Aviation Human Factors Industry News

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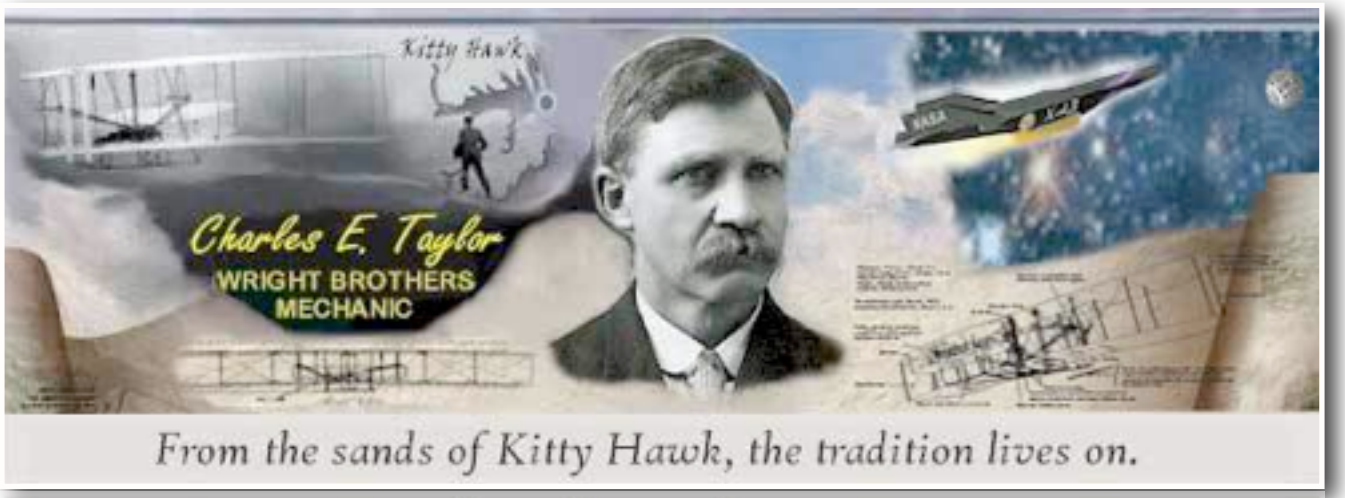

Hello all,

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

The Aggravators

Terry Tolleson

Blue Tuna LLC

The role of Stress, Pressure and Fatigue in the context of the aviation industry.

The aviation industry is fraught with accidents and catastrophic events brought on by too much stress, pressure and / or fatigue within the context of the aviation industry. While the right amount of stress or pressure may produce a creative tension that is productive, there are just a few degrees of separation between these factors operating as aggravators or mitigators.

Of the Dirty Dozen of Human Factors, stress, pressure and fatigue are the spoilers. They are, if you will, the aggravators of human factors. When stacked on top of other human factors like norms, distraction, complacency, communication, resources, assertiveness, awareness, teamwork or knowledge these human factors may become distorted and often irrupt into problems, mistakes, slips, lapses, accidents and catastrophe.

In healthy doses stress and pressure play an important role in human performance. Healthy stress, called Eustress gives one the sense of fulfillment or other positive feelings. Healthy pressure may help to increase performance. Even the right amount of fatigue is useful as a body alarm clock letting you know it is time to take a break and recharge.

What could be worse than stacking one of these aggravators on top of the human condition? The answer, stacking all three on. A human factors dog pile of sorts. All three of these aggravators may be present and stacked on top of one another making the human condition even more susceptible to performance problems. A case in point is Foxconn, one of the world's largest electronic manufactures, producing IPad and IPhone parts for Apple.

In 2010 problems with stress, pressure and fatigue became world news as 18 employees of Foxconn attempted to jump to their deaths. 14 employees died as a result. Foxconn as a cautionary tale warns us about the unseen but real human factor problems of stress, pressure and fatigue and the toll they can take on the human condition.

