Aviation Human Factors Industry News

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Hello all,
To subscribe send an email to: rhughes@humanfactorsedu.com
In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

Top 10 Barriers to Near-Miss Reporting

It's a given that reporting of near misses reduces injury incidents. A report of a near miss (close call) creates an opportunity for identifying and hazardous conditions and practices.

Then why is it so difficult to get your people to report near misses? Maybe they are discouraged by one of these common barriers:

1. They don't know they are supposed to report near misses.

2. They don't know how to go about it. They don't know they should go to the supervisor.

3. They are afraid of being reprimanded or disciplined for actions that led to the incident.

4. They feel pressure from co-workers to keep quiet so nobody gets into trouble.

5. They are under pressure to maintain a clean incident record because the team will win a prize.

6. They are new and want to make a good impression.

7. The work culture says "suck it up and don't make a big deal out of it."

8. Co-workers are viewing the incident with humor instead of seeing the hazard. If everyone is laughing, how serious could it be?

9. Last time they tried to talk to the supervisor about something, they were belittled or disregarded.

10. It's just too much trouble filling out those forms.

Human Factors: Beyond the "Dirty Dozen" -Part III

Error Reporting Systems

Whether voluntary or required, error reporting systems are crucial and commonplace in the industry. Participants "are providing, as well as listening to the instructor," Liebenow pointed out. LHT prides itself in being "a learning organization," and understands that input from these interactions and the reporting system is "good information that you wouldn't get from traditional audits." An understanding of human factors helps to identify the root causes behind problems and to come up with corrective actions.

LHT's reporting system also helped to adjust German legal requirements. Some inputs concerned a requirement that anyone taking part in aircraft radio communications should have a full radio license, Liebenow said. LHT did not think that it is cost-effective to require a mechanic running a functional test of a radio to have a radio license, as long as the technician knows what he's doing. "After two years of hard work, we managed to change the law, so that there is an exception for maintenance mechanics," Liebenow said.

Unlike some other maintenance organizations, however, LHT also focuses on the economic side of human factors. The economic benefit of human factors is a component of a company-wide, proprietary metric called the "cost of non-quality." Examined every month, this metric indicates that quality is steadily improving, he said. However, since human factors are only a single component of this indicator, HF training can only be considered as a contributing influence to this positive trend.

Delta, for its part, encourages technicians to use the NASA Aviation Safety Reporting System (ASRS) as a means of collecting data. Delta also has partnered with FAA under the Aviation Safety Action Program (ASAP), which captures maintenance error data that, while shared with the agency, is proprietary to the individual airline. ASAP inputs are received by a committee including a representative from the maintenance provider, union (if represented) and the FAA, Johnson said. Problems are identified and resolved at the local level. Once the ASAP data has been de-identified, it is shared with other airlines, manufacturers and repair organizations, Delta said.

Delta also has a system through which frontline technicians can propose fixes to technical documents. Suggestions submitted electronically through Delta's Technical Document Change Request system are typically processed within three days, Vehrs said. Last year more than 40,000 recommendations were received.

Aveos' error reporting system, known as EtQ for Excellence through Quality, feeds into a database of audit findings and individual concerns. As with LHT, individual inputs may be anonymous. "Concern reports" trigger investigations, which assess risks and apply abatement measures. Data is shared with Transport Canada through the agency's principal maintenance inspectors. Although name-tagged data is not de-identified, it cannot be used in enforcement actions against employees except in cases of gross negligence, criminal intent or sabotage.

Embry-Riddle Expands Online Aviation Catalog

Instrument And Commercial Courses To Be Offered

Embry-Riddle Aeronautical University's Worldwide Campus, through its of Education, is now offering two new online courses that prepare students with the knowledge necessary for FAA Commercial Pilot and/or FAA Instrument Rating flight training and written tests.

These new courses join Embry-Riddle's online FAA Private Pilot Ground School, a 15-week course that takes advantage of lessons learned by Embry-Riddle over decades of pilot training.

The new Commercial Pilot and Instrument Rating ground schools will also last 15 weeks, and new classes will start nearly every month. An FAA-certified flight instructor oversees each online course section, guides the students, and focuses the knowledge on practical application in the cockpit. Through the use of online technologies, students can now receive Embry-Riddle flight training anywhere in the world, on their own schedules.

