

Normalisation of Deviance

How is it that trained pilots and other aviation professionals can deviate from required operating practice?

In New Zealand, a flight was chartered to take a VIP to an important meeting. The VIP arrived late, but the crew got them to the destination on time. The VIP wrote to the CEO praising the pilots for their sterling service. The feedback was passed on in person by the CEO – big smiles all round. Unbeknown to management, the crew had skipped most of the pre-flight and take-off checks.

That's just one episode psychologist Keith McGregor can recall, during his many years studying organisational and human factors.

Keith was an air force psychologist for 12 years before becoming a consultant with the Transport Accident Investigation Commission (TAIC).

Keith says analysis of both accident and non-accident flights will often reveal deliberate deviations from standard operating practices, despite no critical need to do so.

Flying below minima has been a contributing factor in fatal accidents in New Zealand with investigators sometimes discovering it had become normalised practice.

American sociologist Diane Vaughan coined the term 'normalisation of deviance' and defined it as "the gradual process through which unacceptable practice or standards become acceptable. As the deviant behaviour is repeated without catastrophic results, it becomes the social norm for the organisation."



Vaughan developed her theory when she was investigating the space shuttle Challenger accident which exploded shortly after liftoff on 28 January 1986. She observed that the cause of the disaster was related to the practice of NASA officials allowing space shuttle missions despite a known design flaw with the O-rings in the solid rocket boosters.

Normalisation of deviance, non-conformity, call it what you like. But chances are you probably know or have heard of someone who behaves this way. Perhaps you saw something you knew to be unsafe, but did nothing about it? Maybe it's you?

Maybe you are the VFR pilot pushing the limits flying in less than ideal VFR weather. The pilot who doesn't want to put the defect in the tech log that grounds the aircraft and upsets the boss? The engineer who is rushed for time and signs off the paperwork saying the duplicate inspection was done, even though you know it wasn't done completely?

CAA analyst Joe Dewar says it's seen in a range of accidents and incidents in New Zealand, that people have operated outside of standard procedures or operating limitations.

"A classic case would be an aircraft which is certified to carry no more than x-amount of weight for a given set of conditions. But despite this, the decision might frequently be made to load beyond this. And this might be done more and more often. For a number of flights this might have been fine. But suddenly conditions change – perhaps in air temperature or wind intensity – and the aircraft is now overweight for the conditions. Its performance completely changes and it cannot be controlled. In that instance, the overloading has been normalised over a period of time... and then bang."

TAIC's investigation into one fatal crash found the pilot was reported to have carried out unnecessary low flying on scenic flights on a number of occasions – possibly to give the passengers a thrill – over several years.

TAIC found the operator did not adequately supervise the pilot, independently investigate an allegation of the pilot low flying, or establish a system to control or monitor the pilot's performance and compliance with safety requirements.

Falling into the trap

Why do trained pilots and aviation professionals fall into this cycle?

Keith McGregor says in considering the VIP flight, the pilots knew what they were doing was wrong and no doubt reassured themselves it was a 'one-off'.

"But they were rewarded with praise from the boss, and faced with a similar situation in the future, the probability that they would repeat the deviance had been slightly increased. For humans, one of the most powerful forms of feedback is attention, and in this case they received plenty."

Joe Dewar says commercial pressures can be a major contributing factor.

"The incentive is there for pilots to operate outside standard procedures or limitations, and cost is a big part of that."

Keith says diligently following standard operating practices can involve operational and commercial penalties.

"Flights may be delayed, cancelled or diverted, and significant extra costs may be incurred, and that can result in a good deal of grief for the pilot."

CAA Air Transport Inspector Pete Wilson has a Masters in Human Factors and Safety Assessment in Aeronautics and has flown for airlines overseas.

Pete says while most work environments encouraged strict adherence to safety practices, not all were conducive to achieving this.

"At one place, pilots weren't recording defects in the aircraft technical log – so much so I got called in to see the chief pilot to be told I was putting too many defects in. When I pointed

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out I was the only pilot putting things in the tech log and nothing would get fixed otherwise, he realised there was a problem with the culture.”

Pete says pressure – be it due to commercial needs or concern about how your peers regard you – is hard to ignore.

“The desire or need to ‘fit in’, to please others, or to keep the boss happy is understandable. The reward or feelings of satisfaction you get from completing a task quickly is appealing.

“No organisation is immune – ‘normalisation of deviance’ has been shown to exist right across the aviation spectrum, from NASA to airlines, military jet display teams, maintenance organisations, biz-jet operators, right down to the smallest sightseeing company.”

Keith says from a psychological perspective, acting safely is a self-defeating behaviour.

“The fundamental thing is the extent to which senior management are genuinely aware of what happens. What sort of workarounds are people doing in order to get the job done?”

“If you do it right, nothing happens – which means the behaviour is not reinforced, but take a shortcut to get finished earlier, and bingo, the unsafe behaviour is rewarded.

“Without even realising it, you start cutting corners and now that process will basically become normalised because it gets reinforced.”

Reinforce the positive

Joe Dewar says the roots of ‘normalisation of deviance’ usually lie in the environment in which they occur.

He says where there is less structure and supervision within an organisation, it’s a phenomenon that occurs much more readily.

So CEOs and managers need to look at what they’re doing at the organisational level.

“Instead of solely focussing on occurrences, if you’re the CEO or a Senior Person you also need to keep an eye on things

consistently being performed correctly. So for example, do you have oversight of whether your pilots always follow the same checklist each flight? Do the aircraft fly within limits? It’s good safety management to pay attention to these procedural aspects of operations, to avoid drifting into failure.”

In his investigation work with TAIC, Keith says it was amazing how often there was a 180-degree difference between what management told them was happening on the ground, versus what the people on the ground told them.

“The fundamental thing is the extent to which senior management are genuinely aware of what happens. What sort of workarounds are people doing in order to get the job done?”

He says managers forget that when an organisation acts safely, nothing actually happens.

“Every organisational survey you do, you see people in the open comments section saying ‘the only time we hear from our managers is when something’s gone wrong’. There should be a huge onus on management to actively pay attention to safe behaviours and focus on what people are doing well.”

Mitigation strategies

Pete says neutral observers are usually better at spotting bad news, so things like audits are a good opportunity to pick up on whether poor practices may be creeping in.

He says management needs to be clear about what the standards are, and reward whistle blowers.

“Also, think about how your behaviour is shaped by others you observe and vice versa. Imagine an experienced pilot in a small company exhibiting poor standards or behaviour – how likely is it others will copy them?”

Keith says empowering others to speak up is an effective way to stop unsafe behaviours becoming normalised.

“Establish an agreement with other pilots for instance, that they will ask you to explain the reason for any deviation they notice and vice versa. We are generally better at spotting other peoples’ deviations than our own. If you actually ask them to do it, they’re more likely to be upfront.”

Keith says pilots should be encouraged to take ownership of their actions.

Joe agrees that a deep-seated sense of responsibility should be at the core of pilot training.

“When pilots are trained, the critical importance of the pre-flight checklist should be engrained, for example. That means even when there is no pat on the back for doing it, you recognise you always have to do it.” ■

