficiency is lower. Blue-yellow color deficiency is inherited by fewer than one in 10,000 people worldwide. Individuals can inherit a mild, moderate or severe degree of the disorder, and the severity doesn't change over a person's lifetime if the cause is inherited.
- **Diseases:** Diabetes, Alzheimer's disease, Parkinson's disease, leukemia and sickle cell anemia can all contribute to color vision deficiency. Other eye diseases, such as glaucoma and macular degeneration, can impact the ability to see color as well.
- **Medications:** Certain drugs that are used to treat conditions like high blood pressure and psychological disorders can cause color blindness.
- **Chemicals:** Exposure to chemicals like carbon disulfide and fertilizers can cause loss of color vision.
- **Aging:** The ability to see colors can deteriorate slowly as a part of aging.

Although there is no direct treatment for color blindness, specially designed glasses and contact lenses can often help. Many people, especially those with mild color blindness, are able to adjust without much difficulty.

Whether or not you think you may be having problems with color, it's always good to have regular eye exams with an optometrist or ophthalmologist. They can test color vision quickly and easily, as well as ask questions about your family history, current medical conditions and medications to help identify any possible issues.

For more information about color blindness from the National Library of Medicine, National Institutes of Health and the Mayo Clinic,

visit www.nlm.nih.gov/medlineplus/ency/article/001002.htm and www.mayoclinic.com/print/poor-color-vision/DS00233/DSECTION=all&METHOD=print.

Working Long Hours Doubles Depression Risk, Study Says

Researchers at the Finnish Institute of Occupational Health and at University College in London followed 2,123 middle-aged government workers in Britain for six years and **found a link between** working overtime and major depressive episodes. Working long hours can increase a person's risk of becoming depressed, regardless of how stressful the work being done is, according to a new **study** published in PloS ONE.

Researchers at the Finnish Institute of Occupational Health and at University College in London followed 2,123 middle-aged government workers in Britain for six years and found a link between **working overtime and major depressive episodes**.

Workers who put in an average of at least 11 hours per day at the office had approximately two and a half times higher odds of developing depression than their colleagues who worked seven or eight hours.

The link between long workdays and depression persisted even after the researchers took into account factors such as job strain, the level of support in the workplace, alcohol use, smoking, and chronic physical diseases.

Researchers noted that some positive work characteristics, such as high control or high rewards at work, may buffer an employee against the adverse health effects of long working hours. On the other hand, working long hours may also mean higher exposure to adverse working conditions.

Since civil servants are white collar workers, **it remains to be investigated** whether the findings apply to blue-collar workers and employees in the private sector, the authors said.



<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0030719#authcontrib>

Truck, Bus and Motorcycle Accident Fatalities Increase, Study Finds

According to the National Transportation Safety Board (NTSB), in 2010 there was an increase in the amount of accident fatalities involving medium and heavy trucks, buses and motorcycles. In addition, in 2010 deadly rail and pipeline accidents also increased. According to recently released NTSB data:- There were 4,502 motorcycle fatalities in 2010, up from 4,469 in 2009



- Rail accident deaths increased from 742 in 2009 to 813 in 2010
- [Truck accident](#) fatalities involving medium and heavy trucks increased from 499 in 2009 to 529 in 2010
- In 2010, there were 44 bus-related deaths, compared to 26 the previous year
- A pipeline accident in San Bruno, California contributed to the amount of pipeline accident fatalities rising from 13 in 2009 to 22 in 2010

[Overall Transportation Fatalities Decrease](#)

Despite the increase of accident fatalities in certain categories, the NTSB also found that there has actually been a decrease in deadly roadway accidents overall. In 2009, the agency found, there were 33,883 accidents involving passenger cars, vans and light trucks. This number decreased to 32,885 in 2010.

Although this data is encouraging, the NTSB says that the roads [should still be much safer](#).

"The NTSB continues to advocate for changes to address [human factors](#), equipment, and infrastructure improvements to prevent crashes, we continue to see far too many deaths each year," NTSB Chairman Deborah A.P. Hersman said in a statement.

[Similar Study Findings](#)

The National Highway Traffic Safety Administration (NHTSA) also found that there were fewer motor vehicle fatalities on America's roads in 2010 compared to recent years. According to a study released by the agency:

- Alcohol-related accidents fatalities decreased 4.9 percent in 2010
- The deaths of passengers in vehicle crashes decreased by 1,260
- The amount of fatalities per 100 miles traveled decreased to 1.10, down from 1.15 in 2009

Although these improvements in road safety are encouraging, there is still much more work to be done to ensure all motorists are as safe as possible.

