

Aviation Human Factors Industry News

Volume X. Issue 08, April 20, 2014



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

Hello all,

To subscribe send an email to: rhughes@humanfactorsedu.com

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★Boeing Blames Pilots For Asiana Flight 214 Accident

★Poll Finds Americans Not Affected by Malaysia Airlines Flight 370

★Out of contact, Jet flight causes panic

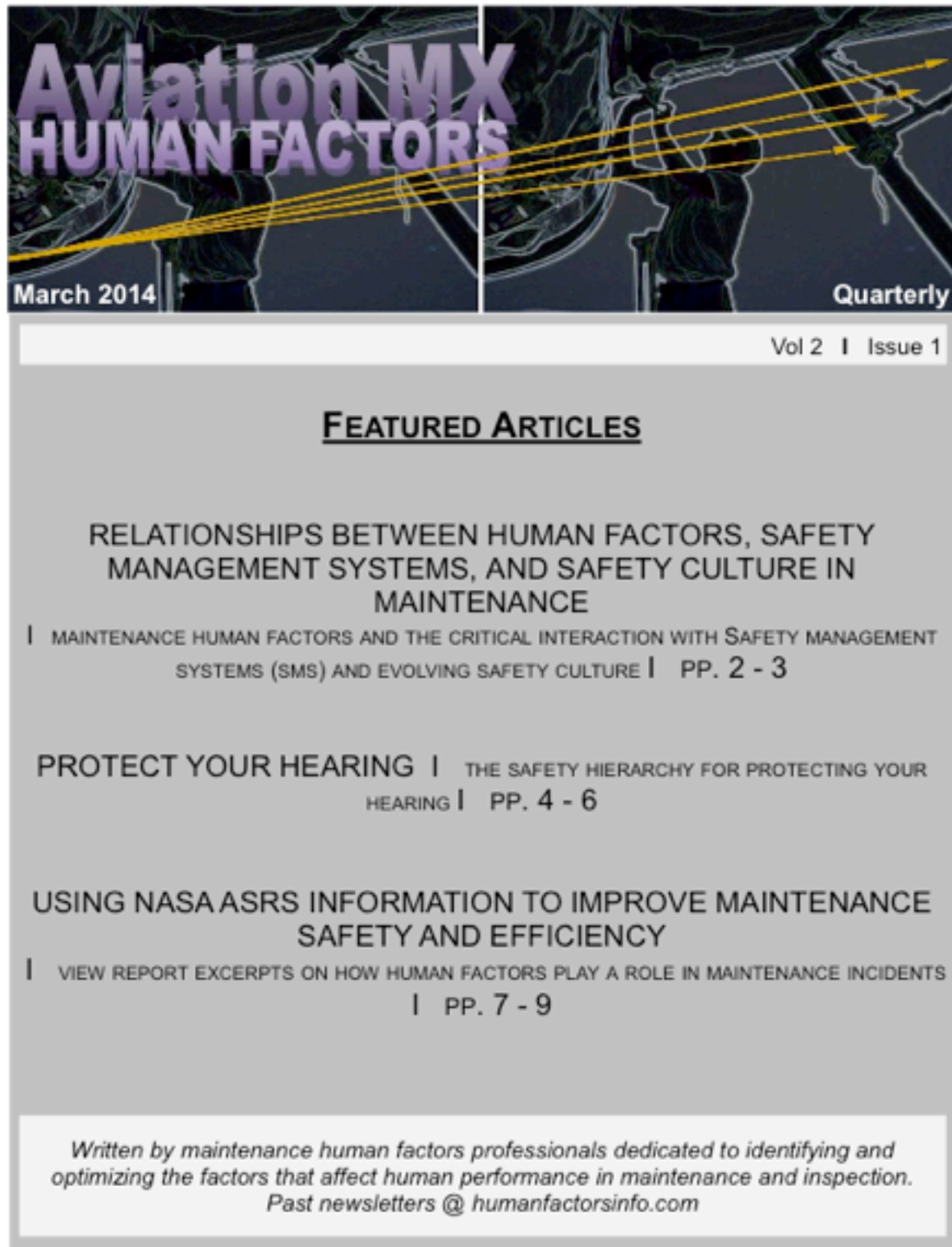
★First Air pilots fired after flying plane off course during Arctic trip

