

# Aviation Human Factors Industry News

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

Hello all,

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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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## Fatigue, Distractions, And LOC Accidents Make NTSB Most Wanted List

Makes Recommendations To Pilots To Avoid Loss Of Control Accidents

The NTSB released its "10 Most Wanted List" last Wednesday morning, and several aviation-related items were included on the list. [Reducing Loss of Control](#) accidents was specifically singled out for attention by the board.



The NTSB Most Wanted List highlights safety issues identified from the NTSB's accident investigations to increase awareness about the issues and promote recommended safety solutions. The NTSB said that while airline accidents have become relatively rare in the United States, pilots and passengers involved in general aviation operations still [die at alarming rates](#). Between 2008 and 2014, about 47 percent of fatal fixed-wing GA accidents in the U.S. involved pilots losing control of their aircraft in flight, resulting in 1,210 fatalities. [Pilots can reduce these accidents through](#) education, technologies, flight currency, self-assessment, and vigilant situational awareness in the cockpit. In October 2015, the NTSB held a forum on "[Humans and Hardware: Preventing General Aviation Inflight Loss of Control.](#)" The forum addressed some of the common causes of loss-of-control events, such as pilot inattention due to workload, distractions or complacency, and a lack of understanding how a stall actually relates to exceeding a wing's critical angle of attack (AOA), as opposed to the more common idea that it's just related to airspeed. Also noteworthy is that when airplanes are close to the ground, such as in a landing pattern, there is limited time and altitude available to recover from a stall, thus making these stalls particularly deadly.

The 2015 forum provided potential hardware solutions, such as the use of AOA indicators, and [human solutions](#), such as increased pilot training to ensure a full understanding of stall phenomena.

This training should also include understanding AOA concepts and how elements such as weight, center of gravity, turbulence, maneuvering loads, and other factors can affect an airplane's stall characteristics.

### **Pilots should:**

- Be prepared to recognize stall characteristics and warning signs, and be able to apply appropriate recovery techniques before stall onset.
- Be honest with themselves about their knowledge level of stalls, and their ability to recognize and handle them.
- Use effective aeronautical decision-making techniques and flight risk assessment tools during both preflight planning and in-flight operations.
- Manage distractions so that they do not interfere with situational awareness.
- Understand, properly train, and maintain currency in the equipment and airplanes they operate.
- Take advantage of available commercial trainer, type club, and transition training opportunities.
- Realize stall characteristics can vary with aircraft loading and are usually worse at aft CG (center of gravity).
- Airplane owners should consider installing an AOA indicator, which, coupled with pilot understanding and training on how best to use it, can enhance situational awareness during critical or high-workload phases of flight.
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The NTSB said that the FAA, aviation advocacy groups, type clubs, and manufacturers, including kit manufacturers, are creating and maintaining educational initiatives that include general principles, best practices, and operational specifics as they relate to loss of control. These resources can be helpful in learning effectiveness countermeasures.

The Board also mentioned accidents in which **fatigue was a factor** in all areas of transportation including aviation as a focus area, as well as **distractions** in the cockpit from things like text messaging and other personal electronic devices that have been a contributing factor in some accidents.

*(Source: NTSB)*

**FMI:** [www.nts.gov/safety/mwl/Pages/default.aspx](http://www.nts.gov/safety/mwl/Pages/default.aspx)

## New Video Highlights Flight Service Developments

Flight Service is moving forward and is encouraging the development of new pilot services and products. New content delivery methods will make **communication with the pilot community easier and faster**. The goal is to help make aviation safer by making weather information accessible where and when you need it. Targeted, flight-specific updates will make it easier for you to stay current on the weather, without the information clutter.



For more information on these developments, watch the new video from Flight Service – “Choices Made EASY” at [www.faa.gov/tv/?mediaId=1242](http://www.faa.gov/tv/?mediaId=1242).