The nature of the aggravators often makes their detection difficult. Stress can be insidious and can morph to harmful levels before we are aware there is even a problem. All of the aggravators may be cumulative. Fatigue is a good example. Miss a couple of hours sleep for a few nights or even skip sleep for a night and your body begins to feel the effects of sleep debt. Your body will only go so long until it demands payment for the debt your body has accumulated. Stress and fatigue "creep" is a real problem that often goes undetected until something or someone breaks.

What about the opposite? For example "What happens when there is a lack of stress?". Is there such a thing as not enough stress? The answer is "Yes". Eustress increases our performance through creative tension. In this state there is a reasonable expectation or productive tension that draws us towards the goal. Like a rubber band stretched between two poles. Too much tension and the rubber band breaks. No tension results in no expectation to move forward. The Costa Concordia cruise ship accident is a good example of apathy at work. The Costa Concordia ran aground January 13th, 2012. Sailing too close to the shoreline with a Captain in the lounge instead of at the helm, the cruise ship ran aground killing 32 people and injuring 157. Apathy stacked on top of a lack of situational awareness had permeated the cruise leadership leaving the passengers to fend mostly for themselves. Several passengers responded to the ship running aground by going to their muster stations for evacuation only to be told by the cruise ship director that everything was under control and the passengers were dismissed to return to their lounges.

While pressure and stress sometimes escapes early detection and is difficult to measure and quantify, it is nevertheless real. Fatigue is more evident, tangible and measured by our body clock. While in certain instances the FAA regulates duty time limitations, fatigue can still be a problem. We think we can overcome sleep debt by working harder, push it back, fight it, ignore it, but eventually it catches up with us and often at the most inopportune times.

Colgan Air Flight 3407

It was a cold winter night on February the 12th, 2009 when Continental flight 3407 took off from Liberty International Airport in Newark, New Jersey, on what should have been a fairly routine flight.

But five miles north-west of its intended destination in Buffalo, New York, the plane stalled before plunging into a house below, killing both pilots, as well as two flight attendants, all passengers, 49 total on board and one man on the ground. The pilots had failed to properly respond to cockpit warnings that the plane was moving too slowly through the air, with Captain Martin Renslow raising the plane's nose, slowing it even further.

The accident report said that ahead of the flight, both pilots had long commutes and slept in the crew lounge, instead of a hotel. The accident was investigated by the National Transportation Safety Board (NTSB), with a final report issued on February 2nd, 2010. The NTSB determined that the accident was caused by the pilots' inability to respond properly to the stall warnings. Safety issues examined during the accident investigation process included pilot training, hiring, and fatigue problems. The board found that “the pilot’s performance and loss of situational awareness was likely impaired because of fatigue.

In the hearing a Federal Aviation Administration scientist, Tom Nesthus, testified that sleepy pilots were generally unable to judge the extent of their impairment, and likely to have trouble concentrating and following multiple sources of information. In the crash, the crew lost track of their deteriorating airspeed, and when a warning system activated, Captain Renslow reacted wrongly, pulling up the nose of the Bombardier Dash 8 instead of pushing it down, to regain airspeed and improve the angle of the wings.

Concerning the pilot’s rest, board investigators found that the crew lounge was, in fact, used inappropriately, and the airline recognized the problem with the practice. “It’s not quality rest,” Harry Mitchel, Colgan’s vice president for flight operations, testified. “There’s a lot of activity in our crew rooms.”

A safety board member, Deborah A. P. Hersman, said that Ms. Shaw had told one FedEx pilot that there was a “couch with my name on it” in the Colgan pilot’s lounge in Newark where she would sleep.

But Daniel Morgan, vice president for safety and regulatory performance at Colgan Air, said the airline had abided strictly by rules on how many hours a pilot could work in a shift, and how many hours were given between shifts, and could not control employees’ off-hours behavior. “You’re adults, you’re professionals, use the time we’ve given you to rest,” he said. Pilots could share apartments near the base, he said.

Both pilots can be heard yawning on the cockpit voice recorder.

NTSB's Chairman Deborah Hersman made it clear she considered fatigue a contributing factor noting that for the past 20 years that fatigue has remained on the NTSB's Most Wanted List of Transportation Safety Improvements.