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Just Released Vol. 2 Issue 1



**Aviation MX
HUMAN FACTORS**

March 2014 Quarterly

Vol 2 | Issue 1

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*Written by maintenance human factors professionals dedicated to identifying and
optimizing the factors that affect human performance in maintenance and inspection.
Past newsletters @ humanfactorsinfo.com*

http://www.faa.gov/about/initiatives/maintenance_hf/fatigue/publications/

FSF Releases New Fatigue Guidelines at annual Business Aviation Safety Summit

The Flight Safety Foundation announced on April 16th the release of the Duty/Rest Guidelines for Business Aviation, a joint effort with the National Business Aviation Association (NBAA). This report is an update to FSF's "[Principles and Guidelines for Duty and Rest Scheduling in Corporate and Business Aviation](#)," which originally was published by FSF in February 1997.

The report is the creation of NBAA's Fatigue Task Force, headed by Leigh White. The intent of the update was to consider scientific advances in the past 17 years, and to [identify how those advances should influence](#) today's recommended practices for duty and rest scheduling.



According to Ms. White in the forward to the report, "This combined effort set out to achieve a consensus that meets the safety and operational goals of the general aviation community. Similar analyses of various industry sectors are being done throughout the world by regulatory authorities that have predominantly focused on commercial air transport."

The Fatigue Task Force consisted of the [leading scientists in the fatigue management and industry experts](#), with experience in all parts of flight operation. The goal was to develop and publish a guide that is practical, easy to understand and easy to implement.

Ms. White, President of Alertness Solution, gave a presentation about this new report at the 59th annual Business Aviation Safety Summit in San Diego earlier today. In the interest of industry safety, this report is available for no charge on the FSF website at

<http://flightsafety.org/current-safety-initiatives/duty-rest-guidelines>

Boeing Blames Pilots For Asiana Flight 214 Accident

The NTSB Investigation Continues, Boeing And Asiana Submit Their Opinions To The Board

All of us in aviation were stunned by the accident involving a Boeing 777 operating as Asiana flight 214 in San Francisco in June of last year. It was clearly a case of a well proven airplane being flown by an airline trained crew flying [in a controlled manner](#), yet they landing short of the runway by about one third of a mile.

Added to this scenario is the fact that it was a visual approach and weather was obviously [not a factor](#). The NTSB has not issued its final report on this accident but it seems the key aspects of the investigation are [aimed at two issues](#). Was it a case of pilot error or was there something in the auto-flight system that caused the accident?



According to a recent article published by the *Seattle Times* newspaper, Boeing lays the blame directly on the flight crew. The article stated that a Boeing document sent to the NTSB said that the accident, "... would have been avoided [had the flight crew followed procedures](#)." The Boeing document continued, "This accident occurred due to the [flight crew's failure to](#) monitor and control airspeed, thrust level and glide path."

The article continues to say that the South Korean airline agrees to some extent with what Boeing says. However, Asiana also faulted the logic of the auto throttle system and the lack of adequate cockpit warnings that the airspeed was below safe limits.

While the NTSB continues to investigate and digest gained information, the FAA has already taken action [to increase awareness](#) of U.S. airlines for the need to address basic piloting skills in their training programs.

Poll Finds Americans Not Affected by Malaysia Airlines Flight 370

A new poll conducted by the Reason Foundation finds that Americans' view of commercial air transportation has not changed as a result of the disappearance of Malaysian Airlines Flight MH370.

According to the results of a nationwide study conducted by the Princeton Survey Research Associates International, more than 80 percent of respondents said the events surrounding the missing Malaysia Airlines Boeing 777-200 have not caused them to change their views of flying. Only 1 percent of the respondents said they would be more likely, while 17 percent said they would be less likely to fly because of MH370.