Other online aircraft-specific ground schools also exist for most Boeing and Airbus aircraft.

FMI: http://worldwide.erau.edu/professional

Error Study Points to Humans

Human beings, rather than technology or bureaucracy, appear to be for the majority of emergency department errors that lead to adverse events, a study disclosed.

In an analysis of unintended events reported by emergency departments at 10 Dutch hospitals, "most root causes (60%) were human, followed by organizational (25%) and technical root causes (11%)," wrote Marleen Smits, PhD, of NIVEL, the Netherlands Institute for Health Services Research in Utrecht, and colleagues.

More than half the errors had "consequences for the patient," but for 45% that consequence was inconvenience, such as a prolonged waiting time, they wrote online in the open-access journal BMC Emergency Medicine.

"In 30% the patient received suboptimal care, for example, a delay in starting antibiotic treatment. For smaller groups of patients the outcomes were more severe, extra intervention (8%), pain (6%), physical injury (3%)," they wrote.

The observational study was conducted from October 2006 through December 2007. During that time staff in emergency departments at participating hospitals were asked to report all unintended events, no matter how trivial, that could have or did harm a patient.

A total of 522 events were reported with an average of 52 per participating emergency department.

The reports were analyzed using PRISMA-medical, a tool designed to examine the relative contributions of various factors -- human, organizational, and technical -- in order to identify the root cause of an event.

Most of the reports (85%) were made by nurses, followed by reports from either resident or consulting physicians (13%).

Although common wisdom is that errors are more likely during nights and weekends, when emergency departments often have both higher patient volume and lower staffing, in this analysis, 44% of events "were known to occur during daytime hours and 34% during evening and night."

The proximate stage at which 36% of errors occurred was during the medical examination and/or diagnostic testing -- often because of miscommunication between emergency department staff and staff in other departments.

The authors said the predominance of human error as the main driver of unintended events mirrors causes found in studies of the aviation industry.

The authors noted several caveats and limitations. A major issue: because the events involved patient care, "healthcare providers were somehow involved in all events. This resulted in involvement of human causes in many cases."

The authors, in pursuit of "objective information" also said they did not have the "presumption of reporters about possible organizational or technical causes," an omission that also could have affected the identification of root cause.

Moreover, they wrote, "a lack of organizational or technical barriers was not labeled as an organizational or technical cause."

That design was problematic, the authors wrote, because, for example, the lack of such a barrier allowed two providers to order blood tests for a single patient, which caused the patient to be exposed to two blood draws.

The net result was patient inconvenience and pain that was identified as a human error, but could just as easily have been categorized as an organizational error.

Finally, the fact that reports were made by providers and reporting was not anonymous makes it possible that "certain mistakes were under-reported," which would bias the findings.

Today Show Looks at Drowsy Teen Drivers

The Today Show recently featured a segment on drowsy driving among teenagers. According to the National Sleep Foundation's 2006 Sleep in America poll, 51 percent of all adolescents who drive reported that they driven drowsy at least once in the past year. Among those adolescents, 5 percent had nodded off or fallen asleep while driving in the past year, and 27 percent of those respondents had an accident or near accident due to drowsiness while driving. The Today Show segment notes that fatigue is a factor in about 100,000 crashes every year, most involving young drivers. National Sleep Foundation Chairman Thomas J. Balkin, PhD, told the Today Show, "In many ways, driving drowsy is very much like driving drunk." According to Balkin, drowsiness — like alcohol — can severely impair a driver's reflexes, judgment and awareness.

http://www.sleepfoundation.org/alert/today-show-looks-drowsy-teen-drivers?utm_source=NSF+Alert&utm_campaign=50380be567-NSF_Alert_9_15_099_15_2009&utm_medium=email

Time to eat

There's a time to eat and a time to sleep; eating while you should be sleeping 'might be doing double damage; to your waistline, Scientific reports. The problem lies within our natural circadian rhythm, the body's 24-hour 'clock,' which keep our sleep cycle in sync with day and night but also regulates when and how quickly we metabolize food.