The aviation workplace environment, whether it is the aircraft, a hangar or flight line has enough complexity as it is. Add in the human factors of stress, pressure and fatigue and the complexity goes up and the chance of a mistake, slip, lapse or error becomes a real threat.

Stay vigilant, know your limitations and use countermeasures to avoid the pitfalls of too much stress, too much pressure and fatigue.

Blue Tuna's ***The Aggravators*** is the latest installation of the Human Factor Series offered by Blue Tuna. The Aggravators course is available at www.bluetunadocs.com.

Blue Tuna has a total of 8 hours of Human Factors online training.

Human Factors Introduction 1.5 hours
The Dirty Dozen of Human Factors 1 hours
The Curse of Complacency 1 hour
Driven to Distraction 1 hour
Situational Awareness 1 hour
FAA PEAR Model of Aviation Human Factors 1 hour
The Aggravators 1.5 hours

NTSB: Plane's Controls Reversed in Deadly Merrill Field Crash

Airplane Went Down July 2 Near Anchorage, AK Fatally Injuring The Pilot

The NTSB has determined that the elevator cables on a Piper PA-12 that went down July 2 shortly after takeoff from Merrill Field Airport, Anchorage, AK were incorrectly installed, according to a preliminary report.

The report indicates that the accident occurred about 0820 Alaska Daylight Time. The accident resulted in the fatal injury of the pilot and substantial damage to the airplane.

According to acquaintances of the pilot, the airplane had been undergoing extensive maintenance for about 5 years. Neither the airplane's co-owner nor others at the airport were aware of it having been flown before the accident flight. A pilot who was standing on the ramp on the south side of runway 25 saw the airplane climb after takeoff. He said that, once the airplane became airborne, its climb kept getting steeper and steeper and did not level off like he expected it would. He said that the airplane "wasn't pitching quickly or violently but slowly" and "as if the pilot had no ability to stop it." The climb appeared so abnormal to the witness that he yelled to get the attention of another pilot on the ramp. He said that the engine sounded strong during the climb. He said that the airplane then pitched down, and he heard the engine power reduce as if the pilot had pulled it to idle, and the airplane descended vertically to the ground.

A second witness who was also on the south side of runway 25 described that the "airplane's angle of attack was so steep" that he knew "something was not right." He said that the airplane climbed straight up then "pivoted" to a nose-down position and descended straight to the ground. The witness said that he heard the engine go quiet about the time that the airplane pivoted, but he was not sure if the engine noise changed before or after the airplane transitioned to the nose-down attitude. The two witnesses and several other people from both sides of the runway ran to the accident site to try to help. Two witnesses who were east of runway 25 reported hearing engine noises that sounded like back-firing.

The airplane was righted and towed from the accident site for an examination. At the request of and in the presence of the NTSB investigator-in-charge (IIC), an airframe and powerplant mechanic assisted with the examination of the airplane.

The engine and the damaged front control stick were removed to allow for movement of the flight controls. The post accident examination revealed that manipulating the ailerons resulted in correct directional movement of the rear control stick. Manipulating the rudder resulted in correct directional cable movement to each rudder pedal.

The elevator control cables were attached to each end of the elevator control horn. Elevator control cable continuity was established from the control horn to the rear control stick. Manipulating the rear control stick aft (to command airplane nose-up) resulted in cable movement corresponding with a downward deflection of the elevator (which would result in airplane-nose-down flight). The airframe and powerplant mechanic assisting with the examination confirmed that the elevator control cables were misrigged, such that they were attached to the incorrect (opposite) locations on the elevator control horn, resulting in a reversal of elevator control inputs.

NTSB: Speedy pilots caused Macon jet crash

This National Transportation Safety Board photo from 2012 shows NTSB workers looking at where a business jet finally came to rest after it skidded off the end of a Macon runway.

A new National Transportation Safety Board report blames the pilots for a September 2012 jet crash at the Macon Downtown Airport.

The report finds the Beech 400 was likely moving some 15 to 19 knots above a standard speed when it came down for a landing. That's about 17 to 22 mph. At just 10 knots over that standard speed on a wet runway, the airplane would have needed 6,100 feet to land -- far more than the runway's advertised length of 4,694 feet, the NTSB reported.