"The new Reason-Rupe national poll finds 35 percent of Americans think a mechanical problem caused the plane to crash, 22 percent believe the pilots crashed the plane intentionally, 12 percent feel it was destroyed by terrorists, 9 percent say the plane landed safely and is in hiding, 5 percent believe the disappearance is related to supernatural or alien activity, and 3 percent think it was shot down by a foreign government," the Princeton Survey research associates said.

The national poll included live interviews with 1,003 Americans between March 26th and March 30th.

Out of contact, Jet flight causes panic

German air traffic control (ATC) went into panic mode last month when pilots of a London-Mumbai Jet Airways flight did not respond to its messages for about 30 minutes while flying over their airspace.

The incident resulted in anxious moments for the authorities on March 13 as it came just five days after the mysterious disappearance of a Malaysian Airlines flight. The remains of the missing flight, said to have crashed into the Indian Ocean, are yet to be traced.



The German ATC immediately informed Jet Airways, which sent a text message to the cockpit via the Aircraft Communications Addressing and Reporting System (ACARS) in the aircraft. The pilots then replied to the text message and apologized to the German ATC for not responding earlier.

It turned out that the pilots had [overlooked the low volume on their headsets](#) and did not communicate for almost 30 minutes with the German ATC, which was desperately trying to reach out to them. Sources said the pilots operating the Boeing 777-300ER aircraft were grounded after the incident, which was declared “serious” by authorities.

After the German ATC—DFS Deutsche Flugsicherung GmbH—filed a complaint, the Directorate General of Civil Aviation (DGCA) conducted a probe and found that the pilots [did not check the speaker volume after removing the headsets](#). This resulted in a [breakdown in communication](#) for almost half-an-hour. The pilots had admitted that they had removed their headsets.

DGCA officials also summoned Jet’s operations officers for a meeting in Mumbai late last month.

Jet Airways’ Permanent Inquiry Board also probed the incident.

The DGCA is now waiting for a response from the German ATC to effect a closure to the investigation and the case.

First Air pilots fired after flying plane off course during Arctic trip

A northern air carrier has fired two pilots after they flew a plane so far off course on a routine Arctic flight that it took about 20 minutes to get back.

"We learned the pilots **did not follow our standard operating procedures designed to eliminate navigational errors,**" First Air said in a release Thursday.

"As a result, those pilots are no longer employees of First Air."

The Boeing 737 left Rankin Inlet, Nunavut, on a routine flight to the territorial capital of Iqaluit on March 31. It was carrying 19 passengers and four crew when something went wrong.

"We're still working to find that out," said Peter Hildebrand of the Transportation Safety Board. **"There were a number of things working together here."**

The airplane was being guided by a GPS system, which fed data into a flight management system. In turn, the system directed the plane's autopilot.

"There seems to have been **some problem somewhere** and that led to an airplane that drifted off track," Hildebrand said.

The plane drifted so far to the north, he said, that its landing was about 20 minutes late.

Those aboard were not in danger, said the company. Hildebrand said the plane had enough fuel to make it all the way to Goose Bay in Newfoundland and Labrador.

Hildebrand added that the plane involved is the **only one** in First Air's fleet with that particular model of flight management system.

First Air said **procedures have been changed as a result of the mistake.**



"We have gone to great lengths to update and strengthen our standard operating procedures to ensure our pilots have the tools they need to fly safely," the airline said. "We have also increased in-flight oversight using data monitoring tools."

Hildebrand said [no formal investigation](#) has been launched.

"We're gathering data and working with the company. If we see at any time there's a need for a system-wide response on this, we can change our stance."

First Air flies throughout the Canadian North and into some southern cities. It is wholly owned by Makivik Corp., which manages land settlement money from the James Bay Agreement for the Inuit of northern Quebec.

AOPA Launches 'Rusty Pilots Initiative'

Program Designed To Help Lapsed Pilots Get Back In The Air

The Aircraft Owners and Pilots Association (AOPA) has launched an "easy and fun new way" for pilots who have gotten away from flying to get back in the cockpit.