## How do You do Safety?

In order for FAA’s new Compliance Philosophy to work, **we all need to be a part of it**. This involves building a solid personal safety risk management plan and keeping the safety conversation going. Learn more about what your role is in the FAA’s Risk-Based Decision Making initiative in the latest edition of FAA Safety Briefing.



[www.faa.gov/news/safety\\_briefing/](http://www.faa.gov/news/safety_briefing/).

## Ghastly Accident at Air India Highlights Importance of Worker Safety | John Goglia

The tragic accident this past month involving a service technician that was working an Air India flight pushing back from the gate at Mumbai's Chhatrapati Shivaji International Airport reminds us of the **dangers that airport workers** face day in and day out on the ramp and in the hangar. For reasons still under investigation, the airplane's crew started the aircraft engines while the technician was standing near the nose wheel. I don't have to tell you all what happened next. So while this terrible accident happened thousands of miles from where many of you work, tragedies similar to this do occur in the US and have killed and injured our own technicians. A similar accident occurred in 2006 at El Paso International Airport when a technician **walked in front** of a Continental 767 while passengers were boarding from the tarmac. In that case, the NTSB investigated and determined the accident occurred because of the mechanic's and the aircraft service company's **failure to follow procedures**. The **lack of training** was also identified as a causal factor by the NTSB.



Other types of accidents have proved fatal to mechanics. In March of this past year, an American Airlines mechanic was killed when he **slipped and fell** off a ladder after closing and locking a door on a Boeing 767 aircraft. No accident report was prepared by the NTSB in that case. As far as the Air India accident, it will be useful to read the accident report once it's completed to see why the engine was started before all personnel were clear of the aircraft. Were there procedural steps that were missed or signals that were confused?

Whatever the cause or causes for the death of this technician, this accident got me thinking about worker safety in general. **Often times we are so focused on the safety of the aircraft that we can and do forget the importance of our own safety.** But oftentimes worker safety and aviation safety go hand in hand. A corporate culture that puts an emphasis on aircraft safety is much more likely to put an emphasis on worker safety and vice versa.

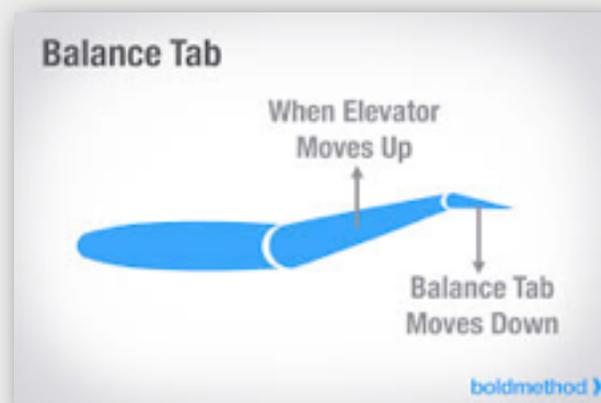
Of course it makes sense that a culture of safety at the workplace embraces the workers and not just the aircraft and passengers. After all, **many of the same factors** that can affect the performance of our safety-critical work on an aircraft can also affect our own safety. Perhaps first and foremost is **adherence to manual procedures.** In the rush of moving metal, those procedures can get short shrift but just as procedures are the key to aviation safety, they are often also the key to worker safety.

And one of the **human factors** that makes us vulnerable to skipping steps and carelessness is, of course, **fatigue.** Just as fatigue can affect the maintenance work we perform, it can also affect our attentiveness to our own and our co-workers' safety. So while much of the focus on fatigue these days may be on protecting aviation safety, it also protects workers on the ramp and in the hangar.

## **FAA Proposes \$417,500 Civil Penalty Against FedEx**

Says Shipper Failed To Rebalance Stabilizer Tab Control On A 727 Freighter.

The FAA has proposed a \$417,500 civil penalty against FedEx of Memphis, TN for allegedly operating an aircraft that was not in compliance with Federal Aviation Regulations. The FAA alleges that FedEx failed to rebalance a horizontal stabilizer tab control surface on the Boeing 727 **after repainting the part.** The Boeing 727 Structural Repair Manual identifies the work as a **major repair** and requires rebalancing the control surface after the work is done.