An earlier NTSB report cited evidence that the airport's main runway was built too flat, allowing water to pool up on either side, and cited problems with landing indicators. The latest document, called the probable cause report, acknowledges the runway was wet but said pilots hadn't properly planned for what that would actually mean, and they didn't realize they didn't have enough runway to land at the speed they were traveling.

"Further, the pilots exhibited poor crew resource management by not using the appropriate chart for the contaminated runway, not recognizing the runway was too short based on the conditions, failing to reset their airspeed bugs before the approach, and not recognizing and addressing the excess approach speed," the NTSB wrote in a June 23 report.

The airplane came off the end of the runway, across a federal highway and stopped when it crashed into a tree with a 7-inch-wide trunk.

The runway condition has been the focus of litigation in both Bibb and Fulton counties. The airplane's insurance company, Old Republic Insurance Co., is suing the city of Macon and a contractor, alleging they built a runway that's so flat the water pooled up and made the airplane hydroplane off the runway. The airport was owned by Macon until the city was consolidated into the Macon-Bibb County government. Government attorneys are seeking to block the insurance company and the company the pilots were working for, Dewberry Air, from forcing improvements to the runway.

The airplane's sole human passenger, John Dewberry, credited the pilots with saving his life. He did not return a phone call seeking comment Thursday.

Remembering game-changing Canyon plane crash

Visitors peered through binoculars and spotting scopes into the depths of the Grand Canyon, straining to see the spot where two commercial airliners crashed after colliding in mid-air nearly 60 years ago. Family members of the victims gazed out over the east rim of the canyon Tuesday, trying to imagine their loved ones' final moments in a disaster that helped overhaul U.S. aviation safety. The 1956 crash killed all 128 people aboard the planes in the nation's deadliest airliner disaster at the time. In response, a country already struggling with increasingly busy skies pressured Congress for major changes to improve air traffic control and radar systems and to create what became the Federal Aviation Administration.

"It really did underscore for the general public, for the first time, that much of the air space in America was uncontrolled at that time," said Peter Goelz, former managing director for the National Transportation Safety Board. "Once you got up to 20,000 feet and beyond the terminal radars, it was see and be seen."

At the Grand Canyon, officials are hoping to bring new awareness to the effects of the tragedy on families and American air travel. A plaque unveiled Tuesday marks the crash site as a National Historic Landmark.

"We are safer because of it," park ranger Brian Gatlin said of the crash, standing beside a "Tragedy Remembered" sign at the overlook, where it's impossible to see some of the wreckage that remains in the gorge.

About 200 people gathered for the ceremony, including a handful of family members, an aviation professor and tribal and federal officials.

Mike Nelson, a nephew of one of the passengers, said most people he meets have not heard of the disaster.

"We are here to care about the victims again, to picture them walking the ground and to tell them how sorry we are," Nelson said. "Maybe we can tell them hello -- or goodbye."

Some of the victim's remains never were identified, and most of those that were have been buried together en masse at cemeteries at the Grand Canyon and the northern Arizona city of Flagstaff.

The United Airlines Douglas DC-7 and a TWA Lockheed Super Constellation both left California on June 30, 1956, eventually cruising at the same altitude -- 21,000 feet -- after the TWA pilot requested to fly above the clouds. Shortly before 10 a.m., both pilots reported to different communications stations that they would be crossing over the canyon at the same position at 10:31 a.m.

The Salt Lake City controller who had that information was not obligated to tell either of the pilots they could be on a crash course. It was the sole responsibility of the pilots to avoid other aircraft in uncontrolled airspace.

The investigative agency, the Civil Aeronautics Board, determined simply that the pilots did not see one another. The agency speculated that the pilots were treating passengers to views of the Grand Canyon while flying through scattered cloud buildup.

Meanwhile, pressure mounted on Congress to move faster to make air travel safer. In 1957, President Dwight D. Eisenhower signed the Airways Modernization Act, and airliners were required to have flight data recorders. What's now known as the FAA began operating late that year.

The investigators on the Grand Canyon crash pieced together what happened based on the wreckage. No one saw the planes collide.