AOPA's Rusty Pilots program allows lapsed pilots a way to return to flying in a matter of hours through [a free session of ground school](#) that fulfills the FAA's flight review requirement for ground instruction.

After the seminar, which includes topics such as a refresher on airspace and the most pertinent regulations, pilots can work directly with a local flight school or flying club to schedule dual flight-time in order to complete a flight review.

"Once a pilot, always a pilot," said Brittney Miculka, AOPA's senior manager of pilot community development. "It's much easier for people to get back into flying than they might think. This program makes it both easy and fun."

The potential of the Rusty Pilots program is substantial. An AOPA survey found that as many as [500,000 pilots](#) earned a private pilot certificate but later stopped flying.



The research determined that 87 percent of those pilots, “either intend to come back or might come back to flying.” The remainder said they were unable to fly due to medical reasons.

AOPA will partner with flight schools and flying clubs around the nation to offer the Rusty Pilots program. Participating schools and clubs will receive [free course materials](#) that include a presenter’s guide and attendee resource guide. AOPA will help flight schools and clubs identify lapsed pilots in their areas, and it will promote the events.

In addition, AOPA will hold free Rusty Pilots programs the evening before each of its six AOPA Regional Fly-ins in 2014, and also before its Frederick, MD homecoming fly-in. Longtime Air Safety Institute presenters Mark Grady and Pat Brown will present the material at AOPA’s Rusty Pilots Fly-in sessions.

FMI: www.RustyPilots.org

FAA Working (Slowly) on SMS for Airports

Never renowned for its ability to fast-track rulemaking, the FAA might be gunning for a new record.

It has been nearly a decade since the International Civil Aviation Organization (ICAO) introduced an amendment to its aviation rulemaking to require member states to have certified international airports establish a [safety management system \(SMS\)](#). The FAA has said it supports harmonization of international standards and has worked to make U.S. aviation safety regulations consistent with ICAO standards and recommended practices. ICAO issued its first SMS directive to its member nations in [2005](#). It required these countries to mandate SMS implementation for a number of operators, including air carriers, repair stations and international general aviation in large and jet aircraft, by Jan. 1, 2009.



Even then, knowing its own track record on rulemaking, the FAA filed “differences” with ICAO, a process by which nations can postpone implementation of some ICAO regulations. Those differences are published in the form of supplements.

According to the FAA, it intends to implement SMS at U.S. airports in a way that complements the requirements of Part 139, Certification of Airports. The FAA said it is now considering the best way to introduce an SMS requirement to the more than 540 U.S. airports certified under Part 139. The notification of proposed rulemaking (NPRM) for certified airports was issued on Oct. 7, 2010. The agency accepted comments on the proposed SMS rule through July 5, 2011.

The FAA said it received “many helpful comments and insights on benefits and costs” from the public in response to the October 2010 NPRM. “The FAA carefully considered these comments, and in light of the information received, the FAA decided to modify our proposal and provide another opportunity for public comments on the modifications through our SNPRM [supplemental notice of proposed rulemaking] process,” the agency explained.

On Dec. 10, 2012, the Department of Transportation posted its monthly Significant Rulemaking Report for that month. The December 2012 report amends the next stage for the [Airport Safety Management System](#) rulemaking ([Docket Number FAA-2010-0997](#)) as a supplemental notice of proposed rulemaking.

While the SNPRM is currently under development, the agency anticipates offering changes to the rule’s applicability and some proposed requirements. Specifically, the FAA is evaluating several options for SMS at various classes of Part 139 certified airports to improve the implementation of SMS. The FAA is considering changes to SMS implementation and some SMS elements [to reduce the burden](#) on an airport implementing SMS.

More than [30 certified airports are already](#) developing and implementing SMS. Safety experts worldwide view SMS as the next major step to improve safety in aviation. The FAA is encouraging all certificated airports to develop an SMS voluntarily. The FAA will continue to make Airport Improvement Program funds available to commercial airport sponsors for eligible airport SMS-related costs.