The FAA alleges that FedEx's failure to perform the rebalancing requirements rendered the aircraft un-airworthy and that the company operated the aircraft on at least 133 flights when it was in that condition.

"Safety depends on every operator [paying close attention](#) to every regulatory requirement," said FAA Administrator Michael Huerta. "It's also critical for operators to [implement internal controls](#) to ensure that they're following all applicable protocols and regulations."

FedEx has asked to meet with the FAA to discuss the case.

## [US Navy Seeks Smart Fasteners to Detect Cracks](#)

The U.S. Navy wants proposals by mid-February from industry partners interested in investigating how fasteners might be turned into "[smart](#)" [devices](#) for detecting cracking in airframe structural joints.

Fatigue cracking in aircraft structures often originates in holes drilled for fasteners to hold multiple layers of skin or to attach skin to frames, bulkheads, longerons and stringers.

Undetected cracks can lead to structural failure with catastrophic consequences.

But finding cracks is "problematic, costly and time consuming," said the Navy in a solicitation under its fiscal 2016 Small Business Innovation Research program. "Innovative Sensing Fasteners for Aircraft Fatigue Monitoring" is one of 72 topics included in that solicitation, which is part of a larger Defense Dept. effort targeting high-tech companies with fewer than 500 employees.

Detecting fatigue cracking can require disassembling joints, reaming out individual fastener holes and performing eddy-current inspections on them. After inspection and necessary repairs, those holes must be rebores for reassembly of the joints with new fasteners.



Although low-profile ultrasonic and eddy-current sensors are used for structural health monitoring applications (typically incorporated via flexible films), the Navy noted, this approach has shortcomings. “The sensors are fragile, sensitive to orientation and potentially difficult to install on small curved surface areas.”

The service is asking for proposals by Feb. 17 on the feasibility of minimizing fastener hole inspections by developing a sensor capability that could be incorporated onto common aerospace fasteners (such as AN or Hi-Lok series ones) to monitor for the start of in-hole fatigue crack in multi-layered joints.

The “smart” fastener “should be capable of detecting crack initiation inside of a borehole [without requiring any disassembly](#) of the aircraft structure,” said the Navy. It also should be able “to be integrated into the assembly of an aircraft with minimal impact to weight, structural strength and durability of the parent joints.” It also should be capable of interfacing with an existing health and usage monitoring system, such as the B.F. Goodrich systems used on Sikorsky Aircraft H-53Es and H-60Rs and S and Bell Helicopter H-1s.

You can find the information in the Navy’s Small Business Innovation Research solicitation [here](#).

## **Safety Culture...Continuous Nurturing Required**

Culture is to organizations what personality is to individuals—every person has one and every organization has one. Whether that culture is supportive or stifling, transparent or guarded, inclusive or selective, it represents the way an organization behaves. In aviation, a safety culture is more specific than an organizational culture because all aspects of culture ([values, beliefs, behaviors, standard operating procedures](#)) are examined through the lens of safety. [One of the many ways to define a safety culture is a set of beliefs, values, customs and behaviors that members of a group use to relate to their world and each other about safety.](#)



Simply put, a safety culture is [the way we do things around here](#).

Aviation expert, Dr. James Reason, said, “If you are convinced that your organization has a good safety culture, you are almost certainly mistaken... A safety culture is something that is strived for [but rarely attained](#)—the process is more important than the product.”

Just like in a chemistry lab, a “culture” grows given the conditions of its environment. Understanding your organization’s environment as it relates to safety is the first step. A safety culture survey/assessment can shed some light on your current safety culture environment, and identify key areas where nurturing is required.

Late last year, Baldwin Aviation reported internally [the findings of safety culture surveys](#) conducted for a number of clients. It was surprising to find that at the time, safety culture health seemed not to be related to the size of an organization or to the longevity of its Safety Management System (SMS).