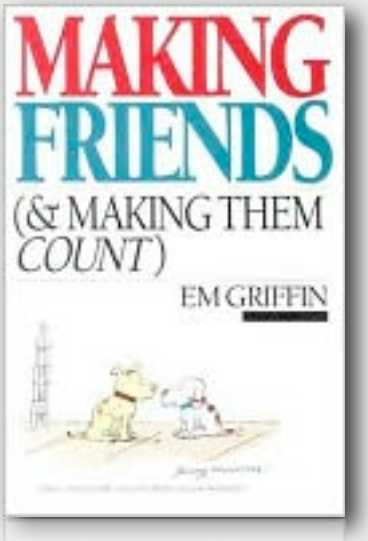
A new study suggests that crossing those wires- simply by eating at the wrong time of day – may contribute to weight gain. The researches were inspired by the observation that shift workers whose schedules force them to eat at times when they'd normally be sleeping to be overweight. So they mimicked the behavior with mice: One group at at night and sleep by day, and a second group sleep at night and ate during the day.

After several weeks, the mice in the first group had gained 20 percent more weight than the others. The results suggest that weight gain may depend as much on when you eat as on what you eat, says Northwestern biologist Fred Turek. "Better timing of meals, which would require a change in behavior, could be a critical element in slowing the ever-increasing incidence of obesity.

Making Friends

Developing new friends and maintaining old ones on a shift work schedule can be challenging at times. Where do yo meet new people? How do you time to develop a friendship? To that end, it can never hurt to get some proven advice on how to start new friendships and make them last.

In the book *Making Friends (& Making Them Count)*, friendship expert Em Griffin examines what goes into the art of friendship making. From tips to meeting new people, to understanding what kind of people your are drawn to, Griffin offers a broad examination of friendship. It should help you to not only make new friends, but also become a better one.



Perception

..something to think about...

Washington, DC Metro Station on a cold January morning in 2007. The man with a violin played six Bach pieces for about 45 minutes. During that time approx. 2 thousand people went through the station, most of them on their way to work. After 3 minutes a middle aged man noticed there was a musician playing. He slowed his pace and stopped for a few seconds and then hurried to meet his schedule.

4 minutes later:

the violinist received his first dollar: a woman threw the money in the hat and, without stopping, continued to walk..

6 minutes:

A young man leaned against the wall to listen to him, then looked at his watch and started to walk again.

10 minutes:

A 3-year old boy stopped but his mother tugged him along hurriedly. The kid stopped to look at the violinist again, but the mother pushed hard and the child continued to walk, turning his head all the time. This action was repeated by several other children. Every parent, without exception, forced their children to move on quickly.

45 minutes:

The musician played continuously. Only 6 people stopped and listened for a short while. About 20 gave money but continued to walk at their normal pace. The man collected a total of $32.

1 hour:

He finished playing and silence took over. No one noticed. No one applauded, nor was there any recognition.

No one knew this, but the violinist was Joshua Bell, one of the greatest musicians in the world. He played one of the most intricate pieces ever written, with a violin worth $3.5 million dollars. Two days before Joshua Bell sold out a theater in Boston where the seats averaged $100.

This is a true story. Joshua Bell playing incognito in the metro station was organized by the Washington Post as part of a social experiment about perception, taste and people's priorities. The questions raised: in a common place environment at an inappropriate hour, do we perceive beauty? Do we stop to appreciate it? Do we recognize talent in an unexpected context?

One possible conclusion reached from this experiment could be this: If we do not have a moment to stop and listen to one of the best musicians in the world, playing some of the finest music ever written, with one of the most beautiful instruments ever made..... How many other things are we missing?

Hight Tech Monitoring

You may think twice before scarfing down that cupcake, If you're wearing the. The finger size tracker uses a motion sensor to wirelessly log your daily physical activity, measure its intensity and duration, and estimate how many calories your have burned, 24/7. The Web interface also helps you keep track of food intake, using a database of nutritional and caloric information on more than 50, 000 common foods, form "Twinkies to tofu." You might never gorge yourself again.

http://www.fitbit.com/

Picture This!

A newspaper ran this photograph showing a worker using all the right gear - except for fall protection equipment. Worse yet, this photograph accompanied an article on best practices in construction safety. Oops!