<http://www.ainonline.com/aviation-news/ainalerts/2009-01-08/faa-seeks-more-time-safety-management-plan>

<http://www.ainonline.com/aviation-news/aviation-international-news/2010-11-30/first-sms-nprm-released>

<http://www.gpo.gov/fdsys/pkg/FR-2010-10-07/pdf/2010-25338.pdf>

FAA Proposes \$547,500 Civil Penalty Against Hawaiian Airlines

The U.S. Department of Transportation's Federal Aviation Administration (FAA) is proposing a \$547,500 Civil Penalty against Hawaiian Airlines, Inc. for operating a Boeing 767-300 **that was not in compliance** with Federal Aviation Regulations.

The FAA alleges Hawaiian operated the aircraft thousands of times when it was not in compliance with a July 2000 Airworthiness Directive (AD) that required inspections of certain engine thrust reverser components. The purpose of the AD was to prevent a portion of the thrust reverser from coming off in flight, which could cause a rapid decompression of the aircraft. The AD required initial and repetitive inspections of the components to detect damage and wear, and corrective actions if necessary. It required replacement of the components with new and improved parts within four years of the AD taking effect.

During a July 2012 inspection, the FAA discovered that some of Hawaiian's records **erroneously showed the AD did not apply** to one of its Boeing 767 aircraft. The FAA alleges Hawaiian operated the aircraft more than 5,000 times – mostly on passenger carrying flights – between July 2004 and July 2012 when it was out of compliance with the AD. The FAA further alleges Hawaiian operated the aircraft on 14 passenger flights **after the agency alerted the carrier** that some of its records erroneously indicated that the AD did not apply to the aircraft.

Additionally, the FAA alleges Hawaiian **failed to keep required records** of the status of the AD for the aircraft in question.

Hawaiian has requested an informal conference with the FAA to discuss the matter.



Court Awards \$1 Million In Faulty Maintenance Suit

Fraudulent Aircraft Maintenance Is Not Only Illegal And Unsafe, It Can Lead To Costly Consequences

The whole thing started when a Texas-based pilot, Bryan Farney, purchased a 1977 Cessna 337 from a company named Aviation Enterprise located in Tennessee. Aviation Enterprise was operated by the father and son team of Owen and Chris Bell. This was a model 337G pressurized Cessna **that had other modifications** to improve its performance and gross weight capabilities. Farney paid \$226,000 for the airplane. However, according to The Tennessean newspaper, it seems that things were not as they were represented. Farney claimed that modifications made to the airplane **were not FAA approved**. He also claimed there were **other factors** regarding the aircraft that rendered it unsafe to fly. In his suit against Aviation Enterprise, he sought \$450,000 for damages and legal fees.



Chris Bell was not held liable in the court finding, but a judgment against Owen Bell was brought for \$1 million. This award was divided as \$226,000 in actual damages and \$774,000 in punitive damages. Mr. Bell was found **to be in willful violation** of the Tennessee Consumer Protection Act.

Southwest tests tablets for mechanics

Southwest Airlines has begun a test program to provide digital manuals to mechanics via iPads, says Jim Sokol, the carrier's vice-president maintenance operations recently at the sidelines of the MRO Americas show in Phoenix.

"We're prototyping in Denver and in Dallas right now, on a very small scale, iPads for our mechanics that will take **the Boeing toolbox** and integrate that so that they have information available on the airplane to



repair that aircraft,” says Sokol. About five mechanics in Denver and 15 in Dallas are using the digital devices, he adds. The tests began in March and will run for 90 days, after which Southwest will decide on whether to implement them at more locations, says Sokol. The tablets, equipped with cellular service, will allow mechanics to [make decisions more quickly by having the necessary paperwork close to the aircraft](#), he says.

“We’ll be able to pick up some momentum and turn it on to all 20 of our locations if we have success,” says Sokol, referring to the number of stations where Southwest performs maintenance.