On a 5-point scale, safety culture grades ranged from 3.60 – 4.75, but with little correlation to the International Standard for Business Aircraft Operations (IS-BAO) status of the organization. We have continued offering the same safety culture survey since then, and there now seems to be a higher level of correlation with IS-BAO status.

Before we “do the numbers,” it is important to understand that the community of IS-BAO registered operators has been maturing for several years. Significant growth in the program occurred between 2006 – 2012, with the number of registered operators now somewhat steady at a little over 700. Over the last four years, relatively few new operators have joined the fold at Stage 1, while those who were registered at Stage 1 or Stage 2 have matured to become Stage 2 or Stage 3 operators.

We have noticed the same trend among the Baldwin community for those who are IS-BAO registered. [The Safety Culture Survey measures four attributes of the operator’s safety culture](#), as well as assigning an overall safety culture score. The four measured attributes are Top Management Attention, Just Culture, Full Participation of Employees, and Continuous Improvement in Performance.

### **Top Management**

Top Management focuses on the actual involvement and commitment from the accountable executive(s) to safety within the enterprise/corporation. Leading a safety initiative from the top down is the only way a positive safety program can become embedded into the corporate culture.

### **Just Culture**

Just Culture is top-down focused as well because it relies on the top management to communicate, support and uphold the concept for a just culture. A just culture is one where front-line operators and others are not punished for actions, omissions or decisions that are commensurate with their experience or training, but where gross negligence, willful violations and destructive acts are not tolerated.

### **Full Participation**

Full Participation is sensitive to safety relationships and communication among the team. It relies on a bottom-up approach, where the team is proactively involved in all aspects of safety. Organizations often have strong participation when a strong just culture exists.

### **Continuous Improvement**

Continuous Improvement encourages the team to look for ways to improve the safety of the operation through full participation, and supports changes to policies and procedures. A strong safety operation never becomes static; it is always in continuous motion striving to identify future hazards before they become a threat to the operation.

A number of operators have completed the safety culture survey within the past twelve months. They were nearly evenly divided between those who are at Stage 2 or Stage 3 and those who are relatively new to IS-BAO or not yet registered at all. **In short, those who have had SMS in place for several years scored significantly higher across the board.** The average rate is 4.13. It is heartening to see that operators are making noticeable progress in the development of their safety cultures. We even saw two very small operators with one airplane and only a few employees stand out among the rest. In the face of all the complaints that **SMS is too hard for small operators**, these organizations show that it can be done. Both have successfully reached IS-BAO Stage 2 status and continue to make improvements that ready them for Stage 3.

Looking at the overall results, maybe those safety culture discussions that have been taking place throughout the industry are taking hold. However, there is no place in a safety culture for complacency. A strong safety culture must be continuously nurtured and supported **by everyone** in the organization.

## U.S. FAA fails to ensure pilots' manual flying skills - report

The Federal Aviation Administration is failing to ensure that airline pilots maintain their flying skills so they can safely take control of an aircraft from automated systems during an unexpected event, according to a [U.S. Transportation Department](#) report released recently.



The report by the department's Office of the Inspector General concludes that the FAA cannot determine [how often pilots fly manually](#) and has not ensured that airline training programs adequately focus on manual skills. Airline pilots typically fly planes manually on landings and take-offs, leaving the aircraft under the control of automated technology 90 percent of the time. While automated systems have generally improved aviation safety, experts say the practice and the growing complexity of automated technology have raised concerns about flying skills.

The government watchdog also found that the U.S. aviation regulatory agency [lacks the ability](#) to ensure that pilots are fully trained to use and monitor automated flight systems.

"The agency is missing important opportunities to ensure that pilots maintain skills needed to safely fly and recover in the event of a failure with flight deck automation or an unexpected event," the report said.

The FAA had no immediate comment.