The family of Leon David Cook Jr., a passenger on the United flight destined for Chicago, was huddled around the television that night awaiting word on what happened. The next morning, dozens of reporters were staked out in front of their Detroit home, said Cook's son Ray, then 12.

The TWA wreckage was found first. More than a mile away and several days later, the United wreckage was discovered.

Ray Cook said the crash destroyed his family. His mother died 14 years later when she drove drunk off an embankment, and his brother committed suicide at 37. Cook, who broke free from heavy drinking after 25 years, couldn't come to terms with the death for several years.

"I used to think every night that my father would walk out of the Grand Canyon, sunburned and scraggly, saying, 'They screwed up, I'm fine, here I am,' " he said.

The recovery operation was one of the most extensive and dangerous in the history of the National Park Service. Rescuers had to contend with harsh terrain, swirling winds and the remoteness of the crash sites where the wreckage was twisted, broken and melted. United brought in a Swiss mountain rescue group and the Colorado Mountain Club to help.

The crash sites near the confluence of the Colorado and Little Colorado rivers now are closed off to the public and being preserved for their place in history.

"The Park Service has to manage those sites as the resting place for those 128 souls," Grand Canyon National Park archaeologist Ian Hough said. "In many different ways, those people are still there."

FAA Safety Team Maintenance Safety Tip-1404

Substituting a recommended compound with a non-recommended compound can have unintentional consequences. An example of this is when an operator substituted a lubricant with a non-lubricant during an installation of a threaded rod end. The procedures only called for grease on the threaded rod end. The operator’s intent was to enhance corrosion protection but instead he unknowingly affected the preload on the threaded connection by using the torque value for threads with lubricant. This led to premature thread wear. Unfortunately the damage remained undetected until the threads eventually failed in flight causing loss of control and resulting in a fatal aircraft accident.

Are you following the manufacturer’s procedure for the use of a particular compound on the threads of a threaded connection? Are you absolutely sure?

Beware that substituting a lubricant with a non-lubricant can affect the preload on the threads and can result in premature thread wear and ultimately thread failure. Furthermore, substituting a non-lubricant with a lubricant can lead to excessive loading on the threads and can also result in thread failure. Either of these may affect the required torque on the threaded connection.


Heavily worn threads caused by use of an unapproved compound in a threaded rod end installation.

The sinister thing is that failures may be latent and might be catastrophic. Review the procedures for the equipment you work on or have worked on. Advise your fellow mechanics and the operator about using the correct compounds that are called for by the manufacturer's recommended procedures. Add the torque procedures or highlight them on work instructions, checklists or work cards. Finally, if a compound is to be substituted, be sure you know how it will affect the torque value. The best practice is to (first) verify with the manufacturer that it is a suitable substitute. If there is any doubt, check it out!

The National FAA Safety Team values your input. We would appreciate your input using the websites below.

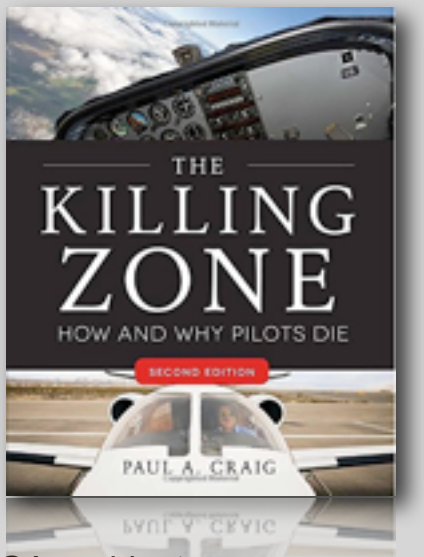
http://www.faa.gov/about/office_org/headquarters_offices/avs/stakeholder_feedback/afs/field/sf_faasteam/

FAA Human Factors Division

Human Factors Newsletter # 14-09 Special Edition AsMA

The Killing Zone Revisited: Predicting General Aviation Accident Rates from Pilot Total Flight Hours (William Knecht)

Abstract: In his popular2001 book The Killing Zone, Paul Craig presented extensive evidence that general aviation (GA) fatalities and accident frequencies relate non linearly to total flight hours (TFH). He concluded that GA pilots are at greatest risk during the range of approximately 50-350 TFH.