All female team of aviation mechanics at South Seattle College wins national competition

An all female team of aviation mechanics at South Seattle College took home an award in the Aerospace Maintenance Competition in Las Vegas on March 25-26. From left they are Sarah McKenna, Mary Hadley (instructor), CrystalRose Hudelson, Melissa Wong, Jennifer Leshar, and Agnes Choung.



An all female team of aviation mechanics, trained at South Seattle College took first place on the [Grey Owl sponsored Human Factors Event](#), part of the Aerospace Maintenance Competition in Las Vegas on March 25-26.

They had the top score on this event over all competitors, [professional and student](#). Only about 7% of the program is comprised of women the team said. While schools can have more than one team, this was the only team from SSC to enter.

The Human Factors event was a written exam covering mainly the FAA’s Dirty Dozen ([see link for a description](#)) with detailed questions about each topic.

Sarah McKenna took the top score out of the entire competition and only missed one question in the shortest time to complete. She beat all members of 28 other teams. “I read the paper work hundreds of times,” she said explaining her win.

The team also gave credit to Robert Allen Long and Tim of the Alaska Airlines Maintenance team who took the SSC team under his wing to give them tips and pointers.

Several instructors helped the team train. They learned new skills and perfected others. The competition gave them a view of [how strong the camaraderie](#) is in the Aviation and Powerplant field.

A few days before the team left for Las Vegas, the Alaska Airlines team invited the students to visit the Alaska hangar. They gave the team pointers about the competition and provided some hands on skills training.

About 170 students are part of the Aviation Maintenance program at South Seattle College. The team members all agree that the role of women in aviation maintenance [is changing](#) as more women enter the field.

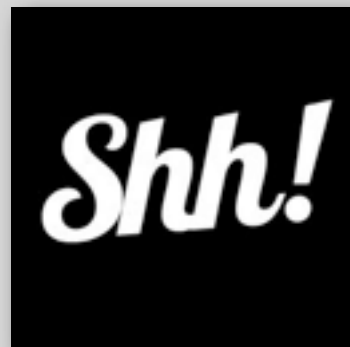
The whole team is scheduled to do a presentation for Women in Aviation at upcoming event, talking about their experience in training and the competition.

<http://www.westseattleherald.com/sites/robinsonpapers.com/files/DirtyDozen%20maintenance%20mistakes.pdf>

<http://www.aerospacemaintenancecompetition.com/results/2014-results/>

MROs have yet to embrace sharing of safety data: FAA

Maintenance organizations have yet to embrace voluntary sharing of safety data that will be key to the US Federal Aviation Administration's (FAA) [risk-based safety approach](#) going forward, says the agency's associate administrator for aviation safety Peggy Gilligan during the MRO Americas conference in Phoenix on 8 April. "While the commercial airline community has embraced voluntary safety reporting, and they [are benefitting](#) from that participation, we've not yet seen the MRO community embrace those reporting programs," she says.



Forty-five commercial airlines provide safety data through the FAA's aviation safety information analysis and sharing program (ASIAS), however only about 25 feed in voluntary reports for maintenance data today, says Gilligan. Those reports from the Aviation Safety Action Program (ASAP) comprise one of several data sources that the ASIAS uses.

Despite this, she notes that the FAA signed an agreement last week with the first MRO organization that will use the ASIAS program and is in negotiations with a second maintenance provider to do the same.

"There's a lot more data out there that all of us can collect and all of us can benefit if we can bring it together and analyze it as a community," says Gilligan.

The Virginia-based Aeronautical Repair Station Association (ARSA) has raised the issue that the FAA [may not have enough inspectors](#) to support the program, which Gilligan says she thinks is a "reasonable criticism."

"It could very well be that we at FAA need to find a way to streamline the process to make it easier for maintenance organizations to participate in voluntary data reporting programs," says Gilligan. "And maybe we just haven't done enough to sell the value."

The FAA is focused on using a risk-based approach to identify safety issues in light of declining budgets, a cornerstone of which is using data sharing programs to [predict the highest risks](#).