The National Transportation Safety Board found that an Asiana Airlines Boeing 777 crashed and caught fire at San Francisco International Airport in 2013 because the pilot [lacked critical skills and the flight crew relied too heavily on an automated system](#) it did not fully understand. Three people died and 49 others were seriously injured in the crash.

In a separate case, the NTSB said that 49 passengers and crew members aboard a Colgan Air Inc Bombardier DHC-8-400 regional flight died in 2009 after the flight crew failed to monitor the plane's slowing airspeed while on instrument approach to Buffalo-Niagara International Airport. The crew responded incorrectly to an automated warning of an imminent stall.

The plane crashed into a residence, killing everyone on board and a man on the ground.

## Doctors Reflect on 'Surreal' Day of 2013 Asiana Airlines Crash

Sixty-three patients, 13 spinal injuries, 15 surgeries, 117 units of blood products and a whopping 370 hours of overtime work for nurses: That's the grim tally of the first 48 hours after the July 2013 Asiana Airlines disaster for one San Francisco hospital.

On July 6, Flight 214 from Incheon International Airport in South Korea crashed just short of the runway at San Francisco International Airport, striking the airport's seawall with its landing gear and tail section. Of the 307 people onboard, [192 were injured](#), and three died. It was San Francisco General that received the most patients of any area hospital that day, and doctors are now reporting their experience in the hopes of helping other hospitals prepare for a similar event.



"The day was a surreal experience," said Dr. Rachael Callcut, surgeon, and the lead author of a new article about the tragedy published today (Jan. 14) in the journal JAMA Surgery.

"We prepare and train, as all trauma centers do, for multiple casualty events. Most of us never expect the event will happen in our community, at our centers, in our careers."

### Weekend catastrophe

Callcut was the backup surgeon at the hospital the day of the crash. The first report of the disaster appeared on Twitter about 30 seconds after the plane skidded to a halt in a stream of smoke on the airport, she said. For doctors at San Francisco General, official notification came from the airport and the county's disaster activation system.

"I arrived simultaneously with the first patient," Callcut told Live Science.

On a summer weekend day, the emergency department staff was already busy (and would treat more than 300 non-airline-crash patients that weekend, according to the hospital). Doctors worked rapidly to triage crash victims, and Callcut quickly took one of the most critically injured — "moments from death," she said — to the operating room for what's called damage control surgery. The goal is to stop bleeding and stabilize patients enough to move them to the intensive care unit so that other critical patients can also be stabilized.

Five patients were severely injured enough that they needed to go directly from the ER to the OR. All told, the surgical team would complete [39 operations in the first 48 hours after the crash](#).

### Blunt force trauma

Nineteen patients were admitted to the hospital, and another 17 were kept for at least six hours for observation. The most common injury seen among the 63 patients treated at San Francisco General were spinal injuries, similar to those seen in car wrecks, Callcut said: The body is thrown forward, but is restrained by the seat belt, and then thrown back.

There were four traumatic brain injuries, four people treated for smoke inhalation (a fire broke out onboard after the crash) and six people with injuries to their limbs. Four people had fractures to their sternal (chest) bones, and recounted that the seats in the row in front of them had collapsed onto them. There were a handful of bowel and lower-abdominal injuries caused from the pressure of seat belts.

Being restrained undoubtedly prevented more damage than it caused. Two of the three deaths in the Asiana Airlines disaster were teenagers thrown from the plane during the crash. A third teenage girl who died later was likely hit by a door that tore off the plane during the impact, according to the National Transportation Safety Board's report on the accident. She succumbed to multiple injuries at San Francisco General Hospital six days after the crash.

There have been few airline crashes with a large number of survivors in the medical literature, Callcut said. Most commercial jetliner crashes have either killed all onboard, or left everyone shaken but largely unhurt. Overall, fatal commercial airline crashes in the United States are rare. The Asiana Airlines crash was the first in more than four years. (In February 2009, a Colgan Air Inc. plane operating as a Continental connection flight crashed near Buffalo, New York, and killed all 45 passengers and four crew members on board.)