Vesna Vulovic: Surviving the Unsurvivable

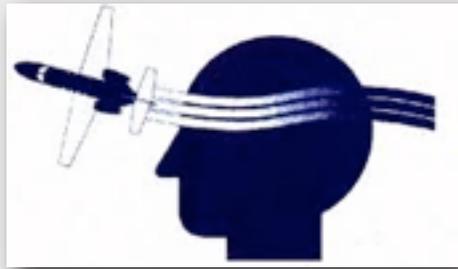
On Jan. 26, 1972, a terrorist bomb exploded aboard a DC-9 flying over Czechoslovakia. There were 29 passengers and crew members aboard., one of them survived. Flight attendant Vesna Vulovic. One month after her body was pulled from the wreckage, Ms. Vulovic woke from her coma. The fall from **30,000 feet** broke her skull and back, leaving her paralyzed from the waist down. But it didn't kill her. Nor did the fall destroy her life. After surgery, Ms. Vulovic regained the ability to walk. **She insisted on going back to the work.** Although it refused to let her fly, the airline gave her a desk job. Ms. Vulovic got married in 1977 and divorced in 1987. She met and befriended Rock legend Paul McCartney. How she survived the fall is still a mystery to this day.



NASA awards \$73M for ATC human factors research

NASA is reported to have awarded a five-year \$73 million to San Jose State University in the US to participate **in research on how people interact** with new NextGen technology.

NASA's Ames Research Center in Mountain View, Calif., selected San Jose State psychology and human factors professor Kevin Jordan to lead a research project that will also involve Ames scientists, other faculty members and university graduate students. Jordan has collaborated with NASA before on projects [integrating human skills](#) with aircraft flight decks, air-traffic management systems and mission planning and scheduling technologies on the International Space Station



NFL Players Outliving Average American Males: **NIOSH**

The agency has published its newest research on retired players in the American Journal of Cardiology.

The good news in the latest NIOSH research about how long retired National Football League players live is that they had [a much lower overall rate of death](#) to men in the general U.S. population of similar age and racial mix, Dr. Sherry L. Baron, MD, MPH, coordinator for Occupational Health Disparities at NIOSH, on Jan. 30 posted on the NIOSH Science blog a summary of a paper published by the American Journal of Cardiology. She and colleagues Misty J. Hein, Ph.D., Everett Lehman, MS, and Christine M. Gersic report NFL players on average [are outliving the average American male](#).



"Out of the 3,439 players in the study, 334 were deceased. Based on estimates from the general population, we anticipated roughly 625 deaths," Baron writes.

Players had a much lower rate of death from cancers than the general U.S. population. While 85 players died from cancer, "we anticipated 146 cancer-related deaths based on estimates from the general population," she says.

Other important findings were that players who had a [BMI of 30 or higher when they played had twice the risk of death from heart disease](#) compared to other players, and African American players had a 69 percent higher risk of death from

heart disease than white players. The study controlled for player size and position and determined that those factors are not the reason for the latter difference, Baron writes. They found **defensive linemen** had a 42 percent higher risk of death from heart disease compared to men in the general population; 41 defensive linemen died of heart disease, while the researchers expected 29 deaths based on estimates from the general population.

The journal paper is titled "Body Mass Index, Playing Position, Race, and the Cardiovascular Mortality of Retired Professional Football Players."

Their study included 3,439 retired players from the 1959 through 1988 seasons. They did not contact the players and thus have no information about smoking, family history of heart disease and other health problems, or changes in the players' fitness and weight after they retired.

<http://blogs.cdc.gov/niosh-science-blog/2012/01/nfl/>

<http://www.ajconline.org/article/S0002-9149%2811%2903387-X/abstract>

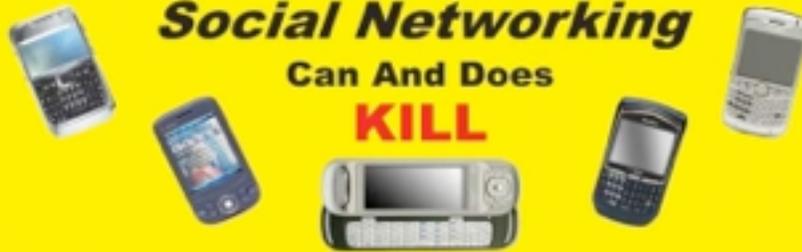
Pilot's Tip of the Week

What is a practical method you can use in an engine failure for determining the distance you can safely travel to make an off airport landing?

Bob Martens explains here:



http://www.pilotworkshop.com/tips/engine_failure_glide.htm



Social Networking Can And Does **KILL**



It has become a major **DISTRACTION**

Distraction - To take one's mind off the job at hand
Often resulting in the person thinking they are farther ahead than they are



Ran a red light texting.
1 Fatal



Ran several red lights driving a train
21 Fatal



On cell phone landing
8 Fatal

But we are conditioned from a very young age to always
respond to our phone



And it has become an accepted **Norm** to always respond
immediately

What To Do?

- ✈ Turn all portable devices OFF during work hours
- ✈ Only check for messages during breaks
- ✈ Remember YET. If you're human, You're Eligible Too

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