"I firmly believe that the future of aviation safety will ride on the coattails of data sharing, and I think it is without question the single most important step forward that we made for safety over the last 10 years," says Gilligan.

Cover Task Interruptions with Thorough Turnovers

Task interruptions occur when changes in assignments, personnel or shifts prevent mechanics from completing maintenance tasks in their entirety. When task interruptions

occur, [it is critical](#) that we pass important information between shifts or team members. We do this with what we refer to as "turnovers."



Turnovers play a very important role in ensuring the safety of our passengers by providing clear, accurate and timely accounts of work that has been started but not yet completed.

Required Inspection Items (RII) are any major maintenance procedures, repairs, or alterations that, if improperly performed or if performed with incorrect parts or materials, could result in a failure, malfunction or defect, which endangers the safe operation of the aircraft.

RIIs provide an independent second set of eyes for critical tasks that can affect the safety of flight. Failure to provide a proper turnover or to recognize RII items [jeopardizes the safety](#) of an aircraft.

2014 SUN 'n FUN Forum - Analysis of General Aviation Accidents.

Tony James, FAA Accident Investigator shares with the public information about recent general aviation accidents and how to avoid them.

"As the educational outreach arm of the FAA, the FAAS team is committed to serving the General Aviation community, and making our skies even safer.



http://www.youtube.com/watch?v=LQGGzCxNh6Y&list=PL1EvWLSzQrXMLZ-EAmv4J3cf1L_hTuham

Night Owls Tend to Be Unmarried Risk-Takers

Women who are night owls share the same high propensity for risk-taking as men, according to a recent study by a University of Chicago professor.

The research suggests that [sleep patterns are linked](#) with important character traits and behavior, says study author Dario Maestripieri, professor in Comparative Human Development, in a release. Night owls

—people who tend to stay up late and wake up late in the morning—are different in many important ways from early risers, he found.



“Night owls, both males and females, [are more likely to be](#) single or in short-term romantic relationships versus long-term relationships, when compared to early birds,” Maestripieri says. “In addition, male night owls reported twice as many sexual partners than male early birds.” The study, published in the February edition of the journal *Evolutionary Psychology*, draws on data from earlier research on more than 500 graduate students at the UChicago Booth School of Business. That initial study assessed financial risk aversion among male and female students and found men are more willing to take financial risks than women. Females with high testosterone levels, however, were more similar to males in financial risk-taking, that study found.

Maestripieri wanted to explore why men take more risks than women. He was curious whether sleep patterns have any influence on these tendencies, through an association with differences in personality and in novelty-seeking.

The study participants (110 males and 91 females) provided saliva samples to assess their levels of cortisol and testosterone. Those levels were measured before and after participants took a computerized test of their tendencies for financial risk aversion. The participants also described their own willingness to take risks and gave information about their sleep patterns.

Men had higher cortisol and testosterone levels than women; however, night-owl women had cortisol levels [comparable to](#) night-owl and early morning men.

Maestriperi's study suggests high cortisol levels may be one of the biological mechanisms explaining higher risk-taking in night owls.

Maestriperi explains that some people have chronically high cortisol levels regardless of stress, which is known to increase cortisol for short periods of time. These people have high metabolism, high energy, and arousability. Higher cortisol can be associated with higher cognitive function, he says, and some studies show that [high-achieving, successful people](#) have high cortisol levels.

More men than women consider themselves night owls, the study found, and [men sleep less overall](#). Maestriperi says preferences for being a night owl or early morning person are due in part to biology and genetic inheritance, but also can be influenced by [environmental factors such as shift work](#) or child-rearing. Gender differences in sleep patterns emerge after puberty and become weaker or disappear after women reach menopause, Maestriperi said.

The link between the night-owl tendency and risky behavior could have roots in evolutionary strategies for finding mates, Maestriperi says.