However, mass casualty events of other types, including mass shootings and terrorism, have been on the rise over the past five years, Callcut said. San Francisco General's experience coping with a plane crash [can offer lessons](#) about how much donor blood is needed, how many hours of overtime and how to avoid bottlenecks when large numbers of people need computed tomography (CT) scans or other types of medical imaging.

The last patient did not leave the hospital until late October, more than three months after the crash, Callcut said. Many doctors and nurses remain close to the patients they treated, she said.

"It was such an impressionable moment in their lives, and we're grateful that we had the opportunity to help them, both physically and mentally," she said.

<http://www.lifeshlittlemysteries.com/top-10-deadliest-natural-disasters-1738/>

<http://www.nts.gov/investigations/AccidentReports/Reports/AAR1401.pdf>

## **FAA Wants GA Hand Flying Skills Checked**

Flight instructors conducting GA flight reviews and instrument proficiency checks are being directed to make sure pilots can hand fly the aircraft well enough to get themselves out of trouble. AOPA is reporting that the FAA has issued [a new advisory circular](#) for instructors that adds emphasis to hand flying skills for the periodic reviews. It also wants instructors to make sure pilots know how to use the [wonder boxes](#) and what to do if they go dark.



"The FAA reminds CFIs conducting flight reviews and IPCs to ensure that a pilot under evaluation is proficient with the automated system and knows what to do if it fails," the AC says. The revised guidance is also concerned that pilots are relying too much on aircraft systems. "[Automation can lull some pilots into complacency](#). Furthermore, automation bias presented a new breed of accident by creating the potential to erode a complacent pilot's manual flight skills," the AC says. "Automation bias refers to the willingness of the pilot to trust and utilize automated systems while feeling that the automation is more capable than the pilot." Instructors are urged to make sure pilots are using the automation to its best advantage without considering it a panacea.

<http://www.aopa.org/News-and-Video/All-News/2016/January/07/FAA-updates-flight-review-guidance>

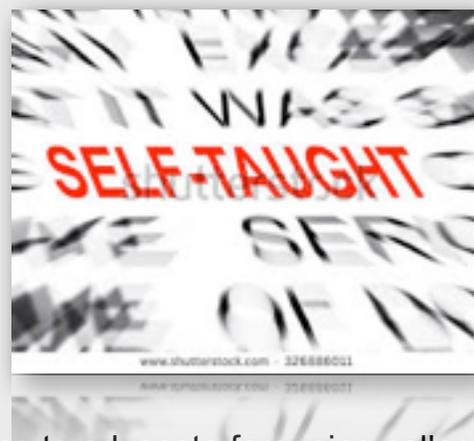
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## **Recruiting self-taught employees**

Relaxing educational requirements to find candidates with the right skills

By Brian Kreissl

I have mentioned a few times how there is a growing backlash against formal education nowadays. With the high cost of tuition, the lackluster job market for post-secondary graduates, the popularity of skilled trades and STEM disciplines (science, technology, engineering and mathematics), the rise of massive open online courses (MOOCs), e-learning platforms, video-sharing sites such as YouTube, Wikipedia, instructional books, online forums, discussion boards and coding academies/boot camps, many people are starting to advocate foregoing college or university altogether [in the pursuit of practical knowledge and skills](#). There is no question people who advise bright and ambitious young people not to attend post-secondary education have a point.



Starting a business, completing an apprenticeship or internship, volunteering, taking an entry level job and working one's way up within an organization and pursuing less formal education and training [can be excellent alternative ways](#) of establishing a career and learning the skills needed to be successful.

It is also true many young graduates are having a difficult time securing meaningful work and are frequently graduating with a heavy debt load. Many people are recommending young people forego traditional post-secondary education in favor of other ways of starting a career and obtaining the necessary knowledge and skills.