The current research revisits this "killing zone" to again look for a range of pilot flight time over which GA pilots seem to be at greatest risk. However, we now focus on predicting accident rates, given a pilot's TFH. This is of interest to pilots, aviation policy makers, insurance underwriters, and researchers alike. Most GA research studies implicitly assume that accident rates relate linearly to TFH, but that relation may actually be multiply nonlinear. This work explores the ability of serial nonlinear modeling functions to predict GA accident rates from noisy rate data binned by TFH.Two sets of National Transportation Safety Board/FederalAviation Administration data were analyzed for serious+fatal GA accidents from2003-2007, and matched with a sample representing about 10% of all U.S. GA non-accident pilots (n=67,687). The data were log-transformed, then curve-fitto a gamma-pdf-based function. Despite high rate-noise, this produced weighted goodness-of-fit (R^2w) estimates of .654 and .775 for non-instrument-rated and instrument-rated pilots respectively.

Serial-nonlinear models may be useful to directly predict GA accident rates from TFH, and as an independent variable or covariate to control for flight risk during data analysis. Applied to FAA data, these models imply that the "killing zone" may be broader than imagined. Relatively high risk for an individual pilot may extend well beyond the 2,000-hour mark before leveling off to a baseline rate.

William Knecht, CAMI

737 Damaged By Ramp Bricks

The engineer who signed off on the construction of the ramp at Pakistan's Sialkot International Airport likely has some explaining to do after a Shaheen Air International Boeing 737-400 rearranged it some during a routine engine test. Engineers did a high power run-up of the No. 1 engine on June 19 and turned the parking area into a maelstrom of FOD. It appears the hard surface was made from the interlocking concrete paving stones that are commonly used for patios and garden walkways.

They are set in a sand bed and interlock with each other, which is more than adequate for foot traffic and the occasional bicycle but not really up to 20,000 pounds of high bypass turbofan thrust from a CFM56 engine.The jet blast threw the concrete missiles, each weighing a few pounds and with lots of pointy facets, into the fuselage and tail surfaces. A few dozen ended up on the horizontal stabilizer. Numerous dents and skin piercings and hundreds of bricks spread behind the aircraft.

Although the airline undoubtedly sees little humor in the incident, there are plenty of insightful comments on the Facebook page. It's not clear how much it will cost to fix the damage or whether the aircraft can even be repaired.

http://www.avweb.com/gallery/Photo-Gallery-Engine-Test-Tears-Apart-Runway-222259-1.html

EASA Moving Toward European License for Air Traffic Controllers

The European Aviation Safety Agency announced that a committee has approved a draft regulatory proposal that would harmonize training and certification standards for air traffic controllers throughout the EU. This followed the publication of EASA's Opinion No. 11/2013 on the licensing and medical certification of air traffic controllers on Dec. 3, 2013. After the proposal is adopted by the European Commission and published, it is expected to take effect June 30, 2015.

It will establish common training standards and "also establishes the necessary synergies for aero-medical examiners and centers involved in the medical certification of pilots and air traffic controllers," according to EASA. "Via these achievements it provides for cost-effectiveness and contributes to the reduction of regulatory tasks at national level. It ensures a smooth transition towards the truly harmonized qualification and training requirements by a flexible opt-out time frame," allowing member states and stakeholders to gradually introduce the requirements and be fully aligned with the new system by Dec. 31, 2016.

Car Headlights Prove Inadequate For Night Landing

A Cirrus pilot may have been confident that he could land safely on a private rural airstrip on a dark moonless night, with help from the headlights of a relative's car pointed at the runway, the Australian Transport Safety Bureau said in its final report (PDF) last week, but the flight ended in a fatal crash. The SR22 was on final approach to the unpaved strip, in Boxwood, Victoria, on June 27, 2013, when it hit a tree, and the pilot, who was alone on board, was killed. Several other airports with lit runways were available nearby, the ATSB said. "Likely influencing the pilot was a degree of self-imposed pressure to get home after a series of business commitments and prior to a one-month period away from home," the ATSB said.The pilot called the relative on a cellphone to ask for the headlight approach aid, and stayed on the phone during the approach. The car was parked at the far end of the runway, with the headlights pointed down the centerline. On final approach, the relative warned the pilot over the phone that the aircraft's landing light seemed to be getting too close to the trees, but got no response. "The pilot appeared to continue the approach until the aircraft collided with a tree adjacent to the airstrip," according to the ATSB. The pilot had landed at Boxwood before, but always in daylight. The aircraft was destroyed.