"From an evolutionary perspective, it has been suggested that the night-owl trait may have evolved to facilitate short-term mating, that is, sexual interactions that occur outside of committed, monogamous relationships," Maestriperi says. "It is possible that, earlier in our evolutionary history, being active in the evening hours increased the opportunities to engage in social and mating activities, when adults were less burdened by work or child-rearing." The findings that night owls are less likely to be in long-term relationships and that male night owls report a higher number of sexual partners offer some support to this hypothesis, he says.

Maestriperi says he has replicated the main result of higher risk-taking in night owls with an expanded, non-student population and hopes to publish those findings soon.

<http://www.epjournal.net/wp-content/uploads/EP1201130147.pdf>

Graduate Research Survey

Hello,

Our names are Lauren Sperlak, Lukas Rudari, Gilbert Jones, and Robert Geske. We are graduate students at Purdue University currently conducting research on Title 14 C.F.R. Part 117 which [addresses fatigue risk for Title 14 C.F.R. Part 121 pilots](#). The new regulation recognizes fatigue related risks to safety, such as changes to natural circadian rhythm and "jetlag." We are seeking your assistance in completing an anonymous online survey. Your responses are greatly appreciated by the researchers, and the feedback provided by your survey responses will provide valuable information that will be used to help process the findings of this study.

In order to complete the survey, you must be at least 18 years of age, and you may not complete the survey more than once. It is anticipated that the survey will take 5-10 minutes to complete.



The survey link can be accessed via:

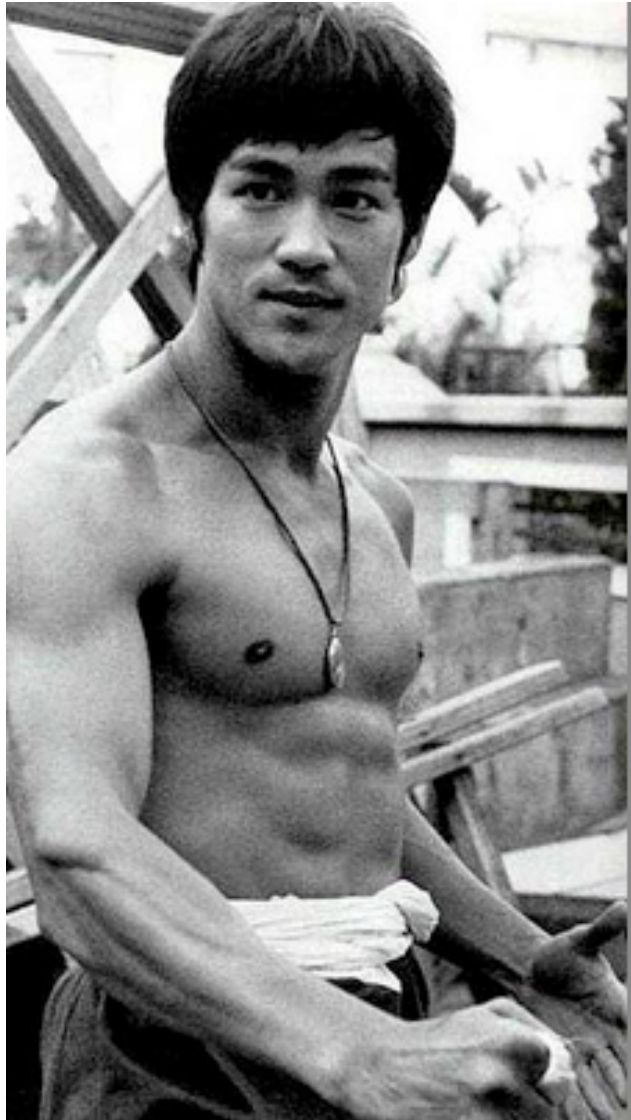
https://purdue.qualtrics.com/SE/?SID=SV_0TUBgrhMpM1vO8B

We thank you in advance for your participation.

Sincerely,

Lauren, Lukas, Gilbert, and Rob

Inspiration



"If you always put limit on everything you do, physical or anything else, it will spread into your work and into your life. **There are no limits.**

There are only plateaus, and you must not stay there, you must go beyond them."

- Bruce Lee