For instance, PayPal co-founder Peter Thiel established the Thiel Fellowship in 2010 to provide US\$100,000 to post-secondary students and encourage them to drop out of college and pursue startups and other ventures. In part, the fellowship was launched to help deflate the education “bubble” and show that post-secondary education isn't necessary for success — particularly with respect to endeavors such as entrepreneurship.

### Showcasing knowledge and skills online

Modern technology makes it possible for many people to showcase their self-taught knowledge, skills and abilities and even sell their services. For instance, software programmers, web developers and designers, graphics designers, authors, journalists, bloggers, photographers, artists, illustrators, film makers, copywriters and marketing professionals are able [to create online portfolios](#) to showcase their work to potential clients and employers. Online platforms also support finding and searching for knowledge and provide an opportunity to obtain, practice and refine newly acquired skills.

This applies not only with respect to the new “gig” or “sharing” economy for short-term freelance assignments and “slashers” who practice more than one career simultaneously, but also in terms of those looking to land full-time work. Indeed, several employers have relaxed educational requirements for candidates in recent years and have become more willing to hire non-traditional candidates with skills that were acquired other than through formal post-secondary education.

By focusing more on skills and competencies — regardless of how they were acquired — employers can expand the pool of candidates, support social and economic mobility, increase diversity, reduce bias and cronyism and possibly adjust to the reality of a workforce with fewer post-secondary graduates.

None of this is to say higher education has no value or that professions such as law, medicine or engineering can or should dispense with the need for specific educational qualifications. After all, I am a firm believer in lifelong learning and believe completing a degree is a great way to build resiliency and flexibility in one's career.

I also don't think this trend is actually going to completely ameliorate the challenges faced by workers without postsecondary education. After all, because it's often very difficult to prove self-taught skills and employers tend to use education as a screening tool, I don't think university degrees are going to become extinct any time soon. Educational inflation and credentialism are probably here to stay — at least for the foreseeable future.

### Tips for employers

But employers can help facilitate the recruitment of self-taught employees by relaxing or dispensing with degree requirements, [testing candidates on their technical and professional skills](#) and requesting portfolios of completed work. This approach can apply to people with little formal education as well as career changers, those with education in different disciplines and people with considerably less educational pedigree than the norm for the industry or position in question.

Above all, it is important to remember there are many ways to acquire knowledge, skills and abilities beyond formal education. Indeed, the [70/20/10](#) model of learning and development created by Morgan McCall and his colleagues provides that roughly 70 per cent of learning should come from on-the-job learning, 20 per cent from [coaching and mentoring](#) and only 10 per cent through formal learning and reading.

## Why mentorship is the gift that keeps on giving



The human capital development strategy of mentorship is getting a lot of attention these days. From books to boardrooms, everyone is trying to crack the code and tap its potential and power. Mentors have the ability to accelerate the growth of others through their **generous sharing of their perspectives, time, insights, coaching and experience**. Is this a selfless act of service? Not even remotely. Savvy mentors stand to gain as much from the experience as do the proteges they guide and frequently a lot more.

**Are you on the fence about becoming a mentor?** Consider these six ways you can personally benefit from the process. Through mentorship, you have the opportunity to:

1. **Do the work you moved into leadership to do.** Most people take on a leadership role because they want to make a difference. Then they get sucked into the **administrivia** and the day-to-day grind. Mentoring puts them back in touch with that original impetus and motivation. Through mentorship, you get to do the work — and make the difference — you originally aspired to when you moved into leadership.
2. **Hone one of the most essential leadership skills: coaching.** Mentoring others is an ideal sandbox in which to experiment and enhance the ability to have growth conversations, ask insightful and intentional questions, practice curious listening and bring out the best in others. Through mentorship, you have a chance to develop skills that will make you more effective elsewhere.
3. **Learn.** You can't help others grow and develop without growing and developing yourself. A wise mentor benefits from the different perspective and fresh eyes a protege can provide. And since the protege is frequently younger, there's the potential to glean information about the latest in your field, new technologies and updated approaches. Through mentorship, you can elevate your ability to perform and contribute.
4. **Enhance your reputation in the organization.** Since good mentors are in short supply in most organizations, they quickly become known and recognized. They are the rock stars who are frequently sought-after resources. Through mentorship, you can enhance your own stature within the organization and grow your influence.
5. **Improve your own work and work processes.** Engaging with proteges, answering their questions, sharing experiences, exploring best practices, offering advice: All of this requires thought on the part of the mentor. Given the normal speed of business, many leaders don't allow themselves the luxury of this kind of reflection. Through mentorship, you can become considerably more insightful about and skillful at your own work.