http://www.avweb.com/avwebflash/news/atsb-ao2013104_final.php

Flight Safety Foundation Honors Excellence in Aviation Safety Reporting

At the annual Aerospace Media Dinner in conjunction with the Farnborough Air Show, the Flight Safety Foundation today awarded their Cecil A. Brownlow award to Captain Samir Kohli. Capt. Kohli is the author of Waiting to Happen: The Tragedy of Air India Express Flight IX812, an insightful look into the May 22, 2010 crash at Mangalore, India that resulted in 158 fatalities among the 166 passengers and crew.

"Capt. Kohli focused his book on understanding and explaining the causal factors of the crash, rather than sensationalizing it or assigning blame," stated FSF President and CEO Jon Beatty. "He highlighted areas of improvement in hopes of preventing the next accident and for these reasons, it is a privilege to present him with the Brownlow award."

The Brownlow award is giving out each year in recognition of significant contributions to aviation safety by a journalist or publication. Capt. Kohli's book painstakingly explained the complexity of modern commercial air transport operations as well as all the interrelated functions performed in support.

The Brownlow award is sponsored each year by HIS Global, Inc.

Drivers Fighting to Stay Awake Frequently Choose Ineffective Strategies

With the summer road-trip season hitting high gear, DMEautomotive (DMEa) recently surveyed American drivers on the top ways they try to combat sleepiness on the road.

The results are a wake-up call: While the #1 method, drinking caffeinated beverages, can be a temporary, yet not fully effective fix, drivers report they're more likely to open windows, pull over and exercise/stretch, and blast loud music and the air conditioning (which studies indicate have very short-term to no effect), than do what safety experts recommend most: pull over and take a nap.Pulling over and napping (only 23% reporting) ranked 7th, on par with eating or singing (21%). The findings indicate most drivers are doing things to fight sleepiness at the wheel that don't work, and it's likely contributing to the scary statistics: drowsy driving is responsible for somewhere between 15% and 33% of all fatal crashes,[1] or more than 100,000 accidents each year.[2]

The DMEa survey of 2,000 car owners[3] also found that a lot of drowsy drivers may be out on the roads these next months. The majority (53%) of US drivers reported that they are taking a road trip this summer, and that they plan to drive at least 7 hours each day–with 1 in 10 reporting they plan to drive more than 12 hours.

"The recent crash involving Tracy Morgan was tragic, and draws attention to an incredibly dangerous driving behavior that doesn't get taken nearly as seriously as drinking or texting while driving," says Mary Sheridan, director of research and analytics for DMEautomotive, in a release. "This survey reveals a big problem: when people get sleepy on the road, too many take measures that simply don't work. Most of us do ineffective things like stopping for that third triple-shot cappuccino or slapping water on our face just to keep going. As drivers, we need to heed our drowsiness: and stop and sleep, or let a rested person drive."

Notably, among the top 15 things drivers do to fight drowsiness, only #3 (switching drivers, provided they're rested) and #7 (pulling over and napping) are supported as working by medical evidence and safety experts. For the #1 method, drinking caffeine, the expert consensus is that while it does temporarily boost driver alertness, it's no replacement for sleep.

The top five strategies for drivers of all ages, as reported in the survey, are:

- Drink a caffeinated beverage (52.9%)
- Open a window or sunroof (41.7%)

- Switch drivers (41.5%)
- Pull over and exercise or stretch (35.2%)
- Listen to loud music (34.9%)

Younger Drivers Far Less Likely to Stop for Naps

While studies show younger drivers are more likely to be involved in drowsy-driving crashes,[4] this new data shows that those under 35 are significantly more likely to do ineffective things to "fight the drowse" than over-35 drivers: they're more likely to listen to loud music (43% vs 31%), eat (33% vs 14%), sing (32% vs 15%), talk on the phone (14% vs 5%), talk to themselves (15% vs 9%), or slap themselves (13% vs 9%). And they're less likely to pull over and nap (19%) than those over 35 (24%). The survey also finds that under-35 drivers will be hitting American roads in greater numbers than those over 35 this summer: 64% have a summer road trip planned, vs 48% of those over 35.