- 6. Build a robust professional network.** I recently met a senior executive who is so masterful at developing others that many of those he mentors are recruited away by competitors. This doesn't bother him; it works to his benefit. He has begun to partner with competitors through his former protege relationships, winning business together that neither firm could have won alone. Through mentorship, you have the potential to develop lasting relationships that can deliver unimagined results.

Mentors can enjoy the satisfaction of knowing that they've helped others to learn, grow and advance. But the gifts of mentorship flow in both directions. The mentor can find him or herself enriched as much as, or perhaps more than, the protege, proving yet again that giving can be just as rewarding as receiving.

**What about you? What benefits have you gained by being a mentor? What gifts have you received from mentors in your life?**

## Drinking deaths rising

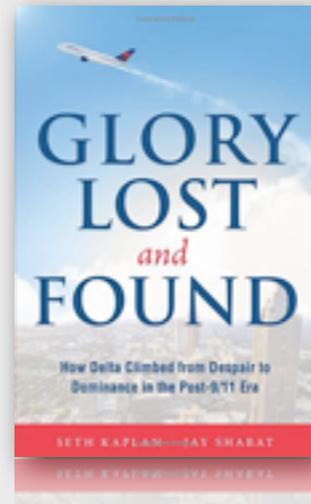
Deaths from heavy drinking have soared to their **highest level in 35 years**, and alcohol is now the second most lethal drug in the U.S., trailing only tobacco as the leading killer of Americans, a new Centers of Disease Control and Prevention (CDC) study shows. Last year nearly **31,000 Americans died** from alcohol-induced causes, such as alcohol poisoning and cirrhosis - a 37 percent surge since 2002, *The Washington Post* reports, all told, alcohol killed more people in 2014 than prescription painkillers and heroin overdoses combined. Alcohol's death toll would be nearly three times as great - 90,000 - if the CDC **included drunk driving**-related deaths and other fatal incidents that occurred under the influence of alcohol. Per capita consumption of alcohol in the U.S. has been rising since the 1990's and the surge in deaths indicates "that more people are drinking more," says Philip J. Cook, an alcohol researcher at Duke University. Researches said the focus on public-health campaigns should include warnings about the dangers of heavy drinking along with those of illegal drugs.



## Book: **Glory Lost and Found: How Delta Climbed from Despair to Dominance in the Post-9/11**

When the history book is written on the restructuring of this industry, Delta will be the greatest turnaround story in it.”  
—Delta CEO Gerald Grinstein, December 19, 2006

Its reputation was now as tattered as the interiors of its airplanes. Delta Air Lines, on September 14, 2005, was nothing like the world-beating company it had been just five years earlier, let alone decades before that. On this day, Delta found itself surrounded by lawyers, dejectedly filing for bankruptcy. Few believed it could ever reclaim its perch atop the US airline industry.



## TED: Ideas Worth Sharing

What keeps us happy and healthy as we go through life? If you think it's fame and money, you're not alone – but, according to psychiatrist Robert Waldinger, **you're mistaken**. As the director of a 75-year-old study on adult development, Waldinger has unprecedented access to data on true happiness and satisfaction. In this talk, he shares **three important lessons** learned from the study as well as some practical, old-as-the-hills wisdom on how to build a fulfilling, long life.



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