The top five strategies for young drivers, as reported in the survey, are:

- Drinking a caffeinated beverage (58.7%)
- Switch drivers (44.5%)
- Listen to loud music (42.5%)
- Open a window or sunroof (39.3%)
- Eat (33.0%)

What Medical Studies/Safety Experts Say Works, and Doesn't

DMEa aggregated authoritative and available medical evidence on which "fight the drowse" strategies work, and which don't.

Drinking caffeine: Caffeine can be an effective, if temporary, drowsy-driving fighter, but should not replace sleep. Caffeine doesn't overcome the effects of drowsy driving: for instance, you can still experience "micro-sleeps," falling asleep for a few seconds unconsciously. And because caffeine doesn't enter the bloodstream for 30 minutes, scientists recommend the "caffeine nap": taking a 30-minute nap first, then drinking the equivalent of 1-2 cups of strong coffee.

Opening window/sunroof: No evidence of benefit.

Switching drivers: Effective, if new driver is rested.

Pulling over to exercise/stretch: Contrary to what many people may imagine, offers very little benefit. Exercise only provides a very temporary alertness effect (lasting 10-15 minutes) in studies.

Loud music: No benefit, and can serve to distract drivers from their drowsiness.

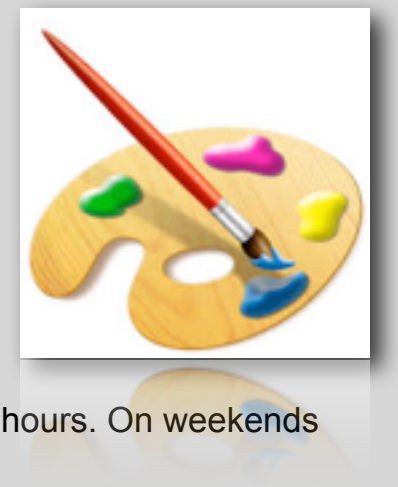
Turning up AC: No real benefit.

Napping: Studies have shown naps between 20 minutes and 3 hours prevent fatigue and restore alertness. Experts recommend scheduling a driving break every 2 hours, and napping. Napping is, however, not a substitute for longer sleep, and getting at least 7 hours sleep before a long drive is critical. Drivers' main sleep periods should happen at night, driving between midnight and 6 AM should be avoided, as should rotating night and day duty.

The Consensus: Just stop driving if you're sleepy, and the only real recovery strategy is sleep.

http://cdn.sleepreviewmag.com/sleeprev/2014/06/drowsydriving.jpg

American Time Use Survey Paints Portrait of Average Sleep Times



The Bureau of Labor Statistics today released results from the American Time Use Survey.These data include the average amount of time per day in 2013 that individuals slept, worked, did household activities, and engaged in leisure and sports activities.Sleep-related highlights include the following:

- On an average day, individuals slept 8.74 hours. Broken down by sex, women slept 8.82 hours and men 8.65 hours.
- On the weekdays, the average time slept was 8.48 hours. On weekends and holidays, it increased to 9.34 hours.
- Sleep time in households in which the youngest child is under 6 is 8.60 hours. Sleep time in households in which the youngest child is 6 to 17 is 8.61 hours. Sleep time in households with no children under 18 is 8.75 hours.

http://www.bls.gov/tus/data.htm

Inspiration

TED - Ideas worth spreading

Amy Cuddy: Your body language shapes who you are

Body language affects how others see us, but it may also change how we see ourselves. Social psychologist Amy Cuddy shows how “power posing” — standing in a posture of confidence, even when we don’t feel confident — can affect testosterone and cortisol levels in the brain, and might even have an impact on our chances for success.

http://www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are